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Students are responsible for reading and understanding the academic, administrative and disciplinary policies and regulations as well as the general requirements for the degree they hope to obtain, from the moment they register in the University. They are responsible for meeting the major requirements once they declare said major. Students deciding to change their major, will be responsible for complying with the requirements in effect at the time they declare the new major.

Graduation requirements as well as academic curricula and programs may change while students are registered at the University. Normally, these changes will not be applied retroactively, but students have the option of completing the new requirements. Nonetheless, when professional certifying or licensing agencies make requirement changes for the corresponding certification or license, the necessary changes to the curricula or programs will be applicable immediately. Students will have the responsible for deciding if they wish to take the new courses.

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NYVIA ALVARADO, Ph.D., Dean of Studies
EFRÁIN ANGLERÓ, M.A., Dean of Student Affairs
ROBERTO SANTANA, M.B.A., Dean of Administration
MILDRED CAMACHO, M.A., Director of Admissions
AIDA COLLAZO DE CINTRÓN, B.A., Registrar
RICARDO SANTANA, Bursar
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SARA SALIVA GUILLOT, M.Div., Director of Religious Life Office and Spiritual Welfare
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ENID CRUZ, M.A., Coordinator of the Adult Higher Education Program
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CARLOS E. IRIZARRY GUZMÁN, D.B.A., Director of the Center for Graduate Studies
CARMEN JUSINO PONCE, M.A., Director of the Center for Technological Studies
MILDRED DE SANTIAGO, M.A., Director Office of Evening and Saturday Services
Academic Departments of the San Germán Campus

VILMA S. MARTÍNEZ, M.S., Director of the Department of Biology, Chemistry and Environmental Sciences
MARCOS ACOSTA MEDINA, M.S.E.E., Director of the Department of Mathematics and Applied Sciences
ALBA NAZARIO, M.S.N., Director of the Department of Health Sciences
JUAN GONZÁLEZ, Ph.D., Director of the Department of Social Sciences and Liberal Arts
MILAGROS COLLADO, M.A., Director of the Department of Languages and Literature
SALVADOR RIVERA, M.M.Ed., Director of the Department of Fine Arts
MILSA MORALES, Ph.D., Director of the Department of Entrepreneurial and Management Sciences
MIRIAM PADILLA, Ed.D., Director of the Education and Physical Education Department

School of Law

LUIS M. NEGRÓN PORTILLO, LL.M., Dean
ANDRÉS L. CÓRDOVA PHELPS, J.D.,M.A., Dean of Studies
WANDA RAMOS ORTIZ, M.B.A., Dean of Administration
MARILUCY GONZÁLEZ, J.D., Dean of Student Affairs
MARÍA DE LOURDES RIVERA, M.B.A., Registrar
ROSYVÉE GUZMÁN, M.A., Professional Counselor
HÉCTOR CENTENO, B.B.A. Bursar
RICARDO J. CRESPO NEVÁREZ, B.B., Financial Aid Director
ÁLIDA RIVERA, B.A., Admissions Officer
SHEILA GÓMEZ, M.B.A., External Resources Officer
LUIS BORRI, M.Div., M.R.E., Director of the Religious Life Office
CARMEN PILAR LÓPEZ ARGüELLES, J.D., Director of the Legal Continuing Education Program
HECTOR R. SÁNCHEZ FERNÁNDEZ, J.D., Director of the Information Access Center
JUAN CORREA LUNA, J.D., Director of the Legal Assistance Clinic

School of Optometry

HéCTOR C. SANTIAGO CHAMORRO, O.D., Ph.D., Dean
ANDRÉS PAGÁN FIGUEROA, O.D., M.P.H., Dean of Academic Affairs
EDWIN HERNÁNDEZ TORRES, M.A., J.D., Dean of Administration
LEONARDO RODRÍGUEZ, D.Min., Director of the Religious Life Office
JOHN MORDI, Ph.D., Director of Basic Sciences
ÁNGEL ROMERO, O.D., Director of Clinical Sciences
DAISY RAMPOLLA, O.D., Director of Patient Care
GRACE GÓMEZ DEL VALLE, M.A., Director of Student Affairs
LOURDES M. NIEVES, B.B.A., Director of Financial Aid
JOSÉ COLÓN PAGÁN, B.A., Director of Admissions
JUAN L. GALARZA, O.D., Director of the Residency Program
ROSA M. ROSARIO, M.L.S., Director of the Center for Access to Information
MARÍA JULIA AULET, M.S., Director of Development
LUIS A. ARAMBURU, O.D., Director of Continuing Education
Academic and Administrative Calendars

Given below are the calendars for the academic terms and the list of holidays. These calendars are subject to change if extraordinary situations occur. Some campuses may also use other calendars. Those interested in obtaining copies of these should request them from the corresponding campus.

<table>
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<tr>
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<td><strong>FIRST SEMESTER</strong></td>
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<tr>
<td>May 13-Sept. 2</td>
<td>Disbursement Memo</td>
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<tr>
<td>July 1-Aug. 9</td>
<td>Registration Payment***</td>
</tr>
<tr>
<td>August 12</td>
<td>Last day for dropping courses (partial withdrawal) with 100% tuition refund (not including fees)</td>
</tr>
<tr>
<td>August 12</td>
<td>Last day for dropping all courses (total withdrawal) with 100% tuition refund (including fees)*</td>
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<tr>
<td>August 15</td>
<td>Classes begin</td>
</tr>
<tr>
<td>August 15-22</td>
<td>Late registration and class changes</td>
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<tr>
<td>August 22</td>
<td>Cancellation of courses for students that have not paid registration</td>
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<tr>
<td>August 22</td>
<td>Last day for dropping courses (partial withdrawal) with 75% tuition refund</td>
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<tr>
<td>August 29</td>
<td>Last day for dropping courses (partial withdrawal) with 50% tuition refund</td>
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<tr>
<td>August 29</td>
<td>Emission of vouchers. Vouchers are valid until the day before the initial award of financial aid to student</td>
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<tr>
<td>September 6</td>
<td>Initial award of financial aid to student</td>
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<tr>
<td>September 8</td>
<td>Second award of financial aid to students</td>
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<tr>
<td>September 9</td>
<td>Third award of financial aid and reimbursement process**</td>
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<tr>
<td>September 12-14</td>
<td>Checks delivered to students</td>
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<tr>
<td>October 11-18</td>
<td>Assessment of course needs for next Semester***</td>
</tr>
<tr>
<td>Oct. 13-Jan. 10</td>
<td>Selection of courses for next semester and payment without penalty***</td>
</tr>
<tr>
<td>October 17</td>
<td>Midterm, last day for the faculty to report the removal of incompleteds from the previous semester or summer sessions</td>
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<tr>
<td>October 17</td>
<td>Last day to apply for graduation at the end of this semester</td>
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<tr>
<td>Nov. 12-Jan. 9</td>
<td>Registration payment for next semester***</td>
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<tr>
<td>December 10</td>
<td>Last day to withdraw from individual or all courses with “W” and to report errors in previous term grades</td>
</tr>
<tr>
<td>December 10</td>
<td>Last day of class</td>
</tr>
<tr>
<td>December 11-12</td>
<td>Study period</td>
</tr>
<tr>
<td>December 12-17</td>
<td>Final examinations</td>
</tr>
</tbody>
</table>
December 20...................... Last day for faculty to enter final grades in the Interweb Rollbook

2005-2006

SECOND SEMESTER 2006-2007

January 10-19 ................. Course selection and registration payment ...... January 9-18
January 20 ...................... Last day for dropping courses (partial withdrawal) with 100% tuition refund (not including fees) ............................................. January 19
January 20 ...................... Last day for dropping all courses (total withdrawal) with 100% tuition refund (including fees)* ............................................. January 19
January 23 ...................... Classes begin............................................................. January 22
January 23-30............... Late registration and class changes ...................... January 22-29
January 30 ...................... Cancellation of courses for students who have not paid registration ............................................. January 29
January 30 ...................... Last day for dropping courses (partial withdrawal) with 75% tuition refund ............................................. January 29
February 6 ...................... Last day for dropping courses (partial withdrawal) with 50% tuition refund ............................................. February 5
February 6 ...................... Emission of vouchers. Vouchers are valid until the day before the initial award of financial aid to students............................................................. February 5
February 14 ...................... Initial award of financial aid to students .......... February 13
February 16 ...................... Second award of financial aid to students .......... February 15
February 17 ...................... Third award of financial aid to students and reimbursement process** ............................................. February 16
February 20 ...................... Holiday authorized for conducting classes for courses meeting only on Monday............................................. February 19
February 21-23 .............. Checks delivered to students ......................... February 20-22
Feb. 16-March 11.......... Assessment of course needs for the summer and next semester*** ............................................. Feb. 16-March 10
March 13-April 22 ......... Course selection for the summer and next semester*** ............................................. March 12-April 23
March 13 ...................... Midterm, last day for the faculty to report the removal of incompletes from the previous semester or summer sessions............................................. March 12
March 13 ...................... Last day to apply for graduation at the end of next semester............................................................. March 12
May 15 ...................... Last day to withdraw from individual or all courses with “W” and to report errors in previous term grades ............................................................. May 15
May 15 ...................... Last day of class............................................................. May 15
May 16-17 ...................... Study period ............................................................ May 16-17
May 16-26 ............. Registration payment for summer sessions*** .......... May 17-25
May 18-24 ................. Final examinations ..................................................... May 17-23
May 30 ...................... Last day for faculty to enter final grades in the Interweb Rollbook............................................. May 29
June 2-15 ...................... Commencement exercises ............................................. June 1-15

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SUMMER

First Session

March 1-June 5 .............. Disbursement Memo ................................................. March 1-June 6
May 16-30 ..................... Course selection and registration payment ............ May 16-30
May 31 ........................ Last day for dropping courses (partial withdrawal) with 100% tuition refund (not including fees) ................................................ May 31
May 31 ........................ Last day for dropping courses (total withdrawal) with 100% tuition refund (including fees) ............................... JMay 31
June 1 ........................ Classes begin ................................................................. June 1
June 1 ........................ Late registration and class changes ................................. June 1
June 1 ........................ Cancellation of first summer session courses for students who have not paid registration ...................... June 1
June 2 ........................ Last day for dropping courses (partial withdrawal) with 75% tuition refund ................................ June 4
June 2 ........................ Last day to apply for graduation at the end of summer session ........................................................................ June 5
June 5 ........................ Last day for dropping courses (partial withdrawal) with 50% tuition refund ................................. June 6
June 6 ........................ Initial award of financial aid to students ............................. June 7
June 8 ........................ Second award of financial aid to students .......................... June 7
June 9 ........................ Third award of financial aid to students and reimbursement process** ....................................................... June 9
June 12-14 ....................... Checks delivered to students ....................................... June 11-13
June 12-28 ....................... Course selection and registration payment for the second summer session for students not previously registered*** ............................................. June 12-28
June 28 ........................ Last day to withdraw from individual or all courses with “W” and to report errors in previous term grades ........................................ June 28
June 28 ........................ Last day of classes .......................................................... June 28
June 29 ........................ Final examinations .......................................................... June 29
June 30 ........................ Last day for faculty to enter final grades in the Interweb Rollbook ....................................................... July 2

2007

Second Session

April 3-July 10 ............... Disbursement Memo .................................................. April 2-July 9
June 12-17 ..................... Course selection and registration payment ............. June 12-27
June 30 ........................ Last day for dropping courses (partial withdrawal) with 100% tuition refund (not including fees) .......................... June 29
June 30 ........................ Last day for dropping courses (total withdrawal) with 100% tuition refund (including fees) ............................... June 29
July 3 .......................... Classes begin ................................................................. July 2
July 3 .................................. Late registration and class changes ....................... July 2
July 3 .................................. Cancellation of courses for students
who have not paid registration .............................. July 2
July 5 .................................. Last day for dropping courses (partial
withdrawal) with 75% tuition refund .................... July 3
July 7 .................................. Last day for dropping courses (partial
withdrawal) with 50% tuition refund ....................... July 6
July 11 .................................. Initial award of financial aid to students .......... July 10
July 13 .................................. Second award of financial aid to students .... July 12
July 14 .................................. Third award of financial aid to students and
reimbursement process** ................................. July 13
July 18-20 .......................... Checks delivered to students ............................. July 17-19
July 28 .................................. Last day to withdraw from individual
or all courses with “W” and to report errors in
previous term grades ........................................ July 30
July 28 .................................. Last day of classes ........................................... July 30
July 31 .................................. Final examinations ............................................ August 1
August 1 .............................. Last day for faculty to enter final grades
in the Interweb Rollbook .................................... August 1

Academic and Administrative Calendars for Adult Higher Education
Program

<table>
<thead>
<tr>
<th>2005-2006 (200620)</th>
<th>OCTOBER TERM</th>
<th>2006-2007 (200720)</th>
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</thead>
<tbody>
<tr>
<td>July 8-October 31</td>
<td>Disbursement Memo .......................... July 10-October 30</td>
<td></td>
</tr>
<tr>
<td>October 3-5</td>
<td>Registration** ................................ October 2-4</td>
<td></td>
</tr>
</tbody>
</table>
| October 7          | Last day for and dropping courses
(partial withdrawal) with 100%
tuition refund (not including fees) .................. October 6 |
| October 7          | Last day for dropping courses (total
withdrawal) with 100% of tuition
refund (including fees)* ............................. October 6 |
| October 8          | Classes begin ................................... October 7 |
| October 8-14       | Late registration and class changes ........ October 7-13 |
| October 14         | Cancellation of courses for students
who have not paid registration ..................... October 13 |
| October 14         | Last day for dropping courses (partial
withdrawal) with 75% tuition refund ............. October 13 |
| October 21         | Last day for dropping courses (partial
withdrawal) with 50% tuition refund ............. October 20 |
| October 21         | Emission of vouchers. Vouchers are valid until
the day before the initial award of financial aid
to students .................................................. October 20 |
| November 1        | Initial award of financial aid to students .......... October 31 |
| November 3        | Second award of financial aid to students .......... November 2 |
| November 4        | Third award of financial aid to students and
reimbursement process** ............................ November 3 |
| November 8-10     | Checks delivered to students ...................... November 6-8 |
Nov. 14-Dec. 13 .............. Assessment of course needs for the
next academic session*** ........................................ Nov. 13-Dec. 13

December 2 ................. Midterm, last day for faculty to report
the removal of incompletes from
previous terms ................................................... December 1

January 10 ............... Classes resume ........................................................ January 9

February 14 ............... Tuesday and Thursday classes end ................ February 13

February 16-March 3 .... Final examinations .................................... February 15-March 2

February 18 ............... Saturday classes end ......................................... February 17

February 22 ............... Last day of classes for courses meeting on
Monday and Wednesday ..................................... February 21

February 22 ............... Final examinations ........................................ February 21

February 24 ............... Wednesday and Friday classes end .................. February 23

February 24 ............... Classes end for courses meeting on Monday,
Wednesday and Friday ....................................... February 23

February 24 ............... Last day to withdraw from individual or
all courses with “W” and to report errors in
previous term grades ............................................ February 23

March 7 ....................... Last day for faculty to enter final grades
in the Interweb Rollbook .................................... March 6

2006
(200640)

MARCH TERM

2007
(200740)

Dec. 10-March 27 .............. Disbursement Memo .................. December 11-March 26

March 7-9 ...................... Registration** ................................. March 6-8

March 9 ....................... Last day for dropping courses (partial
withdrawal) with 100% tuition
refund (without fees) ............................................. March 8

March 9 ....................... Last day for dropping all
courses (total withdrawal) with 100%
total refund (including fees)* .............................. March 8

March 10 ...................... Classes begin ............................................. March 9

March 10-17 ............... Late registration and class changes ................ March 9-16

March 17 ...................... Last day for dropping courses (partial
withdrawal) with 75% tuition refund ..................... March 16

March 17 ...................... Cancellation of courses for students
who have not paid registration ................................. March 16

March 17 ...................... Emission of vouchers. Vouchers are valid until
the date before the initial award of financial aid
to students ............................................................. March 23

March 24 ...................... Last day for dropping courses (partial
withdrawal) with 50% tuition refund ..................... March 23

March 28 ...................... Initial award of financial aid to students ........ March 27

March 30 ...................... Second award of financial aid to students ....... March 29

March 31 ...................... Third award of financial aid to students and
reimbursement process** ..................................... March 30

April 3-5 ...................... Checks delivered to students ....................... April 9-11

April 18-May 12 .......... Assessment of course needs for next
academic sessions*** ........................................ April 17-May 12
May 10............................... Midterm, last day for faculty to report
the removal of incompletes for terms..........................May 9
June 23............................... Friday classes end........................................June 22
June 24............................... Saturday classes end......................................June 23
June 29............................... Tuesday and Thursday classes end................June 28
June 30............................... Classes end for courses meeting on
Wednesday and Friday................................................June 29
July 1-12............................. Final examinations .......................................June 30-July 11
July 5 ............................... Classes end for courses meeting on
Monday, Wednesday and Friday....................................July 2
July 10 ............................... Last day of classes for courses meeting on
Monday and Wednesday.............................................July 9
July 11 ............................... Last day to withdraw from individual or
all courses with “W” and to report errors in
previous term grades.................................................June 9
July 14 ............................... Last day for faculty to enter final grades
in the Interweb Rollbook.............................................July 13

Academic and Administrative Rollbook

2005 TRIMESTER I (AUGUST TO OCTOBER) 2006

May 2-August 22....... Disbursement Memo ........................................May 1-August 21
May 9-12 ................ Registration .....................................................May 10-13
August 1 ....................... Last day for dropping courses (partial
withdrawal) with 100% tuition refund
(not including fees)..................................................July 31
August 1 ....................... Last day for dropping all courses (total
withdrawal) with 100% tuition refund
(including fees)*.....................................................July 31
August 2 ....................... Classes begin.................................................August 1
August 2-9 ................ Late registration and class changes ..............August 1-8
August 9 ....................... Cancellation of courses for students
that have not paid registration.........................August 8
August 9 ....................... Last day for dropping courses (partial
withdrawal) with 75% tuition refund ....................August 8
August 16 ..................... Last day for dropping courses (partial
withdrawal) with 50% tuition refund ....................August 15
August 16...................... Emission of vouchers.Vouchers are valid until
the day before the initial award of financial aid
to students.........................................................August 15
August 23..................... Initial award of financial aid to students ......August 22
August 25 ..................... Second award of financial aid to students ....August 24
August 26 ..................... Third award of financial aid to students and
reimbursement process**.................................August 25
August 29-31 ................. Checks delivered to students .................August 28-30
September 16 .......... Last day for the faculty to report
the removal of incompletes from the previous
term or summer sessions...........................September 15

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September 16 ..................... Last day to apply for graduation at the end of this trimester..................................................September 15
October 19 ..................... Last day of classes.................................................October 18
October 19 ..................... Last day to withdraw from individual or all courses with “W” and to report errors in previous term grades .................................................October 18
October 20-26 .................. Final examinations ..............................................October 19-25
October 27-29 .................. Recess...............................................................October 26
October 31 ..................... Last day for faculty to enter final grades in the Interweb Rollbook ......................................October 27

- All courses of Trimester I of 2006 will meet for one additional hour of class.
- Courses of Trimester I of 2007 that meet only one day per week (Wednesday, Friday or Saturday) will meet for one additional hour of class.
- Courses of Trimester I of 2007 that meet on Mondays and Wednesdays will meet by one additional hour of class.
- Courses of Trimester I of 2007 that meet only on Mondays or Thursdays will meet for four additional hours of class.

2005-2006 TRIMESTER II (OCTOBER TO FEBRUARY) 2006-2007

August 1-Nov. 14 .............. Disbursement Memo .................................July 30-November 13
October 3-6..................... Registration .........................................................October 2-5
October 31 ..................... Last day for dropping courses (partial withdrawal) with 100% tuition refund (not including fees)..................................................October 27
October 31 ..................... Last day for dropping courses (partial withdrawal) with 100% tuition refund (including fees)*........................................................ October 27
November 1 ..................... Classes begin.......................................................October 30
November 1-8.................. Late registration and class changes .................October 30-Nov.6
November 8 ..................... Cancellation of courses for students that have not paid registration ..........................November 6
November 8 ..................... Last day for dropping courses (partial withdrawal) with 75% tuition refund ..........November 6
November 8 ..................... Emission of vouchers. Vouchers are valid until the day before the initial award of financial aid to students ......................................November 13
November 14 .................. Last day for dropping courses (partial withdrawal) with 50% tuition refund ..........November 13
November 15 .................. Initial award of financial aid to students ..........November 14
November 17 .................. Second award of financial aid to students ........November 16
November 18 .................. Third award of financial aid to students and reimbursement process** ......................................November 17
November 21-23 ............. Checks delivered to students ........................ November 21-22
January 10..................... Classes resume .....................................................January 9
January 23 ..................... Last day to apply for graduation at the end of this trimester................................................ January 22
January 23 ..................... Last day for the faculty to report the removal of incompletes from the previous trimester............. January 22
February 11........................ Last day of classes.................................February 10
February 11........................ Last day to withdraw from individual or all
courses with “W” and to report errors in
previous term grades ..............................................February 10
February 13-18..................... Final examinations ..................................February 12-17
February 21-25..................... Recess.........................................................February 22
February 22........................ Last day for faculty to enter final grades
in the Interweb Rollbook.................................February 21

- Courses of Trimester II of 2005-2006 that meet only on Fridays will meet for one
  additional hour of class.
- Courses of Trimester II of 2005-2006 that meet on Mondays or Saturdays will
  meet for four additional hours of class.
- Courses of Trimester II of 2005-2007 that meet only on Saturdays will meet for
  one additional hour of class.

2005-2006   TRIMESTER III (FEBRUARY TO MAY)   2006-2007

Nov. 27-March 20.............. Disbursement Memo ............................November 27-March 19
February 1-6 ...................... Registration ..............................................................February 1-6
February 24.................... Last day for dropping courses (partial withdrawal) with 100% tuition refund
(not including fees).................................................February 23
February 24.................... Last day for dropping all courses (total withdrawal) with 100% tuition refund
(including fees)*....................................................February 23
February 27.................... Classes begin.........................................................February 26
Feb. 27-March 6 .............. Late registration and class changes ...........February 26-March 5
March 6......................... Last day for dropping courses (partial withdrawal) with 75% tuition refund
.................................................................March 5
March 6......................... Cancellation of courses for students
that have not paid registration ..................................March 5
March 13......................... Last day for dropping courses (partial withdrawal) with 50% tuition refund ..........March 12
March 13......................... Emission of vouchers.Vouchers are valid
until the day before the initial award of
financial aid to students ........................................March 12
March 21......................... Initial award of financial aid to students ..........March 20
March 23......................... Second award of financial aid to students ........March 21
March 24......................... Third award of financial aid to students and
reimbursement process** ..................................March 23
March 27-29 ..................... Checks delivered to students .................March 26-28
April 19......................... Last day for the faculty to report the removal of
incompletes from the previous trimester ...............April 18
April 19......................... Last day to apply for graduation at the
end of this trimester ...............................................April 18
May 20......................... Last day of classes .............................................May 19
May 20......................... Last day to withdraw from individual or all
courses with “W” and to report errors in
previous term grades .............................................May 19
May 22-27 ......................... Final examinations .................................................... May 21-26
May 30............................... Last day for faculty to enter final grades
in the Interweb Rollbook................................................. May 29

- Courses of Trimester III of 2006 that meet on Mondays and Wednesdays will meet for five additional hours of class.
- Courses of Trimester III of 2006 that meet only on Mondays and those that meet only on Wednesdays will meet for four additional hours of class.
- Courses of Trimester III of 2006 that meet Tuesdays, Thursdays, Fridays and Saturdays only will meet for one additional hour of class.
- Courses of Trimester III of 2007 that meet on Mondays and Wednesdays and those that meet on Tuesdays and Thursdays will meet for one additional hour of class.
- Courses of Trimester III of 2007 that meet only on Mondays and those that meet only on Thursdays will meet for four additional hours of class.
- Courses of Trimester III of 2007 that meet Tuesdays, Wednesdays, Fridays and Saturdays only will meet for one additional hour of class.

* For total withdrawals, Institutional Policy and Procedure for Return of Funds and Repayment applies.
** From this date, there will be accreditation Tuesdays and Thursdays, and on Fridays there will be accreditation and reimbursement until the June 26, 2006 or June 25, 2007, as the case may be. Check delivery will be made not later than three (3) days, after reimbursement.
*** Each campus will schedule the days it deems necessary.

Note: Please consult your academic unit for more information regarding the academic and administrative calendars.
Holidays

(The dates given are those on which the University will observe the holidays. The University reserves the right to conduct classes and activities on holidays when necessary to meet calendar requirements.)

<table>
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<tr>
<th>2005-2006</th>
<th>2006-07</th>
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<tr>
<td>Mon., Sept. 5 ..................... Labor Day .......................................................... Mon., Sept. 4</td>
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<tr>
<td>Fri., Nov. 11 ..................... Veteran’s Day ........................................................ Sat., Nov. 11</td>
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<td>Sat., Nov. 19 ..................... Discovery of Puerto Rico ..................................... Mon., Nov. 20</td>
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<td>Nov. 24-26 ........................ Thanksgiving Recess .............................................. Nov. 23-25</td>
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<td>Sun., Dec. 25 ..................... Christmas Day ....................................................... Mon., Dec. 25</td>
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<td>Sun., Jan. 1 ........................ New Year’s Day ..................................................... Mon., Jan. 1</td>
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<td>Fri., Jan. 6 ........................ Epiphany ................................................................. Sat., Jan. 6</td>
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<td>Mon., Jan. 9 ........................ De Hostos’ Birthday .............................................. Mon., Jan. 8</td>
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<tr>
<td>Mon., Jan. 16 ..................... Martin Luther King’s Birthday ............................. Mon., Jan. 15</td>
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<tr>
<td>Mon., Feb. 20 ..................... Presidents’ Day ....................................................... Mon., Feb. 19</td>
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<tr>
<td>Wed., March 22 ................... Abolition of Slavery in Puerto Rico ...................... Thu., March 22</td>
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<tr>
<td>April 10-15 ........................ Easter Recess ......................................................... April 2-7</td>
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<tr>
<td>Mon., April 17 ................... De Diego’s Birthday ................................................. Mon., April 16</td>
<td></td>
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<tr>
<td>Mon., May 29 ..................... Memorial Day ............................................................ Mon., May 28</td>
<td></td>
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<tr>
<td>Tue., July 4 ........................ United States Independence Day ................................ Wed., July 4</td>
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<tr>
<td>Mon., July 17 ..................... Luis Muñoz Rivera’s Birthday ........................... Mon., July 16</td>
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<tr>
<td>Tue., July 25 ..................... Constitution Day ..................................................... Wed., July 25</td>
<td></td>
</tr>
<tr>
<td>Thu., July 27 ..................... Barbosa’s Birthday .................................................. Fri., July 27</td>
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</tbody>
</table>
Tuition, Fees and Other Charges

ADMISSION APPLICATION

Graduate (Masters and Doctorate) $31.00 with application
Law Students $63.00 with application
Optometry Students $31.00 with application

READMISSION APPLICATION

All Students $13.00 with application

TUITION

Postsecondary Technical and Vocational Certificates $125.00 per credit
Undergraduate Courses
  (Except Medical Technology and Engineering Courses) $140.00 per credit
Medical Technology Program (Undergraduate) $5,750.00 per year
Engineering Program $153.00 per credit
Master Program $175.00 per credit
Doctors in Education, Theological Studies and Psychology $270.00 per credit
Doctor in Entrepreneurial and Managerial Development $410.00 per credit
Auditing 50% of regular cost per credit

School of Law

Students admitted or readmitted in 1996-97 $300.00 per credit
Students admitted or readmitted in 1997-98 $325.00 per credit
Students admitted or readmitted in 1998-99 $350.00 per credit
Students admitted or readmitted in 1999-2000 $350.00 per credit
Students admitted or readmitted in 2000-2001 $350.00 per credit
Students admitted or readmitted in 2001-2002 $400.00 per credit
Students admitted or readmitted in 2002-2003 $400.00 per credit
Students admitted or readmitted in 2003-2004 $410.00 per credit
Students admitted or readmitted in 2004-2005 $410.00 per credit
Students admitted or to be admitted in 2005-2006 $410.00 per credit
Auditing without credit 50% of the regular cost per credit at the time that they were admitted or readmitted

School of Optometry

Regular Program -annually (2 semesters) 1st year $20,000.00
Regular Program -annually (2 semesters) 2nd and 3rd year $19,000.00
Special Students -per credit $566.00
Auditing without credit 50% of the cost per credit for special students
### GENERAL FEES

All Campuses, except the Schools of Law and Optometry

<table>
<thead>
<tr>
<th></th>
<th>Per Semester</th>
<th>Per Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fee</td>
<td>$30.00</td>
<td>$14.00</td>
</tr>
<tr>
<td>Medical Insurance</td>
<td>According to contract</td>
<td></td>
</tr>
<tr>
<td>Student and Cultural Activities Fee: all campuses except Law and Optometry</td>
<td>$14.00</td>
<td></td>
</tr>
<tr>
<td>Center for Access to Information</td>
<td>$25.00</td>
<td>$12.00</td>
</tr>
</tbody>
</table>

### Applicable to the School of Law

<table>
<thead>
<tr>
<th></th>
<th>Per Semester</th>
<th>Per Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fee</td>
<td>$30.00</td>
<td>$30.00</td>
</tr>
<tr>
<td>Student and Cultural Activities Fee</td>
<td>$14.00</td>
<td></td>
</tr>
<tr>
<td>Medical Insurance</td>
<td>According to contract</td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td>$100.00 with application</td>
<td></td>
</tr>
<tr>
<td>Law Journal</td>
<td>$15.00 once a year upon registration</td>
<td></td>
</tr>
<tr>
<td>Incomplete Removal</td>
<td>$19.00 per course with application</td>
<td></td>
</tr>
<tr>
<td>Infrastructure Fee</td>
<td>$44.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>Construction, Improvement and Maintenance Fee</td>
<td>$125.00</td>
<td>$63.00</td>
</tr>
</tbody>
</table>

### Applicable to the School of Optometry

<table>
<thead>
<tr>
<th></th>
<th>Per Semester</th>
<th>Per Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fee</td>
<td>$30.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>Student and Cultural Activities Fee</td>
<td>$37.00</td>
<td></td>
</tr>
<tr>
<td>Medical Plan</td>
<td>According to contract</td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td>$200.00 with application</td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>$38.00 per course when required</td>
<td></td>
</tr>
<tr>
<td>Clinic Fee</td>
<td>$200.00 per course when required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3rd and 4th year</td>
<td></td>
</tr>
<tr>
<td>Infrastructure Fee</td>
<td>$44.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>Construction, Improvement and Maintenance Fee</td>
<td>$63.00</td>
<td>$31.00</td>
</tr>
</tbody>
</table>

### Applicable to the Trimester Program

<table>
<thead>
<tr>
<th></th>
<th>Per Term</th>
<th>Per Summer Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fee</td>
<td>$20.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>Summer Session General Fee</td>
<td>$14.00 per summer session</td>
<td></td>
</tr>
<tr>
<td>Medical Insurance</td>
<td>According to contract</td>
<td></td>
</tr>
<tr>
<td>Student and Cultural Activities Fee</td>
<td>$7.00 per term</td>
<td></td>
</tr>
<tr>
<td>Dispensary</td>
<td>$6.00 per term or per summer session</td>
<td></td>
</tr>
<tr>
<td>Student Center</td>
<td>$6.00 per term</td>
<td></td>
</tr>
<tr>
<td>Information Access Center</td>
<td>$13.00 per term</td>
<td>$12.00</td>
</tr>
</tbody>
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### OTHER FEES

### Applicable to all Campuses

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Late Registration</td>
<td>$50.00 upon registration</td>
</tr>
</tbody>
</table>
Withdrawal from Courses
   (One or more courses during refund period) $6.00 upon withdrawal
Course Additions or Changes $6.00 upon change
Deferred Payment Arrangement $6.00 upon arrangement
Late Payment of Deferred Payment 5% of total debt when lateness occurs
Late Final Examination $19.00 per examination
Graduation (Except Schools of Law and Optometry) $80.00 all degrees
Transcript of Credits $3.00 per transcript
Change of Major $13.00 with application starting with second change
Bank Returned Checks $13.00 each time
Maintain Active Status
   Master Degree $25.00
   Doctoral Degree $31.00

Applicable to all Campuses
Internship or Practice Teaching $19.00 per credit
Social Work (Declared Majors) $63.00 per semester
   $31.00 per summer session
Proficiency Examinations 50% of regular cost per credit
Portfolio Evaluation 50% of regular cost of a 3 credit course
Laboratories (all disciplines, except the Engineering Program and Open Labs) $90.00 per hour laboratory
Open Laboratories $30.00 per course
Engineering Program
   Chemistry and Physics Laboratories $150.00 per course
   Engineering Laboratories $300.00 per course
Identification Card Replacement $7.00 with each request

Infrastructure Fee

<table>
<thead>
<tr>
<th></th>
<th>Regular Program</th>
<th>Trimester Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nine or More Credits</td>
<td>$44.00 per semester</td>
<td>$31.00 per trimester</td>
</tr>
<tr>
<td>Less than Nine Credits</td>
<td>$25.00 per semester</td>
<td>$19.00 per trimester</td>
</tr>
<tr>
<td>Summer</td>
<td>$25.00 per session</td>
<td>$25.00 per session</td>
</tr>
</tbody>
</table>

Construction, Improvements and Maintenance Fee

<table>
<thead>
<tr>
<th></th>
<th>Regular Program</th>
<th>Trimester Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nine or More Credits</td>
<td>$63.00 per semester</td>
<td>$44.00 per trimester</td>
</tr>
<tr>
<td>Less than Nine Credits</td>
<td>$44.00 per semester</td>
<td>$31.00 per trimester</td>
</tr>
<tr>
<td>Summer</td>
<td>$31.00 per session</td>
<td>$31.00 per session</td>
</tr>
</tbody>
</table>

Applicable only to the San Germán and Metropolitan Campuses

<table>
<thead>
<tr>
<th></th>
<th>Regular Program</th>
<th>Trimester Program</th>
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</thead>
<tbody>
<tr>
<td>Students Center</td>
<td>$19.00 per semester</td>
<td>$6.00 per summer session</td>
</tr>
<tr>
<td>Dispensary</td>
<td>$13.00 per semester</td>
<td>$6.00 per summer session</td>
</tr>
<tr>
<td>Music Program</td>
<td>For those registered in one course</td>
<td>$63.00 per semester</td>
</tr>
</tbody>
</table>
Two or more courses $125.00 per semester

**Applicable only to the Aguadilla, Arecibo, Bayamón, Guayama and Ponce Campuses**

Dispensary $6.00 per semester $3.00 per summer session
This does not apply to distance learning students living outside Puerto Rico during a particular academic term.

Applicable only to the San Germán Campus

Architecture Program
For those registered in one course $63.00 per semester
Two or more courses $125.00 per semester

Room and Board
Eunice White Harris and Dr. Angel Archilla Cabrera Dormitories
Room per person (4 occupants) $450.00 per semester $150.00 per summer session

(The cost for room and board is refundable if requested 25 University workdays before the start of classes for each semester or 7 University workdays before the first day of classes for the summer sessions.)

Dormitory Room Reservation $25.00 with application

(The deposit for the Dormitory Room Reservation is applicable to the Room Fee: this is refundable if not admitted to the dormitory.)

Loss of room key Depending on the cost of lock replacement

Meals - 5 days per week $750.00 per semester

(Includes three meals daily Monday through Friday, beginning on the first day of classes until the last day of final examinations. Does not include official University Holidays nor Saturdays or Sundays.)

**CHANGES IN TUITION AND FEES**

The University reserves the right to change tuition fees and other charges when:

1. There is an increase in educational and general fees and/or mandatory transfers.
2. Budget projections indicate a possible increase in these costs.
3. After careful analysis of any particular situation, the University administration determines that such changes are reasonable and justified.

**PAYMENTS**

The total cost of tuition fees and other charges is payable at the time of registration.
The difference between the total cost of tuition, fees and other charges and the total amount of financial aid a student receives (except aid received under the Federal Work-Study Program) is payable at the time of registration.

Payments may be made by means of money orders, checks drawn to the order of Inter American University of Puerto Rico or in cash. Payment may also be made by MasterCard, Visa, American Express or ATH debit cards. In addition, payments may be made through Banco Popular de Puerto Rico at any of its branches, by mail or by tele pago.

Deferred Payment Arrangements

The University grants students the privilege of a deferred payment for 50% of the total cost of registration per semester or trimester upon signing a promissory note. To be eligible for deferred payment, students must have liquidated any debts from previous academic terms. In no case shall the total amount deferred exceed the balance of the debt after discounting the financial aid benefits or loans.

The chief executive officers of the academic units may, in exceptional cases, increase the percentage of the deferral if it is understood to be beneficial for the Institution after an analysis that indicates, with a reasonable degree of assurance, that the debt will be paid.

No deferred payment will be given for amounts less than $50.00.

The payment of the deferred total cost of tuition, fees and other charges becomes due seventy-five (75) days after the first day of class in a semester calendar. The deferred payment under a trimester or bimester calendar becomes due thirty (30) days after the first day of class. The deferred amount for semesters is due in a maximum of three equal installments, and in the case of trimesters and bimesters in one payment at the end of thirty (30) days of the deferral.

The award of a deferred payment carries a fee to cover part of the administrative expenses of this service. There will be a charge of 5% on an installment that is not paid by its due date.

It is the responsibility of each student to know when payments are due and make arrangements accordingly.

Students who do not meet their financial commitments by the due date may be suspended and will not receive a grade in courses in which they have enrolled. Students who have not met their financial commitment will lose their rights to receive University service until their debts are removed in accordance with the Federal and Puerto Rican regulations.

THERE IS NO DEFERRED PAYMENT PLAN DURING THE SUMMER SESSIONS except by authorization of the Vice-President for Financial Affairs, Administration and Services. This deferred amount must be paid within thirty (30) days from the last day of classes of the summer session in which the aid was awarded.

Debts for other Reasons

When students or former students of the University are in debt to the University for any cause other than that of a deferred payment as explained in the Catalog, independently of any payment plan granted or any collection procedure that may be initiated or has been initiated, they lose their rights to receive University services until the debt is paid in full.

Students transferred from another educational institution who have debts with any of the federal financial aid programs will not be eligible for financial aid at this University.
ADJUSTMENTS AND REIMBURSEMENTS

Partial Withdrawal

Per Semester, Trimester and Bimester:

100% of the cost of the credits and laboratory fees (not including other fees) that are dropped before classes begin.
75% of the cost of the credits and laboratory fees (not including other fees) dropped during the first week of class.
50% of the cost of the credits and laboratory fees (not including other fees) dropped during the second week of class.

Per Summer Session:

100% of the cost of the credits and laboratory fees (not including other fees) that dropped before classes begin.
75% of the cost of the credits and laboratory fees (not including other fees) dropped during the first and second day of class.
50% of the cost of the credits and laboratory fees (not including other fees) dropped during the third and fourth day of class.

THERE WILL BE NO REIMBURSEMENT AFTER THE FOURTH DAY OF CLASS

These adjustments will apply to students that pay the total cost of registration in cash.

Institutional Policies and Procedures of Return of Funds Applicable to Students with a Total Withdrawal

The Policy for Return of Funds is applicable to all students that pay their registration in cash, with financial aid from Title IV Programs, or from other state or institutional programs or from health allied programs or with any other payment method and who officially withdraw from all courses, stop attending class, never attended class or are expelled from the University.

Return of Funds to Title IV Programs

Students that officially withdraw: To determine the applicable percentage the last date of withdrawal up to 60% of the term.
Students that stop attending class: The Policy for Return of Funds will be applied up to 60% of the term with a refund equivalent to 50% of the assigned funds.
Students that never attended class: One hundred percent (100%) will be refunded

Return of Funds to State or Institutional Programs, Health Allied Programs or for Payments made in Cash or any other Method of Payment

For students who officially withdraw from all courses, stop attending class or never attended class the return of funds previously accredited will be as follows:
Per Semester, Trimester and Bimester:

100% return of funds before classes begin.
75% return of funds during the first week of class.
50% return of funds during the second week of class.

THERE WILL BE NO RETURN OF FUNDS AFTER THE SECOND WEEK OF CLASS

Per Summer Session:

100% return of funds before classes begin.
75% return of funds during the first and second day of class.
50% return of funds during the third and fourth day of class.

THERE WILL BE NO RETURN OF FUNDS AFTER THE FOURTH DAY OF CLASS

Per Intensive Session:

100% return of funds on or before the first day of class.
75% return of funds during the second day of class.
50% return of funds during the third day of class.

THERE WILL BE NO RETURN OF FUNDS AFTER THE THIRD DAY OF CLASS

Students that pay with financial aid will be responsible for the difference resulting from reimbursement to the fund and registration costs. In case a balance remains, this will be returned to the student.

Fees and Other Charges are not refundable after classes begin.

Board: The student will be entitled to a prorated adjustment for the cost of meals for the time that the services are not used when the student withdraws from the University.

Room: These charges are not refundable, unless the space is immediately occupied by another student.
General Information

History of the University

Inter American University of Puerto Rico is a private institution with a Christian heritage and an ecumenical tradition. It is a non-profit organization that provides college instruction to youth of both sexes. It was originally founded in 1912 as the Polytechnic Institute of Puerto Rico by the Reverend J. William Harris and offered elementary and secondary education on the land occupied today by the San Germán Campus. The first college level courses were started in 1921 and in 1927, the first group of students graduated with Bachelor’s degrees. In 1944, the Institution was accredited by the Middle States Association of Colleges and Schools. It was the first four-year liberal arts college to be so accredited outside the continental limits of the United States. This accreditation has been maintained since then. The University is approved to provide educational services to veterans intending to pursue studies under the norms of the Veterans’ Administration. The programs of the University are authorized by the Council on Higher Education of the Commonwealth of Puerto Rico and by the Commonwealth’s Department of Education, which certifies teachers for the public school system of Puerto Rico. Inter American University’s School of Law is accredited by the American Bar Association and the School of Optometry, inaugurated in 1981, by the Council on Optometric Education. In March 1982, the first doctoral program was initiated.

Inter American University is the largest private university in Puerto Rico. Enrollment, in recent years, has been maintained at approximately 43,000 students. At the present time, about 21 percent of all the Island’s college students and 35 percent of the students who go to the Island’s private colleges attend Inter American University.

Inter American University’s tradition of public service, the geographical location of its instructional units and its continuing attention to student needs make it especially attractive and accessible to students from all the municipalities of Puerto Rico. The increasing availability of both Federal and Commonwealth funds for student financial aid has enabled many students, who otherwise would not have been able to do so, to get a college education.

Governance

The highest governing body of Inter American University is a self-perpetuating Board of Trustees, whose members are elected by the Board itself without any outside intervention or tutelage of any kind.

The President is the chief executive and academic officer of the Institution. The Managerial Systemic Council is composed of the President of the University, Vice-Presidents, Chancellors, the Deans of the Schools of Law and Optometry, an Executive Secretary appointed by the President, the Executive Director of the Information System, the Director of the Office of the Juridical Advisor and the Director of the Office of Evaluation and Systemic Research. In addition, when affairs relevant to their functions are being considered by the Council, the following persons will attend as advisors: the President of the University Council, the Director of the Human Resources Office, the Director of the Office of Promotion and Recruitment and the Director of Planning and Systemic Development of Physical Plant.
Subject to the approval of the President of the University and of the Board of Trustees, the faculties of the School of Law and of the School of Optometry are responsible for their own academic programs and standards. Nevertheless, in all other respects, these professional schools are also subject to university-wide policies, norms and procedures.

The Academic Senates of the instructional units and the University Council, heirs of the Academic Senate created in 1966 and succeeded by the University Senate in 1973, are primarily concerned with the academic well being of the University through the process of academic articulation among the Campuses. The Academic Senates establish academic norms subject to the ratification of the University Council and the concurrence of the President. Both bodies formulate recommendations on affairs related to educational, administrative and research policy.

**Instructional Units**

Inter American University offers academic programs in the following eleven instructional units: The Aguadilla, Arecibo, Barranquitas, Bayamón, Fajardo, Guayama, Metropolitan, Ponce and San Germán Campuses; and in two professional schools: Law and Optometry.

**Academic Degrees**

Inter American University offers preuniversity, undergraduate, graduate and professional programs leading to certificates, to Associate in Arts, Associate in Science, Associate in Medical Emergencies and Associate in Applied Science degrees, to Bachelor of Arts, Bachelor of Business Administration, Bachelor of Science, Bachelor of Music and Bachelor of Nursing degrees, to Master of Arts, Master of Business Administration, Master of Science, Master of Science in Nursing, Master of Library and Information Science, Master of International Business, Master of Fine Arts and Master of Social Work degrees, to a Specialist Diploma in Curriculum and Instruction and to a Doctor of Philosophy (Ph.D.) and a doctor in Education (Ed.D.) degree. The School of Law of Inter American University grants the Juris Doctor degree and the School of Optometry, the Doctor of Optometry degree.

Some of the University’s instructional units offer special programs, which are usually funded by federal grants. The educational activities of the Institution also include courses, seminars and institutes carried out as part of the University’s Continuing Education Program.

**Goals of the University**

The University faculty and the administration strive to achieve the following institutional goals:

1. To provide and maintain a positive atmosphere in the university community that will foster intellectual, social, and moral development based on the fundamental values of Christianity.
2. To promote a liberal education that will lead to the development of an educated person, well-versed in the different fields of human knowledge through the development of critical thinking, moral and civic responsibility, skills in social
integration, scientific and mathematical knowledge and a sensibility for the arts that enhance a full life.

3. To succeed in having the student become functionally proficient in the use of Spanish or English and in developing an acceptable level of competency in the other language.

4. To stimulate student understanding and appreciation of Puerto Rico’s cultural heritage, its origins, development, contributions and relations with the Caribbean, the Americas and the rest of the world and the commitment to preserve it.

5. To offer a non-proselytizing cultural, ecumenical and moral religious education to increase student awareness of the place of religion in all civilizations and their understanding of its relationship to other disciplines.

6. To offer a variety of programs and services at the undergraduate, graduate, occupational and professional level in accordance with the changing necessities of the student population and of society in its global context.

7. To foster the ongoing growth and commitment of the faculty in the application of teaching methods, in the mastery of the subject matter and in their personal and professional development.

8. To foster the continuous development and improvement of the support personnel of the teaching process.

9. To succeed in having the support programs for the faculty and student services and activities work in harmony with the academic program so as to enhance the total education of the student.

10. To achieve constant progress, properly planned, in the field of new technology with relation to the academic program, educational strategy, support for teaching, student services and administration.

11. To stimulate research and creativity in the entire academic community to enrich the Institution’s educational endeavors, to increase human understanding of the environment and of the world and to generate new knowledge and technology.

12. To create an awareness of the social, cultural, economic, environmental, and political problems that confront Puerto Rican society and to stimulate the search for solutions to these problems by defining and discussing them.

13. To promote maximum coordination and cooperation with educational institutions, professional agencies and institutions in Puerto Rico and abroad that foster educational improvement at all levels.

14. To stimulate the members of the communities the Institution serves to recognize the value of continuing personal and professional development through a variety of University programs that will enrich their lives and increase their knowledge.

15. To assume a leadership role in promoting the cultural and social enrichment and the prosperity of the communities the Institution serves.

16. To develop an educational philosophy based on education for peace.

Religious Life Policy

Inter American University of Puerto Rico is an ecumenically oriented institution, but does not adhere to any one particular theology or ecclesiastical body. Founded by Dr. John William Harris, a minister of the Presbyterian Church, Inter American University maintains a historic, friendly and enriching association with that communion as well as with other Christian groups in accordance with its ecumenical spirit.

In affirming its commitment to the Christian ecumenical ideal, the University dedicates itself to the renewal and reaffirmation not only to its own Christian heritage, but also to that
of the culture within which it is situated and which it serves. This does not oblige the acceptance of all the details of our Christian past nor of all the elements of modern Christianity. Nevertheless, the University has fostered and will continue to foster the convergence of all Christians in the one faith centered about the person of Jesus Christ as He is made known to us in the apostolic tradition of the Scriptures as the One whom Christians regard as decisive, definite and normative in man’s relations with God and his fellow men and with society. The University affirms its conviction that to be a Christian today implies, on the one hand, knowledge of and obedience to the Gospel and, on the other, an identification with the Universal church by means of an individual commitment to a particular Christian communion.

The ecumenical posture of the University involves openness to society, to science, to technology and to a plurality of faiths; it involves an integral education of each individual so he or she may exercise a vocation within his or her community in a responsible and productive way; it involves a commitment to serve though not to dominate society; and it involves the development of friendliness, fellowship and understanding to bridge human barriers.

Inter American University of Puerto Rico is a community of higher education dedicated to a comprehensive search for truth within an environment of responsible freedom and through the encouragement of a mature academic life which guarantees true freedom of investigation. Within this context, religion is studied in the University as an academic discipline designed to engage in fruitful dialog with other university disciplines.

To achieve this, Inter American University of Puerto Rico will continue and strengthen the development of its programs of religious studies and will provide to all its students an opportunity to understand the Christian faith and its implications for our culture; the University will furnish information about the most important aspects of the world’s major religions to its students and will encourage them to appreciate these religions within their historic, theological and philosophic context. In this way, the search for faith and for the means to humanize mankind may be seen as a relevant option in a world striving for greater understanding and happiness.

The commitment of Inter American University to its Christian Heritage, as well as to its academic mission, will manifest itself through the development of an ecumenical program of religious life. In accordance with this basic religious philosophy for the academic study of religion and for the development of religious activities, Inter American University, by its act and works, will:

1. Encourage the expression of the Christian principles here set forth,
2. Require the academic study of fundamentals of the Christian faith,
3. Require each instructional unit to establish an Office of Religious Life, which will serve the entire University community.

**Associations**

Inter American University is member of the following professional organizations:
- American Council on Education (ACE)
- American Institute of Certified Public Accountants (AICPA)
- Asociación de Colegios y Universidades Privadas de Puerto Rico (ACUP)
- Asociación de Industriales de Puerto Rico
- Association of American Colleges and Universities (AACU)
- Association of Governing Boards of Universities and Colleges (AGB)
- Association of Presbyterian College and Universities (APCU)
Broadcast Music, Inc. (BMI)
College Board
Council of Graduate Schools (CGS)
Hispanic Association of Colleges and Universities (HACU)
Hispanic Educational Telecommunications System (HETS)
National Association of College and University Attorneys (NACUA)
National Association of Independent Colleges and Universities (NAICU)
National Association of Student Financial Aid Administrators (NASFAA)
Organización Universitaria Interamericana (OUI)

Servicemembers Opportunity College (SOC)

The University participates in the network of colleges and universities in the United States and abroad known as Servicemembers Opportunity College (SOC). Member institutions are open to men and women on active duty in any of the military services and to their dependents. Information regarding the SOC program at Inter American University may be obtained from the Registrar Office.

Reserve Officers Training Corps (ROTC)

Since January 1975, Inter American University has had formal arrangements with the University of Puerto Rico whereby male and female students of Inter American University may register in the University of Puerto Rico’s program for the training of Reserve Officers. Arrangements for participation in this Program should be made with the Department of Military Science or Department of Aerospace Studies at the University of Puerto Rico in Río Piedras or Mayagüez. All ROTC credits taken by Inter American University students under this agreement will be included on their transcripts together with their corresponding grades. These grades will be counted in the grade point index.

Inter American University will accept as elective credits for undergraduate degrees a maximum of twelve credits received in ROTC courses at the 3000 or 4000 levels. This norm is applicable to credits received from the University of Puerto Rico under the aforementioned agreement or before its effective date and to credits received from another institution. Any credits not received under the agreement will be considered as transfer credits.

Educational Resources

The University stresses the importance of developing educational resources that complement the teaching function. As a result, several programs have been implemented to integrate the latest technological advances to the University’s educational services.

Information Access Center (Library)

Each academic unit has an adequately staffed and equipped Information Access Center. These Centers are organized to function as a coordinated system. An on-line catalog provides access to all University bibliographical resources as well as audiovisual and electronic resources that are made available for computer based research.
The Centers provide remote access to electronic databases through Internet to students, faculty and administrators of the University.

Each Information Access Center has developed as an integral part of the University programs in which a number of activities take place, including the development of library skills for students, faculty and administration.

The system collection contains more than one million volumes of printed, audiovisual and electronic resources.

The Audiovisual Center

Each Center offers a variety of audiovisual services to assist in the teaching-learning process. These use the most modern technological resources available. The Audiovisual Center has two main functions: the production of audiovisual and digital materials to complement the educational process and the offering of direct services to faculty and students.

The Centers design and produce their materials in facilities for sound and television recordings and for photography and the graphic arts. Projection services for individuals and groups as well as exhibitions are offered.

In general, these Centers gear their efforts towards facilitating the imparting of knowledge. The Centers contain collections of current materials in all curricular areas.

The Educational Support Center

Each Campus has a Center equipped with computers and other related hardware to assist the faculty in using the computer to produce teaching materials. The Center also serves as a laboratory where those faculty members who already have computer skills can produce their own instructional modules or make use of available commercial software for instructional purposes.

Publications

Inter American University has a variety of publications to facilitate communication within the University community, with alumni and with other academics and academic communities.

Interamericana is the official publication of Inter American University. It is published four times a year and its approximately 30,000 copies are distributed to students, faculty, administration, alumni and friends of the Institution. This publication covers activities from all instructional units and features special interviews and current events affecting education or the development of the Institution as well as general information regarding the faculty and administration.

Videoenlace Interactivo is a publication of the Vice-Presidency for Academic and Student Affairs and Systemic Planning. Its objective is to share the experiences of professors and students in the field of distance learning. It serves as forum for dialog and the exchange of ideas in the use of the technology in the educational processes.

The Law Review, edited by students, is the official publication of the School of Law. Its articles are written by professors and students from the School of Law, judges and practicing lawyers. Because of the careful selection of its articles, the Law Review of Inter American University’s School of Law is highly esteemed in the field of law.
Homines is published by the Metropolitan Campus. It contains critical analyses of current thoughts and events relevant to national and international affairs in the vast field of the social sciences. It is published twice a year.

Prisma is published annually by the Arecibo Campus. It has an interdisciplinary focus for the purpose of fomenting research and literary creativity in the University community. Essays, critiques, poems and short stories are published.

Surisla is published annually by the Ponce Campus. It transmits the literary works of the University community as well as the extramural contributions through an interdisciplinary focus.

Alumni Association

The Alumni Association Poly-Inter is an organization of graduates and former students who attended Inter American University or Polytechnic Institute. The Association keeps its members informed of University activities and involves them in its development. The Association is governed by a Board of Directors composed of 29 members, nine of which correspond to the alumni chapters of the different campuses and two members to the professional schools. In addition, the Association is represented on the Board of Trustees of the University by an Alumni Trustee. Each year the Alumni Association holds two principle activities: the celebration of Founders Day and the honoring of distinguished alumni.

Academic Information

Admissions

Admission to Inter American University is granted to a specific campus during a specific time at any registration period within the academic year for which admission is to be granted. The validity of the admission may be extended for one more semester upon request to the Office of Admissions. Admission to the University does not imply admission to a specific academic program.

Applicants interested in studies totally through distance learning should consult the section “Admission Requirements to Distance Learning Programs” in this Catalog.

Admission to Graduate and Professional Programs

The requirements and procedures for admission to the Master’s and Doctoral Programs are presented in the Graduate Catalog and in the School of Law and School of Optometry catalogs.

Requirements for Undergraduate Admission

Applicants to Inter American University at the undergraduate level must:

1. Present evidence of graduation from an accredited secondary school or its equivalent with a minimum grade point index of 2.00 or its equivalent.
2. Present satisfactory scores in the Aptitude and English Achievement Tests of the College Entrance Examination Board (CEEB). Students whose first language is English may take the Scholastic Aptitude Test while those whose first language is Spanish may take the Prueba de Aptitud Académica.

   a. For more information on the Spanish version of the test (Prueba de Aptitud Académica), please write to:
      College Entrance Examination Board
      PO Box 191275
      San Juan, Puerto Rico 00919-1275
   b. For more information on the English version of the test (Scholastic Aptitude Test), write or call the Admissions Office of any of the Campuses for the Educational Testing Service address and phone number.

3. Obtain a minimum admission index of 800. This is calculated by using the test results and the high school grade point index.
4. Be interviewed when it is deemed necessary. If an interview is necessary for distance learning students studying outside Puerto Rico, the interview may be conducted through means available to the student. The interview will be supervised by a proctor from the student’s locality, as determined by the University.

In cases where students have difficulty in obtaining their graduation certification, they may receive a conditional admission until they submit the certification. As soon as this requirement is fulfilled, their admission status will be changed from conditional to regular if they qualify. In any case, all required documents must be received within 30 days after the beginning of classes. If the documents are not submitted within the prescribed time, students will be dropped. Students may be admitted to special programs through norms established by the President of the University.

**Undergraduate Admission Procedures**

Applicants for admission to a specified Campus must:

1. Obtain an application for admission from the Admissions Office of the Campus of their choice or from high school advisors or other authorized personnel. Application forms are also available through Internet.
2. Submit the completed application to the Admissions Office of the chosen Campus, preferably by May 1, to apply for the fall semester, by November 15 to apply for the spring semester and by April 15 to apply for the summer session.

Students in their fourth year of high school are advised to submit the application as soon as they decide to study at this University. By applying before May, they will be able to receive greater orientation about the University and its financial aid programs.

For admission to the Trimester Program in English, application materials should be submitted to the Admissions Office at the Metropolitan Campus or to the Director of the Trimester Program in English.
All application documents for admission to the Trimester Program in English must be submitted no later than:

- July 1 for Trimester I (August)
- October 1 for Trimester II (November)
- January 1 for Trimester III (February)

Applications from military personnel whose duty assignments prevent them from filing on time will be accepted after these dates.

3. Arrange for a transcript of the high school record to be sent by an authorized representative of the secondary school to the appropriate Admissions Office.

4. Arrange for the CEO test results to be sent to the appropriate Admissions Office.

5. Submit an updated certificate of vaccination if the student is less than 21 years old, except students interested in taking courses in other countries through distance learning.

6. Send a $25 deposit if planning to board at the San Germán Campus. This deposit will be applied toward the room fee. It will be refunded if the student is not admitted to a residence hall or if the student requests its return before August 1. (See section on Residence Halls).

Final decisions regarding applications will normally reach the applicant no later than three weeks after all application materials have been received by the University. If for any reason the University requires more time, the applicant will be notified. A personal interview of an applicant for admission may be required.

**Admission Requirements to Distance Learning Programs**

The admission requirements for students interested in undergraduate studies totally through distance learning are presented below. The information includes: (a) Admission of Students from the Educational System of the United States of America and Puerto Rico, (b) Admission by Transfer from Other University Level Institutions, (c) Admission of Students from Other Educational Systems, (d) Special Admission of Students not Interested in a Degree or Academic Title and (e) Conditional Admission.

**A. Admission of Students from the Educational System of the United States of America and Puerto Rico**

Students from the educational system of the United States of America and Puerto Rico must:

1. Present evidence of graduation from an accredited secondary school or its equivalent with a minimum grade point index of 2.00
2. Present the scores obtained in the one of the following admission tests, or equivalent:
   a. Test for Evaluation and Admission to University Studies (PEAU) administered by the College Board of Puerto Rico.
b. Scholastic Aptitude Test (the SAT) administered by the College Board in the United States of America.
c. American College Testing (ACT).

3. Obtain a minimum admission index of 800. This index is calculated by using the test results and the high school grade point index.
4. Be interviewed by the means available when deemed necessary

B. Admission by Transfer from Other University Level Institutions

Candidates for admission by transfer from other university level institutions must:

1. Submit the admission application with an official copy of the academic transcript from the university or college of origin. The copy of the transcript must be sent directly from the offices of the registrar of those institutions to the appropriate Admissions Office of Inter American University.
2. Have at least twelve transferable semester credits with a minimum grade of C from another accredited institution. When an academic program has different grade requirements, students must meet these minimum grade requirements.
3. Meet the particular admission norms of the academic programs for which admission is requested.
4. Meet the minimum academic index indicated in Item A of the satisfactory academic progress policy of this University. All courses taken will be considered in determining the fulfillment of this requirement.
5. Not be under suspension for disciplinary reasons by their former institution.
6. Students who have not taken courses in English, must present their College Board results for placement in the different levels of English.

Students who have approved less than twelve transferable credits in the institution of origin, will be evaluated in agreement the norms applicable to applicants without university studies. If they are admitted, they will receive credit for the transferable academic work of the other institution.

C. Admission of Students from Other Educational Systems:

1. Without University Studies

Students from other educational systems with no prior university studies must present official evidence of having satisfactorily completed, in their country, secondary studies equivalent to graduation from high school in Puerto Rico.

2. With University Studies

Students with university studies must present official evidence of these studies. The University will evaluate the credentials to determine the student’s eligibility to enter the academic program for which admission is requested.
D. Special Admission of Students not Interested in a Degree or Academic Title:

Students interested in taking courses totally through distance learning, but not interested in a degree or university title, must present evidence of having satisfactorily completed the secondary studies equivalent to the high school graduation requirements in Puerto Rico.

E. Conditional Admission

The evidence of studies must be properly validated with official documents duly certified by the appropriate authorities. Photocopies and documents sent by electronic mail, fax, or regular mail are accepted provisionally, for conditional admission. The official documents must confirm the preliminary information provided by the student. Otherwise, the University may drop the student.

Early Admission to University Studies

The Early Admissions Program offers high school juniors the opportunity to apply for admission to undergraduate studies. These students will be selected on the basis of their achievements. The minimum requirements are an admission’s index of 1,175 based on the average of the achievement test of the College Entrance Examination Board and the student’s high school grade point average, a 3.00 high school grade point average, an average of 575 on the achievement tests of the College Entrance Examination Board. Evidence is also required of having passed two years of high school English, two years of Spanish, two years of a combination of science and mathematics, and written recommendations by high school principals and counselors describing student maturity and ability to perform intellectual tasks required of university students. These students may return to high school studies without prejudice to their future chances in higher education if they find they are unable to cope with the university curriculum. It is the responsibility of the student to take the necessary steps in the Puerto Rico Department of Education to receive high school graduation certification.

University Credits Through Advanced Placement Testing

Entering students may obtain university credits upon fulfilling the following:

1. Have obtained 3 or more points on a 5 point scale on the College Entrance Examination Board Advanced Placement Test. Six university credits will be given for each test.
2. Have obtained scores recommended by the American Council on Education on College Examination Program tests.
3. Have taken in British areas the General Certificate of Education (GCE) Advanced Level Examination and have obtained a grade of “Pass”.
Admission of Veterans

All programs of the University are authorized by both the Veterans’ Administration and the Department of Education of the Commonwealth of Puerto Rico. Veterans intending to enroll and receive VA educational benefits should submit an application through the Office of the Registrar of the campus in which they intend to pursue studies.

Admission of Foreign Students

Foreign students interested in entering the University must submit their questions directly to the academic unit to which they wish to be admitted. Inter American University reserves the right to interview the applicants as part of the admission requirements. If the applicants are approved for admission, the Admissions Office will fill out the 1-20 Form from the Immigration and Naturalization Service of the United States of America, so they may obtain student visas. Students admitted to study totally through distance learning do not have to complete this form.

Admission to undergraduate programs leading to the bachelor’s degree requires that the applicant has completed the secondary studies equivalent to the high school graduation requirements in Puerto Rico. Applicants with university studies must present evidence of such studies.

The official evidence of studies must be submitted in English or Spanish, properly authenticated by the appropriate authorities of the country of origin.

Admission of Transfer Students

Candidates for admission by transfer from another university or college must submit the application form. A copy of an official transcript of all university or college work previously completed must be forwarded directly from the registrars of institutions previously attended to the appropriate Admissions Office of Inter American University.

Students will be considered candidates for admission by transfer if they meet the following requirements:

1. Have at least twelve transferable semester credits with a minimum grade of C from another accredited institution. When an academic program has different grade requirements, students must meet these minimum grade requirements.
2. All transfer candidates must meet the admission norms for the program to which they request admission.
3. Meet the minimum academic index indicated in Item A of the satisfactory academic progress policy of this University for which all courses taken will be calculated in determining the fulfillment of this requirement.
4. Are not under suspension for disciplinary reasons by their former institution.
5. Students, who have not taken courses in English, must present their College Board results for placement in the different levels of English.
6. Submit an updated vaccination certificate if the student is less than 21 years old, except students who are interested distance learning from other countries.

The admissions requirements for transfer students interested in studying through the Adult Higher Education Program are included in that section in this Catalog.
Students who have passed fewer than twelve transferable semester credits at another postsecondary institution may request admission by following the procedures indicated in the section “Requirements for Undergraduate Admission” in this Catalog. Upon admission, such students will receive credit for transferable academic work completed at another postsecondary institution.

Before matriculation, a student may make a written appeal to any decision made regarding transfer credits. Such an appeal is to be submitted to the Office of Admissions. Once a student has been enrolled, no further consideration of previous credits from other institutions will be given.

Students who have been required to withdraw for academic reasons from another university are not eligible for one semester after withdrawal. Nevertheless, they are eligible for admission if they choose a major different from the one they were required to withdraw from.

Transfer credits may be allowed only for existing programs in the University, but credits may apply as electives provided that the courses are within the general fields of existing departments of Inter American University. No grade below C is acceptable for transfer. If the other institution uses a different grading system, the acceptance of the course will depend on that institution’s official clarification of its grading system. Inter American University will determine the corresponding equivalencies. The number of credit hours awarded for courses accepted for transfer will be the credit-hour value of the course at the institution of origin, so long as this value does not exceed the credit-hour value for the course at Inter American University. Generally, students obtaining scores of 3 or above on the CEEB Advanced Placement Tests will receive university level credit.

Students from British areas who receive a “Pass” or above in the GCE Advanced (“A”) Level Examinations may receive credit toward advanced standing.

All acceptable courses completed at Inter American University or elsewhere by students not regularly admitted to the University or in the Early Admission Program will be credited as soon as they have been admitted as regular students. Once students have been enrolled, no further consideration of previous credits from other institutions will be given, except for courses in progress.

If students take a course that is in their academic record as a transferred course and receive a grade or an administrative action symbol indicating an attempted course, the transferred course will be eliminated from the transcript.

All transfer student desiring to complete a second academic degree must comply with the section “Graduation Requirements and Information” of the General Catalog, for Bachelor and Associate Degree respectively. In addition, they must provide evidence of having passed a course in religion.

Admission of Special Students

Special students are: (1) students in good standing at another institution of higher learning who, with due authorization of their home institution, wish to study at Inter American University to fulfill requirements of their home institution, (2) people who, for their professional improvement or personal fulfillment, want to take courses but are not interested in obtaining a degree, or (3) teachers from the Department of Education who want to take courses to satisfy requirements of that department. Students from other institutions of higher education should present an official certification from their home institution indicating the courses for which they will receive credit at their own institution. Teachers admitted as special students should present a letter from their Superintendent of
Schools certifying that they are teachers with university degrees. Special students do not have to submit transcripts of credits to be admitted.

All applicants interested in taking courses but not in receiving a degree or certificate from this University may be admitted upon meeting admission requirement number one and steps one to five of the Undergraduate Admission Procedures. Any applicant who later decides to continue studies toward a university degree or certificate must meet all requirements and all steps in the University’s admission procedures.

All no-traditional study modalities will be available for students admitted under these criteria.

**Readmission to the University**

Students who discontinue studies for two semesters or more or four trimesters or more must request readmission at the Office of the Registrar of the campus to which they seek admission. This Office, after analyzing the official documents, will determine the students’ eligibility for readmission, using the norms established by each campus. All requests should be made at least one month before the following enrollment period. The Dean of Studies will consider exceptions individually.

Students who have passed courses at another institution of higher learning should present an official transcript of the credits taken. This evidence will be submitted to the Admissions Office for evaluation.

Students readmitted will follow the General Catalog and the rules and regulations in effect at the time of their readmission.

Students interested in readmission to the University through the Adult Higher Education Program must comply with the requirements established in that section of this Catalog.

**Intra-University Transfers**

Students who want to transfer from one campus to another must meet the admission requirements of the program and campus to which they request admission. Students must request a transfer from the Office of the Registrar of the campus in which they studied at least one month prior to the next registration period. After approval of the transfer, students will be referred to the appropriate academic advisor in agreement with their course of studies.

**Service of the Registrar**

The Office of the Registrar is responsible for registration, maintenance of all official academic records of students, the issuance of transcripts and certification of studies and certification that students have met graduation requirements. It also issues study certification upon student request. There is an Office of the Registrar at each instructional unit of the University. Forms requesting services of the Registrar are also available through Internet.
Registration and Program Changes

Students will register on the day and hour designated for this purpose. After registration, students will be able to make changes to their class programs during the period specified in the Academic Calendar.

1. Program modifications during the period of changes: To add or drop a course or change a course section during the period of change designated on the Academic Calendar, the student should complete a change-of-program form and submit it to the Office of the Registrar to be processed.

2. Dropping courses: After the period of change of program has ended, a student will be able to drop one or more courses (partial withdrawal or total withdrawal). For partial withdrawal, the student will first consult the professor of the course and will present a completed partial withdrawal form to the Registrar’s Office. When the professor is not available, the Director of the Department will sign the partial withdrawal form. After dropping the course, the student will be able to continue attending the course with the instructor’s permission. For total withdrawal from the University, please consult the section “Withdrawal from the University” of this Catalog. Students may drop a class or completely withdraw from the University until the last day of class as established in the Academic Calendar.

3. When a student stops attending a course, and does not qualify for the grade of Incomplete or F, the professor will enter the symbol UW in the column “Grade” and will indicate the student’s last date of class attendance or the student’s last activity related to the course in the column “Last Attend Date”, following the format of the BANNER System: DD/MON/YY (day, month, year).

University Policy Regarding Students and Alumni Directory

The University, in compliance with federal law “Family Educational Rights and Privacy Act (FERPA), provides students and alumni access to their academic files, the right to request that the information contained in those files be amended and certain control over the disclosure of academic information.

1. Students and alumni have the right to inspect and review their academic files. They may request this in writing to the file custodian and indicate the file they wish to review. The file custodian will make the necessary arrangements so that the student or alumni may review the files within a period of time no greater than 45 days from the date in which the student or alumni presented the written request. If the person receiving the request from the student or alumni does not have the file, this person will indicate the correct place for the request to be presented.

2. Students and alumni have the right to request that incorrect information contained in their academic files be corrected. Interested students or alumni must present a written request to the University official in charge of the file, indicate the part of the file to be corrected and explain the mistake. If the University decides not to
correct the file, the student or alumni will be notified of this decision in writing and the person will be informed of the right to request an informal hearing.

3. Students or alumni have the right to prevent the University from disclosing personal information found in the academic files, except in those cases where FERPA authorizes this, these cases are:

a) Disclosure of information to Institution officials. Institutional officials are taken to mean administrative or teaching employees, persons contacted by the University, members of the Board of Trustees and student members of special committees.

b) Disclosure of Directory information. The University has designated the following data as Directory information: student or alumni name, address, major and year of study. Students and alumni have the right to prevent the University from disclosing Directory information to third parties. The disclosure to third parties includes the release of information to the Armed Forces. If students or alumni wish to prevent their information from being disclosed to the United States Armed Forces, it is necessary that they express their desire that no information be disclosed to third parties. To prevent information from being disclosed to third parties, it is necessary that students or alumni submit their request to this effect, in writing, to the Office of the Registrar of their academic unit. In order for the request to be effective for the academic year, it is important that students submit the request in or on September 1st of that year.

c) Information to other universities. The University will release student or alumni information to those universities to which they request admission.

d) Exceptional circumstances. The University will disclose student or alumni information if they are economically dependent upon their parents. The University assumes undergraduate students and alumni are economically dependent upon their parents; therefore, in some cases it may disclose information without the consent of the student or alumni to parents that request it. Undergraduate students or alumni who are not economically dependent upon their parents must present this evidence to the Office of the Registrar to prevent information from being released to their parents. Information on graduate students or alumni will not be given to parents without their consent.

e) Emergency cases. These are cases in which the health or security of a student, alumni or other person is in danger.

f) Immigration and Naturalization Service. The University is obliged to give information to Immigration Service regarding certain foreign students or alumni.

If students or alumni understand that the University has not complied with these obligations, they have the right to file a claim to Department of Federal Education, Family Policy Compliance Officer, 400 Maryland Avenue SW, Washington D.C. 20202-4605.

**Solomon-Pombo Act**

Inter American University established its institutional policy regarding the student and alumni directory for the academic year 1999-2000. This measure was adopted to incorporate the new changes in the federal laws known as the Solomon-Pombo Act. This
federal law permits third parties to request from the Institution all personal data that is included by the University as Directory information.

Inter American University establishes the following data as Directory information:
- Name
- Major
- Address
- Year of study

The University exhorts all students not in agreement that these data be included in the Directory to contact the Dean of Studies of their Campus.

Student Records

Students requiring information concerning records or issuance of transcripts should contact the Office of the Registrar in the unit where they were registered.

At the end of each semester, trimester and summer school session, the Registrars will mail grade reports to their respective students. Students who believe there are errors in these reports should notify the appropriate Registrar, in writing. The deadline to submit these claims is the date established for the removal of grades of “Incomplete” in the following semester. A student who does not receive a grade report should contact the corresponding Office of the Registrar.

Upon completion of the degree, the academic transcript will indicate the degree, the major and minor concentrations as certified by the Council on Higher Education.

Student Academic and Personal Files

Student academic and personal files are confidential and the release or handling of information contained in them is limited to concern faculty and administrative personnel who, in the regular exercise of their functions, have to work with these files. Students have the right to examine their academic or personnel file at any moment in the presence of an official of the Office of the Registrar. They may not make copies of the documents contained in their files, except in the cases explained below.

The information contained in the academic or personal files may be released to parents of dependent students. Parents must present evidence of their condition as father or mother, as well as the dependency of the student through the presentation of relevant documentation. The information contained in the academic or personal files may not be released to students’ parents in any other cases.

The release of information contained in the academic or personal files of students to third parties, to any type of institution, to government or judicial agencies will only be made with written authorization from the student or in compliance with an order to this effect issued by the competent authority.

Transcripts, study certification and certification of degrees are available to students who may obtain them in the Office of the Registrar. The cost of each transcript is $3.00.

Transcripts requested for transfer to another educational institution, for continuing graduates studies, completing the requirements of certifying agencies or for the purpose of employment are sent directly to the address provided by the student in the request. In no case will transcripts requested for these purposes be delivered to the student.

The request for transcripts by students whose files are active will be processed within a reasonable time that should not exceed three weeks, under normal circumstances. The
requests for transcription of students whose files are inactive require a longer time to be processed.

**Diplomas**

Diplomas must be claimed by graduates at the Office of the Registrar no later than one year following graduation. The University will not be responsible for diplomas after that date.

**Change of Address**

When students register, they are required to file their mailing address with the Office of the Registrar. Changes of address should be reported immediately to the Registrar. If this address is not kept up-to-date, the University will not be responsible for notifications sent to the student.

Any notice, official or otherwise, mailed to a student’s address as it appears on the records shall be deemed sufficient notice.

**Class Attendance**

Regular class attendance and meeting the requirements established for courses offered by non-traditional modalities are considered by the University as essential elements of the educational process. For this reason, class attendance is required of every student registered in courses requiring their presence. In the same manner, the fulfillment of requirements is compulsory for all courses offered by non-traditional modalities. Student participation in institutional activities will be considered a valid excuse for not attending class. Students are responsible for completing course requirements as stipulated in the course syllabus.

Students, who have not attended any classes during the first two weeks of the academic semester or its equivalent, will be dropped administratively from the course. This includes courses offered through nontraditional modalities. The instructor, after receiving the class lists, will submit, in writing, the names of all such students to the Office of the Registrar through the Department Chairperson. For administrative purposes, these administrative drops will be considered equal to withdrawals for which the student has applied, as established in the Adjustments and Reimbursements section. Inter American University requires its faculty to report the last day of attendance or of any other course activity of students who drop class in each academic term. For this, the faculty must have a record of class attendance of the students, or of their participation in the other activities of the course. The faculty will report the last day of attendance or of student participation in course activities of those students who dropped class without having withdrawn officially from the University. The administrative action symbol NA will be used to identify these students.

The last date of class attendance will be used to determine the applicable refund for students who stop attending class without officially withdrawing. This arrangement is established in harmony with University regulations.

**Declaration of Major (Regular Program)**

Students will declare a major in one of the programs authorized for the campus upon admission to the University. Once they are admitted, students will receive appropriate
professional and academic guidance related to the program of their interest from either the
Orientation Center or from the academic department, as the case may be.

Students who justify a change of major will follow the procedure for declaration of
major in the concerned department.

The declaration of major does not imply admission to the program. Admission to a
program depends on satisfying the requirements of that program.

The requirements for declaration of major for students of the Adult Higher Education
Program are established in the section of that program in this Catalog.

The first change of major will be free of cost; a fee will be charged for each change
thereafter.

Declaration of Minor

Students may opt for a minor in a bachelor degree program as specified in this Catalog
in certain disciplines. A minor will consist of a minimum of 18 and a maximum of 24
credits, depending on the academic program. Students must comply with the academic
progress norms and with the time limit for completing their study program. A minimum
grade point index of 2.00 is required in the minor for its certification. If students want the
minor to appear on their transcript they must make a formal declaration of the minor
chosen, which must be different from their major. The declaration of a minor requires the
approval of the academic advisor and the concerned department chairperson. The
declaration must be made prior to the application for graduation.

Academic Advisement

The University offers academic advisement services to all its students. Once a formal
declaration of major has been made, the academic advisor assigned to each student will
assist in the process of developing student study potentials to the utmost.

Students should meet with their academic advisor prior to registration to plan their
program of studies. Nevertheless, the responsibility for planning the program of study rests
on the students.

Withdrawal from the University

Students wishing to withdraw from the University must report to a professional advisor
or to the person designated by the Chief Executive Office of the academic unit. Then, they
must go to the Office of the Registrar to fill out the withdrawal form and should then
proceed as directed. For withdrawals from the University by students who are completely
distance learning students or for withdrawals not requested in person, students should
inform their desire to withdraw to the Registrar of the academic unit by regular or
electronic mail. When a student withdraws, the criteria that will be used for determining
grades are outlined in the section “Registration and ProgramChanges”.

Withdrawal of a Course from the Schedule

The University will make every reasonable effort to offer courses as announced, but it
reserves the right to withdraw a course from the schedule, when it is deemed necessary.
Course Load

One credit hour is awarded for every 15 class hours per academic session and in the laboratory, one credit hour is awarded for 30 to 45 hours per session.

A normal course load is 12-18 credit hours per semester or 9-12 per trimester. Students may not take more than 18 credit hours per semester or more than 12 per trimester unless their overall grade point index is 3.00 or higher. In order to take more than the normal course load, students must have the written consent of their advisor and of the Dean of Studies of their campus. Students on academic probation because of an unsatisfactory grade point index are limited to a program of 12 credit hours per semester or 9 per trimester.

During each of the four-week summer sessions, students may enroll for a maximum of two courses provided that the number of credit hours does not exceed 7 per session.

Students who register without written authorization for credits in excess of the maximum stated above in any semester, trimester or summer session shall receive credit only for authorized credits and shall forfeit payment made for unauthorized credits. In such cases students shall choose the courses for which they wish to receive credit. Students are classified as full-time or part-time according to the number of credits they are enrolled in. Under the semester calendar these classifications are as follows:

- Full-time - twelve or more credits.
- Three-fourth-time - from nine to eleven credits.
- Half time - from six to eight credits.
- Less than half time - five or less credits.

Repeating Courses

Students will have the right to repeat courses when not satisfied with their grades. In case a course is no longer offered at the University, it will be substituted with the new course created in the curricular revision or with an equivalent course approved by the Vice-President for Academic and Student Affairs and Systemic Planning. The highest grade and its corresponding credits will remain on the student’s transcript and lower grades will be changed to an R (repeated) course. When students repeat a course and obtain the same grade as in the previous term, the grade of the most recent term will appear on the transcript. The administration action symbol R and its corresponding credits will not be considered in determining if a student has satisfied the graduation requirements. Courses repeated after graduation are not considered in the computation of the graduation grade point index.

Auditing Courses

Students wishing to enroll in courses for audit must do so during the official registration period of the semester or trimester or during the official period for changing courses. Such students must pay the course fee for auditing. Students who have not applied for admission should do so before registering as audit students.
Study in Other Institutions of Higher Education

Students desiring to take courses in other institutions of higher education either in or outside of Puerto Rico must obtain previous authorization from the Dean of Studies, who will evaluate the description of the courses to be authorized in the other institution to ascertain their equivalency with the requirements of this University. A maximum of 15 credits may be authorized for a Bachelor's Degree and 9 for an Associate Degree. The authorized credits obtained will be considered as Inter American University credits for all purposes. Courses will not be authorized for students who have transferred from other institutions with 90 or more credits.

Grading System

Course grades indicate the degree of student achievement in any given course. The University has established a quality point system to be used in accumulating and summarizing these grades. This quality point system is used to determine the minimum degree of general competence for graduation and for continuing the program at any level and to assign special honors to students who excel. Grades are reported in accordance with the following grading system:

- **A-** superior attainment; 4 honor points per credit hour.
- **B-** above average attainment; 3 honor points per credit hour.
- **C-** average attainment; 2 honor points per credit hour.
- **D-** lowest passing grade; 1 honor point per credit hour.
- **F-** failure; no honor point per credit hour.
- **P-** Passing; this grade is assigned to students satisfying the requirements in courses taken by proficiency examinations and for courses in which such grade is required. This grade is not included in the computation of the grade point index.
- **NP-** Not Passing; this grade is assigned to students who fail in the courses indicated under the grade P. This grade is not included in the computation of the grade point index.

Courses completed at the University and taken in other higher education institutions having previous authorization from the corresponding authorities at Inter American University will be included in the computation of the grade point index. The grade point index is determined by dividing the total number of honor quality points by the total number of credits completed with the grades of A, B, C, D, or F.

All courses that grant academic credit require tests or other grading tools. This includes a final examination or its equivalent. Faculty members will indicate on their class register how the final grade was determined.

Change of Grades Request

Students who consider that an error has been committed in their file in relation to their final grade in a course will notify this to the course instructor. This faculty member will be responsible for discussing the evaluations with the student and if necessary will submit a grade change according to the corresponding process.
If students are not satisfied with the attention given to grade change request, they may resort to the procedure established in Article 2, Part A, number 8, of the General Student Regulations.

The deadline for requesting a change of grade will be the deadline for withdrawal with a grade of W of the semester following the term in which the grade was given.

**Administrative Action Symbols**

The following symbols are used to indicate administrative action taken in regard to student status in courses for which they registered.

- **W-** Course Withdrawal: Assigned when the student withdraws from a course after the end of the period for class changes and no later than the date established on the academic calendar for withdrawals with W.
- **DC-** Course Withdrawal: Assigned when the student withdraws from a course before the end of the period for class changes. Does not appear on the student transcript.
- **AD-** Administrative Withdrawal: Assigned when the University drops the student for reasons such as death, suspension or other situations warranting a drop.
- **AW-** Assigned when the professor informs in the electronic register that the student never attended class.
- **I-** Incomplete: When students have not completed a course requirement and present valid reasons for it, the professor may assign the symbol “I” (Incomplete). Together with the symbol “I”, the professor will include a provisional grade, after assigning zero for the unfinished work. When faculty members assign an “I”, they shall report to their immediate supervisor the grade that the student has earned up to that time, the evaluation criteria and a description of the unfinished work if applicable. A student who receives an “I” must remove it by the date specified on the Academic Calendar. The responsibility for removing the “Incomplete” rests on the student. If the “Incomplete” is not removed within the time specified, the student will receive the informed provisional grade. This policy will apply whether or not the student is enrolled at the University for the following semester.
- **AU-** Symbol used to indicate on student transcripts that the course was audited. No honor points or University credits are awarded.
- **R-** Symbol used to indicate the course was repeated.
- **T-** Symbol used to indicate the course was transferred from another institution.
- **UW-** Assigned in the electronic register when a student stops attending a course, and does not qualify for a grade of incomplete (I) or F.
- **MW-** Symbol used to indicate total withdrawal for military reasons
Satisfactory Academic Progress Requirements

The University requires that all students demonstrate satisfactory academic progress at the end of each academic year by:

1. Achieving a minimum cumulative grade point index until completion of the degree as shown in Item A below.
2. Completing the academic degree within a reasonable time as reflected in Item B below.
3. Passing the number of credits reflected in Item C below.

A. Grade Point Index Requirement

<table>
<thead>
<tr>
<th>Bachelor’s Degree</th>
<th>Credits Completed</th>
<th>Minimum Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>47 or less</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>48 - 71</td>
<td>1.75</td>
<td></td>
</tr>
<tr>
<td>72 - 95</td>
<td>1.90</td>
<td></td>
</tr>
<tr>
<td>96 or more</td>
<td>2.00</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Associate Degree</th>
<th>Credits Completed</th>
<th>Minimum Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 or less</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>24-47</td>
<td>1.75</td>
<td></td>
</tr>
<tr>
<td>48 or more</td>
<td>1.90</td>
<td></td>
</tr>
</tbody>
</table>

Completed credits are taken to mean all those credits for which grades A, B, C, D, F, P, NP or T (credits accepted by this University as transfer credits from other institutions) have been received.

Any student who does not meet the requirement stated in Item A above will be placed on academic probation for two semesters or three trimesters. Students who, by the end of their probationary period, have not raised their academic index to the minimum required for the level of credits completed, have not made satisfactory academic progress and will be suspended from the University for academic deficiency for a period of one semester or trimester. However, students who, during the probationary period, pass a minimum of 75 percent of the credits attempted with an average academic index of at least 2.50 in all courses completed during that period, may continue their studies at the University on a probationary status. Once students graduate their transcripts will not reflect probationary periods or suspensions to which they may have been submitted.

B. Time Period Requirement

1. Requirements Established by the University

The Bachelor’s Degree must be completed within a maximum of ten years of full-time study or its equivalent for part time study. The Associate Degree must be completed within a maximum of four and one-half years of full-time study or its equivalent for part time study.

Students registered in twelve or more credits per semester or nine or more credits per trimester are considered full-time students. Students registered in fewer credits are classified as part-time students.

In the case of students who are registered simultaneously in both a semester and a trimester program, each term will be considered independently of the other.

Years of study are accumulated as shown on the following table:
<table>
<thead>
<tr>
<th>Term</th>
<th>Student Classification</th>
<th>Years of Study by Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester</td>
<td>Full-time</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>25.0</td>
</tr>
<tr>
<td>Trimester</td>
<td>Full-time</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Transfer credits also accrue time towards years of study. Such time is accumulated at the rate of one year of study for 24 transfer credits. Students who do not complete their degree within the designated maximum time have not made satisfactory academic progress. Each individual case will be evaluated to determine if such students will be permitted to continue studying.

Students on academic probation will be eligible for financial aid, unless they do not meet the maximum time period requirements established by the University.

2. Limited Eligibility to Receive Federal Funds

In addition to the time limits established by the University, the Government of the United States has established a limit to the period of eligibility to receive federal funds for studies. This limit depends on the duration of the study program selected by the student. For additional information on this topic, the section on Federal Funds in this Catalog may be consulted.

Students on academic probation retain their eligibility for financial aid, except students who do not comply with the time period requirements established by the University or Federal government.

C. Requirements for Credits Passed in Relation to Credits Attempted

Students must pass at least 75 percent of the credits attempted. Credits attempted are taken to mean those credits corresponding to courses in which the student has registered and obtained the grade or administrative action symbol of A, B, C, D, F, P, NP AD, I, W or T (credits transferred from other institutions).

Credits approved are taken to mean those credits corresponding to courses in which the student has received grades of A, B, C, D, P or T (credits transferred from other institutions).

Students who do not meet the requirements for Item C will be placed on academic probation for two semesters or three trimesters. During this period, students must correct their deficiency in credits accumulated in passed courses. Students, who, by the end of their probationary period, have not met these requirements have not made satisfactory academic progress and will be dropped from the University for one semester or trimester. Nevertheless, students who, during the probationary period, pass a minimum of 75 percent of the credits attempted with an average index of at least 2.50 in the courses completed during that period, may continue their studies at the University on a probationary status.

At the end of this suspension, students may be readmitted to the University with academic probationary status for two semesters or three trimesters. However, students who have been dropped twice for academic reasons will be suspended from the University for five years.
This norm will be applied upon completion of the second semester of each academic year. Students will have ten workdays before the beginning of the course in either the first or second semester of the following academic year to appeal the decision. The appeal request should be in writing and should be sent to the Dean of Studies of the Campus. The Dean will convocate the Appeals Committee so that it may consider the cases submitted to it.

Student transcripts will reflect the probationary or suspension periods to which students have been subjected due to the application of this norm. Once students have graduated, their transcripts will not reflect these periods.

In each Campus an Appeals Committee will be appointed which will evaluate the requests for reconsideration made by students regarding the application of the Satisfactory Academic Progress Norm. This Committee will be composed of the Dean of Studies or a representative of this Dean, the Dean of Students or a representative and a third member designated by the Chancellor. That committee will meet at least once each semester to consider the cases that it has received. Once these cases have been studied and analyzed, the committee will submit a report to the chancellor of the campus regarding the decision taken. This report will be submitted no later than five workdays after considering the cases under study. The chancellor will notify the student and the Appeals Committee of the action taken.

When probation is due only to the requirements for Item C, students may take the maximum number of credits allowed each term for regular students.

**Dean’s List**

Announcement is made at the beginning of the academic year by the Dean of Studies of those students who have a cumulative grade point index of at least 3.25 and who have in the previous year:

1. Achieved an academic index between 3.25 to 3.84.
2. Approved at least twenty-four (24) credits.

The Registrar will submit the list to the Dean of Studies who will then notify the students that have attained this distinction.

**Chancellor’s List**

At the beginning of the academic year the chancellor will announce the names of students who have a cumulative grade point index of at least 3.85 and who have in the previous year:

1. Achieved an academic index of at least 3.85.
2. Approved at least twenty-four (24) credits.

The Registrar will submit the list to the chancellor who will then notify the students that have attained this distinction.
Academic Excellence in Majors Award

In the activity for Recognition of Student Achievement recognition of academic excellence will be given to the student or the students with the highest grade point average in their major if they meet the following criteria:

1. Have a general academic index of 3.50 or more.
2. Have taken at least 30 percent their major credits at Inter-American University with a grade point index of 3.50 or above.

Student Leadership Award

In the activity for Recognition of Student Achievement recognition of student leadership will be given to the student or the students who meet the academic progress norms, are recommended by the faculty and/or the administration and who meet any of the following requirements:

1. Outstanding participation in student organizations.
2. Distinction in the external community.
3. Contribution in improvement of university community conditions.

Honors Program

Philosophy and Objectives

The Honors Program of Inter American University is designed to achieve the maximum development of undergraduate academically talented students. The Program aims to attract students looking for an academic program that challenges and guides them in their learning experiences by means of an interdisciplinary and critical thinking approach.

In this Program the University will make efforts to achieve that students assume greater responsibility for their learning through research and independent work. The faculty of the Program will plan learning experiences that enhance the development of the student as an educated person through an interdisciplinary approach that emphasizes critical analysis.

The objectives of the Program are:

- To identify talented students whose abilities, needs, interests and motivation require an attention different from that of regular program students.
- To provide talented students with interdisciplinary academic experiences of the highest quality that challenge their performance and permit them to function as independent apprentices by strengthening their research and critical thinking skills.
- To establish and foment an academic environment which will stimulate talented students in their academic and leadership aspirations and promote in them dignity, self-esteem and a sense of their potential as human beings.

Admission and Readmission

1. First year students will be considered for admission if they have a general high school index of at least 3.50 and a combined admission index of at least 1,250.
2. Second and third year students with between 25 and 72 university credits will be considered for admission if they have a general academic index of at least 3.50 and a cumulative grade point index of at least 3.50 in the previous semester.

3. Transfer students from other institutions must meet the Honors Program admission requirements. Those with 24 or fewer credits approved at Inter American University will be evaluated according to the criteria applicable to first year students. If students have 25 or more credits approved at this University they will be evaluated in accord with the criteria established for second and third year students. Their academic performance in previous university studies may be considered as an additional evaluation criterion.

4. Candidates for admission or readmission must present an application for admission to the Coordinator or Director of the Program, who will evaluate the request. If necessary the Coordinator will require an interview with the candidate.

5. All candidates must present two letters of recommendation from teachers or advisors if they are applying from high school and from university professors if they have undertaken university studies.

6. Honors Program students who have interrupted their studies may be readmitted to the Program if they meet the admission requirements in effect at the time of readmission.

Retention

To continue classification as a student of the Honors Program students must meet the following requirements:

- Maintain an overall grade point index of at least 3.50.
- Carry an academic load of at least 12 credits.
- Pass Honors Program courses with a grade not less than B.
- Take a minimum of six (6) credits per year in Honors Program courses, if the academic offering permits.
- Consult with and obtain the approval of the Director or Coordinator of the Program before dropping an Honors Program course. Students that drop courses will be evaluated by the Coordinator to determine if they can continue in the Program.
- Cases presenting special circumstances will be evaluated by the Coordinator. The recommendation of the Coordinator will be presented in writing to the Dean of Studies for approval. Authorization to continue in the Program as an exception does not include the student’s eligibility to receive superior or extraordinary scholarships. These scholarships are granted solely upon fulfillment of the established criteria.

Academic Privileges

Honors Program students will:

1. Be given an institutional scholarship for tuition payment, according to the scholarship they are eligible for.
2. Receive a 15% discount in registration costs in continuing education courses while they are active in the Program and up to one year after having graduated with a Bachelor’s degree.
3. Have available special studies such as: Individual Research, Independent Studies, Seminars, Special Topics, Cooperative Education and Experimental Courses.
4. Have available the modality of Independent Study designed especially for Honors Program students. This will permit students to take courses in several categories of the General Education Program by means of research projects.
5. Receive an indication on their official transcript that they belong to the Program.
6. Be given preferred treatment in the registration process.
7. Be given a special identification as Honors Program students.
8. Receive recognition at graduation, or achievement night and at other activities in which academic performance is honored.
9. Be identified on their transcripts as having approved at least 12 credits in Honors Program courses with a grade of B or better.
10. Receive the same benefits as graduate students in regard to their use of the Information Access Center.
11. Have access to the Center for Educational Development with the supervision of a faculty member.
12. Receive invitations to special academic activities on Campus, and when possible, to University activities.
13. Be encouraged by the academic units and the Vice Presidency for Academic and Student Affairs and Systemic Planning to participate in study trips, internships and in academic development activities.

**Curriculum**

1. The Honors Program offers students the following curricular alternatives:
   a. To take the General Education, major, specialization and elective courses that are offered under this Program.
   b. To take the entire major or specialization courses under this Program if their department offers them.
   c. To take courses designed for the Honors Program as well as seminars that offer cultural, leadership and interdisciplinary academic experiences that enrich their curriculum as well as their integral development.

2. Courses of the Honors Program are offered in separate sections and are designed exclusively for Program students, so that they may develop their potential to the maximum through experiments, real life situations, essays, creative projects, monographs and reports. These courses promote individual research preferably with an interdisciplinary focus and promote internship experience in areas that apply to them.

3. Special studies such as Individual Research, Independent Study, Seminars, Special Topics, Educational Cooperation and Experimental Courses are made available to Honors Program students.

4. The Independent Study modality is designed especially for Honors Program students. This modality permits students to take courses in the General Education Program, except the course in Religion, by developing research projects. The development of projects by means of independent study will be under the supervision and advisement of a full time professor. Students that opt for this modality and meet the requirements described below will establish an official agreement with the professor, which will include as a minimum requirement, a
research project, other learning experiences and a comprehensive examination at the end of the course. To take courses by means of the Independent Study modality, students must:

a. Have passed the Communications Skills courses.
b. Take up to a maximum of three credits per semester by this modality and a maximum of 12 credits in the baccalaureate degree.
c. Write, together with the professor, an agreement that establishes the learning experiences to be undertaken.
d. Complete the course requirements during the semester in which they are registered in the Independent Study modality.

5. Honors Program students will have access to the flexible strategies and non-traditional curricular modalities offered by the Adult Higher Education Program. These include Independent Study with Tutoring and Study by Contract. The Distance Learning modalities are also available.
6. The academic load will be from 12 to 21 credits per semester, but never less than 12 credits.
7. Students in the Honors Program who have completed more than 90 credits may take graduate courses if they meet the requirements.
8. Students must take a minimum of six credits per year in Honors Program courses, if courses are offered.
9. Honors Program courses must be passed with a minimum grade of B. Courses with a lower grade will not be considered for the purpose of certifying the approval of 12 credits in Program courses in the academic record.
10. All Honors Program courses approved by students will be counted towards their degree and students will not be required to take additional courses beyond those required by the course of studies. For this purpose, a validation or substitution process will be used.
11. Experimental course may be created for the Honors Program.
12. Other students not belonging to the Honors Program may register in course sections reserved for the Program if they meet course requirements and have prior authorization of the Coordinator of the Program or of the Dean of Studies.
13. Honors Programs sections will have a maximum of 20 students. If there is a limited number of students, courses will be offered by non-traditional modalities, such as independent study, study by contract and courses on line.
14. The Vice Presidency for Academic, and Student Affairs and Systemic Planning will coordinate the preparation of model syllabi for General Education Program courses for the Honors Program.
15. The participation of students in diverse student activities, such as sports, religious activities and Student Councils, as well as in all activities available to the student body in general, will be promoted.

Additional information on the Honors Program may be obtained from the Director or Coordinator of the Program or from the Dean of Studies of each academic unit.
Scholarships

Admission to the Honors Program carries with it the award of an honor scholarship in harmony with the following criteria:

1. Freshman students:

   Level I  **Basic Scholarship:** for eligible candidates who have an admissions index of from 1,250 to 1,339.
   Level II **Superior Scholarship:** for eligible candidates who have an admissions index of from 1,340 to 1,384.
   Level III **Extraordinary Scholarship:** for eligible candidates who have an admissions index of from 1,385 to 1,600.

2. Sophomore and Junior students:

   Level I Basic Scholarship: for eligible candidates who have a general grade point index of 3.50 to 3.79.
   Level II Superior Scholarship: for eligible candidates who have a general grade point index of 3.80 to 3.90.
   Level III Extraordinary Scholarship: for eligible candidates who have a general grade point index of 3.91 to 4.00.

3. The amount of the honor scholarship in each category is as follows:

   Level I Basic Scholarship: tuition payment for one Honors Program course, per semester.
   Level II Superior Scholarship: tuition payment for one Honors Program course and the payment of one half of the tuition of all other courses, except general and incidental fees, per semester.
   Level III Extraordinary Scholarship: total tuition payment, except general and incidental fees, per semester.

Undergraduate Academic Offerings

The University’s academic programs are based on the premise that, in order to achieve personal success and make valuable contributions to society, students should develop broad intellectual interests as well as prepare themselves in the best way possible to earn their livelihood. These objectives may be achieved by fulfilling the specific general education requirements in the fields of art, science and the humanities and by majoring in a particular area of studies.

All Campuses offer the General Education requirements and some majors. Students should consult their academic advisor for information regarding the academic offerings of the University’s instructional units.

Interinstitutional Educational Agreements

Inter American University has a series of agreements with educational institutions in and outside Puerto Rico. Students interested in learning about these agreements and in
benefiting from them may request information from the Dean of Studies of the Campus, who will maintain an up-to-date register of such agreements.

**Cooperative Educational Agreement with Pennsylvania State University**

Inter American University and Pennsylvania State University have established a formal agreement which permits students, upon the satisfactory completion of the first three years of study at this University, to continue their studies at Pennsylvania State University. Upon completion of their prescribed studies at Pennsylvania State University, students will receive a Bachelor’s Degree according to the selected curriculum from Pennsylvania State University. This agreement permits students to enroll in ten different fields of study at Pennsylvania State University’s College of Engineering and in four fields of study at its College of Earth and Mineral Sciences. Students interested in studying in the areas of engineering offered at the Bayamón Campus of Inter American University (electrical, industrial, and mechanical) may not participate in this educational agreement.

For admission to these programs at Pennsylvania State University, students should take 47 credits in General education, 23 in mathematics, 12 in physics, 8 in chemistry, 3 in computer science and 3 in economics. Some fields also require an additional course in physics and other required courses in static and dynamics. The Metropolitan and San Germán Campuses participate in this agreement.

**Exchange and International Cooperation Program**

Inter American University has approximately 90 agreements with universities and organizations of North, Central and South America, Europe and Asia. The Exchange and International Cooperation Programs adds new dimensions to the relationship between institutions, professors, researchers and students of the participating countries. It provides the opportunity to participate in a diversity of learning experiences outside the university. The agreements established with other public and private universities, institutions, foundations and national and international organizations include strategic alliances of support and collaboration for their mutual benefit. The consortia help maintain a pertinent academic offering as well as strengthen and diversify the services and processes related with learning. They also facilitate cultural enrichment and the improvement of the quality of life in the university community.

The cooperative alliances have facilitated the exchange of teaching staff, students, researchers, printed material, bibliographic collections and cultural activities. Scholarships for the University teaching staff and students have been obtained as well as donations for technological equipment and advisement in the establishment of programs, councils and institutes. Internship programs have been established for students and faculty with agencies of the federal government, the Puerto Rican Legislature, the Congress of the United States of America and with service industries.

Students interested in learning about these agreements and benefiting from them may request information from the Office of the Dean of Studies of their campus, where an up-to-date register of these educational agreements is maintained. They also may obtain information from the Vice-President for Academic and Student Affairs and Systemic Planning at the Central Office of the University System.
Internship Programs

Students who, from the second year on, are interested in applying and enriching what they have learned in the classroom through real work experiences related to their major may apply to participate in the local or national internship programs, if they qualify. Some of these internships may be validated for university credits if what has been learned may be evidenced in supervised work.

Information on the following programs may be obtained through the Dean of Students and the Dean of Studies of each campus: Córdova Congressional, Environmental Hispanic Association of Colleges and Universities, Puerto Rico Legislature, White House, Quality Education for Minorities, Student Conservation Association, and the Harry S. Truman Foundation.

Distance Learning

Inter American University of Puerto Rico recognizes that technology and information systems are essential in the transformation of experiences that promote learning. Likewise, they are strategic components of the institutional infrastructure for supporting academic development and facilitating management. In harmony with Vision 2012, Inter American University is moving toward the transformation of the teaching and learning processes by developing new educational emphases through the incorporation of technology. Students will assume more responsibility for their learning, the faculty will become facilitating agents and the curriculum will be made more flexible with multiple modalities.

In this way, the Institution increases the extent of its academic programs, maximizes its resources, reaches beyond the limits of the traditional classroom and promotes and provides new alternatives for continuous education.

Distance learning is conceived as a formal educational process in which the major part of the instruction occurs when the student and the instructor are not in the same place at the same time. This is a planned experience in which the variety of synchronic and asynchronic technologies such as: Internet, videoconferences, interactive videoconferences in audio and in video, and other modalities are used to promote learning when the student is at a different location from that of the professor. These experiences are designed to stimulate interaction and verification of learning.

Objectives of Distance Learning

1. To utilize technology as an instrument to increase and strengthen the University Mission in its global context.
2. To develop new approaches so that students may assume greater responsibility for their learning and faculty may become better facilitating agents of the learning process.
3. To share and maximize academic programs and institutional resources beyond the limits of the Campuses.
4. To promote equal opportunity for information access beyond the limits of time and space.
5. To increase the student population to which Inter American University offers academic programs.
6. To facilitate the establishment of collaborative agreements and consortia with other educational institutions in and outside Puerto Rico with the purpose of strengthening and sharing academic offerings.
7. To strengthen and enrich developmental programs and professional update.
8. To meet the particular needs of students with disabilities.
9. To meet the multiple needs of a heterogeneous student population.
10. To meet the particular needs of the adult population.
11. To extend institutional services beyond geographic frontiers.

Technologies and Media Used in Distance Learning

Distance learning uses diverse technologies for the transmission of video, voice and data; thus, making possible a teaching and learning process beyond the limits of time and space. There are a variety of courses using these technologies as the basis for the learning experience, for example, interactive video conference courses, televised courses, radio courses, video courses, online courses, courses recorded on CD-ROM, desktop conferencing and courses in Internet. All courses differ in the means used to achieve teaching objectives: the teaching process for promoting the development of concepts and skills, the degree of interaction between faculty-student and student-student, the assessment and certification of learning.

Inter American University has incorporated various technologies and media into its teaching and learning process. These include interactive videoconference, video courses, courses on line and Internet courses.

Interactive Videoconference

These are courses offered by the synchronic modality that consists in interactive transmission of video, voice and data. The course originates in one place with participating students in remote localities. The faculty-student and student-student interaction occurs in a simultaneous or synchronic manner. The instructor may make use of electronic presentations and other computerized materials, as well as segments of video and other educational materials. This implies previous and extensive planning and development of such materials. In addition, the prior sending of materials for each session by means of fax, Web, or e-mail is required. Also, the presence of a facilitator or official in charge of the discipline (for example, a teaching assistant or graduate student in an internship) and compatible videoconference equipment are required at the remote sites.

Video Courses

These are courses prerecorded in video for loan, rent or sale to distance learning students. The faculty-student interaction is accomplished by telephone, fax, e-mail or other means designated by the faculty.

Courses on Line

Courses are offered through the World Wide Web. Students have computers with access to Internet where they will receive materials and send their assignments and other work. The communication and interactivity between faculty-student and student-student is attained primarily through Internet, e-mail, discussion forums and chats. This modality requires the development of all materials and their inclusion in a Web server prior to the
initiation of the course offering. If students desire to access the courses from outside the University, the Institution guarantees them remote access to information resources but students are responsible for having their own computers.

**Internet Courses**

These are courses for which students are given the course syllabus, course materials and an e-mail account. Students have computers with access to Internet to communicate with the instructor. The communication and interactivity between faculty-student and student-student is attained primarily by e-mail. If students desire to have access to Internet from outside the University, the Institution guarantees them remote access to information resources but it will be the responsibility of the students to have their own computer.

In summary, the combination of media and technology and their complementary use in the traditional classroom promise to enrich learning experiences at the University.

**Combined Study Courses**

These are courses in which the student combines the modalities of class attendance and study on line. The combined study modality offers students the opportunity to take fifty percent of the teaching-learning process through direct contact (faculty-students) and fifty percent of this process through the World Wide Web in each academic term. Each student has access to a computer with connection to Internet where the student receives the materials and sends the assignments and other class work. The communication and interaction (faculty-students) take place primarily in the class attendance sessions. For this reason, class attendance is fundamental and obligatory in order to give continuity to the works assigned on the Web.

**Teleconference Center**

The University has a Teleconference Center whose mission is the systemic coordination of the application of telecommunication tools as well as those of interactive videoconferences in distance learning. This Center promotes faculty competence and interactive distance learning through courses, teleconferences, meetings, seminars, and lectures. The Center provides simultaneous interaction with video, voice and data, which permits complete interaction between faculty members and students located at distant sites. At present, the Central Office of the System, as well as the Arecibo, Barranquitas, Bayamón (including the School of Aeronautics), Guayama, Metropolitan, Ponce and San Germán Campuses have videoconference rooms equipped with advanced telecommunications technology that permits the integration of multimedia.

**Course Codification System**

This system consists of a four letter alphabetical section that identifies the discipline, and a four digit numerical section that identifies the course level, the course itself and the course sequence if such exists.

The first digit indicates the level of complexity of the course. This is closely associated with the year of university studies in which students would normally take the course. The digits from 0 to 4 are used to identify the complexity of the courses as follows:
0 – Preuniversity Certificate Program courses  
1 - First level undergraduate courses  
2 - Second level undergraduate courses  
3 - Third level undergraduate courses  
4 - Fourth level undergraduate courses

The second and third digits are used to identify courses within the same level. 
The fourth digit indicates the course sequence of two courses within the same level or 
indicates that no sequence exists. Sequence is indicated by the digits 1 and 2.  
In addition to the meaning ascribed to individual digits, combinations in the first three 
digits indicate a special type of course as explained below:

1. The use of zero (0) as the first digit indicates a Preuniversity Certificate Program 
course.
2. The following combinations in the first three digits indicate a special type of 
course as explained below:

   a) Associate Degrees

   1. The combination 197 is used to identify Special Topics in all disciplines.
   2. The combination 291 is used to identify supervised practicums or internships.
   3. The combination 297 is used to identify seminars whose titles are not specified in 
      the Catalog.

   b) Bachelors’ Degrees

   1. The combination 397 is used to identify Special Topics in all disciplines.
   2. The combination 491 is used to identify supervised practicums or internships.
   3. The combination 497 is used to identify seminars whose titles are not specified in 
      the Catalog.

Special Studies and Courses

The category of Special Studies and Courses provides students with the following study 
options, depending on their particular interests and needs:

Seminars

Seminar work is characterized by integrating the analysis of ideas and major issues of 
one or more disciplines. This provides students the opportunity to use the skills and 
knowledge they have acquired during their studies.

Seminars are governed by the following guidelines:

1. Admission to seminars requires the approval of the Director of the Department 
   and the professor. Bachelor Degree students must have completed at least 30 
   credits. Associate Degree students must have completed at least 12 credits in 
   programs composed of 60 credits or more and nine credits in programs composed 
   of less than 60 credits.
2. The number of students in seminar courses is limited to 15.
3. Seminars are offered on the basis of from 1 to 6 credits per course. The course must have the authorization of the Director of the Department and the Division Dean or Dean of Studies.
4. Only six credits in seminar courses will be credited towards graduation in Bachelor Degree programs and three in Associate Degree programs.
5. Seminar courses are identified by combination 297 or 497 in the first three digits, (297 Associate Degrees; 497 Bachelor’s Degrees).

Special Topics

Special Topic courses permit the offering of courses that enrich student academic development. These offerings may be made when special circumstances or rare events occur or when an outstanding specialist in the field is available for teaching the course. Special Topics are governed by the following norms:

1. Special topics may be offered for a value of from 1 to 6 credits per course.
2. The course must be authorized by the Department Chairperson and Division Dean or the Dean of Studies.
3. The titles of the special topic courses will appear on student transcripts.
4. Special topics in all disciplines are identified by the combination 197 or 397 in the first three digits (197 Associate Degrees; 397 Bachelor’s Degrees).
5. Regular courses described in this Catalog may not be taken as Special Topics.
6. A maximum of six credits will be applied toward a degree at the University.

Educational Cooperation

The courses of this Program are designated to provide regular students with practical experience, which will develop their skills and increase their productivity in the work environment.

This kind of study provides the formal integration of academic studies and work experience outside the University Campus.

Students desiring to enroll in Educational Cooperation courses must meet the following requirements:

1. Have approved a minimum of 30 credits with an overall grade point index of no less than 2.00.
2. Have approved at least six (6) credits in the major with a grade point index of no less than 2.50.
3. Have filled out the application and met the interview requirements in order to confirm continued interest and explore the possibility of placement in a work setting.

Students may take a maximum of seven (7) credits in Educational Cooperation in Bachelor Degree programs and a maximum of four credits toward an Associate Degree. These courses are subject to the availability of practice scenarios.

Experimental Courses

Designating courses as “Experimental” permits the temporary offering of new courses not appearing on the official course lists of the University thus making it possible for these
courses to be offered experimentally while being evaluated. Experimental courses may be offered in accord with the following norms:

1. Experimental courses may be offered with a value of from 1 to 6 credits per course.
2. All experimental courses must be authorized by the Director of the Department, and by the Dean of Studies.
3. After an experimental course has been offered for two academic years, the course must be evaluated by the Department and by the Dean of Studies. On the basis of this evaluation, it will be decided if the course shall be made a regular course.
4. The title of each experimental course will appear on student transcripts.

**Individual Research**

Courses of Individual Research offer students the opportunity to undertake a definite project of formal research. Students will work under the guidance of a full-time faculty member with the minimum rank of Assistant Professor.

This type of study is characterized by increased individual responsibility and research initiative required of the student.

Student desiring to take a course through individual research and who meet the requirements presented below, must draw up with the professor the official contract in which the nature of the project and the activities the students propose to carry out are clearly defined.

The contract must be approved by the Department Chairperson and the Division Dean or the Dean of Studies. To undertake Individual Research, students must abide by the following:

1. Only students who have completed 90 or more credits towards their Bachelor’s Degree (or 75% of the required credits towards their Associate Degree) with a minimum overall grade point index of 3.00 may opt for individual research courses.
2. Bachelor Degree students are limited to a maximum of six credit hours and Associate Degree students are limited to a maximum of three credit hours of Individual Research to be applied toward their degree at the University.
3. Regular courses in this Catalog may not be taken as Individual Research courses.
4. Individual Research courses will be identified with a special code.
5. Each Individual Research course must be completed during the semester in which the student is enrolled.

**Non-traditional Learning Modalities**

**Study by Contract**

Study by contract requires a written agreement signed by the student, the Director of the Department and the faculty-mentor assigned to the course. By means of this modality, students can fulfill course or area requisites by following the instructions of their faculty-mentor. This modality may be used in any of the components of the University curricula (General Education, major courses and electives). The process assumes that there are two active participants: the student and the faculty-mentor. This agreement between the
student and a professor constitutes the essential component of the contract. General Education courses and major courses may be offered by contract only if the faculty specialized in the particular discipline recommend it favorably.

In the study by contract modality the student and the faculty-mentor agree upon the following:

1. The long-range goals or objectives of the student.
2. The specific objectives of the course or area of study for the period of time that the particular contract will be in effect.
3. The learning activities the student promises to undertake, including a description of the content and/or the skills to be developed, the study modality to be followed, the selection of resources to be employed and the number of credits that the University will grant upon satisfactory completion of the learning activities.
4. The methods, criteria and norms to be used to evaluate students’ performance.

The process of formalizing the contract has substantial educational benefits. The act of negotiating a contract between the student and a professor constitutes a valuable experience for the student. The reflection upon goals and plans, the formulation of objectives for a particular contract, the selection of learning activities and resources to be utilized as well as the form of learning to be evaluated promote the personal and intellectual development of the student. In addition, it helps students take responsibility for their learning and develops self-direction skills.

Students may register in courses offered by the study by contract modality if they meet the following requirements:

**AVANCE Students**

1. May only register in courses identified in the document “List of Courses to be Taught Under Different Curricular Modalities
2. Must have received academic counseling.

**Regular Students**

1. Be a candidate for graduation when, because of insufficient registration, the University cannot offer the course by a traditional modality.
2. Possess a minimum overall and a major grade point index of 2.00, except students in the Teacher Education Program who should have a minimum index of 2.50.

**Honors Program Students**

1. Be participants in the Honors Program of their academic unit.
2. Receive written authorization from their academic unit’s Honors Program Coordinator or Director.

**Independent Study with Tutoring**

This provides students the opportunity to participate in learning activities through the use of study guides and other special materials that facilitate self-learning under the direction of a faculty-tutor. The functions of the faculty-tutor are to reinforce and facilitate
student learning. This person will also evaluate students' learning and give a grade upon completion of their course requirements.

As a curricular modality, independent study with tutoring helps students learn on their own, without having to attend class to receive instructions from a professor. The learning process is centered on the student. The teacher performs a less active role and serves as a resource, by utilizing indispensable audiovisual media. The professor creates the proper environment so that students can study at their own rhythm in harmony with their individual needs. This modality facilitates student development at a rate permitted by their capacity to learn. This requires that students know ahead of time their duties and responsibilities and will thus be able to complete their learning experiences successfully.

The stipulated meeting time requires that the faculty-tutor meet at least 23 hours with each student if the section belongs to a three-credit course. In courses with a different credit value, the faculty-tutor meets students individually or in groups, at least 50% of the required time for a regular modality. The class sections in this modality may have between a minimum of eight students and a maximum of 15.

The following norms and requirements must be met in order to select this modality.

**AVANCE Students**

1. May only register in courses identified in the document “List of Courses to be Taught Under Different Curricular Modalities
2. Must have received academic counseling.
3. The Director of the Department will certify to the Dean of Division or to the Dean of Studies that the student may choose this modality.

**Honors Program Students**

1. Be participants in the Honors Program of their academic unit.
2. Receive written authorization from their academic unit’s Honors Program Coordinator or Director.

**Validation of Learning Experiences**

The University offers students the opportunity to demonstrate mastery of content in many of the courses included in the General Catalog, through proficiency examinations. This opportunity will be given as long as the means and the proper scales exist for verifying the expected performance level and the concerned department has the necessary resources available. Students demonstrating mastery in accordance with the stipulations of this section will be granted the corresponding academic credits without attending classes. Regular students may approve up to 15 credits through this modality.

**Written Tests for Validation of Learning Experiences**

These consist of a written examination based on the entire content of a course. Tests in Spanish may be prepared by the Spanish faculty of the University. The tests in English and mathematics may be prepared and administered by CLEP, by the Advanced Placement tests of the College Board or by the English and mathematics faculty of the University.
Passing scores on the CLEP will be those recommended by the American Council on Education for examinations given in English.

Freshman students who have obtained scores above 600 on the College Board Aptitude Test in Mathematics or in the English Achievement Test may take proficiency examinations in the basic courses of those disciplines in which such courses are obtained at least fifteen (15) workdays before the beginning of classes. Each campus will make the necessary arrangements so that students will be able to take one or more examinations within the specified time.

**Proficiency Examinations**

Some of the courses in the General Catalog are not suitable for testing by written examinations, as in the case of skills courses that require some type of manual performance or experimentation. In these cases, other means may be provided to measure their skills. Examples of measurements are typing exercises, supervised activities in art, music and education courses and in laboratory procedures.

The rules governing proficiency examinations are the following:

1. Students should consult the proficiency examination schedule in the respective academic departments for the dates of the examinations.
2. Students desiring to take proficiency examinations must make a request to do so in the office of the corresponding Department Chairperson at least three weeks prior to the date officially announced for the examinations. (Dates will be promulgated well in advance to allow students to apply within the specified time.)
3. Students shall have access to course syllabi and shall be informed as to the type of examination for which they should prepare.
4. Students shall pay 50 percent of the regular per credit cost for the written and performance tests. This payment must be made at least 10 workdays before the date of the examination. Payment for College Level Examination Program examinations shall be according to the fees established by the College Entrance Examination Board.
5. Students shall present and deliver to the examination proctor a written authorization from the Department Chairperson. This person will notify the test results to the student and to the Office of the Registrar which will enter the course and a corresponding grade of P or NP on the student’s transcript.
6. University level credit earned through proficiency examinations will appear on the students’ academic transcript with the grade of P. The minimum grade for which credit will be given is that indicated by the letter grade of C or its equivalent. In those cases where equivalencies have not been determined by prior norms or standards, the Vice President for Academic and Student Affairs and Systemic Planning will determine them.
7. Students shall not be permitted to take proficiency examinations for course in which they are enrolled.
8. Students who have discontinued their studies for one semester or more or for two trimesters or more must request readmission before the beginning of the academic term in which they expect to take the examination.
Portfolio

The portfolio is a document compiled by the student, which contains information and evidence showing the student’s experiences and achievements. In this document the student’s learning experiences and achievements, except those acquired in high school, are identified, organized, developed and carefully evidenced. Students must meet the following requirements: (1) be registered or be an active student of the University, (2) have declared a major and be admitted to a program of studies, (3) meet the academic progress norms, unless they are newly admitted students. Students studying in a Baccalaureate program may obtain a maximum of 24 credits by portfolio, and those in Associate degree programs a maximum of 12 credits. A maximum of three university courses may be validated by portfolio. The portfolio should be prepared in harmony with the Institutional Guide: The Validation of Learning Experiences by Means of the Portfolio.

The academic standards governing portfolio are:

a) Academic credit is granted only for knowledge acquired and not for experiences.
b) University credit is granted only for University level knowledge.
c) The learning must have the proper balance between the required theory and practical application.
d) The decision regarding the level of competence and the corresponding credits is made by professors who master the subject matter.
e) The credits granted and accepted must correspond proportionately to the academic context for which they are awarded.

The process for presenting a portfolio is the following:

1. Interested students must request to the Director of the Department that their learning experiences be granted academic credits through a portfolio.
2. The Director of the Department will name three faculty members to constitute the Evaluation Committee.
3. The student will meet with the Evaluation Committee to receive orientation regarding the process and the criteria to be utilized to evaluate the student’s learning. Once it is determined for which course or courses the portfolio will be presented, the Committee will decide if the student qualifies or not for this modality.
4. If students qualify for a portfolio, they shall pay 50 percent of the regular course tuition cost for the evaluation. After evidence of payment has been presented to the Director of the Department, this person will assign an expert faculty member to evaluate the portfolio.
5. The student will prepare and organized the portfolio in coordination with the expert faculty member, who will determine which documents should be presented and the techniques that should be used to evidence that the student possesses the required knowledge.
6. The faculty member shall determine the date on which the student should turn in the portfolio. The portfolio will be evaluated during the same academic term in which it was handed in to the faculty member.
7. During the evaluation process, the faculty member will make recommendations to the student, if necessary.
8. The faculty member will submit the results of the evaluation to the Director of the Department. If necessary, the faculty member will consult with the Evaluation Committee during this process.

9. When the evaluation of the portfolio is favorable, the Director of the Department will endorse the validation and will submit it to the Office of the Registrar for the corresponding official action.

10. The student will receive the grade of P (passed) or NP (not passed).

11. When the evaluation of the portfolio is unfavorable, the faculty member will inform the students the reason for this decision.

Adult Higher Education Program

The Adult Higher Education Program consists of non-traditional academic and administrative activities and processes especially designed to satisfy the needs of this student population. It provides the adult student with the opportunity to demonstrate the skills and knowledge acquired through experiences that equal those obtained in regular courses. This Program permits the adult person to take university courses by means of flexible strategies and non-traditional curricular modalities. These educational modalities are adapted to the needs of the adults who do not have sufficient time to attend class regularly.

The Program offers adult students the opportunity to:

1. Acquire an academic degree.
2. Update, expand and reorient their professional education.
3. Acquire experiences necessary for keeping themselves up-to-date in their personal development and in their formation as citizens.
4. Benefit from formal education programs offering university credits within a flexible time schedule as well as from flexible study modes that respond to their particular learning styles.

Admission of New Students to AVANCE

Students who do not have university experiences must comply with the following requirements:

a) Be at least 21 years old or be legally independent, as demonstrated by an official and valid document.
b) Present evidence of graduation from an accredited high school or equivalent.
c) Be recommended by the interview committee of the Campus to which admission is requested. For distance learning students residing outside Puerto Rico, the interview requirement may be met by other means of available communication.

The chancellors shall use administrative procedures and strategies that assure that the institutional commitment to offer students the necessary services while attending the University, are met. The adequacy, effectiveness and efficiency in offering these services contribute to improve learning, a higher retention rate and a good image in the community. The chancellors are also responsible for appointing the Campus Interview Committee, which shall be composed of three members, one of which shall be a faculty member and another a counselor.
Readmission of Students who Request a Change to the Adult Program.

Regular students who have interrupted their studies for one year or more may be readmitted to the Adult Higher Education Program if they meet the following requirements:

a) Be at least 21 years of age at the time they request readmission. This must be demonstrated by an official and valid document.

b) Comply with the requirements of academic progress. Students who have a grade point index of 2.00 or less, must in addition, meet with the an interview committee and be favorably recommended by it.

Admission of Transfer Students to AVANCE

Students who have studied in another accredited institution and desire admission to this Program must:

a) Be 21 years of age or more at the time they request transfer. This must be demonstrated by an official and valid document.

b) Comply with the minimum academic index established in the Satisfactory Academic Progress Norm of this University. For this, all courses taken at the other institution will be considered. Students whose general grade index is less than 2.00 must also meet with an interview committee and obtain a favorable recommendation from it.

c) Present a letter of recommendation from the Dean of Studies of the other institution.

Students from the other institution who have been suspended for disciplinary reasons may be admitted on probation for a period not less than six months nor greater than one year. This admission may be granted after the case has been evaluated and the admission recommended by the Interview Committee. After the probationary period the case will be submitted again to the Interview Committee for a definite decision.

Changes from the Regular Programs to the Adult Program

Active students from the regular program who wish to change to the Adult Program must meet the following requirements:

a) Be 21 years old or older at the time the change is requested. This must be demonstrated by an official and valid document.

b) Meet the Satisfactory Academic Progress Norms. Students whose general grade index is less than 2.00 must also meet with an Interview Committee and be favorably recommended by it.

Placement Tests for AVANCE Students

1. Students, who have not taken university studies and do not present evidence of test results from the College Entrance Examination Board, will be submitted to a placement test in English.
2. Transfer and readmitted students who do not present evidence of having passed university courses in English will be given a placement test in English, unless they present satisfactory results of the College Entrance Examination Board (CEEB).
3. The preparation of the placement test will be coordinated by the Vice-President for Academic and Student Affairs and Systemic Planning.

Declaration of Major by AVANCE Students

Students admitted to the AVANCE Program will make their declaration of major at the time of their admission after receiving detailed and specific information regarding the programs authorized for them. For more information on this matter students should refer to the section “Declaration of Major” in this Catalog. The following norms will apply for declaration of major and registration of AVANCE students:

1. Students may register in courses of the academic programs specifically authorized for them at the time of their admission.
2. Students that do not meet the requirements for admission to the University and are admitted through the Program AVANCE, may to declare a major programs not authorized for students of the Program and enter the regular program, if they have approved at least 30 credits at Inter-American University since their admission and if they have a minimum overall academic average of 2.00.
3. Students, who at the time of admission through the AVANCE Program, meet University admission requirements and maintain satisfactory academic progress, will be able to change to the regular program at any time they wishes.
4. Students that choose to change to the regular program will not be able to continue benefiting from the advantages offered by AVANCE, unless the chancellor so decides for any student with an exceptional condition.

Service Schedules for AVANCE Students

The adult population attends the University primarily in the evenings and on Saturdays. In order to attend student needs adequately, an efficient strategic planning is carried out for the proper utilization of personnel at all campuses. In this manner, services of the highest quality in teaching and in academic administration are assured as well as in the services offered by the offices of the registrar, the bursar, financial aid, orientation, admissions and others.

Academic Calendar for AVANCE Students

a) Adult students may take courses in the regular semester calendars (August to December and January to May) and in the summer sessions.

b) In addition to the regular sessions, there are two intermediate sessions beginning in October and in March. Any campus interested in establishing an academic session different from the above must request authorization from the Vice-Presidency for Academic and Student Affairs and Systemic Planning.

c) Students who have registered in August or in January, may complete or increase their academic load by adding courses in the intermediate sessions even though they may be taking courses simultaneously in two academic sessions, with the disposition that they may not take more credits than those approved by their academic advisor.
Study and Learning in AVANCE

1. The Adult Education Program makes available to adult students several forms or flexible alternatives of study that facilitate their taking courses by regular and non-traditional modalities of study.
2. The percentage of credits a student in the associate and bachelor programs may take by means of non-traditional study modalities will not exceed 50% of the total number of credits required for the degree. This 50 percent may be taken in a combination of non-traditional modalities.
3. Educational activities are conducted in appropriate physical installations in or outside the Institution.
4. Each campus will provide support services that assure the best conditions for students' academic achievements.
5. Faculty who offer courses to students of this Program should be capable of teaching non-traditional curricula and incorporating in their teaching the most advanced available technology. As part of their work, they should promote learning experiences, offer tutoring and academic advisement and motivate students to develop a will to continue learning. They will also evaluate student learning and give a grade for the course. Strategies used to promote adult learning should take into consideration adult needs and characteristics with the purpose of facilitating the attainment of the established goals and assuring the active participation of the student.

Continuing Education Program

Inter American University established the Continuing Education Program to promote efforts to develop a will for continuous learning. The University has always maintained its commitment to facilitate ample educational opportunities to fulfill its philosophy of providing learning experience oriented towards the continuous acquisition of knowledge.

The Program facilitates the update of knowledge, the development of skills or their refinement for those persons who return to the University with the purpose of improving their education in order to continue participating and contributing in a highly competitive world. The Program provides learning experiences through up-to-date, pertinent, dynamic and innovative academic offerings. This Program is directed to those persons who need, desire or are required to learn, develop, update or refine their skills and acquire knowledge for their personal or professional improvement.

The Program strives to achieve the following objectives:

1. To provide an academic offering that responds to the interests and needs of the community and groups the Program serves.
2. To promote and foster continuing education through the dissemination of the purpose and content of the Program.
3. To offer excellent services geared to attain the maximum satisfaction of the participants.
4. To promote and maintain collaborative projects with local and international entities in order to satisfy their market demands.
5. To support University efforts in the promotion of cultural enrichment and social well being as in means to improve the quality of life.
Academic Offerings of the Continuing Education Program

The Continuing Education Program will make available to the academic and non-academic university community a variety of courses, seminars, trainings, and workshops in which a variety of specialized themes will be presented. In addition, it will promote an ample offering of pertinent current educational experiences as well as non-traditional experiences to attend to the changing needs of private business and government agencies. By means of innovative and multidisciplinary activities, faculty members will stimulate students to participate in experiences that make the learning process more participatory and dynamic, until they obtain control over the curricular content they are learning. At the same time, students will be motivated to learn from their classmates’ experiences in an environment of mutual and productive collaboration. Through its scheduling, the Program will give efficient attention to those persons interested in or required to acquire new knowledge or update that which they already possess. It will also serve the needs of those persons whose profession requires that they take continuing education units and those who have the will and the interest to continue learning and acquiring knowledge for their own satisfaction.

Program personnel will collaborate with the academic departments in the preparation and implementation of proposals that aim to offer continuing education courses with University credit. This may be for special students or to satisfy the demands or particular needs of some professional organization, private enterprise or government agency. The academic units offered with University credits as part of the Continuing Education Program, must meet the established University norms and rules and laws that govern Higher Education in Puerto Rico. The administrative aspects inherent to the development of this special offering with academic credits (planning, programming, faculty contracts, approvals from accrediting agencies, among others), will be the responsibility of the corresponding academic department.

Development of Educational Offerings in Continuing Education

The Program will offer other educational activities to satisfy particular needs that may arise in service areas of the campuses, such as: summer camps, reviews in preparation for standardized tests, special projects, symposiums, conferences and others.

Development of Educational Activities

1. Different educational activities will be available in special schedules in and outside of institutional facilities. Each one of these will be specifically designed to satisfy the needs and interests of diverse populations that will share their time between study and other personal, occupational, or professional enrichment activities.

2. These educational activities will take place in physical facilities prepared with appropriate resources for learning and in which faculty members will be able to develop their classes in an efficient manner. The Chief Executive Officer of the campus will be responsible for providing the required conditions for the fulfillment of this norm.

3. The different academic units will utilize technological advancements to make their academic offerings or special activities available to different populations both in and outside of Puerto Rico.
4. The Program will maintain a faculty with the required academic preparation, vast experience, ample knowledge and up-to-date professional knowledge in the different curricula in order to facilitate the acquisition of practical and pertinent knowledge in accordance with the demands of a highly technological and competitive world.

5. The Central Office, as well as the academic units, will provide activities for the continuous enrichment and professional development of the faculty and other program personnel in curricular and pedagogical matters. Program faculty may participate in the developmental learning experiences planned for the regular faculty of academic unit.

6. The Chief Executive Officers may consult and request advice from the Vice Presidency for Academic and Student Affairs and Systemic Planning with regard to the academic development of the Program or in any other related matter.

Student Services and Activities

Student Financial Aid

The University awards financial aid, within the limitations of available funds to students who meet the specific requirements established by those offering the aid. Applicant eligibility for such aid is reviewed each academic year.

The Application for Financial Aid may be completed via Internet at www.fafsa.ed.gov. Application forms may also be obtained from high school principals or counselors or from the Financial Aid Office of the Campuses.

Application for financial assistance must be filed by the student on or before April 30 of the year preceding the academic year for which funds are requested. New students should submit their application for admission at the same time. Students who apply for financial aid after April 30 will be considered only if there are funds available and after considering applications submitted on time.

Military service personnel and other qualified individuals may use their Veterans’ benefits under the applicable legislation. Information on these programs may be obtained from the Registrars’ Offices in the campuses.

Persons interested in detailed information concerning the eligibility requirements and the evaluation procedures used for applications should refer to the Student Financial Aid Manual and/or visit any Financial Aid Office.

Financial Aid funds originate from different sources: the United States Government (Federal Funds), Government of the Commonwealth of Puerto Rico, Inter American University and private entities.

Students who opt for a second major may not use Title IV financial aid to pay the costs related with it.

Federal Funds

Maximum Time Requirements for Federal Financial Aid

The period of time for which students are eligible to receive financial aid from federal sources depends on the duration of the program of studies as defined by the University. For this purpose, the University has determined the duration of its programs according to
the number of credits they require. Students must complete their program of studies within a time period that does not exceed 150% of its duration. The courses considered in this percentage are those required by the selected program. Students accumulate time for transferred credits.

**Study Benefit Time Limits for Veterans and Beneficiaries**

The beneficiaries of educational services for veterans, including eligible family relatives, have the right to enjoy these benefits only for the number of semesters required for completing their academic degree as established in this Catalog and by applicable legislation and regulations.

Study time required for completing an academic program depends on the number of credits required for the program, the nature of the courses and the number of credits the student takes each term. An estimate of the semesters required may be obtained by dividing the total number of credits required for the program by 15, which is the average number of credits taken by a full-time regular student.

Students accumulate semesters of study as indicated below:

<table>
<thead>
<tr>
<th>Term</th>
<th>Student Classification</th>
<th>Terms of Study (in percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester</td>
<td>Full-time</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>50.0</td>
</tr>
<tr>
<td>Trimester</td>
<td>Full-time</td>
<td>66.7</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>33.3</td>
</tr>
</tbody>
</table>

Students also accumulate study time at the rate of one (1) semester for every twelve (12) transferred credits.

**Federal Pell Grant**

This Program was instituted by the United States Government as the basis for student financial aid programs. The original name was Basic Education Opportunity Grant (BEOG). Interested persons apply by submitting the Federal Student Aid application form that is distributed by the Financial Aid Office, post offices, high schools or by completing the application via Internet at www.fafsa.ed.gov. Following are several ways to submit the application:

1. The new student completes the application via Internet or submits it to the Financial Aid Office of Inter American University where it will be processed, electronically, to the United States Central Processing Center. Inter American University of Puerto Rico will receive information concerning the eligibility of the applicant informed on the Student Aid Report (ISIR) and will communicate this to the applicant. The advantage of this method is that it speeds up the process, avoids errors and the applicant does not have to wait to receive the response by mail. Normally, Inter American University of Puerto Rico receives the response within 72 working hours from the time the application was transmitted. This method speeds up the process because:
a. The Free Application for Financial Student Aid (FAFSA) is available on Internet and may be completed from anywhere at anytime.
b. Information does not need to go through the mail.
c. If the application is not approved or if information was assumed in the approval process, the Financial Aid Director can help and can get in touch with the student. The Financial Aid Office corrects the error electronically.
d. If the application is approved, the financial aid offer letter will be prepared when the student selects courses for registration,
e. The payment process during enrollment is simplified. It can even be done by mail.

2. Applicants that received Federal Aid at Inter American University of Puerto Rico the previous year need only to update their application for renewal via Internet (www.fafsa.ed.gov) by using a personal identification number “PIN number” mailed by the US Department of Education. Students not receiving the “PIN number” may request it at www.pin.ed.gov. This form will be electronically processed.

3. Indicate on the application the campus of Inter American University where the student intends to study, authorize said campus to receive information regarding the applicant’s eligibility and send the application by mail. This method is not as fast as the one described in item #1 because the application is sent by mail to an intermediary agency where the data information is entered and transmitted to the Central Processing Center. Furthermore, the information is not reviewed by a financial aid official to avoid errors. The response is electronically transmitted to Inter American University.

4. Send the application by mail without authorizing Inter American University to receive the information electronically. This is the slowest method in processing the application since the application and the response are processed by mail and the University cannot process the application for the grant until the applicant receives it by mail and submits the answer to the Financial Aid Office.

The Financial Aid Officer will determine the amount of aid to be awarded by using the formula which considers the cost of education, the academic load and the Expected Family Contribution.

Eligibility for the Federal Pell Grant expires when the student completes the academic requirements for a Bachelor’s Degree for the first time. Upon completion of the second year of study, students must maintain a minimum grade point index of 1.50 in order to receive federal financial aid.

**Federal Supplemental Educational Opportunity Grant (FSEOG)**

Inter American University of Puerto Rico distributes this grant to students who have not completed any Bachelor’s Degree. Awards go first to students with exceptional need. Priority is given to Pell Grant recipients.
Leveraging Educational Assistance Partnership Program (LEAP)

The Federal Government provides funds to the Government of the Puerto Rico Commonwealth which matches these funds and distributes them to postsecondary educational institutions. The Council on Higher Education administers these funds and arranges for the assignment of the corresponding matching funds.

Nursing Scholarship Program (NSP)

The Federal Government provides funds for students in the Nursing Program who have exceptional financial need according to the norms and criteria of the University. Students may receive a maximum of $2,000 annually or the amount reflected in their need assessment, whichever is less.

Perkins Federal Student Loan Program

This is a low interest loan available to undergraduate and graduate students whose studies lead to a degree. Students must demonstrate their intention to pay. They are required to sign a promissory note and other documents. Participants will begin payment on principal and interest six (6) months after the last term in which they studied with an academic load of at least six (6) credits.

Students participating in the Program for the first time on or before July 1, 1987 will begin payments nine (9) months after the last term in which they studied with an academic load of at least six (6) credits. Students may apply for deferral and cancellation of installments. The annual interest rate after October 1, 1981 is 5%. These funds are assigned preferably to students with exceptional needs.

These funds are matched with Inter American University funds.

Federal Stafford Loans

This Program offers both subsidized and unsubsidized loans. Subsidized loans are awarded on the basis of financial need and the federal government pays interest on the loan until the borrower begins to pay and during periods of authorized deferment. Unsubsidized loans are not awarded on the basis of need and interest is charged from the time the loan is disbursed until it is paid in full. Unsubsidized loans may not exceed the family contribution or the cost of education, whichever is less, within the limits established by the Program.

For both subsidized and unsubsidized loans, students should apply directly to the University. After the full Free Application for Federal Student Aid (FAFSA) is reviewed the University will inform students of their loan eligibility. Students must be enrolled in an academic load of at least six credits.

Dependent undergraduate students can borrow up to:

* $2,625 if they are first-year students enrolled in a program of study that is at least a full academic year;
* $3,500 if they have completed their first year of study and the remainder of their program is at least a full academic year;
* $5,500 a year if they have completed two years of study, and the remainder of their program is at least a full academic year.

**Nursing Student Loan**

The Federal Government provides funds that are matched by University funds. Students registered in the Nursing Program who sign a promissory note and other necessary documents are eligible for this loan. Participants begin payments on the loan and interest at 6% nine (9) months after they discontinue studies with an academic load of at least six (6) credits.

Eligible students may apply for cancellation of the loan or deferral of payment.

**Federal Work Study Program**

The funds provided by the Federal Government to this Program are augmented by funds contributed by Inter American University unless the Institution is exempt from this requirement. Participants are assigned employment for which they receive compensation, which contributes toward payment of their educational expenses. When possible students are assigned work related to their field of studies.

**Commonwealth Funds**

Grants for these funds depend upon the annual allocation that the Government of Puerto Rico makes for these purposes. Several financial aid programs have been created by law for the following postsecondary students: Supplementary Educational Aid Programs, Scholarship Programs and Supplemental Grants for graduate students. The Financial Aid Office of each campus is prepared to offer information regarding the eligibility requirements of these programs.

**Institutional Funds**

Funds contributed by the University are used to complete or match financial aid from other sources as indicated in this section. The availability of funds depends on the annual budgetary assignments made for this purpose.

**Institutional Scholarships**

Inter American University allocates funds for scholarships each year according to student needs.

**Athletic Scholarships**

Inter American University allocates funds each year for athletic scholarships to eligible students who at the time the awards are made:

1. Are full-time students at this University.
2. Excel in athletics, as determined by the Athletic Department.
3. Demonstrate financial need according to the procedures established and applied by the Financial Aid Office.
4. Maintain satisfactory academic progress in accordance with the established norms.
5. Accept, in writing, the aid that is offered.

Student Development Scholarship

This is an economic incentive established and administered in the Vice-Presidency for Academic and Student Affairs and Systemic Planning to promote at the institutional level student interest in continuous learning and in participation in challenging and innovative academic experiences that enrich and strengthen their university formation.

University students and graduates may apply annually for this scholarship to participate in professional development projects such as: graduate studies, internships, research projects, cooperative education, international exchange projects, study trips, cultural activities and other professional student development activities. The amount of the scholarship depends on the scope of the project and on the available funds in the Vice-Presidency for Academic and Student Affairs and Systemic Planning.

Guidance Service

Guidance services, provided by professional counselors, facilitate student adjustment and integration to the university environment. These services include educational, vocational and personal guidance and assist students in achieving their academic, vocational and personal goals and achieve greater integration and participation in the University community. After declaring their major, students receive academic guidance from the faculty.

Veterans Service

The University offers recruiting, guidance and referral services to Veterans of the Armed Forces who wish to study at this Institution. The Guidance and Counseling Office at each unit assists veterans in the solution of their individual problems and serves as liaison with other offices as needed.

Medical Service

The University offers its students the opportunity to participate in a medical plan to be selected each year. The plan may include ambulatory, laboratory, dental, pharmacy, hospital and surgical service. Some instructional units have first-aid stations that offer first aid treatment and guidance in the prevention of diseases.

Day Care Centers

Some campuses have Day Care Centers sponsored by the University and/or by federal agencies. These centers offer a variety of services depending on the sponsoring agency.
Parking Service and Traffic Rules on Campuses

The Traffic Laws of Puerto Rico are complimented by the campus’ internal rules related to on campus traffic. All students interested in access to the campuses with a motor vehicle must obtain a permit for these effects. The permit and the payment for parking should not be interpreted as a guarantee of a parking space.

Students are responsible for observing traffic rules and driving properly. The University is not responsible for damage that vehicles parked on the premises may suffer or for articles left inside the vehicles. Any personal or property damage caused by students while driving inside University installations will be their responsibility.

Residence Halls, San Germán Campus

At the San Germán Campus, there are separate but equal dormitory facilities for men and women. Application with a deposit of $25.00 for a room in one of the residence halls should be made at the time the student applies for admission. This deposit will be reimbursed in full upon request if the student is not accepted for admission. Application for a room should be filed as early as possible because accommodations are limited.

The application form, as well as further information about dormitories, can be obtained from the Office of the Dean of Student Affairs at the San Germán Campus. Applications should be submitted as early as possible due to the limited number of rooms available. Rooms will be reserved until the day the student is scheduled to register. If the room is not claimed by that day, the reservation will be cancelled. When students are accepted, they receive a copy of the dormitory regulations. It is their responsibility to read such regulations carefully and to follow them for their own welfare and that of other students residing at the dormitories. Students who violate dormitory rules may be required to vacate the residence or, in the case of serious violation, may be suspended or expelled from the University.

Student Activities

During the academic year, the University and the Student Council of the various instructional units sponsor a variety of cultural, social, academic, religious and recreational activities in which all students and the University community are invited to participate.

Such participation fosters personal and professional growth and provides leadership training by encouraging mutual understanding and cooperation and by emphasizing the ideals of service, good citizenship and respect for human values. The University, within the limits of its resources, endeavors to provide such activities.

There are many clubs and organizations at the instructional units. These organizations may be academic, professional, cultural, recreational, social, sports or religious in nature. The Office of the Dean of Student Affairs at the various instructional units will provide, upon request, up-to-date information on clubs and organizations and their current officers and membership.

Sports and Recreation

Inter American University has a varied sports program in which students have successfully represented the University in the Interinstitutional Athletic League and in
other sports organizations in Puerto Rico and in other countries. This competition has been in basketball, soccer, volleyball, swimming, tennis, wrestling, weight lifting, softball, baseball, cheerleading, judo, and track and field. Students participate in intramural contests as well as in the Interinstitutional League of Extramural Sports composed of the campuses of Inter American University.

In each unit, according to its individual needs, there is a program of intramural sports, which offers the opportunity to compete to students who cannot aspire to become first rate athletes. These sports and recreational activities offer students the opportunity to establish friendships, to fraternize with the University community and to develop physically, mentally and socially.

Students interested in more independent recreation can use the facilities for ping-pong, pool and tennis or they can participate in chess, dominoes and other games in competition with other universities.

Religious Activities

Reflecting the commitment of the University to its Christian roots, each campus has a Religious Life Office that responds to the Institutional Pastoral Plan promoting faith experiences from an ecumenical and Christian perspective. Each instructional unit also offers pastoral care services, spiritual enhancement and reflective experiences, in addition to the established celebrations during the liturgical year. The participation of the University community is encouraged in the different events, but is completely voluntary.

Student Councils

Student councils, as provided by the General Student Regulations, may be organized at all the instructional units of the University. Their members are elected from the student bodies according to the established procedures. These procedures provide for direct participation of the largest number of students possible from all the units.

The Student Council is given funds for organizing activities promoting student life and academic endeavors of the unit. Students on disciplinary probation are not eligible to hold posts in the Student Council.

Student concerns are canalized through the Student Councils. The Councils meets regularly with University authorities and receive relevant information about University development.

Student Participation

The University advocates student participation at all levels and in various forms. A total of 39 students with voice and vote participate in the Academic Senates of the individual Campuses. Three students, two undergraduate and one graduate, participate in the University Council. All of these students are elected by the student bodies of their respective instructional units. The procedures for the election of these students provide for direct participation of the greatest number of students possible from all the units.
Student Centers

The instructional units have student centers, which meet the needs of the University community: students, faculty, administration, alumni, parents and friends. These centers provide appropriate areas for social, educational, artistic, cultural and recreational activities.

Graduation Requirements and Information

Students will graduate under the program and regulations stated in the University catalog under which they were admitted or in any single subsequent catalog but no combination thereof. Readmitted students will graduate under the program and regulations of the catalog in effect at the time of their readmission or under any subsequent catalog. In the event that a required course of the selected catalog is no longer offered by the University, substitutions may be made with the approval of the Department Chairperson. Courses required in more than one program may be credited as such in each program. Courses taken after graduation will not alter the graduation grade point index.

Note: Students that opt for a second major may not use Title IV financial aid to pay for the educational costs related to this second major.

Graduation Requirements for Associate Degrees

To complete requirements for graduation with an Associate Degree from Inter American University, students must:

1. Complete satisfactorily a minimum of 52 academic credits.
2. Complete the General Education academic requirements and those specified in the program for the Associate Degree for which they are candidates.
3. Achieve an overall grade point index of 2.00 or higher.
4. Achieve a cumulative grade point index of 2.00 or higher in the major.
5. Complete satisfactorily no less than one-third of all the credits required for the degree at Inter American University. Credits obtained by Proficiency Examinations will not count toward this requirement.
6. Complete satisfactorily at Inter American University no less than one-third of all course credits required for the degree.

General Education Requirements for Associate Degrees

General Education Requirements for Associate Degrees - 23 credits

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
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<tr>
<td>GESP</td>
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<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
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<tr>
<td>GEMA</td>
<td>Mathematics</td>
<td>3</td>
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<tr>
<td>GEHS</td>
<td>2010 Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF</td>
<td>1010 The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC</td>
<td>1000 Information and Computer Literacy</td>
<td>2</td>
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</tbody>
</table>
Graduation Requirements for Bachelors’ Degrees

In order to fulfill the basic with a Bachelor’s Degree from Inter American University, a student must:

1. Complete satisfactorily a minimum of 110 academic credits.
2. Complete a major consisting of the number of credit hours specified in the curriculum of the student’s major department. See the section Undergraduate (Associate and Bachelor) Degree Program and Course Descriptions.
3. Achieve an overall, minimum grade point index of 2.00, except in those programs that require a higher index. Remedial courses will not be counted toward the required academic index.
4. Achieve an overall grade point index of 2.00 or higher in the major field of study.
5. Complete satisfactorily at least 24 credits of those required for the degree at Inter American University.
6. Complete satisfactorily at least 15 credits of the major at Inter American University. (General Education courses and elective courses are not included)
7. Complete the General Education requirements for a Bachelor’s Degree as established in the student’s major and take a minimum of two (2) examinations from the General Education Program during the last year of studies.

General Education Requirements for Bachelors’ Degrees

General Education Requirements for Bachelors’ Degrees - 47 credits

Basic Skills - 23 credits

Basic Skills: Spanish 9
Basic Skills: English 9
Basic Skills: Mathematics 3
Basic Skills: Access to Information and Computers 2

Philosophical and Esthetic Thought - 6 credits

GEPE 4040 Ethical Dimensions of Contemporary Affairs 3

Select one course from the following:

GEPE 2020 Humanistic Studies 3
GEPE 3010 Art Appreciation 3
GEPE 3020 Music Appreciation 3

Christian Thought – 3 credits

GECF 1010 The Christian Faith 3

Historical and Social Context - 9 credits

GEHS 2010 Historical Process of Puerto Rico 3
Select two courses from the following:

- GEHS 2020 Global Vision of Economics 3
- GEHS 3020 Global Society 3
- GEHS 3030 Human Formation and Contemporary Society 3
- GEHS 3040 The Individual, Society and Culture 3
- GEHS 4030 Modern and Contemporary Western Civilization 3

**Scientific and Technological Context – 3 credits**

Select one course from the following:

- GEST 2020 Science, Technology and Environment 3
- GEST 3030 The Individual and the Physical World 3

**Health, Physical Education and Recreation – 3 credits**

- GEHP 3000 Well-being and Quality of Life 3

**Application for Graduation**

Candidates for an Associate or Bachelor’s Degree who have completed three-fourths of the required credits should apply for graduation no later than one academic term before the term in which they expect to graduate. Students must graduate from a campus authorized to offer the major and degree to be conferred. If the students are not studying at such a Campus at the moment of applying for graduation, they must apply at a campus in which they took residency courses. Applications are obtainable at the Office of the Registrar and should be returned to that office after they have been filled out and stamped by the Business Office showing that the non-refundable fee of $80 has been paid for the doctor, master, bachelor and associate degrees. Failure to comply with this procedure may result in the postponement of the granting of the degree.

Any alleged error in the evaluation of the application for graduation should be reported to the appropriate Registrar within a week after the receipt of the evaluation.

The payment of graduation fees of any kind, the listing of the student as a candidate for graduation in any document and/or invitation either to the graduation ceremonies or to any other activity related to graduation exercises shall not be interpreted as an offer to graduate nor a covenant to that effect. Only the completion of all requirements listed in this catalog or in any other official University directive entitles a student to graduation irrespective of any representation of any kind made by any official of this University.

Candidacy for graduation will be attained by the student after the faculty has determined that the requirements for graduation have been fulfilled. Subsequently, the faculty will present the degree candidates to the President of the University and to the Board of Trustees.

Students that have completed the graduate requirements and paid the graduation fee, but interrupt their studies, have the right that their payment be considered effective for four regular semesters or two academic years from the date of the last semester in which they studied.
Graduation with Honors

The distinctions of Cum Laude, Magna Cum Laude, and Summa Cum Laude are awarded to students who have achieved academic excellence in the Associate and Bachelor degrees. To be eligible for these honors, the student must have earned an overall average of:

- 3.25 for Cum Laude (with honors)
- 3.50 for Magna Cum Laude (with high honors)
- 3.85 for Summa Cum Laude (with the highest honors)

These distinctions are awarded only to students who have completed satisfactorily at least 30 percent of the credits required for the degree at this University. This same grade point index will be used in granting all other academic honors.
General Education Program

Goals and Orientation of the General Education Curriculum

The University curriculum is composed of three interrelated components: general education, specialization and electives, which address the formation of the student in terms of a comprehensive education.

Inter American University of Puerto Rico offers a General Education Program that, independent of the area of specialization that the student selects, contributes to the achievement of the following goals:

Goal I To develop an educated person through the cultivation of skills, knowledge, values and attitudes that strengthen his intellectual and moral formation.

Goal II To develop a person interested in improving the personal, family, environmental, economic and political life of Puerto Rico and the rest of the world.

Goal III To develop a person capable of communicating with propriety in Spanish or English and of using the other language at an acceptable level.

Goal IV To develop a person capable of quantitative reasoning and the application of mathematical knowledge to diverse situations.

Goal V To develop a person with the basic knowledge of the use and function of the computer as a means of self-learning and for access to information.

Goal VI To develop a person with a critical, analytical and constructive mind, capable of reflecting on human being’s vital problems.

Goal VII To develop a person with an ethical conscience, capable of evaluating and making responsible decisions for his life and that of others.

Goal VIII To develop a person with an esthetic sensitivity who appreciates artistic values and contributions.

Goal IX To develop a person who understands and values the Christian faith from an ecumenical openness and its implications for culture.

Goal X To develop a person who knows and understands the problems of humanity in its social and historical events.

Goal XI To develop a person who can comprehend the phenomena of nature and its methods of study as well as the contributions of science for the betterment of mankind.

Goal XII To develop a person who appreciates and maintains his physical, emotional, spiritual and social health in a way which promotes the individual and collective well being and quality of life.

The General Education Program emphasizes the development of a personal and social conscience, the refinement of communication skills, quantitative and philosophical thought; the use of technology as a means of access to information; the cultivation of ethical and esthetical sensitivity; the knowledge of principles of faith and Christian practice. This Program, which offers a comprehensive education of human knowledge, is structured on the following categories.
**Basic Skills:** Oral and written skills in Spanish and English as a second language, the skills of mathematical analysis and methods of quantitative and qualitative research, using emerging technology. These courses strengthen the skills necessary for a person’s personal and professional life.

**Philosophical and Esthetical Thought:** The competencies and skills of logical thought, argumentation and rhetoric skills applying to all knowledge (critical, imaginative, contextual, synthetic, evaluative, among others) and which constitute the principal intellectual repository for learning to learn. The development of fundamental knowledge that propitiates the refinement of musical artistic sensitivity.

**Christian Thought:** The development of fundamental knowledge on the history, principles and practice of Christianity and on Jesus as its central figure. From an ecumenical posture, it examines the Christian values of our society, with openness towards other religions.

**Historical and Social Context:** The fundamental competencies and knowledge of the social sciences and the history of Puerto Rico. Included are the economic, political, psychological and cultural analyses that foster the understanding of the performance and behavior of our people and of the global community.

**Scientific and Technological Context:** Fundamental competencies and knowledge of the natural sciences and the technology that foments the development of a responsible ecological attitude.

**Health, Physical Education and Recreation:** The competencies and skills that contribute to the development of a feeling of the necessary self esteem, confidence and discipline for personal care (physical, emotional and social) which serves as the basis for health and well-being.

The General Education Program requires the satisfactory completion of 47 credits for the bachelor’s degree and 23 for the associate degree. It allows students to take courses following a sequence of years of study. This is accomplished through the codification of each course where the first number of the course usually responds to the year of study. It is recommended that the student take courses following the established sequence.

**General Education Categories and Course Descriptions**

**Basic Skills**

**Basic Skills - 23 credits**

**Basic Skills: Spanish**

Three (3) courses in Spanish in the established sequence are required for a total of nine (9) credits. The courses GESP 1101, 1102 and 2203 will be supported by an open language laboratory.
For students whose native language is not Spanish, GESP 1021, 1022 and 2023 are the required courses.

**GESP 1021 BASIC SKILLS IN SPANISH AS A SECOND LANGUAGE**  
Intensive development of linguistic skills (understanding, speaking, reading and writing). Study of the lexical and morphosyntactical aspects that will prepare students with no prior knowledge of Spanish to perform satisfactorily in that language.  
3 credits

**GESP 1022 INTERMEDIATE SPANISH AS A SECOND LANGUAGE**  
A more in-depth study of the lexical, morphological and syntactical aspects of the Spanish language in diverse contexts. Introduction to the reading of texts of intermediate complexity. Writing based on simple and intermediately complex structures.  
3 credits

**GESP 1101 LITERATURE AND COMMUNICATION: NARRATIVE AND ESSAY**  
Reading and discussion of narrative and essay works of the Spanish, Hispanic American and Puerto Rican literatures for the development of analytical and oral and written communication skills. Systematic practice of the different types of paragraphs and grammatical structures. Required course.  
3 credits

**GESP 1102 LITERATURE AND COMMUNICATION: POETRY AND THEATER**  
Reading and discussion of poetic and theatrical works of the Spanish, Hispanic American and Puerto Rican literatures for the development of analytical and oral and written communication skills. Systematic practice of the different types of grammatical structures and the different types of elocution with emphasis on exposition and argumentation. Prerequisite: GESP 1101. Required course.  
3 credits

**GESP 2023 WRITING AND COMPOSITION FOR NON-NATIVE SPANISH SPEAKERS**  
The oral and written language through readings that develop the student’s critical and creative capabilities: writing and composition of different types of prose: descriptive, narrative and expository. Prerequisite: GESP 1022.  
3 credits

**GESP 2203 WORLD VIEW THROUGH LITERATURE**  
Study of literature as an artistic expression and as a means for expressing reality with emphasis on refining oral and written communication skills. Includes a selection of universal literary works representative of different themes and epochs. Requires additional time in an open lab. Required course.  
3 credits

**Basic Skills: English**

Three (3) courses in English in the established sequence are required for a total of nine (9) credits. This curriculum is divided into three levels: elementary, intermediate and advanced. Students will be placed in English courses based on their score on the English examination of the CEEB (or its equivalent). This placement will be made according to the
following scores; elementary level, a score up to 450; intermediate level, scores from 451 to 549; advanced level, scores of 550 or above. Special cases, such as transfer students from universities or other higher education systems not requiring the CEEB examination, as well as readmitted students who have not taken the basic skills in English requirements, will be required to have an interview with the Director of the English Department or the person designated, for their placement in the corresponding level. The elementary level courses (GEEN 1101, 1102 and 1103) and those of the intermediate level (GEEN 1201, 1202 and 1203) require additional time in a laboratory.

**GEEN 1101 ENGLISH AS A SECOND LANGUAGE I**
Development of English as a second language. Emphasis on auditory comprehension, oral production and vocabulary acquisition in context. Requires additional time in a laboratory. Required course. 3 credits

**GEEN 1102 ENGLISH AS A SECOND LANGUAGE II**
Development of English as a second language. Practice in listening, speaking and reading skills. Emphasis on reading skills and vocabulary acquisition in context. Introduction to paragraph writing. Requires additional time in a laboratory. Prerequisite: GEEN 1101. Required course. 3 credits

**GEEN 1103 ENGLISH AS A SECOND LANGUAGE III**
Development of English as a second language. Practice in listening, speaking and reading skills. Emphasis on writing process skills using different formats and vocabulary acquisition in context. Requires additional time in a laboratory. Prerequisite: GEEN 1102. Required course. 3 credits

**GEEN 1201 DEVELOPMENT OF ENGLISH THROUGH READING I**
Development of reading skills. Refinement of English through oral presentations, paragraph writing and vocabulary acquisition in context. Requires additional time in a laboratory. Required course. 3 credits

**GEEN 1202 DEVELOPMENT OF ENGLISH THROUGH READING II**
Development of reading skills, with emphasis on critical reading. Refinement of the reading process and vocabulary acquisition in context. Requires additional time in a laboratory. Prerequisite: GEEN 1201. Required course. 3 credits

**GEEN 1203 DEVELOPMENT OF ENGLISH THROUGH WRITING**
Introduction to essay writing: organization process, revision and editing. Emphasis on the organization, essay paragraph development, refinement of grammar and vocabulary acquisition in context. Requires additional time in a laboratory. Prerequisite: GEEN 1202. Required course. 3 credits
GEEN 2311 READING AND WRITING
Reading and analysis oriented toward essay writing. Emphasis on organization skills, revision in the writing process and vocabulary acquisition in context. Required course.
3 credits

GEEN 2312 LITERATURE AND WRITING
Analysis and discussion of literary works. Essay writing on topics related to the readings. Emphasis on vocabulary acquisition in context. Prerequisite: GEEN 2311. Required course.
3 credits

GEEN 2313 WRITING AND RESEARCH
Planning, research and writing of academic works. Emphasis on skills for searching, comprehension, evaluation, effective use of information and vocabulary acquisition in context. Required course.
3 credits

Basic Skills: Mathematics

Three credits in mathematics are required.

Students majoring in the Bachelor of Arts Degrees in Secondary Education in Biology, Sciences, Mathematics or Chemistry or in the Associate Degrees in Science or in Business Administration or in the Associate Degrees that require MATH 1500 will take GEMA 1200.

In addition, students of Associate Degrees in programs that are also offered by the University at the Bachelor’s level must take the mathematics course (GEMA) required for the baccalaureate degree.

GEMA 1000 QUANTITATIVE REASONING
The content of this course is developed through problem solving and the integration of available technology as a work tool. Study of sets of real numbers, measuring systems geometry (length, area and volume), operations with polynomials, equation solving for linear variables that include ratios, proportions, mathematical financial formulas and literal equations. Basic concepts of statistics: frequency distribution, measures of central tendency dispersion. Principles of probability and methods of counting. Requires additional time in an open lab.
3 credits

GEMA 1200 FUNDAMENTALS OF ALGEBRA
Application of algebra to problem solving, including graphic and symbolic representations. Study of algebraic expressions with whole and rational exponents. Simplification and factorization of algebraic expressions. Binomial expansion. Real and logarithmic exponents. Equations with rational expressions, radicals, exponents or logarithms. Linear and quadratic inequalities. Linear equations in two variables and its graph. Requires additional time in an open lab.
3 credits
Basic Skills: Access to Information and Computers

Two credits are required in this category.

GEIC 1000 INFORMATION AND COMPUTER LITERACY
Development of skills in the use of the computer and in search for and the processing of information. Includes general concepts of computer systems and systems for organizing information. Recovery, evaluation, synthesis and presentation of information. Management of software such as operating systems, word processors, presentations, calculation sheets, navigators and information databases. Requires 45 hours of lecture-lab. Requires additional time in an open laboratory. Required course.

Philosophic and Esthetic Thought

Six credits are required in this category. Course GEPE 4040 is required.

Students of the Engineering and Aviation Programs will take only course GEPE 4040 in this category.

GEPE 2020 HUMANISTIC STUDIES
Philosophic reflection on language, esthetics, religion, history, society, science and technology. Logical and critical approach to everyday life affairs of the present day world. From the perspective of philosophy, the course adds an integrating method of knowledge to general education. Prescribed distributive course.

GEPE 3010 ART APPRECIATION
Study of the fundamentals of visual arts and how these form an integral part of life. Approach to the creative and appreciative processes of universal art. Study of the historical and esthetical background in which works of art are produced. Prescribed distributive course.

GEPE 3020 MUSIC APPRECIATION
Study of the value of music in our society. Stimulation of the enjoyment of universal music from a multicultural approach, using methods that develop auditory perception. Emphasis on the elements of music and on its basic musical forms. Prescribed distributive course.

GEPE 4040 ETHICAL DIMENSIONS OF CONTEMPORARY MATTERS
Critical analysis of current principles and problems from the perspective of the past and present ethical systems most relevant for western civilization. Includes a project related to quality of life and community action. Required course.
Christian Thought

Three credits are required in this category.

GECF 1010 THE CHRISTIAN FAITH
Academic study of the Christian faith with an ecumenical openness in the interdisciplinary dialog. Special attention will be given to the life and teachings of Jesus and their implications for the Christian community and the pluralistic society of today. Required course.

3 credits

Historic and Social Context

Nine credits are required in this category except for students of the Engineering and Aviation programs who will take only six credits. Course GEHS 2010 is a required course.

GEHS 2010 HISTORICAL PROCESS OF PUERTO RICO
Analysis of the historical process of Puerto Rico through the study of the economic, political, social and cultural transformations of Puerto Rico, with emphasis on the nineteenth century to the present. Required course.

3 credits

GEHS 2020 GLOBAL VISION OF ECONOMY
A vision of world economy from the end of the twentieth century to the present is developed. Emphasis on the economical policies of neoliberalism, privatization, stock market, globalization and international economic institutions. Prescribed distributive course.

3 credits

GEHS 3020 GLOBAL SOCIETY
Study of the global society and its components from an economic, political and sociological perspective. Emphasis on the analysis of concepts and reasons that foment a better understanding of the challenges and problems of the contemporary world. Prescribed distributive course.

3 credits

GEHS 3030 HUMAN FORMATION IN CONTEMPORARY SOCIETY
Study of the factors that intervene in the development and formation of human beings from a biological, psychological, social and existential approach. Analysis and reflection of the biopsicosocial factors that human beings face as a result of living in a dynamic and complex society. Emphasis on human beings as agents promoting change to improve their quality of life and that of their social environment. Prescribed distributive course.

3 credits

GEHS 3040 INDIVIDUAL, SOCIETY AND CULTURE
Analysis of the different processes of organization and cultural adaptation from anthropological and sociological perspectives. Emphasis on the impact on human behavior of evolution, systems, processes and the changes of society and the person. Case studies
are integrated for understanding the dynamics of sociocultural systems. Prescribed
distributive course.

GEHS 4020 ANCIENT AND MEDIEVAL WESTERN CIVILIZATION
Analysis of the most outstanding economic, political, social and cultural processes of
Western Civilization from the appearance of human beings to the end of the Middle Ages. 
Prescribed distributive course.

GEHS 4030 MODERN AND CONTEMPORARY WESTERN CIVILIZATION
Analysis of the most outstanding economic, political, social and cultural processes of 
Modern and Contemporary Western Civilization. Prescribed distributive course.

Scientific and Technological Context

Three credits are required in this category. Students studying for the Bachelor of Arts 
Degree in Secondary Education in Biology, Science in the Junior High School or 
Chemistry must take the course GEST 3030.

GEST 2020 SCIENCE, TECHNOLOGY AND ENVIRONMENT
Study of the basic concepts of the Natural Sciences, their impact on technological 
development, on society and on the environment. Application of these concepts to the 
discussion of current topics. Emphasis on the importance of the scientific method in the 
search for and construction of knowledge. Prescribed distributive course.

GEST 3030 THE PHYSICAL WORLD AND THE INDIVIDUAL
Study of the physical environment in which human beings function: describing, observing, 
evaluating and comparing the processes that structure and mold the surface of the earth. 
The atmosphere and its processes, climate, composition and structure of the lithosphere, 
hydrosphere, biosphere, effect of rotation and revolution of the planet and the human being 
as an agent of change on the earth’s surface. Presents an interdisciplinary view of the 
natural sciences that allows the student to integrate theoretical knowledge framed in human 
reality. Prescribed distributive course.

Health, Physical Education and Recreation

Three credits are required in this category. Students of the Nursing Program are exempt 
from this category.

GEHP 3000 WELL-BEING AND QUALITY OF LIFE
Study of the dimensions of well-being and its effect on the physical and neural muscular 
parameters. Emphasis on the scientific base of knowledge related to physical aptitude, 
nutrition and other components that contribute to the quality of life. Emphasis on the 
individual and community responsibility adequate life styles for the conservation and 
promotion of health and integral well-being. Required course.
Undergraduate (Associate and Bachelor) Degree Programs

Accounting (A.A.S. and B.B.A.)

Associate Program

This Program is a transfer program for those who wish to continue studies for a bachelor’s degree.

All campuses are authorized to offer this Program. The Ponce Campus is also authorized to offer this Program through distance learning.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN ACCOUNTING

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>32 credits</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3 credits</td>
</tr>
<tr>
<td>Total</td>
<td>58 credits</td>
</tr>
</tbody>
</table>

General Education Requirements - 23 credits

- GESP Spanish 6
- GEEN English 6
- GECF 1010 The Christian Faith 3
- GEHS 2010 Historical Process of Puerto Rico 3
- GEIC 1000 Information and Computer Literacy 2
- GEMA 1200 Fundamentals of Algebra 3

Major Requirements - 32 credits

- ACCT 1151, 1152 Introduction to Accounting I, II 8
- ACCT 2050 Cost Accounting 4
- ACCT 2051, 2052 Intermediate Accounting I, II 8
- BADM 2250 Administrative Theory 3
- FINA 3100 Managerial Finance 3
- MAEC 2211 Principles of Economics (Micro) 3
- MAEC 2221 Basic Statistics 3

Bachelor’s Program

The course of studies follows and exposes the student to the generally accepted principles and practices that govern the profession of accounting in the various areas where the student may serve as an accountant in the future. The student is exposed to the
application of theory to situations and problems arising in various specializations within the
field of accounting: cost, auditing, taxation, financial analysis, etc.

The organization of the profession, the professional ethics and accountants’
responsibilities are included in the course of studies to prepare the student for the Certified
Public Accountant examination.

The curriculum for the minor in Internal Auditing provides knowledge for evaluation
and reporting the activities of an enterprise in relation to its objectives. The concepts,
principles and basic practices of internal auditing are presented.

All campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION
DEGREE IN ACCOUNTING

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>35</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>34</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education
Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in
the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (MICRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (MACRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
<td>3</td>
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</table>

Major Requirements - 34 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 2030</td>
<td>Tax Systems of Puerto Rico I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 2050</td>
<td>Cost Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2051</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 2052</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 3070</td>
<td>Specialized Aspects of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3080</td>
<td>Introduction to Federal Taxes</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3451</td>
<td>Advanced Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3452</td>
<td>Accounting for Non-Profit Organizations</td>
<td>3</td>
</tr>
</tbody>
</table>
ACCT 4090  Auditing  3
ACCT 4906  Professional Ethics for Accountants  1
ACCT 4950  Computer Applications in Accounting  3

Requirements for students interested in obtaining certification as Authorized Public Accountants - 22 additional credits

Students interested in obtaining certification as Authorized Public Accountants must pass 22 additional credits to comply with the 150 credit hour requirement established by the American Institute of Authorized Public Accountants. Students should select the following courses:

ACCT 3095  Business Ethics  3
ACCT 4246  Federal Taxes II  3
ACCT 4910  Business Law for CPA Candidates  3

Thirteen additional credits

During their senior year, students may participate in a five-week internship program in which some cooperating firms pay student salaries. Programs of study of participating students are modified during the second semester of their senior year within the following guidelines:

1. After registering for their courses, students consult with their advisors concerning the internship program.
2. Academic work begins on completion of the internship program.
3. Class periods are adjusted so that students may take the required number of class hours.

Minor in Internal Auditing

Minor in Internal Auditing Requirements - 18 credits

INAU 4093  Fundamentals of Internal Auditing  4
INAU 4094  EDP Auditing  4
INAU 4095  Administering Internal Auditing Functions  3
INAU 4910  Internship in Internal Auditing  4
COMP 2020  Introduction to Computer Organization  3

Airway Science (B.S.)

The program of Aviation Sciences is designed to prepare professionals of the aerospace industry in keeping with the exigencies of the twenty-first century. The Bachelor of Sciences program in Aviation Sciences offers a balance of courses in the areas of science, technology and the humanities.

Interested students may participate in semester internships in airlines, aeronautical companies and government agencies.
Descriptions of the Majors

1. Aircraft Systems Management

   This major is designed to prepare professional pilots with solid background skills in flight theory, meteorology and security.

   The Program prepares students to obtain certificates for Private Pilot, Single-engine and Multi-engine Commercial Pilot and for Instrument Flight of the Federal Aviation Administration (FAA). Students will be able to work as future pilots of regional and international airlines, corporations and professional institutions.

2. Aviation Computer Sciences

   In this major, students will acquire knowledge and skills that will allow them to develop themselves as computer systems analysts and programmers in the aviation field. Work options will expand with the coming of new technology in the areas of flight, navigation, communication and information processing.

3. Aviation Electronic Systems

   The major in Aviation Electronic Systems combines electronic theory with practical experience. Graduates can apply for jobs in airship manufacturing factories, airlines, the National Aeronautics and Space Administration (NASA) and the Federal Aviation Administration (FAA). In addition, they may specialize in the area of sales, installations, repair, and in the testing and certification of aviation electronic equipment.

4. Aviation Sciences Management

   This major develops the necessary skills for students to occupy managerial or administrative positions with the government or in private industry. Graduates of the major are prepared to occupy managerial positions in airports, air operations of airlines, aeronautical companies, government agencies, passenger services and the air cargo industry.

Minor in Air Traffic Control

   The minor in Air Traffic Control is endorsed by the Federal Aviation Administration (FAA) through the special program of University Initiative Training. This program offers students the initial training of the Federal Aviation Administration (FAA) for air traffic controller in airports, on-route operations, control towers and others. The minor in air traffic control prepares students to apply for admission to the Federal Administration Academy of Aviation in the city of Oklahoma. Admission to the minor in air traffic control is limited. Students are selected by means of an interview process where their capability to perform as Air Traffic Controller is evaluated.

   Students interested in being admitted to the minor in air traffic control must fulfill the following requirements:

   1. Be registered in one of the four majors of the Bachelor in Airway Science program offered by Inter American University of Puerto Rico’s School of Aeronautics.
2. If the students have completed the Bachelor’s degree in Airway Sciences they must fulfill the following requirements:

   a) Have a minimum academic index of 2.50.
   b) Be completely bilingual in English and Spanish.
   c) Be interviewed by the evaluation panel of the minor in Air Traffic Control.
   d) Be under 30 years of age when completing the specialization requirements and meeting the job requirements of the FAA.

NOTE: Students in this Program will be responsible for complying with the regulations of the Federal Aviation Administration (FAA), the procedures stipulated in the Airship Operations Manual and the Flight Operations Manual of the School of Aeronautics at all times when operating an airship of the Institution. Non-compliance with the regulations or procedures constitutes a violation to the stipulated security norms and could result in suspension of the student from the Program. Students of the Program may be tested for drug use, in agreement with Federal Aviation Regulations (FAR).

General Requirements for Program Admission

Program candidates must:

1. Have been admitted to Inter American University of Puerto Rico.
2. Be high school graduates or the equivalent, with a minimum grade point average of 2.50.
3. Have obtained a minimum of 500 points in the mathematics and English sections of the College Board Examination.

NOTE: Students who initially did not meet the minimum requirements for admission to the Program, may be admitted to the Program if after their first year of studies (24 credits) they obtain a minimum grade point average of 2.50.

Specific Admission Requirements for the Aircraft Systems Management Program for Professional Pilots

1. Show evidence of a first class medical certificate issued by a medical doctor and accepted by the Federal Aviation Administration (FAR Part 67).
2. Have an interview with the Head Flight Instructor.

Admission of Transfer Students

1. Students from other recognized universities or colleges may register in the Program if they comply with the Inter American University and Aviation Sciences Program admission requirements.
2. Validation examinations will be administered to those students having current certificates issued by the Federal Aviation Administration (FAA).
Graduation Requirements

In addition to fulfilling the general requirements for graduation, students in Aviation Sciences must:

1. Complete all the academic requirements of the selected program.
2. Achieve a minimum grade point average of 2.5 in the major and core courses.
3. Pass English courses with a minimum grade of a C.
4. For the Major in Aircraft Systems Management, students are required to have obtained certificates issued by the FAA. The certificates are:
   - Private Pilot
   - Instrument Rating
   - Commercial Pilot with Multiengine Rating
   - Certified Flight Instructor (CFI)
   - Certified Flight Instructor -Instrument (CFII)

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN AIRWAY SCIENCES

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>41 credits</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>57 credits</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>39 - 47 credits</td>
</tr>
<tr>
<td>Total</td>
<td>137 - 145</td>
</tr>
</tbody>
</table>

General Education Requirements - 41 credits

Forty-one (41) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category. In the Philosophical and Esthetic category, they will take only three (3) credits in the course GEPE 4040. In the Historical and Social Context category students will only take two courses, one of which will be GEHS 2010.

Students will take the following courses in Spanish and English:

GESP 1101, 1102, 2203 (1022 and 2203 will count towards the requirement for non-native speakers) 9
GEEN 1201, 1202, 2203 or 2311, 2312, 2313 9

Core Course Requirements - 57 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWSC 2000</td>
<td>Introduction to Aeronautics</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 2200</td>
<td>Government and Aviation</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3000</td>
<td>Aeronautical Language Skills</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3600</td>
<td>Flight Safety</td>
<td>3</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
</tbody>
</table>
COMP 2120 Programming Logic 3
COMP 2300 Visual Programming 3
ENGL 2075 Technical Literature or
ENGL 3310 Advanced Oral Communication 3
MAEC 2211 Principles of Economics (MICRO) 3
MAEC 2212 Principles of Economics (MACRO) 3
MAEC 2221 Basic Statistics 3
MATH 1500 Pre-Calculus 5
MATH 2251 Calculus I 5
PHYS 3001, 3002 General Physics I and General Physics II or
PHYS 3311, 3312 Physics of Engineering I, II 8
PSYC 3313 Industrial Psychology 3

Major Requirements

Aircraft Systems Management

Aircraft Systems Management - 47 credits

AWSC 2105 Private Pilot Theory 5
AWSC 2123 Basic Flight Training 5
AWSC 3145 Theory for Instrument Flight 3
AWSC 3146 Intermediate Flight Training 4
AWSC 3152 Theory for the Commercial Pilot 3
AWSC 3200 Air Transportation 3
AWSC 3481 Advanced Flight Training 5
AWSC 4305 Meteorology in Aviation 3
AWSC 4320 Advanced Aircraft Systems 3
AWSC 4340 Applied Aerodynamics 3
AWSC 4350 Theory of Flight Instruction 3
AWSC 4353 Certified Flight Instructor: Airplane 1
AWSC 4364 Certified Flight Instructor: Instrument 1
AWSC 4384 Training Techniques for Flight Crew Members 2

Select three credits from the following:

AWSC 4000 Airport Development and Operations 3
AWSC 4106 Aviation Law 3
AWSC 4204 Airline Operations 3
AWSC 4400 Theory of Transport Aircraft 3
AWSC 4710 Security Management and Accident Prevention in Aviation 3
BADM 3330 Human Resources Management 3
BADM 3900 Business Information Systems 3

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### Aviation Computer Sciences

**Aviation Computer Sciences - 40 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 2315</td>
<td>Structured Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2400</td>
<td>Object Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2501</td>
<td>Discrete Computational Structures I</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2502</td>
<td>Discrete Computational Structures II</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2900</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3200</td>
<td>Computer Organization and Assembler Language</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3400</td>
<td>Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3500</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3850</td>
<td>Theory of Databanks</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4200</td>
<td>Teleprocessing and Networks</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4420</td>
<td>Systems Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2252</td>
<td>Calculus II</td>
<td>4</td>
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</tbody>
</table>

Select three credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 3600</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3800</td>
<td>Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4000</td>
<td>Microprocessors Architecture and Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4600</td>
<td>Computer Architecture</td>
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### Aviation Electronic Systems

**Aviation Electronic Systems - 45 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWSC 4220</td>
<td>Analysis and Repair of Aviation Electronic Equipment</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2351</td>
<td>Electrical Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 2352</td>
<td>Electrical Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3141</td>
<td>Logic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3142</td>
<td>Logic Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3170</td>
<td>Electronic Drawing</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 3191</td>
<td>Electronic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3192</td>
<td>Electronic Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4140</td>
<td>Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4211</td>
<td>Communications I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2252</td>
<td>Calculus II</td>
<td>4</td>
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</tbody>
</table>

Select four credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 3490</td>
<td>Industrial Electronics</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4212</td>
<td>Communications II</td>
<td>4</td>
</tr>
</tbody>
</table>
### Aviation Sciences Management

**Aviation Sciences Management - 39 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWSC 3200</td>
<td>Air Transportation</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3411</td>
<td>Principles of Air Traffic Control I</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4000</td>
<td>Airport Development and Operations</td>
<td>3</td>
</tr>
<tr>
<td>BADM 2950</td>
<td>Supervision</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3330</td>
<td>Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3900</td>
<td>Business Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4340</td>
<td>Industrial Relations and Labor Legislation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1051</td>
<td>General Psychology I</td>
<td>3</td>
</tr>
</tbody>
</table>

Select three credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 3300</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4234</td>
<td>Psychology of the Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4313</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Select nine credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AWSC 2300</td>
<td>Airline Passenger Services</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3412</td>
<td>Principles of Air Traffic Control II</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4055</td>
<td>Air Cargo Management</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4600</td>
<td>Airline Management</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4680</td>
<td>Aviation Strategic Management</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4913</td>
<td>Air Transportation Practicum</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3311</td>
<td>Commercial Law</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4800</td>
<td>Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 3240</td>
<td>Mathematics for Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 4210</td>
<td>Economics of Multinational Firms</td>
<td>3</td>
</tr>
</tbody>
</table>

### Minor in Air Traffic Control (Airway Science)

**Requirements for the Minor in Air Traffic Control - 24 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWSC 2000</td>
<td>Introduction to Aeronautics</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3000</td>
<td>Aeronautical Language Skills</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3411</td>
<td>Principles of Air Traffic Control I</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 3412</td>
<td>Principles of Air Traffic Control II</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4305</td>
<td>Advanced Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4500</td>
<td>Air Traffic: Tower Operation</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4505</td>
<td>Air Traffic: Radar Operation</td>
<td>3</td>
</tr>
<tr>
<td>AWSC 4510</td>
<td>Air Traffic Control: On-Route and in Terminal</td>
<td>3</td>
</tr>
</tbody>
</table>
Architecture: Consortium with the University of Wisconsin in Milwaukee

With the purpose of providing students an academic alternative in the area of Architecture, the San German Campus of Inter American University of Puerto Rico and the University of Wisconsin in Milwaukee have established a consortium that offers two educational options to finish a career in the area of Architecture.

OPTION I:

Students will complete the first two years of architecture at the San German Campus and, if they qualify, will transfer to the University of Wisconsin in Milwaukee to finish their studies.

OPTION II:

Students complete their first two years of studies in architecture in the San German Campus. After these studies they choose to finish a Bachelor’s Degree in any area and once the bachelor’s degree in completed, they can submit an application to study the Master’s degree in Architecture at the University of Wisconsin-Milwaukee or at any other university that offers a master’s degree in this area. This is what is known as the Professional Degree. In the case of students who choose the University of Wisconsin-Milwaukee, this university will accept the architecture courses taken at San German as part of the prerequisites for the Master’s degree; thus, reducing the time required for students that have not completed a Bachelor’s degree in Architecture. After completing the first 70 credits, students must make official at the Registrar’s Office the modification to their declaration of a major to the academic program of interest, at the Bachelor level in the San German Campus.

Admission Requirements:

Students seeking admission must:

1. Be a high school graduate with a minimum grade point average of 2.75, have an admission index of 1175, calculated based on the average of the verbal aptitude and mathematical reasoning parts of the CEEB and the high school average, and have an average of 500 in the English and mathematical areas on the academic achievement tests of the CEEB.
2. Appear for an interview, if necessary.
3. Participate in the course Exploration of Architecture (ARCH 2000) if they are considered for admission. This course is offered during the month of July with a value of six (6) credits and it requires from the student long hours of work and dedication, for which, it is necessary that students make arrangements for housing accommodations during this time. Any candidate aspiring to the Program of the Consortium in Architecture must pass the workshop with a minimum grade of B.
4. Possess reasonable fluency of the English and Spanish languages; reading, writing and conversation.
5. Apply before or on April 30, because these applications require additional processing in the Financial Aid Office.
For admission to the University of Wisconsin in Milwaukee, students must take at the San Germán Campus, 21 credits in the General Education Program, 29 credits in architecture courses, 5 credits in mathematics, 9 credits in art, and 8 credits in natural sciences. In addition, they must meet the academic progress required by the Consortium.

ARCH, 2000, ARCH, 3011, ARCH, 3012, ARCH, 3020, ARCH, 3025, ARCH, 3026, ARCH, 3030, ARCH, 3111, ARCH, 3112, ARCH, 3115,

The course of study for the Consortium in Architecture with the University of Wisconsin at Milwaukee is as follows:

**Summer**
ARCH 2000 Architecture Exploration

**First Year (First Semester)**
ARCH 3011 Introduction to Architecture I
ARCH 3025 Fundamentals of Architectonic Drawing
ARTS 1103 Technical Foundations and Practice of Art
ARTS 2403 History of Art
GEEN 2311 Reading and Writing
GEMA 1200 Fundamentals of Algebra

**First Year (Second Semester)**
*ARCH 3012 Introduction to Architecture II
GEEN 2313 Writing and Research
GEHS 2010 Historical Process of Puerto Rico
MATH 1500 Precalculus

An Elective Course in Art
*ARTS 1104 Drawing (Recommended)
*ARTS 1300 Ceramics
*ARTS 1400 Basic Photography

**Second Year (First Semester)**
*ARCH 3111 Fundamentals of Architecture I
*ARCH 3020 Introduction to Architectonic Technology
*PHYS 3001 General Physics I
GEHS 3040 Individual, Society and Culture
GEHS 4030 Contemporary Western Civilization

**Second Year (Second Semester)**
*ARCH 3112 Fundamentals of Architecture II
*ARCH 3115 Urban Planning
GEHS 3020 Global Society

An Elective Course in Natural Sciences
GEOG 2034 Introduction to Physical Geography (Recommended)
BIOL 1101 Modern Biology I
CHEM 2111 General Chemistry I
*PHYS 3002 General Physics II
Others:
*ARCH 3030 Introduction to Autocad (May be taken in any semester)

*Courses with prerequisites. Students should consult this Catalog before registering.

Art (B.A.)

The study of the basic principles of art divided into three areas: practice, theory and history. The courses in design, engraving, sculpture, painting, ceramics, drawing and the other graphic arts offer the student the theory of art and practical experience. The courses concerning art history from ancient times to the contemporary period give the student a general overview of the development of the arts. Courses aimed at the use of technology offer students the necessary tools for making graphic design and digital art.

The University offers a four year program to obtain a Bachelor of Arts Degree in the Visual Arts in the following areas: Ceramics and Sculpture; Painting and the Graphic Arts; Photography; and Art Education.

The San Germán Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN VISUAL ARTS

For the majors in Ceramics and Sculpture, Painting and Graphic Arts, and in Photography

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>36</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>21</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>113</strong></td>
</tr>
</tbody>
</table>

For the major in Art Education

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>32</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>33</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>121</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 or 50 credits**

For the majors in Ceramics and Sculpture; Painting and the Graphic Arts; and Photography

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

For the major in Art Education

Fifty (50) credits are required in General Education. In addition to course GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.
### Core Course Requirements - 32 or 36 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 1103</td>
<td>Technical Foundations and Practice in Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1104</td>
<td>Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 1300</td>
<td>Pottery I*</td>
<td>4</td>
</tr>
<tr>
<td>ARTS 1400</td>
<td>Basic Photography</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2140</td>
<td>Drawing I</td>
<td>4</td>
</tr>
<tr>
<td>ARTS 2250</td>
<td>Painting I</td>
<td>4</td>
</tr>
<tr>
<td>ARTS 2260</td>
<td>Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2355</td>
<td>Introduction to the Graphic Arts</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2403</td>
<td>History of Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3210</td>
<td>Painting II**</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3403</td>
<td>History of Modern and Contemporary Art*</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3405</td>
<td>History of Puerto Rican Art</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note:** *
*Not required for students in Art Education.
**Required only of students in Art Education.

### Majors (at least one of the following is required):

**Ceramics and Sculpture**

### Ceramics and Sculpture - 21 credits

**Required courses - 9 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 2300</td>
<td>Pottery II</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3250</td>
<td>Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4253</td>
<td>Sculpture III</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>ARTS 4303</td>
<td>Clays and Glazes</td>
<td>3</td>
</tr>
</tbody>
</table>

**Four courses from the following - 12 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 1100</td>
<td>Color Theory</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2100</td>
<td>Designs in Native Materials</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2105</td>
<td>Designs in Manufactured Materials</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 2700</td>
<td>Multiple Techniques</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3105</td>
<td>Metal Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3150</td>
<td>Drawing II - Figure</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3303</td>
<td>Ceramics III</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 3351</td>
<td>Serigraphy I</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4202</td>
<td>Airbrush</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4254</td>
<td>Metal Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4256</td>
<td>Human Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4303</td>
<td>Clays and Glazes</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4352</td>
<td>Layout Design</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4360</td>
<td>Digital Art</td>
<td>3</td>
</tr>
<tr>
<td>ARTS 4365</td>
<td>Computerized Graphic Design</td>
<td>3</td>
</tr>
</tbody>
</table>
Painting and the Graphic Arts

Painting and the Graphic Arts - 24 credits

Required Courses - 12 credits

ARTS 1100  Color Theory  3
ARTS 3150  Drawing II - Figure  3
ARTS 3210  Painting II  3

Four courses from the following - 12 credits

ARTS 2700  Multiple Techniques  3
ARTS 3351  Serigraphy I  3
ARTS 3352  Serigraphy II  3
ARTS 3355  Linoleum and Wood Engraving Techniques  3
ARTS 3400  Photography III  3
ARTS 3450  Color Photography  3
ARTS 4100  Watercolor  3
ARTS 4150  Advanced Drawing  3
ARTS 4202  Airbrush  3
ARTS 4210  Mural Painting  3
ARTS 4255  Painting III  3
ARTS 4256  Human Sculpture  3
ARTS 4350  Intaglio Techniques  3
ARTS 4352  Layout Design  3
ARTS 4353  Lithography  3
ARTS 4355  Photo serigraphy  3
ARTS 4360  Digital Art  3
ARTS 4365  Computerized Graphic Design  3
ARTS 4500  Stage Design  3

Photography

Photography - 21 credits

Required Courses - 9 credits

ARTS 3150  Drawing II-Figure  3
ARTS 3400  Photography III  3
ARTS 4453  Specialized Photography  3

Four courses from the following:

ARTS 1100  Color Theory  3
ARTS 2700  Multiple Techniques  3
ARTS 3351  Serigraphy I  3
ARTS 3450  Color Photography  3
ARTS 4150  Advanced Drawing  3
ARTS 4202  Airbrush  3
Art Education (Visual Arts)

Art Education - 33 credits

PROFESSIONAL COURSES IN ART EDUCATION

I. Foundation

EDUC 2021 History and Philosophy of Education 3
EDUC 2031 Developmental Psychology 3
EDUC 2032 Learning Psychology 3
EDUC 2870 The Exceptional Student Population 4

II. Processes and Technology

ARED 1900 Fundamentals of Art Education 3
ARED 3750 Educational Technology in Art Education 2
ARED 3850 Methods and Curriculum in Art Education 3
ARED 4015 Evaluation, Assessment and Research 3

III. Practice

ARED 4913 Internship in Art Education 6

*Others

HIST 3010 History of the United States 3

*Required for teacher certification.

REQUIREMENTS OF THE TEACHER EDUCATION PROGRAM FOR STUDENTS SEEKING THE BACHELOR OF ARTS DEGREE WITH SPECIALIZATION IN ART EDUCATION

I. Academic Progress Requirements

The Bachelor of Arts in Visual Arts with specialization in Art Education requires that students meet the following provisions:

1. Pass the following courses with a minimum grade of C:
   
   GESP 1101 Literature and Communication: Narrative and Essay
   GESP 1102 Literature and Communication: Poetry and Theater
ARED 1900 Fundamentals of Art Education

2. Maintain a grade point index of at least 2.50 in order to meet the certification provisions of the Department of Education.

II. Student Teaching

The requirements for admission to Practice Teaching in the Teacher Education Program are the following:

1. Have completed all the credits required by the Program.
2. Have approved the number of credits established for each major.
3. Have a minimum grade point index of 2.50 in the major and a general grade point index of 2.50 or more.
4. Have filed a formal application with the approval of the Division or Department of Education.

Public as well as private schools serve as laboratories for students to acquire experience in the teaching and learning field.

III. Other Provisions

Students who have had previous satisfactory teaching experience may be exempt from the teaching internship if they request it. This exemption will be subject to the following conditions:

1. The student has been teaching full time for two academic years within the last four years, in a school accredited by the Puerto Rico Department of Education.
2. The experience to be credited by the University corresponds to the requirements for the degree that the student hopes to obtain from the Institution.
3. The student pays 50% of the registration cost of the Practice Teaching course (6 credits) for the final validation of the credits.

Audiovisual Communications Technology (A.A.S.)

The Program for the Associate Degree in Applied Science in Audiovisual Communications Technology is geared towards providing technical preparation that will permit graduates to occupy positions in radio, television, photography and in graphic design. The Program is also designed to prepare students for continuing studies towards a Bachelor’s Degree in Communication Technology.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN AUDIOVISUAL COMMUNICATION TECHNOLOGY

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
</tr>
</tbody>
</table>
General Education Requirements - 23 credits

- GESP  Spanish  6
- GEEN  English  6
- GEMA 1000 Quantitative Reasoning 3
- GEHS 2010 Historical Process of Puerto Rico 3
- GECF 1010 The Christian Faith 3
- GEIC 1000 Information and Computer Literacy 2

Major Requirements - 33 credits

- COMU 1005 Audiovisual Communications Technology 4
- COMU 1031 Photographic Techniques 3
- COMU 1040 Television Production Techniques 4
- COMU 1060 Administration of Instructional Materials Center 3
- COMU 2110 Advertising Design 3
- COMU 2121 Media Writing I 3
- COMU 2223 Sound Recording, Amplification and Distribution 3
- COMU 2510 Computer Graphic Production 3
- COMU 2910 Supervised Practice 4
- COMU 3244 Video Recording, Amplification and Signal Distribution 3

Auditing (B.B.A.)

The course of studies is designed to offer students knowledge in accounting and the analytical skills required in auditing. The Program exposes students to the knowledge and skills needed to perform the functions of both internal and external auditing. These functions include the auditing of accounts, audits to gauge the efficiency and effectiveness of the entity as well as its compliance of established laws, rules and policies.

The Program has as its goal the development of analytical and technical skills required of auditors, to exalt their image of professionalism and integrity and present the field of auditing as an alternative for new professionals.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN AUDITING

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>35</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>37</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>125</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.
Core Course Requirements - 35 credits

ACCT 1151 Introduction to Accounting I 4
ACCT 1152 Introduction to Accounting II 4
BADM 2250 Administrative Theory 3
BADM 4300 Managerial Economics 3
FINA 3100 Managerial Finance 3
MAEC 2211 Principles of Economics (MICRO) 3
MAEC 2212 Principles of Economics (MACRO) 3
MAEC 2221 Basic Statistics 3
MAEC 2222 Managerial Statistics 3
MATH 1070 Fundamentals of Applied Mathematics 3
MKTG 1210 Introduction to Marketing 3

Major Requirements - 37 credits

AUDI 3195 Governmental Regulations of Business 3
AUDI 4194 Report Writing in Auditing 3
ACCT 2030 Tax Systems of Puerto Rico I 3
ACCT 2051 Intermediate Accounting I 4
ACCT 2052 Intermediate Accounting II 4
ACCT 3452 Accounting for Non Profit Organizations 3
ACCT 4090 Auditing 3
ACCT 4950 Computer Applications in Accounting 3
INAU 4093 Fundamentals of Internal Auditing 4
INAU 4094 EDP Auditing 4
INAU 4095 Internal Auditing Administration 3

Bioinformatics (B.S.)

The Bioinformatics Program is interdisciplinary and is designed to provide students with the practical and theoretical knowledge that will allow them to use computer techniques in the study of biological, molecular and health related sciences. The Program will foster the development of basic laboratory skills, scientific reasoning, and computer skills that will train students to work in computational biology professions, biotechnology, and medical informatics, or to continue graduate studies.

To be admitted in the Bachelor of Science Program in Bioinformatics the applicant must have received 500 points or more in the results of the College Entrance Examination Board examination.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN BIOINFORMATICS

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Major Requirements</td>
<td>81</td>
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<tr>
<td>Prescribed Distributive Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>140</strong></td>
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</tbody>
</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 81 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIIN 3010</td>
<td>Computational Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1101, 1102</td>
<td>Modern Biology I, II</td>
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</tr>
<tr>
<td>BIOL 1103, 2013</td>
<td>Skills Laboratory I, II</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 2251</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4403</td>
<td>Evolution</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4604</td>
<td>Cellular and Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4605</td>
<td>Skills Laboratory III</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221, 2222</td>
<td>Organic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2120</td>
<td>Programming Logic</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2310</td>
<td>Visual Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2315</td>
<td>Structured Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2400</td>
<td>Object Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2501</td>
<td>Discrete Computational Structures I</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2900</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3850</td>
<td>Theory of Databanks</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2100</td>
<td>Introduction to Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2251</td>
<td>Calculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 6 credits

Six additional credits from BIOL or COMP 3000 or 4000 level courses or the course BIIN 3020.

Biology (B.S.)

The Bachelor of Science in Biology Program will serve as an instrument to prepare professionals with a body of knowledge derived from the integration of studies of the biological, chemical, physical and mathematical processes so they may be capable of explaining the world around them. The Program will strengthen ethical aspects within the natural sciences and will promote the development of basic laboratory skills and scientific reasoning which will enable the student to solve problems in our changing world and to meet the demands for jobs or postgraduate or professional studies.

The Program aims to provide an education of excellence that will satisfy the current needs of the student population served by the University.

All campuses are authorized to offer this Program.
REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN BIOLOGY

General Education Requirements 44 credits
Major Core Requirements 63 credits
Prescribed Distributive Requirements in Major 12 credits
Elective Courses 6 credits
Total 125 credits

General Education Requirements - 44 credits

Forty-four (44) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category. Students are exempt from taking courses in the Scientific and Technological Context category.

Major Core Requirements - 63 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1101, 1102</td>
<td>Modern Biology I, II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2010</td>
<td>Fundamentals of Vegetable and Animal Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2013</td>
<td>Skills Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2153</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2155</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3105</td>
<td>General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3106</td>
<td>Anatomy and Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 3503</td>
<td>Ecology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4604</td>
<td>Cellular and Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4605</td>
<td>Skills Laboratory III</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221, 2222</td>
<td>Organic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 2250</td>
<td>Calculus for Biology and Environmental Sciences</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements in the Major - 12 credits

Students will select 12 credits from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2103</td>
<td>General Zoology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2104</td>
<td>General Botany</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 3205</td>
<td>Economic Zoology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3213</td>
<td>Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3214</td>
<td>Entomology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3216</td>
<td>Animal Behavior</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3219</td>
<td>Biology of the Invertebrates</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3255</td>
<td>Economic Botany</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3257</td>
<td>Systematic Botany</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3309</td>
<td>Food Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3405</td>
<td>Immunology</td>
<td>3</td>
</tr>
</tbody>
</table>
Courses in Chemistry at the 3000 level or above may be taken if the student meets the course requirements up to a maximum of six (6) credits.

**Biomedical Sciences (B.S.)**

The Bachelor of Science Program in Biomedical Sciences is designed to develop students’ understanding of modern concepts of Biomedical Sciences to familiarize them with the development of basic laboratory skills, teach them to solve scientific problems that will enable them to solve problems in our society, and face the demand for employment or postgraduate studies. It will enable them to take entrance examinations to biomedical sciences schools at the professional or graduated level, to use critical thinking to evaluate consequences and to discern between actions that promote maintenance of quality of life by means of individual and collective health care, and make informed decisions on health issues within a framework of ethical-moral values. The Program is directed to people interested in continuing graduate and professional studies in areas such as Biomedical Sciences, Medicine, Dentistry, Optometry, Public Health and allied Health Sciences. In addition, students can work in the pharmaceutical industry.

Students of this Program must pass all Biomedical Sciences courses and the course MATH 1200 with a minimum grade of C.
Admission Requirements

In addition to the admission requirements established in this Catalog, candidates desiring to enter this Program must:

1. Have a minimum high school grade point average of 2.50.
2. Pass an interview with the Program Coordinator and the Academic Director of the Sciences and Technology Department. In the Metropolitan Campus the interview will be conducted when necessary.

The Metropolitan and Ponce campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN BIOMEDICAL SCIENCES

General Education Requirements  47 credits
Major Requirements  53 credits
Prescribed Distributive Requirements  12 credits
Elective Courses  6 credits
Total  118

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelor’s Degrees.” Students in this Program will take courses GEST 3030 in the Scientific and Technological Context category and GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 53 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMSC 2210</td>
<td>Human Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BMSC 3011</td>
<td>Anatomy and Human Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>BMSC 3012</td>
<td>Anatomy and Human Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>BMSC 4015</td>
<td>Biochemistry of Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BMSC 4020</td>
<td>Biomedical Ethics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1101</td>
<td>Modern Biology I</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1102</td>
<td>Modern Biology II</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2013</td>
<td>Skills Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 3105</td>
<td>General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2222</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001</td>
<td>Physical General I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3002</td>
<td>Physical General II</td>
<td>4</td>
</tr>
</tbody>
</table>
**Prescribed Distributive Requirements - 12 credits**

Twelve (12) credits from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2153</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3405</td>
<td>Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4305</td>
<td>Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4405</td>
<td>Embryology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4494</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td><em>BIOL 4604</em></td>
<td>Cellular and Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4905</td>
<td>Pathology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2076</td>
<td>Reading and Writing in Technical Texts</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3030</td>
<td>Technical-Scientific Writing in Sciences</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2250</td>
<td>Calculus for Biology and Environmental Sciences</td>
<td>3</td>
</tr>
</tbody>
</table>

*Students from the Ponce Campus must include BIOL 4604 among the courses selected to complete the twelve (12) Prescribed Distributive required credits.

**Biotechnology (B.S.)**

The Bachelor of Science degree in Biotechnology is interdisciplinary, focused on the molecular base of life processes and the techniques used in the control and study of such cellular processes. The Biotechnology Program is designed to provide students with academic courses and laboratory skills required to work in areas like Industrial Biotechnology, Medical Biotechnology, or continue their education in graduate schools. Due to the interdisciplinary nature of the bachelor’s degree in Biotechnology, the student will obtain an academic preparation in the quantitative and analytical areas of sciences.

The Arecibo, Barranquitas and Bayamón campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN BIOTECHNOLOGY**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>81</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>134</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

**Major Requirements - 81 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1101, 1102</td>
<td>Modern Biology I, II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2013</td>
<td>Skills Laboratory II</td>
<td>1</td>
</tr>
</tbody>
</table>
BIOL 3105 General Microbiology 3
BIOL 2251 Genetics 3
BIOL 3250 Molecular Biotechnology 3
BIOL 3405 Immunology 3
BIOL 3420 Immunochemistry and Tissue Cultivation 3
BIOL 4433 Industrial Microbiology 3
BIOL 4604 Cellular and Molecular Biology 3
BIOL 4605 Skills Laboratory III 2
BIOL 4623 Techniques for Genetic Material Recombination 3
BIOL 4728 Genetic Expression and Protein Purification 3
BIOL 4953 Research Methods 3
CHEM 1111 Fundamentals of Chemistry 4
CHEM 2212 Inorganic Chemistry 4
CHEM 2221, 2222 Organic Chemistry I, II 8
CHEM 3320 Analytical Chemistry 4
CHEM 3350 Pharmaceutical Chemistry 3
CHEM 4220 Biochemistry 4
COMP 2110 Introduction to Computer Science 3
MATH 1500 Precalculus 5
PHYS 3001, 3002 General Physics I, II 8

**Business Administration (A.A.S.)**

**Associate Program**

A program of studies leading to the Associate in Applied Science Degree in Business Administration is offered when there is adequate student demand for the Program.

All campuses are authorized to offer this Program. The Ponce Campus is also authorized to offer this Program through distance learning.

**REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN BUSINESS ADMINISTRATION**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>55</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 23 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>GEMA 1200</td>
<td>Fundamentals of Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>
Major Requirements - 23 credits

ACCT 1151, 1152 Introduction to Accounting I, II 8
BADM 2250 Administrative Theory 3
FINA 3100 Managerial Finance 3
MAEC 2211 Principles of Economics (Micro) 3
MAEC 2221 Basic Statistics 3
MKTG 1210 Introduction to Marketing 3

Chemical Technology (A.A.S. and B.S.)

Associate Program

This Program aims to prepare students to occupy positions in pharmaceutical and petrochemical industries and to serve as environmental technicians.

The Guayama Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN CHEMICAL TECHNOLOGY

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>48 credits</td>
</tr>
<tr>
<td>Total</td>
<td>71</td>
</tr>
</tbody>
</table>

General Education Requirements - 23 credits

GESP      Spanish       6
GEEN      English       6
GEMA 1200 Fundamentals of Algebra 3
GEHS 2010 Historical Process of Puerto Rico 3
GEIC 1000 Information and Computer Literacy 2

Major Requirements - 48 credits

BIOL 1003 Basic Biological Concepts 3
BIOL 2154 Fundamentals of Microbiology 3
CHEM 1111 Fundamentals of Chemistry 4
CHEM 2212 Inorganic Chemistry 4
CHEM 3000 Environmental Chemistry 3
CHEM 2221, 2222 Organic Chemistry I and II 8
CHEM 3320 Quantitative Analysis 4
CHEM 3350 Pharmaceutical Chemistry 3
CHEM 4150 Industrial Chemical Analysis 4
CHEM 4913 Internship in Chemical Technology 3
MATH 1500 Precalculus 5
PHYS 1013 General Physics and its Applications 4
Bachelor’s Program

The Chemical Technology Program has been designed for the purpose of developing the cognitive and psychomotor skills necessary for the student to perform satisfactorily as a chemical technician in chemical and pharmaceutical industries. The Program also aims to expand the interaction and participation of industry initiated by offering the Associate Degree in Chemical Technology.

The Arecibo, Bayamón and Guayama campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN CHEMICAL TECHNOLOGY

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>47 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>65 credits</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>12 credits</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 65 credits

<table>
<thead>
<tr>
<th>CHEM 1111</th>
<th>Fundamentals of Chemistry</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3015</td>
<td>Environmental Analytical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2221, 2222</td>
<td>Organic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 3350</td>
<td>Pharmaceutical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3330</td>
<td>Computations and Chemical Applications</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3351</td>
<td>Pharmaceutical Chemistry Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 4003</td>
<td>Industrial Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4150</td>
<td>Industrial Chemical Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4913</td>
<td>Internship in Chemical Technology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1003</td>
<td>Basic Biological Concepts</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1101</td>
<td>Modern Biology I</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>INRE 2063</td>
<td>Industrial Safety and Occupational Health</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>
Chemistry (B.S.)

The program in chemistry is designed to facilitate the acquisition and development of knowledge, skills and attitudes in the field of chemistry that will enable students to achieve their professional goals, improve their understanding of nature and contribute to the development of society.

The Program responds to the advancements in the cognitive sciences and incorporates new technology into the teaching-learning process.

In addition, the Program foments scientific curiosity and the search for knowledge leading to students’ intellectual and professional development.

The Program offers the Bachelor of Science Degree in Chemistry and is designed for students planning to work as chemists in industry or government or to take graduate studies in chemistry, or in any other branch of science including medicine.

Before registering in the advanced courses at the 3000 level required for the major in chemistry, students must have passed a minimum of twelve (12) credits in communication skills with a grade of C or better; six (6) credits in Spanish and six credits in English from courses GESP 1101 and GEEN 1101 or higher.

The Arecibo, Metropolitan and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN CHEMISTRY

Without ACS Certification:

General Education Requirements 47 credits
Major Requirements 70 credits
Elective Courses 9 credits
Total 126 credits

With ACS Certification:

General Education Requirements 47 credits
Major Requirements 77 credits
Elective Courses 3 credits
Total 127 credits

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 70 or 77 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221, 2222</td>
<td>Organic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 3230</td>
<td>Structure Determination by Spectroscopic Methods</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
</tbody>
</table>
CHEM 3810  Physical Chemistry: Thermodynamics  5
CHEM 3820  Physical Chemistry: Quantum and Kinetics  5
CHEM 4210  Instrumental Analytical Chemistry  4
CHEM 4250  Advanced Inorganic Chemistry  4
CHEM 4960  Senior Seminar  1
BIOL 1101  Modern Biology I  2
BIOL 1103  Skills Laboratory I  1
COMP 2101  Introduction to Computers I  3
MATH 1500  Precalculus  5
MATH 2251  Calculus I  5
MATH 2252  Calculus II  4
PHYS 3001, 3002  General Physics I, II  8

Students interested in certification by the American Chemical Society should take CHEM 3180 and six (6) additional credits in the major. These may be substituted with six credits in elective courses.

Communications (B.A.)

The Bachelor of Arts Program in Communications aims to provide a theoretical and practical preparation in the areas of public relations, advertising and journalism that includes the knowledge and management of communication media. It also aims to develop administrative, research and technical skills in communications. The Program has been designed with a multi-disciplinary curriculum content that propitiates the preparation of professionals able to compete in the employment market or for self-employment. To complete the requirements for the Bachelor in Arts Degree in Communications, students must:

1. Obtain a general academic index of 2.30 or more.
2. Obtain an academic index of 2.50 or more in the major courses including the specialization courses.

The Ponce Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN COMMUNICATIONS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>27</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>9</td>
</tr>
<tr>
<td>Specialization Requirements</td>
<td>21 or 24</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>113 or 116</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” For the Specialization in Public Relations and Advertising, students will take the nine credits in English Communication Skills in the sequences GEEN 1201, 1202, 2203 or 2311, 2312, 2313.
Major Requirements - 27 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMU 1000</td>
<td>Introduction to Communications</td>
<td>3</td>
</tr>
<tr>
<td>COMU 1010</td>
<td>Foundations of Graphic Communications</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2010</td>
<td>Writing for Communication Media</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3000</td>
<td>Research Processes in Communications</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4320</td>
<td>Legal and Ethical Aspects</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4410</td>
<td>Management for Communication Media</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4920</td>
<td>Internship</td>
<td>6</td>
</tr>
<tr>
<td>SPAN 3015</td>
<td>Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 9 credits

Select nine credits from the following courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3310</td>
<td>Advanced Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (Macro)</td>
<td>3</td>
</tr>
<tr>
<td>POLS 1011</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3313</td>
<td>Industrial Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3020</td>
<td>Social Structures and Social Change</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3634</td>
<td>Social Problems of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3753</td>
<td>Social Problems of Puerto Rico</td>
<td>3</td>
</tr>
</tbody>
</table>

Specialization Requirements - 21 or 24 credits

Students are required to take one of the following specializations:

**Journalism (Communications)**

Journalism - 24 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMU 2000</td>
<td>Foundations of Journalism</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2040</td>
<td>Introduction to the Analysis of Journalism Texts</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3010</td>
<td>Writing for Journalistic Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3020</td>
<td>Interpersonal Communication: Techniques and Style</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3030</td>
<td>Research Report Production</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4970</td>
<td>Seminar in Journalism</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3001</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 4873</td>
<td>Social Research Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>

**Public Relations and Advertising (Communications)**

Public Relations and Advertising - 21 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMU 2030</td>
<td>Foundations of Public Relations and Advertising</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3013</td>
<td>Public Relations Plan</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3015</td>
<td>Advertising Projects</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3021</td>
<td>Radio and Television Production</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4973</td>
<td>Seminar in Public Relations and Advertising</td>
<td>3</td>
</tr>
</tbody>
</table>
Communications Technology (B.S.)

The Bachelor of Science Degree in Communications Technology program provides a theoretical and practical education in communications. This includes radio, television, photography and graphic arts. The Program is designed to provide an understanding of the communication process through an interdisciplinary curriculum with the latest and most innovative elements in the communication field.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN COMMUNICATIONS TECHNOLOGY

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>60</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 60 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMU 1020</td>
<td>Introduction to Communication Media</td>
<td>3</td>
</tr>
<tr>
<td>COMU 1031</td>
<td>Photographic Techniques</td>
<td>3</td>
</tr>
<tr>
<td>COMU 1120</td>
<td>Systematic Planning</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2110</td>
<td>Advertising Design</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2121</td>
<td>Media Writing I</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2122</td>
<td>Media Writing II</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2223</td>
<td>Sound Recording, Amplification and Distribution</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2340</td>
<td>Television Production Techniques</td>
<td>4</td>
</tr>
<tr>
<td>COMU 2510</td>
<td>Computer Graphic Production</td>
<td>3</td>
</tr>
<tr>
<td>COMU 2615</td>
<td>Radio Production</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3040</td>
<td>Television Field Production</td>
<td>4</td>
</tr>
<tr>
<td>COMU 3225</td>
<td>Voice and Diction</td>
<td>3</td>
</tr>
<tr>
<td>COMU 3520</td>
<td>Directing for the Media</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4320</td>
<td>Legal and Ethical Aspects of Communication</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4410</td>
<td>Media Management</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4444</td>
<td>Fundamentals of Media Research</td>
<td>3</td>
</tr>
<tr>
<td>COMU 4910</td>
<td>Supervised Practice</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2054</td>
<td>Speech Workshop</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>
Computer Science (A.A.S. and B.S.)

Associate Program

The Associate in Applied Sciences Degree in Computer Sciences offers an applied theoretical and practical preparation to develop in students basic and current concepts in the field of computation and information.

The Program promotes the development of skills such as logical reasoning, concepts and basic principles of assembly, microcomputer repair and configuration, mastery of at least one programming language, database management, and the basic knowledge of technical writing.

The Program also aims to develop professionals capable of continuing their learning, programming and installing software, and making publications by electronic means, in addition to having the capability of working in teams and possessing knowledge on professional ethics.

The Aguadilla, Arecibo, Barranquitas, Bayamón, Fajardo Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>39 credits</td>
</tr>
<tr>
<td>Total</td>
<td>62 credits</td>
</tr>
</tbody>
</table>

**General Education Requirements - 23 credits**

- GESP: Spanish 6
- GEEN: English 6
- GEMA 1200: Fundamentals of Algebra 3
- GEHS 2010: Historical Process of Puerto Rico 3
- GECF 1010: The Christian Faith 3
- GEIC 1000: Information and Computer Literacy 2

**Major Requirements - 39 credits**

- COMP 1010: Internet and its Technologies 3
- COMP 2015: Web Page Design 3
- COMP 2060: Microcomputer Repair and Maintenance 3
- COMP 2110: Introduction to Computer Science 3
- COMP 2120: Programming Logic 3
- COMP 2300: Visual Programming 3
- COMP 2315: Structured Programming 3
- COMP 2400: Object Oriented Programming 3
- COMP 2555: Applications in Relational Databases 3
- COMP 2600: Business Programming 3
- COMP 2970: Seminar 3
- ENGL 2075: Technical Literature 3
Bachelor’s Program

The Bachelor of Science Degree in Computer Science offers a theoretical and practical preparation to develop current concepts in the technical and diversified areas of the computer field.

The Program fosters the development of skills such as: logical reasoning, developing well-documented structured programs in various programming languages that work efficiently in a reasonable period of time, recognizing which types of problems are susceptible to solution by computer and using the necessary tools to solve problems and measure the implications of the student’s work as an individual, as well as a team member. The Program also includes detailed knowledge of the organization, architecture, operation and limitations of computerized systems and a background that allows students to continue studying and developing themselves in the field of computer sciences.

Practice or internship experience may be credited to students who have had a satisfactory work experience and request such credit in writing to the director of the academic department. This credit will be subject to whether:

1. The student has been working for a minimum period of two years in a company within the five-year period immediately prior to the date of the request.
2. The student presents a certification and letter from the employer or the Human Resources Office of the company that specifies:
   a. Years of experience
   b. Period of time employed
   c. Position(s) occupied
   d. Description of tasks
   e. Any other evidence of professional performance during the time of employment.
3. The student pays 50% of the cost of registration for the practice or internship course for which credit is requested.

To be officially admitted into the Program, the student must have a minimum general index of 2.5 and must have completed the course MATH 1500 - Pre-calculus, with a minimum grade of C.

The Aguadilla, Arecibo, Barranquitas, Bayamón, Fajardo, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN COMPUTER SCIENCE

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>69</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>12</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>134</td>
</tr>
</tbody>
</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 69 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2120</td>
<td>Programming Logic</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2300</td>
<td>Visual Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2315</td>
<td>Structured Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2400</td>
<td>Object Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2501</td>
<td>Discrete Computational Structures I</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2502</td>
<td>Discrete Computational Structures II</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2900</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3200</td>
<td>Assembler Language</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3400</td>
<td>Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3500</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3850</td>
<td>Database Theory</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4200</td>
<td>Teleprocessing and Networks</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4420</td>
<td>Systems Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4600</td>
<td>Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4910</td>
<td>Internship and Professional Ethics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
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<tr>
<td>MATH 2100</td>
<td>Introduction to Probability and Statistics</td>
<td>3</td>
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<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
<td>5</td>
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<tr>
<td>PHYS 3001</td>
<td>General Physics I</td>
<td>4</td>
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<tr>
<td>PHYS 3002</td>
<td>General Physics II</td>
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</table>

Prescribed Distributive Requirements - 12 credits

Select twelve (12) credits from the following courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 2550</td>
<td>Logical and Functional Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2600</td>
<td>Commercial Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3010</td>
<td>File Management and Organization</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3600</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3800</td>
<td>Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>COMP 397X</td>
<td>Special Topics</td>
<td>1-6</td>
</tr>
<tr>
<td>COMP 4000</td>
<td>Microprocessors Architecture and Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4160</td>
<td>Parallel Processing</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4250</td>
<td>Database Development, Implementation and Administration</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4270</td>
<td>Automaton Theory</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4280</td>
<td>Compilers</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4430</td>
<td>Systems Development and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4480</td>
<td>Artificial Intelligence</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4500</td>
<td>Expert Systems</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4580</td>
<td>Introduction to Robotics</td>
<td>3</td>
</tr>
</tbody>
</table>
Minor in Computer Networks

REQUIREMENTS FOR THE MINOR IN COMPUTER NETWORKS - 21 credits

Students may opt for a minor in Computer Networks upon the satisfactory completion of the following courses:

- COMP 3500 Operating Systems 3
- COMP 4078 Computer Architecture 3
- COMP 4200 Teleprocessing and Networks 3
- COMP 4220 Advanced Teleprocessing and Networks 3
- COMP 4230 Installation and Configuration of Networks Physical Components 3
- COMP 4235 Operating Systems for Networks 3
- COMP 4240 Network Management 3

Computer System Installation(s) and Repair (A.A.S. and B.S.)

Associate Program

The Associate in Applied Science Degree for Computer Systems Installations and Repair aims to develop technical personnel capable of planning and designing the installation, configuration, administration and maintenance of microcomputer systems and networks. It also focuses on repairing microcomputers and their subcomponents.

The Aguadilla, Bayamón, Fajardo and Guayama campuses are authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN COMPUTER SYSTEMS INSTALLATIONS AND REPAIR

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>42 credits</td>
</tr>
<tr>
<td>Total</td>
<td>65</td>
</tr>
</tbody>
</table>

General Education Requirements - 23 credits

- GESP Spanish 6
- GEEN English 6
- GEMA 1000 Quantitative Reasoning 3
- GEHS 2010 Historical Process of Puerto Rico 3
- GECF 1010 The Christian Faith 3
- GEIC 1000 Information and Computer Literacy 2

Major Requirements - 42 credits

- CSIR 1110 Computer Application Programs 4
- CSIR 1130 Basic Electronics 3
Bachelor’s Program

The Bachelor of Science degree in Computer Science in Computer Systems Installation and Repair aims to develop professionals in computer science capable of designing, installing, configuring, administering and maintaining computerized microsystems and communication networks. In addition, the Program provides the detailed knowledge of the organization, architecture, operations and limitations of computerized systems. The Program also aims to prepare students to continue studying and developing in the field of computer sciences.

The Bayamón and Guayama campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN COMPUTER SCIENCE IN COMPUTER SYSTEM INSTALLATION AND REPAIR

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>62</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 62 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSIR 1110</td>
<td>Computer Programs</td>
<td>4</td>
</tr>
<tr>
<td>CSIR 1130</td>
<td>Basic Electronics</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 1210</td>
<td>Mathematics for Computers</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 1220</td>
<td>Introduction to Data Communication</td>
<td>2</td>
</tr>
<tr>
<td>CSIR 1230</td>
<td>Introduction to Microcomputer Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 2121</td>
<td>Network Administration I</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 2122</td>
<td>Network Administration II</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 2130</td>
<td>Maintenance and Repair of Printers and Monitors</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 2140</td>
<td>Introduction to Electronic Microprocessors</td>
<td>3</td>
</tr>
</tbody>
</table>
Computerized Management Information Systems
(A.A.S. and B.B.A.)

Associate Program

The Associate in Applied Science Degree in Computerized Management Information Systems aims to prepare students for working with information systems in companies and giving them an understanding of the goals, functions and operations of business organizations as well as making them knowledgeable of information needs and the role of information systems in these organizations. In addition, it provides for the development of analytical and technical skills to identify, to study and to solve information management problems. Importance is given to communication skills that permit an effective interaction with other members of a business organization, and especially with the users and those that install or implement computerized management information systems.

The Barranquitas Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN COMPUTERIZED MANAGEMENT INFORMATION SYSTEMS

General Education Requirements 23 credits
Core Course Requirements 16 credits
Major Requirements 21 credits
Elective Courses 3 credits
Total 63

General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA</td>
<td>Foundations of Algebra</td>
<td>3</td>
</tr>
<tr>
<td>GEHS</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC</td>
<td>Information and Computer Literacy</td>
<td>2</td>
</tr>
</tbody>
</table>
Core Course Requirements - 16 credits

- ACCT 1151 Introduction to Accounting I 4
- BADM 2250 Administrative Theory 3
- MAEC 2221 Basic Statistics 3
- MAEC 2211 Principles of Economics (Micro) 3
- MKTG 1210 Introduction to Marketing 3

Major Requirements - 21 credits

- CMIS 2100 Introduction to Computerized Information Systems 3
- CMIS 2200 Programming Algorithms 3
- CMIS 2301 Cobol I 3
- CMIS 3130 Database Management Systems 3
- CMIS 3310 Applied BASIC 3
- CMIS 3320 Information Systems Analysis 3
- CMIS 4320 Information Systems Design 3

Elective Course - 3 credits

Although students can take any course, it is highly recommendable that they select either CMIS 3330 – C Language or CMIS 3450 – Internet in the Enterprise.

Bachelor’s Program

The Bachelor’s Degree Program in Business Administration in Computerized Management Information Systems provides practical preparation for administrators in the technological areas of Management Information Systems.

The Program has been designed to facilitate a complete understanding of the goals, functions and operations of business organizations, their information needs and the role of information systems in such organizations. The Program also provides for the development of analytical and technical skills to identify, study and resolve problems of information control as well as the communication skills that allow for effective interaction with other members of a business organization, especially the users and implementers of computerized systems of management information. The Program also facilitates the acquisition of knowledge and abilities to effectively administer projects related to management information systems, while at the same time provides a background for graduate studies and professional development in the field.

The Program aims to prepare professionals with the following characteristics:

General competencies:

1. Capacity to understand the natural complexities of the profession and attend to these in a satisfactory manner.
2. Ability to understand the basic elements of an organization, as well as its interrelations in order to achieve the capacity to recommend solutions that fully meet the information needs and requirements of a business.
3. Capacity to understand and apply new technologies and trends in the computer area and in management information systems to create effective solutions within the organization.
4. Capacity to make decisions based on the acquired knowledge and the available information in harmony with the highest moral and ethical standards related to computer technology and information in general.

5. Ability to analyze the conflictive situations to which the information specialist is often exposed.

6. Ability to communicate findings and recommendations both orally and in writing.

7. Ability to develop optimal interpersonal relations.

8. The desire to continue to improve themselves professionally and to always be on the alert for new changes, trends and technologies.

9. Ability to work with other professionals and to attain a high degree of productivity in work teams and/or in projects.

10. Aspiration to contribute in a positive way to the society in which they work.

11. Awareness of the importance of continuing education through training to acquire new knowledge and skills or to retrain for updating and redefining skills and knowledge.

12. Demonstration of the proper values, habits, attitudes and qualities for a person educated in an integrated manner.

The Aguadilla, Barranquitas, Bayamón, Fajardo, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN COMPUTERIZED MANAGEMENT INFORMATION SYSTEMS

General Education Requirements 47 credits
Core Course Requirements 35 credits
Major Requirements 27 credits
Prescribed Distributive Requirements 9 credits
Elective Courses 6 credits
Total 124

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (MICRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (MACRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>
### Major Requirements - 27 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIS 2100</td>
<td>Introduction to Computerized Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 2200</td>
<td>Programming Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 2301</td>
<td>COBOL I</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3130</td>
<td>Database Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3320</td>
<td>Information System Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3350</td>
<td>Telecommunications and Business Networks</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 4320</td>
<td>Information Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 4915</td>
<td>Practicum</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 4970</td>
<td>Seminar in Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

### Prescribed Distributive Requirements - 9 credits

Nine credits from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIS 2302</td>
<td>COBOL II</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3300</td>
<td>RPG</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3301</td>
<td>Multimedia and Authorship Systems</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3310</td>
<td>Applied BASIC</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3330</td>
<td>C Language</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 3450</td>
<td>Internet for the Enterprise</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 4100</td>
<td>Human-Computer Interaction</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 4244</td>
<td>Expert Systems and Decision Support</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 4435</td>
<td>Project Management, Control and Auditing</td>
<td>3</td>
</tr>
</tbody>
</table>

Credit may be granted for the practicum (CMIS 4915) to students who have had a satisfactory work experience and who apply for it in writing to the director of the academic department. This credit will be subject to the following:

1. Students have been working full-time in a company for a minimum of two consecutive years within the three-year period immediately prior to the date of their request.
2. Students submit a certification and letter from their employer or the Human Resources Office of their place of employment which specifies:
   a. Years of experience
   b. Period of the time employed
   c. Position or positions held
   d. Job description
   e. Copies of evaluations received
   f. Any other evidence of their professional performance during their employment.
3. Students pay 50% of the tuition costs of the practicum course for which they are requesting credit.
4. The experience recognized by the University corresponds to the requirement for the degree that the student hopes to obtain from the Institution.
Criminal Justice (A.A. and B.A.)

Associate Program

The Associate of Arts Degree in Criminal Justice aims to prepare students for a career in Criminal Justice by equipping them with the information necessary to continue studies towards the baccalaureate degree. The curriculum includes criminal investigation, penal law, organization and penal system management constitutional law, criminal evidence, delinquent behavior and administration of justice.

Upon completion of the Program, students will demonstrate ability to:

- Compete successfully for jobs at the initial level in criminal justice.
- Apply the theories of criminal justice in practices and existing regulations.
- Solve conflicts in a variety of situations.
- Identify cultural differences and the way these differences affect decisions and behavior.
- Apply highly ethical norms in studies of criminal cases and simulations.
- Apply penal laws in a variety of cases or simulations.

Graduates of this Program can work as Officers of Correctional Institutions, Customs Inspectors, Private Investigators, and as State and Municipal Police Officers.

Some practice centers may require a certificate of no criminal record.

The Fajardo Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN CRIMINAL JUSTICE

General Education Requirements  23 credits
Core Course Requirements  24 credits
Major Requirements  15 credits
Total  62

General Education Requirements - 23 credits

GESP   Spanish  6
GEEN   English  6
GEMA 1000  Quantitative Reasoning  3
GEHS 2010  Historical Process of Puerto Rico  3
GEIC 1000  Information and Computer Literacy  2
GECF 1010  The Christian Faith  3

Core Course Requirements - 24 credits

CJUS 1000  Introduction to Criminology  3
CJUS 2050  Victims of Crime  3
CJUS 2090  Juvenile Justice System in Puerto Rico  3
CJUS 3025 Criminal Law 3
POLS 1011 Introduction to Political Science 3
PSYC 1051 General Psychology I 3
SOCI 2030 Introduction to Sociology 3
SOCI 2080 Criminal Justice Systems of Puerto Rico 3

Major Requirements - 15 credits

CJUS 2910 Internship in Criminal Justice 3
CJUS 3030 Interviews and Interrogation 3
CJUS 3035 Special Criminal Laws 3
CJUS 4030 Criminal Investigation I 3
CJUS 4040 Evidence Management 3

Bachelor’s Program

The Bachelor of Arts Degree in Criminal Justice offers two majors: 1) penology and 2) criminal investigation. The Program’s modern curriculum adjusts the knowledge, theory and techniques of the field of Criminal Justice to the demands of a dynamic and changing society. The curriculum is inter-disciplinary with branches of knowledge related to human behavior. The Program permits students to acquire personal and professional skills in accord with their interests and aptitudes. It also stresses the importance of the adequate development of attitudes and characteristics of the student’s personality while emphasizing knowledge of the causes and spread of crime, the methods and modern techniques of criminal justice, crime prevention and rehabilitation. The Program is designed to: 1) prepare the student to occupy positions at the operational level in the field of the criminal justice system, both in the private and public sector, 2) upgrade the preparation of personnel offering services in these areas, 3) stimulate students to pursue graduate studies and 4) permit students to put into practice the theoretical knowledge acquired in their studies through an internship experience in their area of major. All course requirements for a major in penology and criminal justice must be passed with a minimum grade of C.

Students who are candidates for the Internship must meet the requirements established by the University for this Program. These are listed below:

1. Internship application
2. No Criminal Record Certificate
3. Health Certificate
4. Release from responsibility
5. Official transcript of credits
6. Official evaluation of the Registrar
7. Three letters of recommendation
8. Four pictures 2X2
9. Present a letter from the coordinator of the Program to the Registrar.

In addition, students must meet the requirements stipulated by the practice center.

The Aguadilla, Arecibo, Barranquitas, Fajardo, Guayama, Metropolitan and Ponce campuses are authorized to offer this Program.
REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN CRIMINAL JUSTICE

General Education Requirements 47 credits
Core Course Requirements 37 credits
Prescribed Distributive Requirements 6 credits
Major Requirements 18 credits
Elective Courses 6 credits
Total 114

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” In addition to the course GEHS 2010, students of this Program will select two courses, from the following alternatives in the Historic and Social Context category: GEHS 2020, 4020, 4030.

Core Course Requirements - 37 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJUS 1000</td>
<td>Introduction to Criminology</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 2050</td>
<td>Victims of Crime</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 2090</td>
<td>Juvenile Justice System in Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3025</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3027</td>
<td>White Collar Crimes</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4972</td>
<td>Seminar in Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>POLS 1011</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1051</td>
<td>General Psychology I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3001</td>
<td>Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 2030</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3825</td>
<td>Criminal Justice Systems of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 4873</td>
<td>Research Techniques</td>
<td>4</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 6 credits from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJUS 2070</td>
<td>Human and Civil Rights</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 2075</td>
<td>Social Deviation</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3015</td>
<td>Women Faced with Crime</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3055</td>
<td>Federal Jurisdiction</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 397</td>
<td>Special Topics*</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4020</td>
<td>Alcoholism and Drug Addiction</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4035</td>
<td>Modern Technology in Investigation</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4520</td>
<td>Crisis Intervention</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3530</td>
<td>Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3753</td>
<td>Social Problems of Puerto Rico</td>
<td>3</td>
</tr>
</tbody>
</table>

*The Special Topics course does not substitute the Seminar in Criminal Justice.
Major Requirements - 18 credits

At least one of the following majors is required:

**Criminal Investigation (Criminal Justice)**

Criminal Investigation - 18 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJUS 3030</td>
<td>Interviews and Interrogation</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3035</td>
<td>Special Criminal Laws</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4030</td>
<td>Criminal Investigation I</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4040</td>
<td>Evidence Management</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4914</td>
<td>Internship in Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4974</td>
<td>Seminar in Criminal Investigation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Penology (Criminal Justice)**

Penology - 18 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJUS 3040</td>
<td>Penology</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3045</td>
<td>Rights of the Correctional Population</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3060</td>
<td>Correctional Administration</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3080</td>
<td>Community Based Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 4910</td>
<td>Internship in Penology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3837</td>
<td>Rehabilitation System for the Delinquent</td>
<td>3</td>
</tr>
</tbody>
</table>

The Internship in Penology or Criminal Investigation may be substituted by: research work in the fields of penology or criminology in those cases where students present evidence of experience in the areas of criminal justice. The substitution will be subject to the following: a) students must have worked full time for a period of two years within five years immediately preceding the application; b) the experience to be validated must correspond to the internship of the student’s specialization and must be in agreement with the criteria established by the University for this internship; c) students must present evidence of their work experience and this must be certified by their immediate supervisor and approved by the Chief Executive Officer of the institution where they were employed.

**Database Management (A.A.S.)**

The Program for the Associate in Applied Science Degree in Database Management has been designed to offer a theoretical and practical preparation that will prepare students for technical and diversified work characterized by emerging technology and a greater use of information. This Program will enable graduates to work as systems programmer and as specialists in programming principles and program structuring. On the other hand, they will be trained in the application of mathematical knowledge useful in the solution of programming and design problems. The Program will also allow them to acquire more specialized knowledge on the management, handling and design of relational databases, by using the most common application programs on the market, adaptable to current technology.
The Fajardo Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN DATABASE MANAGEMENT

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>39</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 23 credits**

- GESP Spanish 6
- GEEN English 6
- GECF 1010 The Christian Faith 3
- GEHS 2010 Historical Process of Puerto Rico 3
- GEIC 1000 Information and Computer Literacy 2
- GEMA 1200 Fundamentals of Algebra 3

**Major Requirements – 39 credits**

- COMP 1010 Internet and its Technologies 3
- COMP 2120 Logical Programming 3
- COMP 2205 Introduction to Databases 3
- COMP 2210 Database Design and Management 3
- COMP 2300 Visual Programming 3
- COMP 2315 Structured Programming 3
- COMP 2320 Introduction to JAVA Programming 3
- COMP 2340 Programming of Relational Databases 3
- COMP 2501 Discrete Computational Structures I 3
- COMP 2525 Implementation and Management of Relational Databases 3
- COMP 2600 Business Programming 3
- COMP 2625 Management and Maintenance of Relational Databases 3
- COMP 2910 Practicum: Design, Development and Integration of Relational Databases 3

**Education (B.A. and Certificate)**

The Teacher Education Program constitutes an answer to the needs and aspirations of a society in constant change and to the requirements for certification of the Puerto Rico Department of Education. Taking as a basis Vision 2012, the mission and goals of Inter American University of Puerto Rico, the Institution’s concept of an educated person and the professional standards that characterize the teaching professional, the Teacher Education Program provides a framework of integrated educational experiences. The Program is directed toward the professional formation of a teacher of excellent quality, that is, one who can contribute in an effective manner to produce the changes deemed desirable in students, knowledgeable about the problems confronting education in Puerto Rico and capable of collaborating in the process of change to improve the quality of both the teacher's life and that of others. The Program, therefore, seeks to achieve a greater
integration of its components: professional courses, major courses and general education courses.

Teacher preparation emphasizes the development of those skills and attitudes that allow for the formation of a critical, flexible and creative mind that by using educational theories as the starting point, is capable of identifying and posing problems, of carrying out research to find solutions and proposing adequate answers which can be verified through experimentation.

The new vision of teacher preparation implies a program of studies that provides a great number of related experiences that provide for the construction of pedagogical knowledge and content which will develop the future teacher. These experiences are characterized by continuous reflection, practice in real settings, research, collaboration, the relevance of contents, the pedagogical model and the search for and use of tools that permit the solution of problems inherent in the teaching learning processes in different contexts. In this Program of studies the general education, major, and core course components will be integrated.

This vision may be translated into the following goals of the Teacher Education Program as reflected in the graduates who are expected to:

1. Be committed to the professionalization of their chosen field and help dignify the teaching profession with their performance.
2. Use critical reflection as a tool in pedagogical practice.
3. Recognize and use the classroom as a laboratory of human experiences that will increase and enrich the teaching-learning endeavor.
4. Utilize research as a resource for enriching and expanding knowledge and improving pedagogical practice.
5. Perform a pedagogical practice founded on the mastery of knowledge.
6. Be a leader in promoting change and innovation.
7. Conceive of education as a human process.
8. Understand that formal and informal education contribute to the development of the humanistic and scientific culture of society.
9. Be aware of the need for collaborative work as an essential component of their pedagogical practice.
10. Conceive of the oral and written language in their vernacular and second language as essential instruments for the teaching learning process.
11. Be aware of their ethical and legal responsibilities to take positions and to contribute to the solution of problems.
12. Make effective use of technology.
13. Have a clear vision of the diverse ways in which populations are distributed.
14. Be committed to the practice and promotion of a better quality of life.

The University offers study programs for the Bachelor of Arts degree in Early Childhood Education: Preschool Level, Elementary Level (K-3), Elementary Level (4-6), Special Education; and Secondary Education. These programs meet the requirements for teacher certification granted by the Puerto Rico Department of Education.

Students who have had previous satisfactory teaching experience may be exempt from the teaching internship if they request it. This exemption will be subject to the following conditions:

1. The student has been teaching full time for two academic years within the last four years, in a school accredited by the Puerto Rico Department of Education. A
written certification issued by the Office of Teacher Certification of the Department of Education is required.

2. The student pays 50% of the registration cost of the courses Experiences in Educational Environment III and IV for the final validation of the credits.

3. The experience to be credited by the University corresponds to the requirements for the degree that the student hopes to obtain from the Institution.

Public as well as private schools serve as daytime laboratories for the students to acquire experience in the area of teaching and learning.

For admission to the Teacher Education Program, students must comply with the following requirements:

1. Admission grade point index:
   a) A minimum high school grade point index of 2.50
   b) A general grade point average of at least 2.30 upon finishing their first year of university studies with a minimum of 18 credits.

2. Make a formal application for admission to the Teacher Education Program.

3. Have an interview with the Admissions Committee of the Teacher Education Program.

4. Students who do not present evidence of having worked as teachers or teaching assistants must begin their studies with the course EDUC 1080 - Experiences in Educational Environment I.

Admission requirements for students from other majors:

1. Meet the requirements 2 and 3 of the regular admissions requirements.

2. Meet the following requirements with respect to their general grade point index:
   a) 18 to 44 credits – 2.30
   b) 45 to 59 credits – 2.45
   c) 60 or more credits – 2.50

3. Students who present evidence of having worked under contract as teachers or teacher aides during a semester or more will be exempt from taking the courses EDUC 1080 – Experiences in Educational Environment I and EDUC 2890 - Experiences in Educational Environment II.

The academic progress requirements for students in the Teacher Education Program are the following:

1. Comply with all academic progress norms established in the General Catalog.

2. Comply with the following requirements regarding general grade point index:
   a) 18 to 44 credits – minimum of 2.30
   b) 45 to 59 credits – minimum of 2.45
   c) 60 or more credits – minimum of 2.50
The requirements for admission to Practice Teaching in the Teacher Education Program are the following:

1. Have completed all the credits required by the Program.
2. Have approved the number of credits established for each major.
3. Have a minimum grade point index of 2.50 in the major and a general grade point index of 2.50 or more.
4. Have filed a formal application with the approval of the Division or Department of Education.

In order to fulfill the graduation requirements for a Bachelor of Arts Degree in Teacher Education a student must:

1. Achieve a minimum general grade point index of 2.50.
2. Achieve a minimum grade point index of 2.50 in the core courses.
3. Achieve a minimum grade point index of 2.50 in the major and in the specialization.
4. Achieve a minimum grade of B in the Teaching Internship.
5. Complete satisfactorily all academic requirements.

**Preschool Level Education**

The Aguadilla, Arecibo, Barranquitas, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EARLY CHILDHOOD EDUCATION: PRESCHOOL LEVEL**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>39</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>28</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

**Core Course Requirements - 39 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
</tbody>
</table>
The Aguadilla, Arecibo, Barranquitas, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EARLY CHILDHOOD EDUCATION: PRESCHOOL LEVEL (K-3)

General Education Requirements: 50 credits
Core Course Requirements: 39 credits
Major Requirements: 29 credits
Elective Courses: 3 credits
Total: 120 credits

General Education Requirements - 50 credits

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

Core Course Requirements - 39 credits

EDUC 1080  Experiences in Educational Environment I  1
EDUC 2021  History and Philosophy of Education  3
EDUC 2022  Society and Education  3
EDUC 2031  Developmental Psychology  3
EDUC 2032  Learning Psychology  3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
<td>2</td>
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<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
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<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
<td>2</td>
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<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
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<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
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<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
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<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
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</table>

**Major Requirements - 29 credits**

<table>
<thead>
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<tbody>
<tr>
<td>EDUC 2020</td>
<td>Health, Nutrition and First Aid</td>
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</tr>
<tr>
<td>EDUC 3075</td>
<td>Mathematics Curriculum, Teaching and Assessment in the Primary Grades (K-3)</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3083</td>
<td>Social Studies Curriculum, Teaching and Assessment in the Primary Grades (K-3)</td>
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</tr>
<tr>
<td>EDUC 3090</td>
<td>Children’s Literature</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3130</td>
<td>Fine Arts in the Educational Process</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3150</td>
<td>The Kindergarten in the School Program</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3170</td>
<td>Parents as Educators</td>
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</tr>
<tr>
<td>EDUC 3185</td>
<td>English Curriculum, Teaching and Assessment in the Primary Grades (K-3)</td>
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</tr>
<tr>
<td>EDUC 3235</td>
<td>Reading and Writing in the Primary Grades</td>
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</tr>
<tr>
<td>EDUC 3265</td>
<td>Natural Sciences Curriculum, Teaching and Assessment in the Primary Grades (K-3)</td>
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</tr>
<tr>
<td>EDUC 4110</td>
<td>Children’s Play as a Learning Process</td>
<td>3</td>
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</tbody>
</table>

**Early Childhood Education: Elementary Primary Level (4-6)**

The Aguadilla, Arecibo, Barranquitas, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EARLY CHILDHOOD EDUCATION: ELEMENTARY LEVEL (4-6)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Core Course Requirements</td>
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<tr>
<td>Major Requirements</td>
<td>30 credits</td>
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<td>122 credits</td>
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**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.
Core Course Requirements - 39 credits

EDUC 1080  Experiences in Educational Environment I  1
EDUC 2021  History and Philosophy of Education  3
EDUC 2022  Society and Education  3
EDUC 2031  Developmental Psychology  3
EDUC 2032  Learning Psychology  3
EDUC 2060  Use of Technology in Education  2
EDUC 2870  The Exceptional Student Population  4
EDUC 2890  Experiences in Educational Environment II  2
EDUC 3013  Teaching Strategies  2
EDUC 3015  Experiences in Educational Environment III  2
EDUC 4011  Evaluation and Assessment  3
EDUC 4012  Classroom Research  2
EDUC 4013  Experiences in Educational Environment IV  4
EDUC 4050  Curriculum Design  2
HIST 3010  Historical Process of the United States of America  3

Major Requirements - 30 credits

EDUC 2020  Health, Nutrition and First Aid  3
EDUC 3076  Mathematics Curriculum, Teaching and Assessment in the Primary Grades (4-6)  3
EDUC 3084  Social Studies Curriculum, Teaching and Assessment in the Primary Grades (4-6)  3
EDUC 3090  Children’s Literature  3
EDUC 3130  Fine Arts in the Educational Process  3
EDUC 3170  Parents as Educators  3
EDUC 3186  English Curriculum, Teaching and Assessment in the Primary Grades (4-6)  3
EDUC 3232  Language Arts Curriculum, Teaching and Assessment in the Primary Grades (4-6)  3
EDUC 3266  Natural Sciences Curriculum, Teaching and Assessment in the Primary Grades (4-6)  3
EDUC 4110  Children’s Play as a Learning Process  3

Early Childhood in Special Education

The Guayama Campus is authorized to offer this Program.

Requirements for the Bachelor of Arts Degree in Early Childhood Education in Special Education

- General Education Requirements  50 credits
- Core Course Requirements  35 credits
- Major Requirements  31 credits
- Elective Courses  3 credits

Total  119 credits
General Education Requirements - 50 credits

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

Core Course Requirements - 35 credits

<table>
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<th>Course Title</th>
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<tbody>
<tr>
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<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
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<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
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<td>EDUC 2032</td>
<td>Learning Psychology</td>
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</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
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<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
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<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
</tr>
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</table>

Major Requirements - 31 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EDUC 2875</td>
<td>Language Stimulation</td>
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<tr>
<td>EDUC 3003</td>
<td>Nature and Needs of Infants and Preschool Age Children with Developmental Deficiencies</td>
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</tr>
<tr>
<td>EDUC 3130</td>
<td>Fine Arts in the Educational Process</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3290</td>
<td>Classroom Management</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3460</td>
<td>Design and Development of Preschool Curriculum and Materials for Disabled Children</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3464</td>
<td>Development of Programs and Services for Children with Disabilities and Their Families</td>
<td>3</td>
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<tr>
<td>EDUC 3466</td>
<td>Seminar: Infants with Disabilities and the Family</td>
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<tr>
<td>EDUC 3467</td>
<td>Assessment Techniques and Instruments for Infants and Preschool Age Children with Disabilities</td>
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<tr>
<td>EDUC 4110</td>
<td>Children’s Play as a Learning Process</td>
<td>3</td>
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<tr>
<td>HPER 4407</td>
<td>Movement Experiences</td>
<td>3</td>
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</table>

Elementary Education in Special Education

The Ponce Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN ELEMENTARY EDUCATION IN SPECIAL EDUCATION IN MILD HANDICAPS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>38</td>
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<tr>
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<tr>
<td>Specialization Requirements</td>
<td>31</td>
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<tr>
<td>Elective Courses</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>143</strong></td>
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</tbody>
</table>
**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. Students are exempt from taking the course GEHP 3000. Instead, they will take either the course HPER 3160 or 3310 to fulfill the requirements of the Health, Physical Education and Recreation category.

**Core Course Requirements - 38 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
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<td>1</td>
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<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
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</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 4014</td>
<td>Experiences in Educational Environment V</td>
<td>4</td>
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<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
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</table>

**Major Requirements - 21 credits**

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<th>Course Title</th>
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<tbody>
<tr>
<td>EDUC 2020</td>
<td>Health, Nutrition and First Aid</td>
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</tr>
<tr>
<td>EDUC 3076</td>
<td>Mathematics Curriculum, Teaching and Assessment in the Primary Grades (4-6)</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3084</td>
<td>Social Studies Curriculum, Teaching and Assessment in the Primary Grades (4-6)</td>
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</tr>
<tr>
<td>EDUC 3130</td>
<td>Fine Arts in the Educational Process</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3186</td>
<td>English Curriculum, Teaching and Assessment in the Primary Grades (4-6)</td>
<td>3</td>
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<tr>
<td>EDUC 3232</td>
<td>Language Arts Curriculum, Teaching and Assessment in the Primary Grades (4-6)</td>
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</tr>
<tr>
<td>EDUC 3266</td>
<td>Natural Sciences Curriculum, Teaching and Assessment in the Primary Grades (4-6)</td>
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**Specialization Requirements - 31 credits**

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<th>Course Title</th>
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<tbody>
<tr>
<td>EDUC 2905</td>
<td>Nature and Needs of Students with Mild Disabilities</td>
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<tr>
<td>EDUC 2906</td>
<td>Nature and Need of Students with Specific Learning Problems, ADD and ADHD</td>
<td>3</td>
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<tr>
<td>EDUC 3270</td>
<td>Evaluation Techniques, Assessment and Educational Diagnosis for Students with Mild Disabilities</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3290</td>
<td>Classroom Management</td>
<td>3</td>
</tr>
</tbody>
</table>
EDUC 3420 Curricular Content, Diagnosis and Correction of Mathematical Learning Problems 3
EDUC 3440 Curricular Content, Diagnosis and Treatment of Reading and Writing Problems 3
EDUC 3470 Curriculum for Teaching Students with Mild Disabilities 3
EDUC 3570 Methods and Techniques for Teaching Students with Mild Disabilities 3
EDUC 3710 Integration of Children with Disabilities in Regular Classrooms 3
EDUC 3877 Instructional Theory, Methodology and Technological Resources in Special Education 3
EDUC 4009 Technological Assistance for Teaching Children and Young People with Mild Disabilities 1

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN VISUAL ARTS: SPECIALIZATION IN ART EDUCATION (see the requirements under the Visual Arts Program.)

Teaching of English as a Second Language at the Elementary Level

The Aguadilla, Barranquitas, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE AT THE ELEMENTARY LEVEL

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<tbody>
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<td>Major Requirements</td>
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<tr>
<td><strong>Total</strong></td>
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General Education Requirements - 50 credits

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. Students are required to have taken the courses GEEN 2311, 2312 and 2313.

Core Course Requirements - 37 credits

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>EDUC 2021</td>
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<td>EDUC 2022</td>
<td>Society and Education</td>
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<td>EDUC 2031</td>
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<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
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<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
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</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
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<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
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</table>
EDUC 4012 Classroom Research 2
EDUC 4013 Experiences in Educational Environment IV 4
HIST 3010 Historical Process of the United States of America 3

Major Requirements - 28 credits

ENGL 3007 Advanced Composition 3
ENGL 3073 Introduction to Linguistics 3
ENGL 3310 Advanced Oral Communication 3
ENGL 3320 Grammatical Structure of English 3
ENGL 3325 Fundamentals of Phonetics 3
ENGL 3330 Comparative Analysis of English and Spanish 3
ENGL 3440 Children’s Literature in English 3
ENGL 4073 Acquisition of English as a Second Language 3
EDUC 3187 English Curriculum, Teaching and Assessment at the Elementary Level (K-6) 4

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EDUCATION IN EDUCATIONAL COMPUTING (see the requirements under the Educational Computing Program.)

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EDUCATION IN PHYSICAL EDUCATION AT THE ELEMENTARY LEVEL, SECONDARY LEVEL AND IN ADAPTED PHYSICAL EDUCATION (see the requirements under the Health, Physical Education and Recreation Program.)

REQUIREMENTS FOR THE BACHELOR IN MUSIC DEGREE IN GENERAL MUSIC EDUCATION-VOCAL (see the requirements under the Music Program.)

REQUIREMENTS FOR THE BACHELOR IN MUSIC DEGREE IN MUSIC EDUCATION-INSTRUMENTAL (see the requirements under the Music Program.)

Secondary Education

Secondary Education in Biology

The Aguadilla, Arecibo, Barranquitas, Fajardo, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SECONDARY EDUCATION IN BIOLOGY

<table>
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<td>Major Requirements</td>
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<tr>
<td><strong>Total</strong></td>
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</tr>
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</table>

174
General Education Requirements - 50 credits

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. They will take the course GEST 3030 in the Scientific and Technological Context category. Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Core Course Requirements - 39 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
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<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
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</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
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<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
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<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
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<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
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<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
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<tr>
<td>EDUC 2890</td>
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<td>Experiences in Educational Environment III</td>
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<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
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<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
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</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
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</table>

Major Requirements - 49 credits

<table>
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<td>BIOL 1103, 2013</td>
<td>Skills Laboratory I, II</td>
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<td>BIOL 2103</td>
<td>General Zoology</td>
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<tr>
<td>BIOL 2104</td>
<td>General Botany</td>
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<td>BIOL 2251</td>
<td>Genetics</td>
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<td>BIOL 3105</td>
<td>General Microbiology</td>
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<tr>
<td>BIOL 3503</td>
<td>General Ecology</td>
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<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
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</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 2000</td>
<td>Earth Science</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Pre-calculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>

Secondary Education in Chemistry

The Metropolitan and San Germán campuses are authorized to offer this Program.
**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SECONDARY EDUCATION IN CHEMISTRY**

General Education Requirements  | 50 credits  
Core Course Requirements  | 39 credits  
Major Requirements  | 53 credits  
Elective Courses  | 3 credits  

**Total** 145 credits

**General Education Requirements - 507 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. They will take the course GEST 3030 in the Scientific and Technological Context category. Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

**Core Course Requirements - 39 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
<td>2</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Requirements - 53 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2222</td>
<td>Organic Chemistry II</td>
<td>4</td>
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<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
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<tr>
<td>CHEM 4070</td>
<td>General Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4950</td>
<td>Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 1101</td>
<td>Modern Biology I</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1102</td>
<td>Modern Biology II</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2013</td>
<td>Skills Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 3566</td>
<td>Methods and Techniques in the Teaching of Chemistry</td>
<td>3</td>
</tr>
</tbody>
</table>
MATH 1500  Precalculus  5
MATH 2251  Calculus I  5
PHYS 3001  General Physics I  4
PHYS 3002  General Physics II  4

Secondary Education in History

The Metropolitan and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SECONDARY EDUCATION IN HISTORY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
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<tr>
<td>Core Course Requirements</td>
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<tr>
<td>Elective Courses</td>
<td>9</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>131</strong></td>
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</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required in General Education Requirements for this Program. Students will take GEHS 3020 and 3040 in the Historic and Social Context category. They are exempt from taking the course GEHS 2010. Courses GEST 2020 and 3030 are required in the Scientific and Technological Context category.

Core Course Requirements - 36 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
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<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
<td>2</td>
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</tbody>
</table>

Major Requirements - 39 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1020</td>
<td>The Ancient World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1030</td>
<td>The Medieval World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1040</td>
<td>The Modern World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1050</td>
<td>The Contemporary World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2030</td>
<td>Colonial Latin America</td>
<td>3</td>
</tr>
</tbody>
</table>
| or
| HIST 2035 | Latin America since Independence                   | 3       |
One of the following courses:

- **HIST 2040** The Caribbean since the 17th Century
- **HIST 3040** Sub-Saharan Africa
- **HIST 3060** Asia
- **HIST 3070** Russia until the 19th Century
- **HIST 3075** Russia during the 19th and 20th Centuries

One of the following courses:

- **GEOG 1144** Introduction to Cultural Geography
- **GEOG 3274** Economic Geography
- **GEOG 4224** Political Geography

**Secondary Education in Mathematics**

The Arecibo, Metropolitan and San Germán campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SECONDARY EDUCATION IN MATHEMATICS**

<table>
<thead>
<tr>
<th>College Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50 credits</td>
<td></td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>39 credits</td>
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<td>Major Requirements</td>
<td>35 credits</td>
<td></td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6 credits</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>130</td>
<td></td>
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</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

**Core Course Requirements - 39 credits**

<table>
<thead>
<tr>
<th>College Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
</tbody>
</table>
EDUC 2870 The Exceptional Student Population 4
EDUC 2890 Experiences in Educational Environment II 2
EDUC 3013 Teaching Strategies 2
EDUC 3015 Experiences in Educational Environment III 2
EDUC 4011 Evaluation and Assessment 3
EDUC 4012 Classroom Research 2
EDUC 4013 Experiences in Educational Environment IV 4
EDUC 4050 Curriculum Design 2
HIST 3010 Historical Process of the United States of America 3

**Major Requirements - 35 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
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<tr>
<td>MATH 2000</td>
<td>Discrete Methods</td>
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<tr>
<td>COMP 2500</td>
<td>Discrete Computational Structures</td>
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<tr>
<td>MATH 2100</td>
<td>Introduction to Probability and Statistics</td>
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<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 3080</td>
<td>Topics in Geometry</td>
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<tr>
<td>MATH 3130</td>
<td>Theory of Numbers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3350</td>
<td>Linear Algebra</td>
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</tr>
<tr>
<td>MATH 4391</td>
<td>Abstract Algebra II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4430</td>
<td>Teaching Mathematics in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3001</td>
<td>General Physics I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Secondary Education in Science for the Junior High School**

The Metropolitan and San Germán campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SCIENCE FOR THE JUNIOR HIGH SCHOOL**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>39</td>
</tr>
<tr>
<td>Major Requirements</td>
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</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>126</td>
</tr>
</tbody>
</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. Students will take the course GEMA 1200 in the Basic Skills in Mathematics category. They will take the course GEST 3030 in the Scientific and Technological Context category.

**Core Course Requirements - 39 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
</tbody>
</table>
EDUC 2022  Society and Education 3
EDUC 2031  Developmental Psychology 3
EDUC 2032  Learning Psychology 3
EDUC 2060  Use of Technology in Education 2
EDUC 2870  The Exceptional Student Population 4
EDUC 2890  Experiences in Educational Environment II 2
EDUC 3013  Teaching Strategies 2
EDUC 3015  Experiences in Educational Environment III 2
EDUC 4011  Evaluation and Assessment 3
EDUC 4012  Classroom Research 2
EDUC 4013  Experiences in Educational Environment IV 4
EDUC 4050  Curriculum Design 2
HIST 3010  Historical Process of the United States of America 3

**Major Requirements - 31 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1101, 1102</td>
<td>Modern Biology I, II</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 1103, 2013</td>
<td>Skills Laboratory I, II</td>
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</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>GEOG 2034</td>
<td>Introduction to Physical Geography</td>
<td>4</td>
</tr>
</tbody>
</table>

**Secondary Education in Social Studies**

The Barranquitas, Fajardo, Metropolitan, and San Germán campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SECONDARY EDUCATION IN SOCIAL STUDIES**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
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<tr>
<td>Core Course Requirements</td>
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<td>Major Requirements</td>
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</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>128</td>
</tr>
</tbody>
</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. Students will take GEHS 3030, 4020 and 4030 in the Historic and Social Context category. They are exempt from taking the course GEHS 2010. Courses GEST 2020 and 3030 are required in the Scientific and Technological Context category.

**Core Course Requirements - 36 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
</tbody>
</table>
EDUC 2031  Developmental Psychology  3
EDUC 2032  Learning Psychology  3
EDUC 2060  Use of Technology in Education  2
EDUC 2870  The Exceptional Student Population  4
EDUC 2890  Experiences in Educational Environment II  2
EDUC 3013  Teaching Strategies  2
EDUC 3015  Experiences in Educational Environment III  2
EDUC 4011  Evaluation and Assessment  3
EDUC 4012  Classroom Research  2
EDUC 4013  Experiences in Educational Environment IV  4
EDUC 4050  Curriculum Design  2

Major Requirements - 36 credits

ANTH 1040  Introduction to Anthropology  3
EDUC 3564  Methods and Techniques in Teaching Social Studies  3
GEOG 1144  Introduction to Cultural Geography  3
GEOG 4494  Geography of Puerto Rico  3
HIST 2050  History of Puerto Rico I  3
HIST 2055  History of Puerto Rico II  3
HIST 3050  History of the United States I  3
HIST 3055  History of the United States II  3
POLS 1011  Introduction to Political Science  3
POLS 3080  Political Economics  3
SOCI 2030  Introduction to Sociology  3
SOCI 3753  Social Problems of Puerto Rico  3

Secondary Education in Spanish

The Aguadilla, Arecibo, Barranquitas, Fajardo, Metropolitan, and San Germán campuses are authorized to offer this Program.

Requirements for the Bachelor of Arts Degree in Secondary Education in Spanish

- General Education Requirements - 50 credits
- Core Course Requirements - 39 credits
- Major Requirements - 33 credits
- Elective Courses - 6 credits
- Total 128 credits

General Education Requirements - 50 credits

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

Core Course Requirements - 39 credits

EDUC 1080  Experiences in Educational Environment I  1
The major in the teaching of English as a second language at the secondary level is based on the fundamental developmental principles that individuals are capable of thinking, analyzing and evaluating their learning processes. It is expected that the graduates of this Program will be able to evaluate themselves through constant reflection. For this reason, the Program for the teaching of English as a second language at the secondary level has as its base the accepted fundamentals, theories and methodologies as well as their application in the classroom. This permits graduates from this Program to incorporate innovative technology for teaching and evaluation into the classroom. They will keep up-to-date with the curricular guides regarding changes and adjustments that should be made when the student population they are attending requires it.

This Program is designed with the goal of providing the theoretical base and the practical training needed by future teachers of English in secondary schools. This implies knowledge of:

1. The theory, methodology and application of curricular design.
2. The design of materials in English as a second language.
3. The theory and application of linguistics, the acquisition of English as a second language, the phonetics of United States English and the four language arts.
5. Evaluation and assessment in the classroom.
6. Adolescent literature in English.
7. Children’s literature in English.
8. A solid base in writing, oral communication, grammar and the literary genres in English.

The Aguadilla, Arecibo, Barranquitas, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SECONDARY EDUCATION IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Core Course Requirements</td>
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</tr>
<tr>
<td>Major Requirements</td>
<td>34</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
</tr>
</tbody>
</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category. Students are required to have taken the courses EGIN 2311, 2312 and 2313.

**Core Course Requirements - 37 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Requirements – 34 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3007</td>
<td>Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3073</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3310</td>
<td>Advanced Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3320</td>
<td>Grammatical Structure of English</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3325</td>
<td>Fundamentals of Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3330</td>
<td>Comparative Analysis of English and Spanish</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3350</td>
<td>Analysis of Literary Genres</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3400</td>
<td>Adolescent Literature in English</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4073</td>
<td>Acquisition of English as a Second Language</td>
<td>3</td>
</tr>
</tbody>
</table>
EDUC 3188 English Curriculum, Teaching and Assessment at the Secondary Level

Students will select an additional three credit, 3000 or 4000 level literature course in English.

Special Education

The Arecibo, Barranquitas, Fajardo, Metropolitan and San Germán campuses are authorized to offer this program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SPECIAL EDUCATION

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>35</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>27</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>115</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 50 credits

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
</tr>
</tbody>
</table>

Major Requirements - 27 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 2905</td>
<td>Nature and Needs of Students with Mental Retardation and Emotional Disturbances</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2906</td>
<td>Nature and Need of Students with Specific Learning Problems, ADD and ADHD</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3140</td>
<td>Language and Reading</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3270</td>
<td>Educational Diagnosis, Evaluation and Assessment for Students with Disabilities</td>
<td>3</td>
</tr>
</tbody>
</table>
EDUC 3290  Classroom Management 3
EDUC 3420  Curricular Content, Diagnosis and Correction of Learning Problems in Mathematics 3
EDUC 3440  Curricular Content, Diagnosis and Correction of Learning Problems in Reading and Writing 3
EDUC 3470  Technological Assistance, Curriculum and Materials for Teaching Students with Disabilities 3
EDUC 3570  Teaching Strategies, Methods and Techniques for Students with Disabilities 3

Students in the Bachelor of Arts Program in Special Education are exempt from taking the courses EDUC 4050 and 3013.

Certificate in Andragogy

The aim of this Professional Certificate is to prepare teachers of basic education with the theoretical and practical knowledge in the education of adults. It constitutes an answer to the needs of this professional and the aspirations of an increasing number of adults desiring to improve professionally and pursue an academic goal.

The Professional Certificate is designed to provide knowledge of teaching concepts, theory, approaches, methods and techniques. This will permit the teacher to become acquainted with adult needs, interests, characteristics and learning forms, which will facilitate the teaching-learning process.

To be admitted to this Certificate Program, students must:

1. Provide evidence of having a Master’s or Bachelor’s degree from an accredited institution.
2. Have passed a technology course in education or provide evidence of having taken workshops on the use of technology in the classroom.

Those who wish to obtain the Adult Teacher Certification from the Department of Education of Puerto Rico need a Regular Teacher Certificate in their specialization or at the level of their academic preparation and must have completed the 15 credits for certification in Andragogy.

The Ponce Campus is authorized to offer this Certificate.

Professional Certificate Requirements - 15 credits

EDUC 4510  Principles of Adult Student Education 3
EDUC 4520  Socio Cultural Aspects of Adult Education 3
EDUC 4530  Psychology of the Adult Learner 3
EDUC 4540  Adult Student Teaching Methods 3
EDUC 4550  Evaluation of Learning of the Adult Student 3

Educational Computing (B.A.)

The Bachelor of Arts Degree in Education in Educational Computing promotes a professional formation that uses the computer efficiently as a means to enrich the teaching-learning process. It foments in students the development and strengthening of knowledge,
skills and attitudes that will permit them to incorporate innovative strategies in order to 
achieve academic excellence.

Throughout the courses emphasis is given to design and curricular development in 
harmony with the new paradigms in education, to the systematic planning of instruction, to 
the application of technical skills in the educational environment and to the new 
globalization trends in the information and telecommunications era.

The Barranquitas Campus is authorized to offer this Program.

### REQUERIEMENTS FOR THE BACHELOR OF ARTS DEGREE IN EDUCATION IN 
EDUCATIONAL COMPUTING

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>37</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>27</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to 
GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social 
Context category.

**Core Course Requirements - 37 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3015</td>
<td>Experiences in Educational Environment III</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4012</td>
<td>Classroom Research</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4013</td>
<td>Experiences in Educational Environment IV</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
<td>2</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Requirements - 27 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECMP 1010</td>
<td>Foundations of Educational Technology</td>
<td>1</td>
</tr>
<tr>
<td>ECMP 2070</td>
<td>Information and Telecommunications Technologies</td>
<td>3</td>
</tr>
<tr>
<td>ECMP 2090</td>
<td>Introduction to Computerized Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>ECMP 3000</td>
<td>Learning and Assessment Experiences</td>
<td>3</td>
</tr>
<tr>
<td>ECMP 3050</td>
<td>Design and Implementation of Distance Learning</td>
<td>3</td>
</tr>
<tr>
<td>ECMP 4010</td>
<td>Administration of Computer Laboratories</td>
<td>3</td>
</tr>
<tr>
<td>ECMP 4020</td>
<td>Computer Assisted Curricular Design</td>
<td>3</td>
</tr>
</tbody>
</table>
Electrical Power Technology (A.S.)

The Associate of Applied Science Degree in Electrical Power Technology is designed to offer students the skills, knowledge and necessary attitudes to work in failure analysis, maintenance and repair of electrical systems currently used in industries and institutions. The Program provides the basic knowledge of electrical machines, controls, lighting and electrical systems in general that enable students to take the licensing examination. It provides the opportunity to study the electrical devices of general use in control systems in industry, the basic rules applied to electrical systems and the programming and application of programmable controllers (PLC).

The San Germán Campus is authorized one to offer this Program.

REQUIREMENTS OF THE ASSOCIATE OF SCIENCE DEGREE IN ELECTRICAL POWER TECHNOLOGY

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEEN 1000 Information and Computer Literacy</td>
<td>2 credits</td>
</tr>
<tr>
<td>GESP 1010 The Christian Faith</td>
<td>3 credits</td>
</tr>
<tr>
<td>GEHS 2010 Historical Process of Puerto Rico</td>
<td>3 credits</td>
</tr>
<tr>
<td>Fundamental of Algebra</td>
<td>3 credits</td>
</tr>
<tr>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
</tr>
<tr>
<td>MATH 1500 Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>45 credits</td>
</tr>
<tr>
<td>ELEC 2120 Industrial Safety</td>
<td>2</td>
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<tr>
<td>ELEC 2140 Laws and Electrical Codes</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2351 Electric Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 2352 Electric Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 2410 Lighting</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2420 Reading Electrical Loads and Plans</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2520 Electric Machines and Transformers</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2530 Electrical Controls</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2915 Professional Practice</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 3141 Logic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3191 Electronic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3420 Electrical Systems</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500 Precalculus</td>
<td>5</td>
</tr>
</tbody>
</table>
Prescribed Distributive Requirements - 4 credits

Four credits selected from the following courses:

- ELEC 2540 Logical Controllers for Power 4 credits
- ELEC 3142 Logic Circuits II 4 credits
- ELEC 3490 Industrial Electronics 4 credits

Electronics Technology (A.S.and B.S.)

Associate Program

The program for the Associate of Science Degree in Electronic Technology is designed to offer students the skills and knowledge necessary to compete successful in the field of electronics in industry as well as in the government. The program also has the purpose of preparing students to continue studies at the baccalaureate level in the area of electronics.

To be officially admitted to this program, students must meet the following requirements:

1. Have a minimum high school general grade index of 2.50 or equivalent.
2. Have obtained a minimum of 550 points in mathematics in of the College Entrance Examination Board achievement test.

Students who do not meet the previous requirements may be admitted to the program, if upon completing their first year of university studies they have achieved a minimum grade index of 2.50. These students also must have approved the course GEMA 1200 - Fundamentals of Algebra.

The Bayamón and San Germán campuses are authorized to offer this Program.

Requirements for the Associate in Science Degree in Electronics Technology

General Education Requirements 20 credits
Major Requirements 43 credits
Prescribed Distributive Requirements 8 credits
Total 71 credits

General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA 1200</td>
<td>Fundamentals of Algebra</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
<td>2</td>
</tr>
</tbody>
</table>
**Major Requirements - 43 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2170</td>
<td>Electronic Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2351</td>
<td>Electric Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 2352</td>
<td>Electric Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3141</td>
<td>Logic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3191</td>
<td>Electronic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3192</td>
<td>Electronic Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3420</td>
<td>Electrical Systems</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3490</td>
<td>Industrial Electronics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3012</td>
<td>Physics for Telecommunications</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
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</tr>
</tbody>
</table>

**Prescribed Distributive Requirements - 8 credits**

Eight credits from the following courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELTE 2210</td>
<td>Communications Technology</td>
<td>4</td>
</tr>
<tr>
<td>ELTE 2250</td>
<td>Instrumentation Technology</td>
<td>4</td>
</tr>
<tr>
<td>ELTE 2590</td>
<td>Control Technology</td>
<td>4</td>
</tr>
<tr>
<td>ELTE 2910</td>
<td>Practice in Industry</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3142</td>
<td>Logic circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4140</td>
<td>Microprocessors</td>
<td>4</td>
</tr>
</tbody>
</table>

**Bachelor’s Program**

The Bachelor of Science Degree in Electronics Technology is designed to develop student knowledge and skills in the electronics field so that when they complete the program they will be competent professionals in one of the fields of greatest demand in government and industry. The Program also aims to prepare students for graduate studies.

To be officially admitted to this Program the students must meet the following requirements:

1. Have a general grade point average of at least 2.50 in high school or its equivalent.
2. Have at least 550 in the mathematics achievement part of the College Entrance Examination Board.

Note: Students who do not comply with the above-mentioned requirements may be admitted to the Program if, in their first year of college studies, they have a grade point average of at least 2.50.

The Aguadilla, Bayamón and San Germán campuses are authorized to offer this Program.
REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN ELECTRONICS TECHNOLOGY

General Education Requirements 42 credits
Major Requirements 66 credits
Prescribed Distributive Requirements 12 credits
Elective Courses 6 credits
Total 126 credits

General Education Requirements - 42 credits

Forty-two (42) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students are exempt from taking courses in the Basic Skills in Mathematics category (GEMA 1000 and 1200 and GEIC 1000).

Major Requirements - 66 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 2120</td>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>ELEC 2170</td>
<td>Electronic Drawing</td>
<td>3</td>
</tr>
<tr>
<td>ELEC 2351</td>
<td>Electric Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 2352</td>
<td>Electric Circuits II</td>
<td>4</td>
</tr>
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<td>ELEC 3141</td>
<td>Logic Circuits I</td>
<td>4</td>
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<tr>
<td>ELEC 3191</td>
<td>Electronic Circuits I</td>
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</tr>
<tr>
<td>ELEC 3192</td>
<td>Electronic Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3490</td>
<td>Industrial Electronics</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4050</td>
<td>Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4211</td>
<td>Communications I</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4390</td>
<td>Control Systems Technology</td>
<td>4</td>
</tr>
<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2252</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3311</td>
<td>Physics for Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3312</td>
<td>Physics for Engineers II</td>
<td>4</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 12 credits

Twelve (12) credits from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 3142</td>
<td>Logic Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 3420</td>
<td>Electrical Systems</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4080</td>
<td>Operational Amplifiers</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4140</td>
<td>Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4212</td>
<td>Communications II</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4215</td>
<td>Telecommunications Networks</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4440</td>
<td>Logical Programmable Controllers</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4450</td>
<td>Robotics and Automation</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 4910</td>
<td>Professional Practice</td>
<td>4</td>
</tr>
</tbody>
</table>
Engineering

Four engineering programs are offered: Computer Engineering, Electrical Engineering, Industrial Engineering and Mechanical Engineering.

Admission Requirements

For admission to the School of Engineering applicants must meet the following requirements: have a minimum admission index of 1,150 points and have obtained the following minimum results on the College Entrance Examination Board (CEEB) admissions test: mathematics 550, English 500 and Spanish 500.

Transfer students, either from within the University system or from other accredited institutions and students wishing to change their major may be considered for admission to the School of Engineering if they have passed the intermediate English courses and Precalculus (MATH 1500) with a minimum grade of B and are recommended by the Dean of the School of Engineering.

General Education Requirements for Admission to the Engineering Programs - 29 credits

Twenty-nine (29) credits are required as explained below:

Basic Skills: Spanish  
- GESP 1101, 2203, (CEEB 450-599)  
- or  
- GESP 2311, 2312, 2323 (CEEB 600+)  9

Basic Skills: English  
- GEEN 1201, 1202, 1203 (CEEB 500-599)  
- or  
- GEEN 2311, 2312, 2313 (CEEB 600+)  9

GEIC 1000 Information and Computer Literacy  2
GEMA 1200 Fundamentals of Algebra  3

Two courses from the following are required:

- GECF 1010 The Christian Faith  3
- GEHS 2010 Historical Process of Puerto Rico  3
- GEST 2020 Science, Technology and Environment  3

Pre-engineering

The Pre-engineering program allows students to begin their engineering studies at the different Campuses of Inter American University. The Program emphasizes preparation in mathematics, sciences and languages. Students who successfully complete the program may register in the School of Engineering of the Bayamón Campus.

For admission to the Pre-engineering program, students must have obtained the following results in the university admissions tests known as College Entrance Examination Board tests: Mathematics 550, English 500 and Spanish 500. Students admitted to the Program must maintain a minimum average grade point index of 2.0
throughout this period of studies. Students whose index falls below 2.0 will be dropped from the Program. Students interested in continuing studies in the School of Engineering of the Bayamón Campus must complete the Pre-engineering Program with the general grade point index of at least 2.0.

REQUIREMENTS FOR THE PRE-ENGINEERING PROGRAM

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>29 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Related Course Requirements</td>
<td>25 credits</td>
</tr>
<tr>
<td>Total</td>
<td>54 credits</td>
</tr>
</tbody>
</table>

General education requirements - 29 credits

Nine credits in Spanish and nine in English are required.

GESP 1101 Literature and Communication: Narrative and Essay 3
GESP 1102 Literature and Communication: Poetry and Theater 3
GESP 2203 Vision of the World through Literature 3
GEEN 1201 Development of English through Reading I 3
GEEN 1202 Development of English through Reading II 3
GEEN 1203 Development of English through Writing (CEEB 500-599 in English) 3

or

GEEN 2311 Reading and Writing 3
GEEN 2312 Literature and Writing 3
GEEN 2213 Reading and Research (CEEB 600 or better in English) 3
GEIC 1000 Information and Computer Literacy 2
GEMA 1200 Fundamentals of Algebra 3

Two courses from the following are required:

GECF 1010 The Christian Faith 3
GEHS 2010 Historical Process of Puerto Rico 3
GEST 2020 Science, Technology and Environment 3

Engineering and Related Course Requirements - 25 credits

CHEM 2115 General Chemistry for Engineers 4
ENGR 1100 Introduction to Engineering 3
ENGR 2120 Introduction to Computer Engineering 4
MATH 1500 Precalculus 5
MATH 2251 Calculus I 5
MATH 2252 Calculus II 4

Computer Engineering (B.S.)

The Bachelor of Science in Computer Engineering Program includes the study of Computer Architecture, Operating Systems, Computers Design, hardware, and software, Design and Construction of Compilers and Vision Systems through Computers. This Program aims to enable students to practice computer engineering at the professional level.
The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN COMPUTER ENGINEERING

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>41</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>58</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>59</td>
</tr>
<tr>
<td>Area Requirements</td>
<td>8</td>
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<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 41 credits**

Forty-one (41) credits are required as explained in the Engineering Program. Students will take GEMA 1200 in the Mathematics category and only the course GEPE 4040 in the Philosophic and Esthetic Thought category. In the Historic and Social Context category they will take two courses, one of which will be GEHS 2010.

**Core Course Requirements - 58 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 1100</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 2120</td>
<td>Introduction to Engineering Computing</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 2220</td>
<td>Computerized Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3200</td>
<td>Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3300</td>
<td>Engineering Economics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3340</td>
<td>Statics and Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3343</td>
<td>Heat Transfer and Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 3350</td>
<td>Material Sciences</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 2115</td>
<td>General Chemistry for Engineers</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
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<td>MATH 2252</td>
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<td>MATH 3250</td>
<td>Calculus III</td>
<td>3</td>
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<tr>
<td>MATH 3400</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3311</td>
<td>General Physics for Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3312</td>
<td>General Physics for Engineers II</td>
<td>4</td>
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</tbody>
</table>

**Major Requirements - 59 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COEN 2310</td>
<td>Discrete Mathematics for Computer Engineering</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2400</td>
<td>Object Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2900</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3200</td>
<td>Computer Organization and Assembler Language</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3400</td>
<td>Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3500</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4200</td>
<td>Teleprocessing and Networks</td>
<td>3</td>
</tr>
<tr>
<td>COMP 4600</td>
<td>Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>ELEN 3301</td>
<td>Electric Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3302</td>
<td>Electric Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3311</td>
<td>Electronics I</td>
<td>4</td>
</tr>
</tbody>
</table>
ELEN 3312  Electronics II  4
ELEN 3321  Logic Circuit I  4
ELEN 3340  Microprocessors  4
ELEN 3420  Signals and Systems  3
ELEN 4360  Communications  4
ELEN 4520  Systems Design Based on Microprocessors  4

**Area Requirements - 8 credits**

Students will select 8 credits from one of the following areas (Hardware or Software):

**Hardware**

COEN 4430  Vision Systems by Computers  4
COEN 4500  Computer Systems Design  4
COEN 4525  VHDL Design  4
COEN 4545  Design with Microcontrollers  4

**Software**

COEN 4410  Computerized Information Systems Design  4
COEN 4530  Design and Construction of Compilers  4
COEN 4540  Parallel Computation Design  4
COEN 4550  Design of Expert Systems  4

**Electrical Engineering (B.S.)**

The program for the Bachelor of Science Degree in Electrical Engineering includes the study of systems and electronic components, electrical machines, and the generation and transmission of electric power. This Program aims to prepare students to practice electrical engineering at the professional level.

The Bayamón Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN ELECTRICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
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<td>Specialization Requirements</td>
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**General Education Requirements - 41 credits**

Forty-one (41) credits are required as explained in the Engineering Program. Students will take GEMA 1200 in the Mathematics category and only the course GEPE 4040 in the Philosphic and Esthetic Thought category. In the Historic and Social Context category they will take two courses, one of which will be GEHS 2010.
## Core Course Requirements - 58 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 1100</td>
<td>Introduction to Engineering</td>
<td>3</td>
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<tr>
<td>ENGR 2120</td>
<td>Introduction to Engineering Computing</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 2220</td>
<td>Computerized Engineering Graphics</td>
<td>3</td>
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<tr>
<td>ENGR 3200</td>
<td>Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3300</td>
<td>Engineering Economics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3340</td>
<td>Static and Dynamics</td>
<td>3</td>
</tr>
<tr>
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<td>3</td>
</tr>
<tr>
<td>CHEM 2115</td>
<td>General Chemistry for Engineers</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
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<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3400</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3311</td>
<td>General Physics for Engineers I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3312</td>
<td>General Physics for Engineers II</td>
<td>4</td>
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</table>

## Major Requirements - 53 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEN 3301</td>
<td>Electric Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3302</td>
<td>Electric Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3311</td>
<td>Electronics I</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3312</td>
<td>Electronics II</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3321</td>
<td>Logic Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3330</td>
<td>Electrical Machines</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3340</td>
<td>Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 3351</td>
<td>Electromagnetism I</td>
<td>3</td>
</tr>
<tr>
<td>ELEN 3352</td>
<td>Electromagnetism II</td>
<td>3</td>
</tr>
<tr>
<td>ELEN 3420</td>
<td>Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELEN 4327</td>
<td>Measurements and Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 4351</td>
<td>Power Systems Analysis I</td>
<td>4</td>
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<tr>
<td>ELEN 4360</td>
<td>Communications</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 4390</td>
<td>Control Systems</td>
<td>4</td>
</tr>
</tbody>
</table>

## Specialization Requirements - 12 credits

Students are required to take at least one of the following specializations:

### Communications (Electrical Engineering)

#### Communications – 12 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEN 4364</td>
<td>Digital Communication</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 4365</td>
<td>Digital Signal Processing</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 4367</td>
<td>Radio Frequency Engineering I</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 4368</td>
<td>Radio Frequency Engineering II</td>
<td>4</td>
</tr>
<tr>
<td>ELEN 4380</td>
<td>Data Communication Networks</td>
<td>4</td>
</tr>
</tbody>
</table>
ELEN 4910 Electrical Engineering Practical Experience 4

**Control (Electrical Engineering)**

**Control - 12 credits**

- ELEN 4560 Computer Process Control 4
- ELEN 4570 Control Aided Control System Design 4
- ELEN 4580 Robotics and Automation 4
- ELEN 4590 Digital Control Systems 4
- ELEN 4910 Electrical Engineering Practical Experience 4

**Electronics (Electrical Engineering)**

**Electronics - 12 credits**

- ELEN 3322 Logic Circuits II 4
- ELEN 4304 Electronic Design 4
- ELEN 4323 VLSI Design 4
- ELEN 4520 Systems Design Using Microprocessors 4
- ELEN 4525 Power Electronics 4
- ELEN 4530 Analog Filter Design 3
- ELEN 4910 Electrical Engineering Practical Experience 4

**Industrial Engineering (B.S.)**

The Bachelor of Science Degree in Industrial Engineering includes the study of systems composed of people, materials and equipment. Emphasis is given to the design, improvement and installation of these systems with the purpose of increasing productivity, profit and effectiveness. This Program aims to prepare students to practice professional engineering.

The Bayamón Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN INDUSTRIAL ENGINEERING**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>41</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>62</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>48</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>12</td>
</tr>
<tr>
<td>Electives Courses</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>166</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 41 credits**

Forty-one (41) credits are required as explained in the Engineering Program. Students will take GEMA 1200 in the Mathematics category and only the course GEPE 4040 in the Philosphic and Esthetic Thought category. In the Historic and Social Context category they will take two courses, one of which will be GEHS 2010.
Core Course Requirements - 62 credits

ENGR 1100  Introduction to Engineering  3
ENGR 2120  Introduction to Engineering Computing  4
ENGR 2220  Computerized Graphics for Engineering  3
ENGR 3200  Probability and Statistics  3
ENGR 3300  Engineering Economics  3
ENGR 3340  Statics and Dynamics  3
ENGR 3343  Heat Transfer and Thermodynamics  4
ENGR 3350  Material Sciences  3
ENGR 3360  Fundamentals of Electronics and Instrumentation  4
CHEM 2115  General Chemistry for Engineers  4
MATH 1500  Precalculus  5
MATH 2251  Calculus I  5
MATH 2252  Calculus II  4
MATH 3250  Calculus III  3
MATH 3400  Differential Equations  3
PHYS 3311  General Physics for Engineers I  4
PHYS 3312  General Physics for Engineers II  4

Major Requirements - 48 credits

INEN 3411  Optimization I  3
INEN 3430  Quantitative Methods in Industrial Engineering  3
INEN 3550  Cost Analysis and Control  3
INEN 3650  Systems Simulation  3
INEN 3720  System Analysis and Design  3
INEN 4300  Quality Measurement and Analysis  4
INEN 4400  Human Factors in Engineering Design  4
INEN 4490  Operations Planning and Control  3
INEN 4550  Facility Layout and Design  3
INEN 4560  Industrial Safety  3
INEN 4590  Project Management  3
INEN 4600  Automated Manufacturing  3
INEN 4700  Design of Experiments  3
INEN 4910  Practical Project of Comprehensive Design Experience  3
MECH 4140  Manufacturing Process  3

Prescribed Distributive Requirements - 12 credits

Six credits from the following courses:

INEN 3412  Optimization II  3
INEN 4510  Decision-Making under Uncertainty  3
INEN 4520  Systems Reliability  3
INEN 4530  Validation of Pharmaceutical Processes  3
INEN 4570  Stochastic Processes  3
INEN 4580  Resources Programming and Assignment  3
MECN 4150  Manufacturing Design  3
Six credits from the following courses with permission of the Director of the Department of Industrial Engineering:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 2650</td>
<td>Human Behavior in Organizations</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3311</td>
<td>Commercial Law I</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3312</td>
<td>Commercial Law II</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3330</td>
<td>Human Resources Management</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3340</td>
<td>Management Policies and Strategies</td>
<td>3</td>
</tr>
<tr>
<td>ENDE 1100</td>
<td>Introduction to Entrepreneurial Development</td>
<td>3</td>
</tr>
<tr>
<td>ENDE 3315</td>
<td>Fundamental Procedures for Establishing a Business</td>
<td>3</td>
</tr>
</tbody>
</table>

**Mechanical Engineering (B.S.)**

The Bachelor of Science Program in Mechanical Engineering includes the study of transforming energy into a form that can be controlled and used for the production of goods and services. Emphasis is given to the analysis, design, instruction and control of equipment, instruments and mechanical systems. The Program aims to prepare students to practice mechanical engineering at the professional level.

The Bayamón Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN MECHANICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>41</td>
</tr>
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<td>Core Course Requirements</td>
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<tr>
<td>Major Requirements</td>
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</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>15</td>
</tr>
<tr>
<td>Elective Courses</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>169</td>
</tr>
</tbody>
</table>

**General Education Requirements - 41 credits**

Forty-one (41) credits are required as explained in the Engineering Program. Students will take GEMA 1200 in the Mathematics category and only the course GEPE 4040 in the Philosophic and Esthetic Thought category. In the Historic and Social Context category they will take two courses, one of which will be GEHS 2010.

**Core Course Requirements - 62 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 1100</td>
<td>Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 2120</td>
<td>Introduction to Engineering Computing</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 2220</td>
<td>Computerized Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3200</td>
<td>Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3300</td>
<td>Engineering Economics</td>
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<td>Static and Dynamics</td>
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<td>Heat Transfer and Thermodynamics</td>
<td>4</td>
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<tr>
<td>ENGR 3350</td>
<td>Material Sciences</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 3360</td>
<td>Fundamentals of Electronics and Instruments</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2115</td>
<td>General Chemistry for Engineers</td>
<td>4</td>
</tr>
</tbody>
</table>
MATH 1500 Precalculus 5
MATH 2251 Calculus I 5
MATH 2252 Calculus II 4
MATH 3250 Calculus III 3
MATH 3400 Differential Equations 3
PHYS 3311 General Physics for Engineers I 4
PHYS 3312 General Physics for Engineers II 4

Major Requirements - 42 credits

MECN 3110 Fluid Mechanics and Applications 4
MECN 3120 Advanced Statics and Dynamics 3
MECN 3135 Solid Mechanics 4
MECN 4100 Mechanical Vibrations 4
MECN 4110 Mechanisms Design 3
MECN 4120 Design of Machines Elements 3
MECN 4140 Manufacturing Processes 4
MECN 4200 Applied Thermodynamics 3
MECN 4210 Heat Transfer 3
MECN 4300 Engineering Materials 4
MECN 4600 Design of Experiments and Instrumentation 4
MECN 4910 Practical Problem – Capstone Design Project 3

Prescribed Distributive Requirements - 15 credits

Fifteen additional credits in Mechanical Engineering are required.

English (B.A.)

The objective of the Bachelor of Arts Program is to prepare professionals in different fields in the public sector as well as in the private sector with a mastery of English as an instrument of thought, communication and literary expression. This Program allows students to choose between two specializations: a) the literature of different cultures and b) communication and writing.

This humanistic program aims to enable students to participate and contribute as responsible persons in our changing, global and heterogeneous society.

In addition, the Program aims to prepare professionals skilled in the use of technology as a resource in research.

The Program is designed to provide students with an academic preparation to continue on to graduate studies or continue their professional development.

The Metropolitan and San Germán campuses are authorized to offer this Program.

Requirements for the Bachelor of Arts Degree in English

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Core Course Requirements</td>
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<td>Specialization Requirements</td>
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</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>18</td>
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<tr>
<td>Elective Courses</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>110</strong></td>
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</tbody>
</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students of this Program will take GEEN 2311, 2312 and 2313.

Core Course Requirements - 15 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3007</td>
<td>Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3310</td>
<td>Advanced Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3320</td>
<td>Fundamentals of Grammar</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3350</td>
<td>Analysis of Literary Genres</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4800</td>
<td>Research in English</td>
<td>3</td>
</tr>
</tbody>
</table>

Specialization Requirements

One of the following options is required

Literature (English)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3410</td>
<td>Analysis of Major North American Writers</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3420</td>
<td>Analysis of Selected Works of British Writers</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3435</td>
<td>Puerto Rican Voices</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4400</td>
<td>The Novel</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4700</td>
<td>Literature Since 1945</td>
<td>3</td>
</tr>
</tbody>
</table>

Writing and Communication (English)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3510</td>
<td>Popular Culture</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3520</td>
<td>Cross Cultural Studies</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3025</td>
<td>Writing of Professional Documents</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4030</td>
<td>Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4015</td>
<td>Translation Workshop</td>
<td>3</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 18 credits

Eighteen (18) additional credits in English selected from the courses of the other option, or from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2076</td>
<td>Reading and Writing of Technical Texts</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3073</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3325</td>
<td>Fundamentals of Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3330</td>
<td>Comparative Analysis of English and Spanish</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3400</td>
<td>Literature for Young Readers</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3440</td>
<td>Children’s Literature in English</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3850</td>
<td>The Short Story</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3863</td>
<td>Poetry</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4000</td>
<td>Shakespeare</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 4014</td>
<td>Modern Theater</td>
<td>3</td>
</tr>
</tbody>
</table>
ENGL 4400 The Novel 3
ENGL 4073 Acquisition of English as a Second Language 3
ENGL 4083 Introduction to Sociolinguistics 3
ENGL 4440 Caribbean Voices 3
ENGL 4950 Integrative Seminar 3

Note: GEEN 2311, 2312 and 2313 are required for admission to this Program.

**Minor in Bilingual Oral and Written Communication**

REQUIREMENTS FOR THE MINOR IN BILINGUAL ORAL AND WRITTEN COMMUNICATION

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>18 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>3 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>21</td>
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</tbody>
</table>

**Core Courses - 18 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3007</td>
<td>Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3025</td>
<td>Writing of Professional Documents</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3310</td>
<td>Advanced Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 3015</td>
<td>Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 3020</td>
<td>Writing Workshop</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 3025</td>
<td>Professional Document Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

**Prescribed Distributive Requirements - 3 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 4015</td>
<td>Translation Workshop</td>
<td></td>
</tr>
<tr>
<td>SPAN 4015</td>
<td>Translation Workshop</td>
<td>3</td>
</tr>
</tbody>
</table>

**Minor in Oral and Written Communication (English)**

REQUIREMENTS FOR THE MINOR IN ORAL AND WRITTEN COMMUNICATION

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>15 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>3 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
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</tbody>
</table>

**Core Courses - 15 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2060</td>
<td>Conversation and Grammar Review</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 2075</td>
<td>Technical Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3007</td>
<td>Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3025</td>
<td>Writing of Professional Documents</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3310</td>
<td>Advanced Oral Communication</td>
<td>3</td>
</tr>
</tbody>
</table>
Prescribed Distributive Requirements - 3 credits

An elective course in English at the 3000 or 4000 level.

Environmental Evaluation and Protection (B.S.)

The main purpose of this Program is to prepare professionals capable of evaluating the quality of different environments and implementing protection strategies, by applying corrective actions that address situations related to the environmental problem.

The Program aspires to form highly competent professionals, with the knowledge, skills and attitudes that will permit them to evaluate and preserve the integrity of the environment. Graduate will possess a body of knowledge from the natural, social and economic sciences, from mathematics and humanities, and from environmental evaluation and protection. They will be capable of solving problems and making responsible decisions within a scientific and ethical context that have an effect on the well-being and progress of society.

The bachelor’s program is designed so that qualified senior may apply for conditioned early admission to the graduate program in the same field of study, as established in the Graduate Catalog.

Students of the Bachelor of Science Degree Program in Environmental Evaluation and Protection are required to pass all courses of the major with a minimum grade of C.

The Metropolitan Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN ENVIRONMENTAL EVALUATION AND PROTECTION

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>66</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 66 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEP 2001</td>
<td>Ecological Biodiversity I</td>
<td>3</td>
</tr>
<tr>
<td>ENEP 2002</td>
<td>Ecological Biodiversity II</td>
<td>3</td>
</tr>
<tr>
<td>ENEP 2210</td>
<td>Principles of Geophysics and Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>ENEP 4200</td>
<td>Evaluation and Protection of Occupational Settings</td>
<td>3</td>
</tr>
<tr>
<td>ENEP 4309</td>
<td>Microbial Ecology</td>
<td>3</td>
</tr>
<tr>
<td>ENEP 4900</td>
<td>Environmental Ethics</td>
<td>2</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2153</td>
<td>Biostatics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3504</td>
<td>Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4503</td>
<td>Conservation and Management of Natural Resources</td>
<td>4</td>
</tr>
</tbody>
</table>
CHEM 1111  Fundamentals of Chemistry 4
CHEM 2112  Inorganic Chemistry 4
CHEM 2221  Organic Chemistry I 4
CHEM 2222  Organic Chemistry II 4
CHEM 3320  Analytical Chemistry 4
MATH 1500  Precalculus 5
MATH 2250  Calculus for Biology and Environmental Sciences 3
PHYS 3001  Physics I 4
PHYS 3002  Physics II 4

**Elective Courses - 6 credits**

Courses SPAN 3025 and ENGL 2075 are required for students desiring to continue graduate studies in the Master’s Program in Environmental Evaluation and Protection and highly recommended for all students.

**Environmental Sciences (B.S.)**

The Bachelor of Science Degree in Environmental Sciences is directed to those persons interested in working as professionals in the area of the environmental science in pollution control in water, soil and air, and in the conservation of land and water natural resources. It aims to provide students with the necessary skills to perform in these two environmental areas in government as well as in private business or industry. The Program offers knowledge on its legal basis and gives training in methodology skills and techniques. Emphasis will be placed on the perception of nature as a system. To receive the Bachelor of Science Degree in Environmental Sciences, students must pass the internship with a minimum grade of C.

The Ponce Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN ENVIRONMENTAL SCIENCES**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>79</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>129</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

**Major Requirements - 79 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVSC 1110</td>
<td>Introduction to Environmental Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EVSC 2210</td>
<td>Environmental Policies, Laws and Regulations</td>
<td>3</td>
</tr>
<tr>
<td>EVSC 3001</td>
<td>Management and Conservation of Natural Resources</td>
<td>4</td>
</tr>
<tr>
<td>EVSC 3600</td>
<td>Waste Management</td>
<td>3</td>
</tr>
</tbody>
</table>
Environmental Technology (B.S.)

The program of Bachelor in Sciences in Environmental Technology is one interdisciplinary one that will provide to the students

The Bachelor of Science in Environmental Technology program is interdisciplinary and provides students with the fundamental knowledge and skills related to the analysis of environmental polluting agents, environmental laws, regulations and processes of evaluation. The program is designed so that the student may focus on areas such as: sampling and environmental analysis, natural resources management, environmental health, or on continuing graduate studies.

The Bayamón and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN ENVIRONMENTAL TECHNOLOGY

General Education Requirements 47 credits
Major Requirements 67 credits
Prescribed Distributive Requirements 6 credits
Elective Courses 6 credits
Total 126

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.
## Major requirements – 67 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVTH 3010</td>
<td>Environmental Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>EVTH 4020</td>
<td>Environmental Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>EVTH 4910</td>
<td>Internship</td>
<td>3</td>
</tr>
<tr>
<td>EVTH 4960</td>
<td>Integration Seminar</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1101</td>
<td>Modern Biology I</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1102</td>
<td>Modern Biology II</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2010</td>
<td>Fundamentals of Vegetable and Animal Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2013</td>
<td>Skills Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2153</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3105</td>
<td>General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3503</td>
<td>General Ecology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2112</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2222</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3000</td>
<td>Environmental Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ELEC 2120</td>
<td>Industrial Safety</td>
<td>2</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001</td>
<td>General Physics I</td>
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<tr>
<td>PHYS 3002</td>
<td>General Physics II</td>
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</tbody>
</table>

## Prescribed Distributive Requirements – 6 credits

Select six (6) credits from following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVTH 397</td>
<td>Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3504</td>
<td>Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3904</td>
<td>Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4433</td>
<td>Industrial Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4503</td>
<td>Conservation and Management of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4953</td>
<td>Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3015</td>
<td>Environmental Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3350</td>
<td>Pharmaceutical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4003</td>
<td>Industrial Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4150</td>
<td>Industrial Chemical Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4220</td>
<td>Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2250</td>
<td>Calculus for Biology and Environmental Sciences</td>
<td>3</td>
</tr>
</tbody>
</table>

## Finance (B.B.A.)

The major in finance is designed to prepare the student to understand, analyze and apply the principles that govern financial activities. The Program trains the student to use instruments of analysis in solving problems and in formulating decisions in the areas of corporate finances, public finances, insurance, real estate, banking and investment.
The Bayamón, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR IN BUSINESS ADMINISTRATION
DEGREE IN FINANCE

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>35</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>24</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>3</td>
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<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

**Core Course Requirements - 35 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (Micro)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (Macro)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
<td>3</td>
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</table>

**Major Requirements - 24 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINA 3190</td>
<td>The Stock Market</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3200</td>
<td>Principles of Investment</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3400</td>
<td>Introduction to Insurance</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3600</td>
<td>Advanced Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4100</td>
<td>International Finance</td>
<td>3</td>
</tr>
<tr>
<td>FINA 4200</td>
<td>Contemporary Financial Trends</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 3235</td>
<td>Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 3236</td>
<td>Public Finance and Fiscal Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Prescribed Distributive Requirements - 3 credits**

Select one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BADM 3311</td>
<td>Commercial Law I</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3150</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
</tbody>
</table>
Food Services Administration (A.A.)

The course of studies for the Associate Degree in Food Services Administration is designed for people who wish to acquire skills in dealing with food services. The Program exposes students to principles, concepts and practices that are essential in the food services industry. This Program provides the opportunity for people who already have experience in administration of food services to complete an academic degree and be promoted to supervisory positions. The program aims to prepare graduates for positions in areas such as food service, production, sales and marketing, and in human resources management and supervision. In addition, graduates will have become familiar with different food services to enable them to apply their administrative knowledge to each of them.

The Aguadilla Campus is authorized to offer this Program.

REQUIREMENTS OF THE ASSOCIATE OF ARTS DEGREE IN FOOD SERVICES ADMINISTRATION

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>43 credits</td>
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<td>Total</td>
<td>66</td>
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</table>

General Education Requirements - 23 credits

<table>
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<th>Course Name</th>
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<tr>
<td>GESP</td>
<td>Spanish</td>
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<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
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<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
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<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
<td>2</td>
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<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GEMA 1200</td>
<td>Fundamentals of Algebra</td>
<td>3</td>
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</table>

Major Requirements - 43 credits

<table>
<thead>
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<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>FSMT 1210</td>
<td>Sanitation and Security in Food Services</td>
<td>1</td>
</tr>
<tr>
<td>FSMT 1220</td>
<td>Service Theories and Practices</td>
<td>2</td>
</tr>
<tr>
<td>FSMT 2101</td>
<td>Purchasing Systems and Inventory and Storage Control</td>
<td>2</td>
</tr>
<tr>
<td>FSMT 2104</td>
<td>Buffet and Catering Services</td>
<td>3</td>
</tr>
<tr>
<td>FSMT 2203</td>
<td>Restaurant Management</td>
<td>3</td>
</tr>
<tr>
<td>FSMT 2915</td>
<td>Internship in Restaurant Management</td>
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<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
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</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
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<tr>
<td>BADM 3330</td>
<td>Human Resources Management</td>
<td>3</td>
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<tr>
<td>SBAD 2110</td>
<td>Introduction to Small Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1020</td>
<td>Fundamentals of Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1040</td>
<td>First Aid</td>
<td>1</td>
</tr>
<tr>
<td>TURI 1060</td>
<td>Introduction to Marketing in the Hotel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2000</td>
<td>Laws and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3301</td>
<td>Food and Beverage Management I</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3302</td>
<td>Food and Beverage Management II</td>
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</tbody>
</table>
Food Technology (B.S.)

The Food Technology Program is interdisciplinary and is designed to prepare students in processing, preservation, handling, evaluation packaging, storage security, and the design and development of foods in different types of industries. The Program also has the purpose of preparing students to continue graduate studies.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN FOOD TECHNOLOGY

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<tbody>
<tr>
<td>Major Requirements</td>
<td>72 credits</td>
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<td>Elective Courses</td>
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</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors' Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 72 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FTEC 3100</td>
<td>Food Technology and Processing</td>
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<tr>
<td>FTEC 3200</td>
<td>Fresh Meat Technology</td>
<td>3</td>
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<tr>
<td>FTEC 3300</td>
<td>Milk Products Technology</td>
<td>3</td>
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<tr>
<td>FTEC 4000</td>
<td>Research and the Development and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guarantee of Food Quality</td>
<td>4</td>
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<tr>
<td>FTEC 4910</td>
<td>Internship</td>
<td>3</td>
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<tr>
<td>BIOL 1101, 1102</td>
<td>Modern Biology I, II</td>
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<tr>
<td>BIOL 1103, 2013</td>
<td>Skills Laboratory I, II</td>
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<tr>
<td>BIOL 3105</td>
<td>General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3309</td>
<td>Food Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4433</td>
<td>Industrial Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221, 2222</td>
<td>Organic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 3310</td>
<td>Food Chemistry</td>
<td>4</td>
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<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
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<tr>
<td>MATH 2251</td>
<td>Calculus</td>
<td>5</td>
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<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>

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Forensic Science (B.S.)

The Forensic Science Program presents an interdisciplinary program of studies designed to develop in students the knowledge and fundamental skills necessary for the application of scientific methods used to discover the causes, method and circumstances of violent deaths and other crimes. The Program emphasizes the treatment of evidence and is characterized by its combination of knowledge in science and in forensic and criminal justice.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN FORENSIC SCIENCE

| General Education Requirements | 47 credits |
| Major Requirements            | 68 credits |
| Elective Courses              | 6 credits  |
| **Total**                     | **121**    |

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

**Major Requirements - 68 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORS 2000</td>
<td>Introduction to Forensic Science</td>
<td>3</td>
</tr>
<tr>
<td>FORS 3400</td>
<td>Forensic Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>FORS 3970</td>
<td>Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>FORS 4421</td>
<td>Forensic Investigation I</td>
<td>3</td>
</tr>
<tr>
<td>FORS 4422</td>
<td>Forensic Investigation I, II</td>
<td>4</td>
</tr>
<tr>
<td>FORS 4910</td>
<td>Forensic Practice</td>
<td>3</td>
</tr>
<tr>
<td>FORS 4960</td>
<td>Integrating Seminar</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 1116</td>
<td>Fundamentals of Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221, 2222</td>
<td>Organic Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
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</tr>
<tr>
<td>CHEM 4220</td>
<td>Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>CJUS 2000</td>
<td>Introduction to Criminology</td>
<td>3</td>
</tr>
<tr>
<td>CJUS 3025</td>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>
Health Information Systems (A.A.S.)

The Health Information Systems Program aims to prepare a health information technician who will help fill the needs of the Health Information Systems of present day Puerto Rico. The goals are the following: 1) To provide students with educational experiences designed to prepare them to achieve the entry level competencies required for accredited health information technicians as described by the American Health Information Management Association (AHIMA), 2) To prepare students who will demonstrate professional behavior in the communication process with peers and other health professionals, 3) To prepare students to demonstrate ethical conduct, 4) To provide the medical community with health information technicians qualified to effectively carry out the functions of Health Information disciplines, 5) To prepare students to perform successfully on the National Accreditation Examination, 6) To prepare students to assume the role of active, competent, and productive health information professionals and feel pride in job performance, 7) To assist students in attaining their goals by providing academic, occupational, and personal guidance and counseling.

The program of the San Germán Campus is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP-AHIMA) in conjunction with the American Health Information Management Association.

Candidates for admission to the Associate Degree of Applied Sciences of Health Information Technology must comply with the following general requirements for admission to the Program: 1) Completion of an application form, 2) Submission of two letters of recommendation, 3) A minimum grade point average of 2.50 in high school, or a minimum grade point index of 2.25 in university studies, 4) An interview with the Admissions Committee.

Students of the Associate Degree in Health Information Technology should not take BIOL 1003.

The San Germán Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCES DEGREE IN HEALTH INFORMATION TECHNOLOGY

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<tbody>
<tr>
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<tr>
<td>Total</td>
<td>66</td>
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General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA</td>
<td>Quantitative Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>GEHS</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
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<tr>
<td>GEIC</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC</td>
<td>Information and Computer Literacy</td>
<td>2</td>
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</tbody>
</table>
Major Requirements - 43 credits

HEIN 1110 Basic Skills in Health Information 3
HEIN 1115 Medical Terminology 3
HEIN 1140 Medical Hospital Statistics 2
HEIN 1143 Management and Supervision of Human Resources 2
HEIN 1525 Legal Aspects of Medical Records 2
HEIN 2110 The Computer Applied to Medical Records 2
HEIN 2113 Pathophysiological Process of Diseases 2
HEIN 2116 Continuous Improvement of Quality 3
HEIN 2130 Medical Transcription 2
HEIN 2150 Nomenclature and Classification Systems 4
HEIN 2911 Supervised Practicum I 3
HEIN 2912 Supervised Practicum II 4
HEIN 2970 Integrative Seminar 2
BIOL 2151 Human Anatomy and Physiology I 3
BIOL 2152 Human Anatomy and Physiology II 3
OMSY 1000 Skills in Keyboard Management 3

Health, Physical Education and Recreation (B.A.)

The Health, Physical Education and Recreation curriculum offers a varied but solid course of instruction directed toward the physical, mental, emotional, intellectual and social development of its students.

Courses of study are offered for the Bachelor of Arts Degree in the Teaching of Physical Education at the Elementary Level, at the Secondary Level and Adapted Physical Education. The Program also offers the Bachelor of Arts Degree in Sports Technology. The Sports Technology program is designed to prepare students to recognize the congenital or acquired problems of athletes related to the practice of sports. Prevention and rehabilitation of injuries, the use of safety equipment and the mental, physiological and social factors of persons participating in competitive or recreational sports are studied. Attention is given to the creation and development of scientific training programs.

The Bachelor of Arts Degree in Education in School Health is designed to offer students knowledge in the teaching of health, by providing them a background in theories and educational methods at this level. It also provides concepts and principles of natural and social sciences and of the humanities. It directs future teachers toward the development of a better quality of life, making them aware of the importance of health and the physical, mental and social balance of human beings in their constant interaction with their surroundings. It provides early immersion in the classroom.

The campuses authorized to offer these programs are:

a. Bachelor of Arts in Education in Physical Education: Elementary Level - the Arecibo, Guayama, Metropolitan and San Germán campuses
b. Bachelor of Arts in Education in Physical Education: Secondary Level - the Metropolitan and San Germán campuses
c. Bachelor of Arts in Education in Adapted Physical - the San Germán Campus
d. Bachelor of Arts in Sports Technology - The Metropolitan and San Germán campuses
e. Bachelor of Arts in Education in School Health - The Barranquitas, Metropolitan and San Germán campuses

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EDUCATION IN PHYSICAL EDUCATION

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<th>Requirement</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Core Course Requirements in Education</td>
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<td>Core Course Requirements in the Major</td>
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<td>Major Requirements</td>
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<tr>
<td>Elective Courses</td>
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<tr>
<td><strong>Total</strong></td>
<td>129-132</td>
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</tbody>
</table>

**General Education Requirements - 50 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

**Core Course Requirements in Education - 30 credits**

<table>
<thead>
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<th>Course Title</th>
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<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Education Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Education Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 3015</td>
<td>Experiences in Education Environment III</td>
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<tr>
<td>EDUC 4013</td>
<td>Experiences in Education Environment IV</td>
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<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
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**Core Course Requirements in the Major - 34 credits**

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<th>Course Title</th>
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<tr>
<td>HPER 2140</td>
<td>Experiences in Movement I</td>
<td>2</td>
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<td>HPER 2210</td>
<td>Fundamentals of the Discipline and the Profession of Physical Education...</td>
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<tr>
<td></td>
<td>Function of the Teacher in the Discipline and in Society</td>
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</tr>
<tr>
<td>HPER 2220</td>
<td>Experiences in Movement II</td>
<td>2</td>
</tr>
<tr>
<td>HPER 2320</td>
<td>First Aid and Personal safety for Children, Youth and Adults</td>
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</tr>
<tr>
<td>HPER 3270</td>
<td>Anatomy and Kinesiology of Movement</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3310</td>
<td>Experiences in Movement III</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3330</td>
<td>Experiences in Movement IV</td>
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</tr>
<tr>
<td>HPER 3350</td>
<td>Motor Learning and Movement Analysis</td>
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<tr>
<td>HPER 3360</td>
<td>Experiences in Movement V</td>
<td>2</td>
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<tr>
<td>HPER 3430</td>
<td>Personal and Collective Health and Safety</td>
<td>3</td>
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<tr>
<td>HPER 4020</td>
<td>Management of Physical Education Programs, Wellness, Health and Sports</td>
<td>3</td>
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<tr>
<td>HPER 4170</td>
<td>Physiology of Human Movement</td>
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<tr>
<td>HPER 4370</td>
<td>Teaching of Physical Education for Special Populations</td>
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</tbody>
</table>
Major Requirements - 12 or 15 credits

Students must choose one of the following majors

Adapted Physical Education

Adapted Physical Education Major Requirements - 15 credits

- HPER 3470 Motor Therapy for Children with Disabilities 3
- HPER 3475 Theory and Design of Programs for Special Populations 3
- HPER 3495 Principles of Therapeutic Recreation 3
- HPER 4130 Evaluation, Assessment and Research of Teaching and Learning in Adapted Physical Education 3
- EDUC 3885 Educational Theory, Methodology and Technological Resources in the Teaching of Adapted Physical Education 3

Physical Education: Elementary Level

Elementary Level Specialization Requirements - 12 credits

- HPER 3160 Educational and Recreational Games in the Curriculum for the Elementary Level 3
- HPER 3220 Theory and Design of Physical Education Programs at the Elementary Level K-6 3
- HPER 4110 Evaluation, Assessment and Research in Teaching and Learning of Physical Education K-6 3
- EDUC 3878 Educational Theory, Methodology and Technological Resources in the Teaching of Physical Education at the Elementary Level 3

Physical Education: Secondary Level

Secondary Level Major Requirements - 12 credits

- HPER 3230 Theory and Design of Physical Education Programs 7-12 3
- HPER 4120 Evaluation, Assessment and Research in Teaching and Learning of Physical Education 7-12 3
- HPER 4300 Sports Training Methodology 3
- EDUC 3875 Educational Theory, Methodology and Technological Resources in the Teaching of Physical Education at the Secondary Level 7-12 3
### School Health (Physical Education)

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN EDUCATION IN SCHOOL HEALTH**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Core Course Requirements</td>
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</tr>
<tr>
<td>Major Requirements</td>
<td>29</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>112</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Fifty (50) credits are required in General Education for this Program. In addition to GEHS 2010, students will take GEHS 3020, 4020 and 4030 in the Historic and Social Context category.

**Core Course Requirements - 29 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 1080</td>
<td>Experiences in Educational Environment I</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2060</td>
<td>Use of Technology in Education</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 2890</td>
<td>Experiences in Educational Environment II</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4926</td>
<td>Student Teaching in the Teaching of School Health</td>
<td>6</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of the United States of America</td>
<td>3</td>
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</table>

**Major Requirements - 29 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1006</td>
<td>Fundamentals of Biology</td>
<td>4</td>
</tr>
<tr>
<td>HPER 1870</td>
<td>Themes in Health, Physical Education and Recreation</td>
<td>2</td>
</tr>
<tr>
<td>HPER 2030</td>
<td>Philosophy and Basic Principles of Health</td>
<td>3</td>
</tr>
<tr>
<td>HPER 2320</td>
<td>First Aid and Personal Safety for Children, Youth and Adults</td>
<td>2</td>
</tr>
<tr>
<td>HPER 3430</td>
<td>Personal and Community Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3900</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4030</td>
<td>Personal Health Counseling</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4140</td>
<td>Assessment, Evaluation and Research of Teaching and Learning in School Health Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 3886</td>
<td>Educational Theory, Methodology and Technological Resources in Teaching School Health</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4030</td>
<td>Environmental Health and Ecology</td>
<td>3</td>
</tr>
</tbody>
</table>
Sports Technology (Physical Education)

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SPORTS TECHNOLOGY

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>47 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>49 credits</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>6 credits</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>15 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 49 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPER 188N</td>
<td>Swimming</td>
<td>2</td>
</tr>
<tr>
<td>HPER 2210</td>
<td>Fundamentals of the Discipline and the Profession of Physical Education, Function of the Teacher in the Discipline and in Society</td>
<td>3</td>
</tr>
<tr>
<td>HPER 2320</td>
<td>First Aid and Personal safety for Children, Youth and Adults</td>
<td>2</td>
</tr>
<tr>
<td>HPER 3010</td>
<td>Sports Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3050</td>
<td>Introduction to Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3270</td>
<td>Anatomy and Kinesiology of Movement</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3310</td>
<td>Experiences in Movement III</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3430</td>
<td>Personal and Community Health and Safety</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3480</td>
<td>Nutrition for Sports Training</td>
<td>3</td>
</tr>
<tr>
<td>HPER 3800</td>
<td>Trends and Issues in Athletic Training</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4020</td>
<td>Management of Physical Education Programs, Wellness, Health and Sports</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4120</td>
<td>Evaluation, Assessment and Research in Teaching and Learning of Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4170</td>
<td>Physiology of Human Movement</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4300</td>
<td>Sports Training Methodology</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4370</td>
<td>Teaching of Physical Education for Special Populations</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4441</td>
<td>Practicum in Athletic Training I</td>
<td>3</td>
</tr>
<tr>
<td>HPER 4442</td>
<td>Practicum in Athletic Training II</td>
<td>3</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 6 credits

Six (6) additional credits from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPER 4320</td>
<td>Coaching and Officiating Soccer</td>
<td>2</td>
</tr>
<tr>
<td>HPER 4330</td>
<td>Coaching and Officiating Basketball</td>
<td>2</td>
</tr>
<tr>
<td>HPER 4340</td>
<td>Coaching and Officiating Baseball</td>
<td>2</td>
</tr>
<tr>
<td>HPER 4350</td>
<td>Coaching and Officiating Track and Field</td>
<td>2</td>
</tr>
<tr>
<td>HPER 4360</td>
<td>Coaching and Officiating Volleyball</td>
<td>2</td>
</tr>
</tbody>
</table>
Health Sciences (B.S.)

The program of the Bachelor of Science Degree in Health Sciences is interdisciplinary and flexible. It offers the opportunity to complete a bachelor’s degree to those students that have an associate degree in health areas that do not have a bachelor’s degree in their area of specialization. The Program is designed to promote the development of sensitive health professionals that possess the knowledge and skills to offer quality health services. This knowledge is based on concepts and principles of natural, social and health sciences.

Students may choose a specialization in administration or education, which will allow them to occupy positions of a higher hierarchy and of leadership in their work. Graduates from this program will work within their professional field, in areas such as: government agencies, insurance companies, pharmaceuticals, medical and diagnosis equipment companies, managerial positions such as department managers in hospitals or offices.

Admission Requirements

Candidates desiring to enter this Program must comply with the following requirements:

1. Have completed in a university institution an associate degree in a health area where there is no bachelor’s degree in the area of specialization.
2. Have a minimum grade point average of 2.50.
3. Comply with all the admission requirements at the undergraduate level established in this Catalog and by the Campus.
4. Comply with the requirements established by the Department of Health Sciences:
   - Health Certificate
   - Hepatitis B Vaccination Certificate
   - No Criminal Record Certificate
5. Pass an interview with the Admissions Committee.

The Ponce Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN HEALTH SCIENCES

An Associate Degree in a health related area (Includes 23 credits in the General Education Program for Associate Degrees) 66 to 78 credits
General Education Requirements at the Bachelor’s Level 24 credits
Major Requirements 19 to 28 credits
Specialization Requirements 15 to 21 credits
Total 124 to 151
General Education Requirements at the Bachelor’s Level - 24 credits

The number of credits to be taken in the General Education Program will depend on the courses the student has passed at the associate degree level. Twenty-four (24) academic credits are required at the bachelor’s level.

Major Requirements - 19 to 28 credits

The number of credits required in the major depends on the courses the student has satisfactorily completed in the Associate Degree in areas such as: Anatomy and Physiology, Biology, Physics, Medical-Surgical Diseases and Ethical-Legal Aspects.

HESC 3000 Biological Basis of Illness 3
HESC 3010 Ethical and Legal Considerations in Health Services 3
HESC 3015 Trends and Controversies in Health Services in Puerto Rico 3
HESC 4000 Health and Illness Throughout the Life Cycle 4
HESC 4010 Research Methods in Health Sciences 3
HESC 4015 Quality Guarantee and Improvement 3
HESC 4025 Epidemiology and Health Indicators 3
HESC 4030 Collective Health Promotion 3
HUSE 2010 Adjustment and Mental Hygiene 3

Specialization Requirements - 15 to 21 credits

Administration (Health Sciences)

Administration - 15 credits

HESC 4050 Planning and Marketing of Health Services 3
HESC 4060 Auditing Principles Applied to Health Services 3
HESC 4915 Internship 3
BADM 2250 Administrative Theory 3
BADM 2950 Supervision 3

Education (Health Sciences)

Education - 21 credits

HESC 4055 Methods and Techniques in Teaching Health Sciences 3
HESC 4060 Design and Development of an Educational Health Plan 3
HESC 4913 Internship 3
EDUC 2021 History and Philosophy of Education 3
EDUC 2022 Society and Education 3
EDUC 2031 Developmental Psychology 3
EDUC 2032 Learning Psychology 3
History (B.A.)

The major in history offers a program of study leading to the Bachelor of Arts Degree in History. The Program provides students with an appreciation of the development of mankind in addition to providing essential training for careers in education, law, literature, communication, journalism, art, library science, curatorship, religion, private enterprise and public service.

The Metropolitan Campuses is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN HISTORY

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>44</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>33</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>12</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>21</td>
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<tr>
<td>Total</td>
<td>110</td>
</tr>
</tbody>
</table>

General Education Requirements - 44 credits

Forty-four (44) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students of this Program are exempt from taking the course GEHS 2010 – Historical Process of Puerto Rico.

Major Requirements - 33 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1020</td>
<td>The Ancient World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1030</td>
<td>The Medieval World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1040</td>
<td>The Modern World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1050</td>
<td>The Contemporary World</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2030</td>
<td>Colonial Latin America</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2050</td>
<td>Puerto Rico I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2055</td>
<td>Puerto Rico II</td>
<td>3</td>
</tr>
<tr>
<td>HIST 3050</td>
<td>United States I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 3055</td>
<td>United States II</td>
<td>3</td>
</tr>
<tr>
<td>HIST 4020</td>
<td>Historiography</td>
<td>3</td>
</tr>
<tr>
<td>HIST 4210</td>
<td>Historical Research</td>
<td>3</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 12 credits

Twelve (12) credits from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 2010</td>
<td>Latin American Indigenous Cultures</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2020</td>
<td>Spain and Portugal I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2025</td>
<td>Spain and Portugal II</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2035</td>
<td>Latin America Since its Independence</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2040</td>
<td>The Caribbean since the 17th Century</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2210</td>
<td>Computer Use in Historical Research</td>
<td>3</td>
</tr>
<tr>
<td>HIST 3040</td>
<td>Sub-Saharan Africa</td>
<td>3</td>
</tr>
<tr>
<td>HIST 3070</td>
<td>Russia Until the 19th Century</td>
<td>3</td>
</tr>
</tbody>
</table>
HIST 3075  Russia, the Soviet Union and the Commonwealth of Independent States 3
HIST Special Topics 3
HIST 4110  Historical Problems 3

**Minor in History**

**Minor In History - 18 credits**

**Universal Historical Heritage - 6 credits**

Two (2) courses from the following:

HIST 1020  The Ancient World 3
HIST 1030  The Medieval World 3
HIST 1040  The Modern World 3
HIST 1050  The Contemporary World 3

**Regional Historical Heritage - 9 credits**

Select three (3) courses from the following groups:

- **Puerto Rico**
  
  HIST 2050  Puerto Rico I 3
  HIST 2055  Puerto Rico II 3

- **Latin America**
  
  HIST 2010  Latin American Indigenous Cultures 3
  HIST 2030  Colonial Latin America 3
  HIST 2035  Latin America Since its Independence 3
  HIST 2040  The Caribbean Since the Seventeenth Century 3

- **United States**
  
  HIST 3050  United States I 3
  HIST 3055  United States II 3

- **Spain and Portugal**
  
  HIST 2020  Spain and Portugal I 3
  HIST 2025  Spain and Portugal II 3

**Elective Course in History - 3 credits**

Select another history course.
Hotel Management (B.B.A.)

The fundamental purpose of the Bachelor’s Degree in Business Administration in Hotel Management is to prepare students in disciplines which will allow them to perform as managers at different levels in hotels. Students will develop skills in management of hotels that will guarantee efficient and productive operations: establish standards for personnel management, customer service, rates, publicity, and food service: manage dining room, bar and banquet services, manage budgets and physical plant maintenance.

Requirements for Admission to the Program

In addition to the normal admission requirements established in the General Catalog, all students applying for admission to the Bachelor’s Program in Business Administration in Hotel Management must meet the following requirements:

1. Have a minimum grade point average of 2.50 at the university level.
2. Have passed TURI 1020 (Fundamentals of Tourism) with a minimum grade of B.
3. Have passed GEEN 1201 (Development of English through Reading I) or its equivalent with a minimum grade of C.
4. Appear at an interview.

Retention Requirements

The Bachelor’s Program in Business Administration in Hotel Management requires that all students show satisfactory academic progress upon completing each academic year, as established in the institutional regulations found in the General Catalog. Furthermore, the student must maintain a minimum grade point average of 2.5 in the Major.

In addition to the normal requirements established in the General Catalog, to receive the Bachelor’s Degree in Business Administration in Hotel Management, the student must:

1. Obtain a minimum grade point average of 2.50 in the major.
2. Have passed the following courses with a minimum grade of C: GEEN 1201, 1202, 1203 or 2311, 2312, 2313.

The Aguadilla and Ponce campuses are authorized to offer this Program.

REQUIREMENTS FOR A BACHELOR IN BUSINESS ADMINISTRATION DEGREE IN HOTEL MANAGEMENT

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>29</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>41</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>123</strong></td>
</tr>
</tbody>
</table>
General Education Program Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 29 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (Micro)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (Macro)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
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</table>

Major Requirements - 41 Credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURI 1020</td>
<td>Fundamentals of Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1060</td>
<td>Introduction to Marketing in the Hotel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1900</td>
<td>Hotel Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2000</td>
<td>Laws and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2010</td>
<td>Reception Department</td>
<td>2</td>
</tr>
<tr>
<td>TURI 2400</td>
<td>Housekeeping Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2600</td>
<td>Physical Facilities Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3200</td>
<td>Human Resources Management in the Hotel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3301</td>
<td>Food and Beverage Management I</td>
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</tr>
<tr>
<td>TURI 3302</td>
<td>Food and Beverage Management II</td>
<td>3</td>
</tr>
<tr>
<td>TURI 4303</td>
<td>Food and Beverage Management III</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3400</td>
<td>Meetings and Conventions Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3500</td>
<td>Information Systems in the Hotel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TURI 4915</td>
<td>Internship</td>
<td>3</td>
</tr>
</tbody>
</table>

Credit may be granted for the internship (TURI 4915) to students who have had a satisfactory work experience and who apply for it in writing to the director of the academic department. This credit will be subject to the following:

1. Students have been working full-time in a company for a minimum of two consecutive years within the three-year period immediately prior to the date of their request.
2. Students submit a certification and letter from their employer or the Human Resources Office of their place of employment which specifies:
   a. Years of experience
   b. Period of the time employed
   c. Position or positions held
   d. Job description
e. Copies of evaluations received
f. Any other evidence of their professional performance during their employment.

3. Students pay 50% of the tuition costs of the internship course for which they are requesting credit.
4. The experience recognized by the University corresponds to the requirement for the degree that the student hopes to obtain from the Institution.

Human Resources Management (B.B.A.)

Human Resources Management is a prominent functional area of business administration. The chief aim of this Program is to provide students with knowledge, skills and competence in the principles, functions and processes of human resources management. The Program emphasizes the importance of the integration of human resources management goals with those of the organization.

The Arecibo, Bayamón, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program. The Ponce Campus is also authorized to offer this Program online.

REQUIREMENTS FOR THE BACHELOR IN BUSINESS ADMINISTRATION
DEGREE IN HUMAN RESOURCES MANAGEMENT

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
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<tr>
<td>Core Course Requirements</td>
<td>35</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>27</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelor’s Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
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<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (MICRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (MACRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>
Major Requirements - 27 credits

BADM 2650 Human Relations in the Organization 3
BADM 3330 Human Resources Management 3
BADM 3490 Supervision 3
BADM 3900 Business Information Systems 3
BADM 3950 Human Resources Training and Development 3
BADM 4340 Protective Labor Legislation 3
BADM 4350 Syndication and Collective Bargaining 3
BADM 4430 Wages and Salary Management 3
INRE 2063 Industrial Safety and Occupational Health 3

Prescribed Distributive Requirements - 6 credits

Students will select six (6) credits from the following courses:

BADM 3311 Commercial Law I 3
BADM 3312 Commercial Law II 3
BADM 3320 Public Policies toward Business 3
BADM 4800 Operations Management 3
BADM 4915 Human Resources Practicum 3

Industrial Chemistry (B.S.)

The Bachelor of Science Program in Industrial Chemistry presents a curriculum of an interdisciplinary nature, that in general terms, trains the student with specific knowledge on industrial subjects such as chemical manufacture, pharmaceutical manufacture, validations, technical service aspects, laboratory and industrial chemical analysis, and environmental management. The Program is characterized by the combination of knowledge in chemistry, biology, mathematics and courses regarding the mentioned industrial subjects.

Students interested in being admitted to the professional examination for chemists must pass the courses of Physical Chemistry (CHEM 3610 and 3820).

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN INDUSTRIAL CHEMISTRY

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Major Requirements</td>
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<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>130</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.
Major Requirements - 77 credits

CHEM 1111 Fundamentals of Chemistry 4
CHEM 2212 Inorganic Chemistry 4
CHEM 2221, 2222 Organic Chemistry I, II 8
CHEM 3000 Environmental Chemistry 3
CHEM 3010 Environmental Chemical Analysis 3
CHEM 3350 Pharmaceutical Chemistry 3
CHEM 3320 Analytical Chemistry 4
CHEM 4003 Industrial Chemistry 3
CHEM 4150 Industrial Chemical Analysis 4
CHEM 4850 Process Validation 3
CHEM 4915 Practice in Industrial Chemistry 3
CHEM 4960 Senior Seminar 1
BIOL 1003 Basic Biological Concepts 3
BIOL 2154 Fundamentals of Microbiology 3
COMP 2110 Introduction to Computer Science 3
MATH 1500 Precalculus 5
MATH 2100 Introduction to Probability and Statistics 3
MATH 2251 Calculus I 5
MATH 2252 Calculus II 4
PHYS 3001, 3002 General Physics I, II 8

Industrial Management (B.B.A.)

Industrial Management is an area of significant impact in business procedures. The aim of this Program is to provide the student with the knowledge for an effective application of production factors in manufacturing and service activities.

The Bayamón, Fajardo, Metropolitan and Ponce Campus are authorized to offer this Program. The Ponce Campus is also authorized to offer this Program online.

REQUIREMENTS FOR THE BACHELOR IN BUSINESS ADMINISTRATION DEGREE IN INDUSTRIAL MANAGEMENT

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>35</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>21</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
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</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

ACCT 1151 Introduction to Accounting I 4
Information Systems in Accounting (B.B.A.)

The course of studies of Information Systems in Accounting offers students practical knowledge in the areas of accounting and information systems. It enables them to develop analytical and technical skills in both fields for the identification, study and channeling of information management problems, especially among users and installers of computerized accounting systems.

The Program is organized in an interdisciplinary manner. The major contains required courses in an accounting degree with a considerable number of courses in information systems geared toward business.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN INFORMATION SYSTEMS IN ACCOUNTING

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
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<td>Core Course Requirements</td>
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<td>Major Requirements</td>
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General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (MICRO)</td>
<td>3</td>
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<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (MACRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
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<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
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<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
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Major Requirements - 36 credits

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<tr>
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<tr>
<td>ACCT 2050</td>
<td>Cost Accounting</td>
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<tr>
<td>ACCT 2051</td>
<td>Intermediate Accounting I</td>
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<td>ACCT 2052</td>
<td>Intermediate Accounting II</td>
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<td>ACCT 4090</td>
<td>Auditing</td>
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<td>ACCT 4350</td>
<td>Auditing in Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>CMIS 2100</td>
<td>Introduction to Computerized Information Systems</td>
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</tr>
<tr>
<td>CMIS 2200</td>
<td>Programming Algorithms</td>
<td>3</td>
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<tr>
<td>CMIS 3130</td>
<td>Database Management Systems</td>
<td>3</td>
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<tr>
<td>CMIS 3320</td>
<td>Information Systems Analysis</td>
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<tr>
<td>CMIS 3450</td>
<td>Internet in the Enterprise</td>
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<tr>
<td>CMIS 4320</td>
<td>Information Systems Design</td>
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Prescribed Distributive Requirements - 6 credits

Three credits from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>ACCT 2030</td>
<td>Tax Systems of Puerto Rico I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3080</td>
<td>Introduction to Federal Taxes</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 3452</td>
<td>Accounting for Non Profit Organizations</td>
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</table>

Three credits from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CMIS 3300</td>
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<td>3</td>
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<tr>
<td>CMIS 3310</td>
<td>Applied BASIC</td>
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<tr>
<td>CMIS 3330</td>
<td>C Language</td>
<td>3</td>
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</tbody>
</table>
International Business (B.B.A.)

The International Business Program is designed to offer students the necessary knowledge to perform the basic managerial functions within a conceptual framework of international dimensions. The theoretical and practical academic activities aim to prepare students in the search of alternatives to promote international business within a global perspective.

The Ponce Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR IN BUSINESS ADMINISTRATION DEGREE IN INTERNATIONAL BUSINESS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Core Course Requirements</td>
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<tr>
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<td>Prescribed Distributive Requirements</td>
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</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements – 35 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
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<td>BADM 4300</td>
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<td>FINA 3100</td>
<td>Managerial Finance</td>
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</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (Micro)</td>
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<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (Macro)</td>
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<tr>
<td>MAEC 2221</td>
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<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
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Major Requirements – 33 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>INTB 2100</td>
<td>Introduction to International Business</td>
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<tr>
<td>INTB 2200</td>
<td>Cultural Conscience in International Business</td>
<td>3</td>
</tr>
<tr>
<td>INTB 2301</td>
<td>Basic Concepts of Imports and Exports</td>
<td>3</td>
</tr>
<tr>
<td>INTB 2302</td>
<td>Licenses and Regulations for Imports and Exports</td>
<td>3</td>
</tr>
<tr>
<td>INTB 4911</td>
<td>Practice in International Business</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3190</td>
<td>The Stock Market</td>
<td>3</td>
</tr>
<tr>
<td>FINA 3200</td>
<td>Principles of Investment</td>
<td>3</td>
</tr>
</tbody>
</table>
Prescribed Distributive Requirements - 6 credits

Students will select 6 credits from the following courses:

INTB 3330  Human Resources at the International Level  3
INTB 3600  International Business Environment in the Americas, Europe and the Pacific  3
INTB 3710  International Sales Contracts and Terms of International Business  3
INTB 3800  Administration of International Transportation: Ocean, Air and Land  3
INTB 3900  Computerized Information Systems in International Business  3
INTB 4200  International Distribution Systems  3

Management (B.B.A.)

This Program is designed to provide the student with the principles, concepts and practices of management. Its aim is the integrated study of the main management roles of planning, organization, leadership and control. The knowledge of these management roles, concepts and practices enables the development of the necessary skills for business success.

All campuses are authorized to offer this Program. The Ponce Campus is also authorized to offer this Program on line.

REQUIREMENTS FOR THE BACHELOR IN BUSINESS ADMINISTRATION DEGREE IN MANAGEMENT

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
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<tr>
<td>Core Course Requirements</td>
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<td>Major Requirements</td>
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<tr>
<td>Prescribed Distributive Requirements</td>
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<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
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</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

ACCT 1151  Introduction to Accounting I  4
ACCT 1152  Introduction to Accounting II  4
BADM 2250 Administrative Theory 3
BADM 4300 Managerial Economics 3
FINA 3100 Managerial Finance 3
MAEC 2211 Principles of Economics (Micro) 3
MAEC 2212 Principles of Economics (Macro) 3
MAEC 2221 Basic Statistics 3
MAEC 2222 Managerial Statistics 3
MATH 1070 Fundamentals of Applied Mathematics 3
MKTG 1210 Introduction to Marketing 3

Major Requirements - 21 credits

BADM 2650 Human Behavior in Organizations 3
BADM 3311 Commercial Law I 3
BADM 3320 Public Policies Toward Business 3
BADM 3330 Human Resources Management 3
BADM 3900 Business Information Systems 3
BADM 4800 Operations Management 3
MKTG 2220 Strategic Marketing Management 3

Prescribed Distributive Requirements - 6 credits

Six (6) additional credits in 3000 and 4000 level courses in Business Administration.

Managerial Economics (B.B.A.)

The curriculum in managerial economics is designed to develop student knowledge and skills in analyzing and applying principles of economy, finance, marketing, and managerial economics to daily situations and problems that arise in managing public and private enterprises within the economic and social structure of a nation. The Program aims to prepare students in the assessment of the impact of global economy and in the use of economic and statistical skills for the solution of problems, both general and specific, using quantitative methods and other instruments of analysis and measurement.

The Bayamón and Metropolitan campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MANAGERIAL ECONOMICS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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</thead>
<tbody>
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<td>General Education Requirements</td>
<td>47</td>
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<tr>
<td>Core Course Requirements</td>
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<tr>
<td>Major Requirements</td>
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<tr>
<td>Prescribed Distributive Requirements</td>
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<tr>
<td>Elective Courses</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
</tr>
</tbody>
</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

ACCT 1151 Introduction to Accounting I 4
ACCT 1152 Introduction to Accounting II 4
BADM 2250 Administrative Theory 3
BADM 4300 Managerial Economics 3
FINA 3100 Managerial Finance 3
MAEC 2211 Principles of Economics (Micro) 3
MAEC 2212 Principles of Economics (Macro) 3
MAEC 2221 Basic Statistics 3
MAEC 2222 Managerial Statistics 3
MATH 1070 Fundamentals of Applied Mathematics 3
MKTG 1210 Introduction to Marketing 3

Major Requirements - 21 credits

MAEC 3235 Money and Banking 3
MAEC 3240 Mathematics for Decision-making 3
MAEC 3243 International Economy 3
MAEC 4213 Macroeconomics Applied to Business 3
MAEC 4220 Introduction to Econometry 3
BADM 3900 Business Information Systems 3
BADM 4800 Operations Management 3

Prescribed Distributive Requirements - 6 credits

Students will select six (6) credits from the following courses:

MAEC 1213 History of Economic Thought 3
MAEC 3330 Economics of Puerto Rico 3
MAEC 3234 Labor Economics 3
MAEC 4210 Economics of Multinational Firms 3
BADM 3340 Management Policies and Strategies 3

Marketing (B.B.A.)

Marketing is one of the most important functional areas of business administration. It consists of a variety of activities designed to serve not only large or small enterprises but the individual consumer as well. It is also considered the linking factor between production and consumerism, therefore affecting the nature and level of employment, the means of communication, the distribution and the degree of social and personal satisfaction.
The purpose of the marketing program is to provide the student with the theoretical and practical knowledge of this discipline to insure the development of sensible marketing and wise consumerism.

The Aguadilla, Arecibo, Bayamón, Fajardo, Metropolitan, Ponce and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MARKETING

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
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<td>Prescribed Distributive Requirements</td>
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**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

**Core Course Requirements - 35 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
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</tr>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
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</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
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<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
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**Major Requirements - 18 credits**

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<td>Strategic Marketing Management</td>
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<td>MKTG 2223</td>
<td>Consumer Behavior</td>
<td>3</td>
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<td>MKTG 3230</td>
<td>Promotion</td>
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<td>MKTG 4243</td>
<td>Marketing Research</td>
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<td>MKTG 4244</td>
<td>International Marketing</td>
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<tr>
<td>MKTG 4245</td>
<td>Marketing and Electronic Business</td>
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</tbody>
</table>

**Prescribed Distributive Requirements - 12 credits**

Twelve (12) additional credits in Marketing from the 3000 or 4000 levels.
Materials Management (B.B.A.)

The Business Administration Program in Materials Management includes the planning, organization and control of the flow of materials from their initial purchase until the final product is delivered to the client. The Program is designed to provide an understanding of the different functions of the materials manager, and of the storage and distribution of materials. It is expected that the graduate of this Program will have the ability to coordinate the resources of the different departments, such as production, finance, marketing and inventories to ensure an effective flow of materials.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN MATERIALS MANAGEMENT

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<td>General Education Requirements</td>
<td>47</td>
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<td>Core Course Requirements</td>
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<td>Major Requirements</td>
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<td>Elective Courses</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
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<td>Managerial Statistics</td>
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<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
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Major Requirements - 27 credits

<table>
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<tr>
<td>MMAT 2103</td>
<td>Introduction to Materials Management</td>
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<tr>
<td>MMAT 3211</td>
<td>Inventory Management</td>
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</tr>
<tr>
<td>MMAT 3212</td>
<td>Production Planning and Control</td>
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<tr>
<td>MMAT 3220</td>
<td>Purchasing Management</td>
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<tr>
<td>MMAT 3250</td>
<td>Transportation Management</td>
<td>3</td>
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<tr>
<td>MMAT 4350</td>
<td>Business Resource Planning</td>
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<tr>
<td>MMAT 4360</td>
<td>Managerial Productivity Techniques</td>
<td>3</td>
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</tbody>
</table>
BADM 3900 Business Information Systems 3
INRE 2063 Industrial Safety and Occupational Health 3

Mathematics (B.A. and B.S.)

The Program in Mathematics aims to develop in students the methodology of rigorous abstract and deductive reasoning pertinent to this discipline. It also will familiarize students with the principal applications in science, engineering, economics and business. The goal of the Program is to prepare students who wish to pursue graduate studies or pursue a career that requires vast mathematical knowledge.

The mathematics curriculum offers programs of study for the Bachelor of Arts Degree in Mathematics and Bachelor of Science Degree in Mathematics. The latter has two majors: Pure Mathematics and Computer Science.

For admission to this Program, students must have passed MATH 1500, Precalculus, with a minimum grade of C.

The Bayamón, Metropolitan and San Germán campuses are authorized to offer these degrees.

Bachelor of Arts in Mathematics

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN MATHEMATICS

General Education Requirements 47 credits
Core Course Requirements 32 credits
Major Requirements 17 credits
Elective Courses 19 credits
Total 115

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take GEMA 1200 in the Basic Skills in Mathematics category.

Core Course Requirements - 32 credits

MATH 1500 Precalculus 5
MATH 2000 Discrete Methods 3
MATH 2100 Introduction to Probability and Statistics 3
MATH 2251 Calculus I 5
MATH 2252 Calculus II 4
MATH 3080 Topics in Geometry 3
MATH 3130 Theory of Numbers 3
MATH 3350 Linear Algebra 3
MATH 4100 Applied Algebra or
MATH 4391 Abstract Algebra I 3
Major Requirements - 17 credits

Nine (9) credits from courses at the 3000 and 4000 levels. MATH 4430 is recommended for students of this program interested in the teaching of mathematics at the high school level.

PHYS 3001, 3002 General Physics I, II 8

Bachelor of Science in Mathematics

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN
MATHEMATICS

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>39</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>24</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>116</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Core Course Requirements - 39 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2000</td>
<td>Discrete Methods</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2100</td>
<td>Introduction to Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2251</td>
<td>Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2252</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 3091</td>
<td>Mathematical Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3250</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3350</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3400</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4970</td>
<td>Integration Seminar I</td>
<td>1</td>
</tr>
<tr>
<td>COMP 2110</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2120</td>
<td>Logical Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

Major Requirements - 24 credits

One of the following majors is required.

Computer Science (Mathematics)

Computer Science - 24 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 3092</td>
<td>Mathematical Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4151</td>
<td>Numerical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>COMP 2300</td>
<td>Visual Programming</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMP 3600</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2315</td>
<td>Structured Programming</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2900</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3200</td>
<td>Computer Organization and Assembler Language</td>
<td>3</td>
</tr>
<tr>
<td>COMP 3500</td>
<td>Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>An elective course in Mathematics at the 4000 level</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Pure Mathematics**

**Pure Mathematics - 24 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 4391</td>
<td>Abstract Algebra I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4151</td>
<td>Numerical Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4550</td>
<td>Advanced Calculus</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3001, 3002</td>
<td>General Physics I, II</td>
<td>8</td>
</tr>
<tr>
<td>An elective course in Mathematics at the 4000 level</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Medical Emergencies (A.M.E.)**

The course of studies for the Associate Degree in Medical Emergencies aims to prepare students to serve as paramedics and to offer emergency care to clients in pre-hospital scenarios.

The Program is geared to prepare students to use their knowledge and skills proficiently and to provide safe and effective care in emergency situations within the framework of ethical, moral, spiritual and legal values. The paramedic will be capable of controlling the emergency scene, coordinating services and collaborating with other health team members. The Program aims to develop paramedics who will assume responsibility for their professional growth and the advancement of the medical emergency practice.

**Admission Requirements:**

1. Comply with all admission norms established in the General Catalog and by the corresponding campus.
2. Provide a certificate of no criminal record issued by the Police of Puerto Rico.
3. Provide a health certificate issued by the Health Department.

**Academic Progress Requirements:**

1. Comply with the academic progress norms established in the General Catalog and by the corresponding campus.
2. Pass all major courses with a minimum grade of C.

The Metropolitan Campus is authorized to offer this Program.
REQUIREMENTS FOR THE ASSOCIATE DEGREE IN MEDICAL EMERGENCIES

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>42 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65</td>
</tr>
</tbody>
</table>

**General Education Requirements - 23 credits**

- **GESP** Spanish 6 credits
- **GEEN** English 6 credits
- **GEMA 1000** Quantitative Reasoning 3 credits
- **GEHS 2010** Historical Process of Puerto Rico 3 credits
- **GECF 1010** The Christian Faith 3 credits
- **GEIC 1000** Information and Computer Literacy 2 credits

**Major Requirements - 42 credits**

- **EMMT 1161** Functions of the Paramedic 2 credits
- **EMMT 1162** Practice in Functions of the Paramedic 1 credit
- **EMMT 1171** Biomedic I 2 credits
- **EMMT 1172** Practice in Biomedic I 1 credit
- **EMMT 1260** Biomedic II 3 credits
- **EMMT 1271** Medical Emergencies I 2 credits
- **EMMT 1272** Practice in Medical Emergencies I 2 credits
- **EMMT 1280** Communication and Dispatch Techniques 2 credits
- **EMMT 1290** Handling of Patients with Emotional Problems 2 credits
- **EMMT 2161** Pharmacology in Medical Emergencies 2 credits
- **EMMT 2162** Practice in Pharmacology in Medical Emergencies 2 credits
- **EMMT 2171** Gynecological-Obstetrical and Newborn Emergencies 2 credits
- **EMMT 2172** Practice in Gynecological-Obstetrical and Newborn Emergencies 2 credits
- **EMMT 2181** Medical Emergencies II 3 credits
- **EMMT 2182** Practice in Medical Emergencies II 2 credits
- **EMMT 2190** Extrication and Rescue 2 credits
- **EMMT 2261** Medical Urgencies 3 credits
- **EMMT 2262** Practice in Medical Urgencies 1 credit
- **EMMT 2910** Field Internship 6 credits

**Medical Technology (B.S. and Certificate)**

The Medical Technology Program responds to the mission of preparing professionals to fill the needs of present day Puerto Rico. It is expected that graduates will have achieved the following objectives:

1. To possess the minimum required knowledge in fundamental concepts and in the technical competencies in clinical laboratory necessary for an adequate performance in the health industry.
2. To perform successfully as a medical technologist or a clinical laboratory scientist.
3. To demonstrate and apply moral and ethical principles in their relations with patients, peers and the community.
4. To recognize the importance of keeping up to date by means of continuous education.
5. To possess the necessary skills for developing additional competencies in technological advancements required for their professional growth.

This Program is accredited by the National Accrediting Agency of Clinical Laboratory Sciences (NAACLS). Both programs have an intensive one year curriculum divided in two terms: academic or theoretical and practical. Two groups of students are admitted annually, one in August and the other in February. Upon completion of the Program, students are eligible to take the professional certification examination offered by the Puerto Rico Board of Examiners for Medical Technologists, the American Society for Clinical Pathologists (ASCP) and the National Certifying Agency for Laboratory Personnel (NCA).

The Programs have affiliations established with different clinical laboratories where students may complete their clinical practice. These facilities are duly recognized by the Department Health, are certified by CLIA and/or are accredited by the Joint Commission of Hospital Accreditation (JCHA).

The Bachelor of Science degree in Medical Technology and the Professional Post Bachelor Certificate are offered.

**Admission Requirements**

1. Approval of the following courses* or their equivalent.
   - Microbiology
   - Parasitology
   - Immunology
   - General or Human Physiology
   - General Physics I, II
   - Precalculus
   - Analytical Chemistry
   - Organic Chemistry I, II
   - Biochemistry or Cellular and Molecular Biology

*Some of the above courses have prerequisites.

In addition, students that do not have a bachelor’s degree must have passed the general education requirements or their equivalent for a bachelor’s degree as established in this catalog.

2. Completion of an application form and submission of an official academic transcript from all universities attended.
3. Submission of three (3) letters of recommendation, two of which should be from a faculty member.
4. Submission of the results of an admissions test. The results of this examination are not valid after four years. Students should consult the Program director for information on the admissions test.
5. A minimum general academic grade point index of 2.5 and in biology, chemistry, mathematics and physics courses.
6. An interview with a faculty member of the Program.
7. The ability to achieve essential non-academic requirements related to the demands of the profession as published in the information brochure of the Medical Technology Program. Students should have these requirements to be able to complete the Program satisfactorily and to work in the functions of the Medical Technology profession.

8. Health certificate and evidence of Hepatitis B vaccination to be submitted after admission.

Students meeting the above mentioned requirements will be evaluated and selected in a competitive manner according to available space in the Program.

Program Standards and Procedures

A. Academic Progress

Each course in both the theory and practice curricula should be completed with a minimum average of 75 percent. Students will be kept informed of their academic progress during the courses. If students do not obtain the minimum of 75% in a course, they may be placed on probation. Students that fail in two courses will be dismissed from the Program for academic deficiency. Students dismissed for academic deficiency will not be readmitted to the Program.

B. Attendance

Attendance to the lectures and laboratories is compulsory. Unjustified absences, as established for each course, are sufficient reason for dismissal.

C. Conduct

Students must comply at all times with the established norms, policies and procedures of the Program, as established and available in the Orientation Handbook of the Medical Technology Program.

**No student dismissed from the Program for violation of the Program norms may be readmitted to this Program.**

The Metropolitan and San Germán campuses are authorized to offer the Bachelor and Certificate programs.

Medical Technology (Certificate)

**ACADEMIC REQUIREMENTS FOR THE PROFESSIONAL CERTIFICATE IN MEDICAL TECHNOLOGY**

- A Bachelor’s Degree from an Accredited University
- Major Requirements
- Total 46 credits

A Bachelor’s Degree from an Accredited University

Major Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total 46
Medical Technology (B.S.)

ACADEMIC REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN MEDICAL TECHNOLOGY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements or their Equivalent</td>
<td>47</td>
</tr>
<tr>
<td>Core Course Requirements*</td>
<td>42</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>46</td>
</tr>
</tbody>
</table>

Total: 135 credits

* Some of the courses have additional prerequisites.

General Education Requirements or their Equivalent - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelor’s Degrees.” Students will take the course GEMA 1200 in the Basic Skills in Mathematics category.

Students from other universities who plan to finish the bachelor’s degree in Medical Technology and who have completed three or more years of study in an accredited institution, are required to have passed the following courses with a minimum grade of C.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>12</td>
</tr>
<tr>
<td>Spanish</td>
<td>12</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
<td>6</td>
</tr>
<tr>
<td>Religion</td>
<td>3</td>
</tr>
<tr>
<td>Art, Music or Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>9</td>
</tr>
<tr>
<td>Physical Education</td>
<td>2</td>
</tr>
</tbody>
</table>

Core Course Requirements - 42 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3105</td>
<td>General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 3213</td>
<td>Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3405</td>
<td>Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4109</td>
<td>General Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 3001</td>
<td>General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3002</td>
<td>General Physics II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2221</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2222</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4220</td>
<td>Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 4604</td>
<td>Cellular and Molecular Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

or

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 4604</td>
<td>Cellular and Molecular Biology</td>
<td>3</td>
</tr>
</tbody>
</table>
Major Requirements - 46 credits

Theory

MEDT 4501 Principles and Basic Techniques of the Clinical Laboratory 3
MEDT 4510 Clinical Chemistry and Pathology 4
MEDT 4520 Body Fluids 1
MEDT 4531 Clinical Immunology 2
MEDT 4532 Blood Banking 3
MEDT 4540 Hematology and Coagulation 4
MEDT 4560 Mycology and Virology 1
MEDT 4570 Clinical Bacteriology 4
MEDT 4580 Clinical Parasitology 1
MEDT 4591 Laboratory Administration, Ethics and Education 3

Practice

MEDT 4595 Advanced Seminar 1
MEDT 4914 Clinical Practice in Urinalysis 1
MEDT 4915 Clinical Practice in Blood Banking 3
MEDT 4916 Clinical Practice in Serology, Immunology and Virology 2
MEDT 4919 Clinical Practice in Parasitology 1
MEDT 4921 Practice in Clinical Chemistry 4
MEDT 4922 Clinical Practice in Hematology 4
MEDT 4923 Clinical Practice in Microbiology 4

Microbiology (B.S.)

The Baccalaureate in Science in Microbiology is interdisciplinary. It integrates the areas of sciences and mathematics and applies them to the understanding of microorganisms and their diverse functions. Study of growth, environmental conditions, development and characteristics of the different groups of microorganisms. The Program aims to prepare graduates proficient in the use of isolation, identification, control, and chemical and microbiological analysis techniques. Skills are developed in handling basic and sophisticated equipment, research design and analysis of quantitative and qualitative data. Emphasis is given to the application of asepsis measures and security in a controlled environment.

The Aguadilla Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN MICROBIOLOGY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>71</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>3</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
</tr>
</tbody>
</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees). Students of this Program will take GEMA 1200 in the Basic Skills in Mathematics category.

Major Requirements - 71 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICR 3211</td>
<td>Microbial Physiology</td>
<td>3</td>
</tr>
<tr>
<td>MICR 4010</td>
<td>Microbial Ecology</td>
<td>3</td>
</tr>
<tr>
<td>MICR 4505</td>
<td>Microbiological Application Techniques</td>
<td>2</td>
</tr>
<tr>
<td>MICR 4910</td>
<td>Internship</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1101</td>
<td>Modern Biology I</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1102</td>
<td>Modern Biology II</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Skills Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2013</td>
<td>Skills Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2155</td>
<td>Genetics</td>
<td>3</td>
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<tr>
<td>BIOL 3105</td>
<td>General Microbiology</td>
<td>3</td>
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<tr>
<td>BIOL 3405</td>
<td>Immunology</td>
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<tr>
<td>BIOL 4303</td>
<td>Mycology</td>
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<tr>
<td>BIOL 4305</td>
<td>Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4433</td>
<td>Industrial Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1111</td>
<td>Fundamentals of Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2212</td>
<td>Inorganic Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2221</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 2222</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 3320</td>
<td>Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4220</td>
<td>Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>MATH 1500</td>
<td>Precalculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 3001</td>
<td>Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 3002</td>
<td>Physics II</td>
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</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 3 credits

Select one of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 2153</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3213</td>
<td>Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 3309</td>
<td>Food Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4306</td>
<td>Virology</td>
<td>3</td>
</tr>
</tbody>
</table>

Music (B.A. and B.M.)

The Music Program offers four programs leading to a Bachelor’s Degree in Music and also offers a minor in music. The bachelor’s degrees in Music are Applied Music and Music Education: General Vocal and Instrumental. A Bachelor of Arts Degree in music is also offered.

The Degree of Bachelor of Applied Music prepares the students interested in a career as performers for graduate or professional studies abroad. The Bachelor of Music Degree in
Music Education meets the curricular content requirements of the Department of Education of Puerto Rico for the certification of teachers of General Vocal and Instrumental Music. As a means of broadening their employment opportunities in music-related occupations, the Bachelor of Arts Degree gives students the opportunity to receive a degree in music while they explore and study courses in other disciplines.

All students admitted to the Music Department at the San Germán Campus must take a placement test on the rudiments of music and on their instrument, since all students must have chosen an instrument or voice which they will pursue in order to meet the requirements of applied music. In the case of students with little knowledge of the fundamentals of music and/or the instruments of their choice, there are preparatory courses that will enable them to satisfy the demands of the required courses.

Requirements for Admission to Practice Teaching courses:

1. Be interviewed by the Teaching Internship Coordinator four weeks before the end of the regular semester prior to the semester in which students wish to do their practice teaching.
2. Submit an application for Admission to Teaching Internship accompanied by a transcript of credits or an evaluation for graduation.
3. Present an autobiography with a narrative of musical experience.
4. Have a minimum general grade point index of 2.50 as well as in major courses.
5. Have passed all courses required for the corresponding Teaching Internship, according to the General Catalog in effect.

The San Germán Campus is authorized to offer these programs.

Music (B.A.)

Requirements for the Bachelor of Arts Degree in Music

General Education Requirements 47 credits
Major Requirements 33 credits
Prescribed Distributive Requirements 10 credits
Elective Courses 22 credits
Total 112 credits

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 33 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI</td>
<td>1231-3231 Concert Band I-V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td>5</td>
</tr>
<tr>
<td>MUSI</td>
<td>1241-3241 University Choir I-V</td>
<td></td>
</tr>
<tr>
<td>MUSI</td>
<td>1 (70-89) 1-2 Instrument I, II</td>
<td></td>
</tr>
<tr>
<td>MUSI</td>
<td>2 (70-89) 1-2 Instrument III, IV</td>
<td></td>
</tr>
<tr>
<td>MUSI</td>
<td>1400 Theory and Sight-Reading*</td>
<td>3</td>
</tr>
<tr>
<td>MUSI</td>
<td>1461, 1462 Piano: Group Class I, II</td>
<td></td>
</tr>
<tr>
<td>MUSI</td>
<td>2411, 2412 Harmony and Counterpoint I, II</td>
<td></td>
</tr>
</tbody>
</table>
MUSI 2470  Keyboard Harmony 2
MUSI 3311, 3312  Western Music: History and Literature I, II 6
MUSI 3320  History of Puerto Rican and Latin American Music I, II 2
MUSI 4500  Conducting I 3

*Requires MUSI 1110 or passing a placement test.

**Prescribed Distributive Requirements - 10 credits**

Ten (10) additional credits which may be chosen from other music courses, except MUSI 101, 102 and 1110.

**Music (B.M.)**

**Applied Music**

**REQUIREMENTS FOR THE BACHELOR OF MUSIC DEGREE IN APPLIED MUSIC**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47 credits</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>60 credits</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>6 credits</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>122 credits</td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 60 credits**

<table>
<thead>
<tr>
<th>MUSI (1210-1280)</th>
<th>Chamber Group: Instrumental or</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1-4 (221-222)</td>
<td>Chamber Group: Vocal</td>
</tr>
<tr>
<td>MUSI 1231-4232</td>
<td>Concert Band I-VIII</td>
</tr>
<tr>
<td>MUSI 1241-4242</td>
<td>University Choir I-VIII</td>
</tr>
<tr>
<td>MUSI 1 (70-89) 1, 1 (70-89) 2</td>
<td>Instrument I, II</td>
</tr>
<tr>
<td>MUSI 2 (70-89) 1, 2 (70-89) 2</td>
<td>Instrument III, IV</td>
</tr>
<tr>
<td>MUSI 3 (70-89) 1, 3 (70-89) 2</td>
<td>Instrument V, VI</td>
</tr>
<tr>
<td>MUSI 4 (70-89) 1, 4 (70-89) 2</td>
<td>Instrument VII, VIII</td>
</tr>
<tr>
<td>MUSI 1400</td>
<td>Theory and Sight-Reading*</td>
</tr>
<tr>
<td>MUSI 1461-1462</td>
<td>Piano: Group Class I, II</td>
</tr>
<tr>
<td>MUSI 2411-2412</td>
<td>Harmony and Counterpoint I, II</td>
</tr>
<tr>
<td>MUSI 2470</td>
<td>Keyboard Harmony</td>
</tr>
<tr>
<td>MUSI 3311-3312</td>
<td>Western Music: History and Literature I and II</td>
</tr>
<tr>
<td>MUSI 3320</td>
<td>History of Puerto Rican and Latin American Music</td>
</tr>
<tr>
<td>MUSI 3440</td>
<td>Form and Analysis</td>
</tr>
<tr>
<td>MUSI 4431-4432</td>
<td>Orchestration and Arranging I, II</td>
</tr>
</tbody>
</table>

243
MUSI  4500  Conducting I  3
MUSI  4900  Recital  2

* Requires MUSI 1110 or the passing of a placement test.

** Prescribed Distributive Requirements - 6 credits

(Chosen from the following courses)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 101-102</td>
<td>Applied Music: Fundamentals I, II**</td>
<td>2</td>
</tr>
<tr>
<td>MUSI (70-89)</td>
<td>Instrument* - maximum</td>
<td>4</td>
</tr>
<tr>
<td>MUSI 3970</td>
<td>Special Topics - maximum</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 4451-4452</td>
<td>Composition I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 4510-4520</td>
<td>Conducting II: Choral or Instrumental</td>
<td>4</td>
</tr>
<tr>
<td>MUSI 4970</td>
<td>Seminar - maximum</td>
<td>6</td>
</tr>
<tr>
<td>EDUC</td>
<td>Courses - maximum</td>
<td>6</td>
</tr>
<tr>
<td>Courses in French, Italian, German and Portuguese - minimum</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

** It must be an instrument other than that of the student’s specialization.

**Music Education: General Vocal**

REQUIREMENTS FOR THE BACHELOR OF MUSIC DEGREE IN MUSIC EDUCATION: GENERAL VOCAL

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>88</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>141</td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 88 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1 (70-89)</td>
<td>Instrument I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2 (70-89)</td>
<td>Instrument III, IV</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3 (70-89)</td>
<td>Instrument V, VI</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 1241-42</td>
<td>University Choir I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2241-42</td>
<td>University Choir III, IV</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3241-42</td>
<td>University Choir V, VI</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 4241-42</td>
<td>University Choir VII, VIII</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 1400</td>
<td>Theory and Sight-Reading *</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1461-1462</td>
<td>Piano: Group Class I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2411-2412</td>
<td>Harmony and Counterpoint I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 2470</td>
<td>Keyboard Harmony</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3301-3302</td>
<td>Vocal Techniques I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUSI 3311-3312</td>
<td>Western Music: History and Literature I, II</td>
<td>6</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>MUSI 3320</td>
<td>History of Puerto Rican and Latin American Music I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3440</td>
<td>Form and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 4431</td>
<td>Orchestration and Arranging I</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 4436</td>
<td>Applied Technology in Music Education</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 4500</td>
<td>Conducting I</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 4510</td>
<td>Conducting II: Choral</td>
<td>2</td>
</tr>
<tr>
<td>MUED 4400</td>
<td>Elementary Methods: The Teaching of Music</td>
<td>2</td>
</tr>
<tr>
<td>MUED 4410</td>
<td>Secondary Methods: The Teaching of Music</td>
<td>2</td>
</tr>
<tr>
<td>MUED 4919</td>
<td>Student Teaching: General and Vocal Music</td>
<td>6</td>
</tr>
<tr>
<td>EDUC 2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2022</td>
<td>Society and Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2031</td>
<td>Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2032</td>
<td>Learning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 2870</td>
<td>The Exceptional Student Population</td>
<td>4</td>
</tr>
<tr>
<td>EDUC 3013</td>
<td>Teaching Strategies</td>
<td>2</td>
</tr>
<tr>
<td>EDUC 4011</td>
<td>Evaluation and Assessment</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 4050</td>
<td>Curriculum Design</td>
<td>2</td>
</tr>
<tr>
<td>HIST 3010</td>
<td>Historical Process of United States of America</td>
<td>3</td>
</tr>
</tbody>
</table>

* Requires MUSI 1110 or the passing of a placement test.

**Music Education: Instrumental**

Requirements for the Bachelor of Music Degree in Music Education: Instrumental

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>47 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>90 credits</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>6 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>143</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 90 credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1 (70-89) 1-2</td>
<td>Instrument I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2 (70-89) 1-2</td>
<td>Instrument III, IV</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3 (70-89) 1-2</td>
<td>Instrument V, VI</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 1231-32</td>
<td>Concert Band I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2231-32</td>
<td>Concert Band III, IV</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3231-32</td>
<td>Concert Band V, VI</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 4231-32</td>
<td>Concert Band VII, VIII</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 1400</td>
<td>Theory and Sight-Reading *</td>
<td>3</td>
</tr>
<tr>
<td>MUSI 1461-1462</td>
<td>Piano: Group Class I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2411-2412</td>
<td>Harmony and Counterpoint I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 2470</td>
<td>Keyboard Harmony</td>
<td>2</td>
</tr>
</tbody>
</table>

245
MUSI 3311-3312 Western Music: History and Literature I, II 6
MUSI 3320 History of Puerto Rican and Latin American Music 2
MUSI 3321-3322 Techniques of Musical Instruments I, II 6
MUSI 3440 Form and Analysis 3
MUSI 4431 Orchestration and Arranging I 2
MUSI 4436 Applied Technology in Music Education 3
MUSI 4500 Conducting I 3
MUSI 4520 Conducting II: Instrumental 2
MUED 4400 Elementary Methods: The Teaching of Music 2
MUED 4410 Secondary Methods: The Teaching of Music 2
MUED 4920 Student Teaching: Instrumental 6
EDUC 2021 History and Philosophy of Education 3
EDUC 2022 Society and Education 3
EDUC 2031 Developmental Psychology 3
EDUC 2032 Learning Psychology 3
EDUC 4050 Curriculum Design 2
EDUC 2870 The Exceptional Student Population 4
EDUC 3013 Teaching Strategies 2
EDUC 4011 Evaluation and Assessment 3
HIST 3010 Historical Process of United States of America 3

* Requires MUSI 1110 or passing a placement test.

**Minor in Music**

REQUIREMENTS FOR A MINOR IN MUSIC - 18 credits

Specific Requirements - 12 credits

Applied Music for Students from other Concentrations 2
Concert Band or University Choir 2
Theory and Sight-Reading 3
Piano: Group Class I, II 2
Harmony and Counterpoint I 3

Six (6) additional credits chosen from music courses, except MUSI 1110.

**Networks and Telecommunications (B.S.)**

The Networks and Telecommunications Program offers the most advanced courses in the field of data networks, telecommunications, shared computerized resource environments through corporative networks and administration of these systems based on Windows, Netware, Linux, IBM iSeries and Cisco, among others. Emphasis on the integration of basic managerial concepts to fortify managerial knowledge. The Program is designed to prepare graduates to plan, design, install and administer networks that will support the functions of the company. It is also expected that graduates will be able to install and configure data network access servers, Internet, Intranet and Extranet electronic mail servers, database servers, storage servers and will be able to develop programming
necessary for applications in Internet as well as solutions for radio networks, security technologies, management of voice and video networks, and design the distribution of wiring and optical fiber. Several of the courses offered provide the foundation that will permit graduates to continue their professional improvement and be certified in various professional certification programs. Major courses with the code NTEL must be passed with a minimum grade of C.

**Admission Requirements**

Admission requirements to the Bachelor of Science Program with concentration in Networks and Telecommunications are those that apply generally to the University’s Undergraduate Programs.

1. A high school general grade point index of 2.00 or more.
2. Students whose academic indices are from 2.00 to 2.99 will be required to have an interview for the admission to the Program.

The Ponce Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE OF BACHELOR OF SCIENCE DEGREE IN NETWORKS AND TELECOMMUNICATIONS**

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>47 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>73 credits</td>
</tr>
<tr>
<td>Elective courses</td>
<td>3 credits</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>123</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees. Students of this Program will take GEMA 1200 in the Basic Skills in Mathematics category.

**Major Requirements - 73 credits**

| NTEL 1200 | Introduction to Networks and Telecommunications | 3 |
| NTEL 2101 | Network Protocols                                | 3 |
| NTEL 2150 | Design of Telecommunications Distribution        | 3 |
| NTEL 2300 | Linux Networks                                   | 3 |
| NTEL 3110 | Installation and Administration of Networks Systems | 3 |
| NTEL 3230 | Introduction to JAVA Programming                 | 3 |
| NTEL 3310 | E-mail Server                                    | 3 |
| NTEL 3401 | Minicomputer Operations                          | 3 |
| NTEL 3520 | Internet Programming and Administration           | 3 |
| NTEL 3600 | SQL Database Server                              | 3 |
| NTEL 3770 | Wireless Networks                                 | 3 |
| NTEL 3971 | Special Topics in Telecommunications              | 3 |
| NTEL 4150 | Security in Networks                              | 3 |
| NTEL 4520 | Voice and Video Networks                         | 3 |
| NTEL 4610 | Storage Networks                                  | 3 |
| NTEL 4750 | Networks Management                              | 3 |
NTEL 4910 Practicum in Telecommunications  3
ACCT 1151 Introduction to Accounting I  4
BADM 2250 Administrative Theory  3
CMIS 2100 Introduction to Computerized Information Systems  3
CMIS 2200 Programming Algorithms  3
CMIS 4435 Project Management, Control and Auditing  3
MATH 1070 Fundamentals of Applied Mathematics  3
MKTG 1210 Introduction to Marketing  3

Nursing (A.A.S., A.D.N. and B.S.N.)

The Nursing Program has as its mission the formation of nurses able to offer competent, sensible, effective, safe, and quality nursing care to the client person, family and community. The Program aims to produce graduates prepared to:

1. Provide care with autonomy and with interdisciplinary collaboration and sensitivity to ethical-legal and cultural values and directed to the achievement of the best results for the client.
2. Coordinate care by applying leadership and management skills that lead to the highest quality care with the minimum of cost.
3. Assume a commitment as a member of the discipline in harmony with the standards of the practice.

For the development of this professional diverse and flexible modalities of study are offered. This facilitates mobility from the level of the associate degree to the baccalaureate.

It is expected that students who decide to leave the Program to work as Associate Nurses be able to:

1. Apply theoretical and practical knowledge of the nursing, science and humanistic, disciplines when they analyze the biological, psychological, social and spiritual determinants of health in the different growth and development stages.
2. Demonstrate updated clinical skills in therapeutic interventions when offering care to the client throughout the continuum of health and disease in structured scenarios.
3. Use the Nursing Process as an instrument in making clinical decisions and, simultaneously demonstrate critical thinking and skills in problem solving when offering safe, quality and cost-effective care.
4. Demonstrate responsibility and ethical-legal commitment with humanistic care in response to the changing needs of society.
5. Demonstrate effective management, coordination and collaboration skills in care as a member of the interdisciplinary team in such a way that care can improve continuously.
6. Demonstrate responsibility and commitment for self development and that of the nursing profession.
7. Use communication skills and technology to maintain the quality of care offered to the client and to improve their own knowledge.
It is expected that students who decide to finish the Bachelor of Science Degree in Nursing to work as generalist nurses be able to:

1. Integrate knowledge to provide safe and effective nursing care to individuals, families and communities and to contribute to society as citizens.
2. Use nursing interventions to prevent disease and promote, maintain and restore health.
3. Use assessment and intervention skills while offering nursing care in diverse scenarios so their expected results in health care can improve.
4. Apply humanistic care in nursing practice thereby obtaining the protection, optimization and preservation of human dignity.
5. Act as effective leaders and care managers seeking balance among the health care resources and contributing to the improvement of the profession.
6. Integrate critical thinking skills when making clinical judgments and using research findings for the continuous improvement of the nursing practice.
7. Communicate effectively to optimize their own performance as care providers and coordinators and as members of the profession.

Major requirements are offered in a four-year program with an option to leave the Program upon completing the requirements of the first two years. Each year is equivalent to a level in which courses have been organized and developed according to their level of complexity. In the first two years (levels I and II) technical (associate) knowledge and skills are presented; in the last two years (levels III and IV) those corresponding to the professional level (generalist) are presented. This scheme articulates both levels of preparation, (associate degree and bachelor’s degree in nursing) by integrating knowledge and skills.

Students in the Nursing Program are exempt from taking GEHP 3000 – Well-being and Quality of Life.

Admission Requirements

1. Comply with the admissions requirements established in the General Catalog and by the corresponding campus.
2. To be admitted to the Program, candidates must:
   a. Have a minimum grade point index 2.25.
   b. Have an interview with the Program Director or the person delegated by the Director.
   c. Perform a self evaluation of the essential non academic abilities associated with the demands of the profession.
3. To be admitted to the third level (third year courses) of the Bachelor of Science Degree in Nursing, students must:
   a. Have satisfactorily completed the requirements of the first two years of the Degree in Nursing or,
   b. Present evidence of holding an Associate Degree in nursing from an accredited and recognized institution of higher education. Candidates having an Associate Degree must complete any general education requirement established by the Institution and the corresponding campus for awarding the degree.
Note:
To be admitted to a clinical practice agency, the following is required:

1. A certificate of no criminal record issued recently by the Police of Puerto Rico.
2. A health certificate valid for one year issued by the Health Department.
3. Evidence of vaccination against Hepatitis B.

Some agencies and courses have additional requirements. Students are responsible for complying with any other requirement imposed by the agency or the practice. Among these are: An updated certificate of CPR, a negative dope test, a nose and throat culture.

Transfer Requirements:

1. Comply with the admissions requirements for transfer students established in the General Catalog and by the corresponding Campus.
2. Admission of transfer students to the Program or to take courses of the major with combined registration requires the previous authorization of both Program directors.

Academic Progress Requirements of the Nursing Program:

1. Comply with the admissions requirements for transfer students established in the General Catalog and by the corresponding Campus.
2. Pass all courses in Nursing and the course GEMA 1000 Quantitative Reasoning) with a minimum grade of C.
3. Students who do not pass the same major course three times with a minimum grade of C will be dropped from the Program.
4. Complete all requirements for the Degree with at least the minimum grade point index of the corresponding campus.

Graduation Requirements

1. For the Associate Degree in Nursing students are required to complete 50% of the major credits in the campus from which they expect to receive the degree. This also applies to the Bachelor’s Degree
2. Students must take course NURS 4980 in the campus where they expect to graduate, except in special situations with the previous authorization of the Director of the Program.
3. Students, upon completing the requirements of the first two years of study, have the option to request certification of the Associate Degree in Nursing in order to apply for revalidation.

The Aguadilla, Arecibo, Barranquitas, Bayamón, Guayama, Metropolitan, Ponce and San Germán campuses are authorized to offer the Associate Degree in Nursing and the Bachelor of Science Degree in Nursing.

The Program of the Metropolitan Campus is accredited by the National League for Nursing Accrediting Commission, (http://www.nlnac.org)
REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN NURSING AND THE ASSOCIATE DEGREE IN NURSING

General Education Requirements 23 credits
Major Requirements 41 credits
Total 64 credits

General Education Requirements - 23 credits

GESP  Spanish 6
GEEN  English 6
GEMA 1000 Quantitative Reasoning 3
GEHS 2010 Historical Process of Puerto Rico 3
GECF 1010 The Christian Faith 3
GEIC 1000 Information and Computer Literacy 2

Major Requirements - 41 credits

NURS 1120 Basic Principles and Concepts of Nursing 2
NURS 1121 Fundamentals in Nursing 3
NURS 1122 Practice of Fundamentals of Nursing 2
NURS 1130 Pharmacology Aspects 3
NURS 1221 Fundamentals in Psychosocial Care 3
NURS 1222 Practice of Psychosocial Care 2
NURS 1231 Fundamentals of Adult Care I 6
NURS 1232 Practice of Adult Care I 2
NURS 2233 Fundamentals in Adult Care II 6
NURS 2234 Practice of Adult Care II 2
NURS 2141 Fundamentals of Maternal-Neonatal Care 3
NURS 2142 Practice of Maternal-Neonatal Care 2
NURS 2351 Fundamentals of Pediatric Care 3
NURS 2352 Practice of Pediatric Care 2

REQUIREMENTS FOR A BACHELOR OF SCIENCE DEGREE IN NURSING

General Education Requirements 44 credits
Major Requirements 78 credits
Elective Courses 6 credits
Total 128 credits

General Education Requirements - 44 credits

Forty-four (44) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students of this Program are exempt from taking the course GEHP 3000.

Major Requirements - 78 credits

NURS 1120 Basic Principles and Concepts of Nursing 2
NURS 1121 Fundamentals of Nursing 3
Occupational Therapy Assistant (A.S.)

The Associate of Science Degree Program in Occupational Therapy Assistant aims to offer students a scientific knowledge base founded on concepts and principles of natural and social sciences and on the humanities in addition to sciences related to occupational therapy. It aims to prepare professionals in the health field to provide specialized treatment directed to foment independence, productivity, quality of life, rehabilitation and optimal well-being under the supervision of a licensed occupational therapist.

The Program puts students in contact with all the inherent processes in their functions as Occupational Therapy Assistants and promotes the development of skills so that students may support and facilitate the process of adaptation to physical, emotional, congenital, or developmental incapacities. It also promotes the planning and development of strategies directed to the learning or relearning of self-care, recreational and work activities, fomenting the integration of persons to their environment and occupation, which in this context are their significant activities.

Graduates of this Program may work in different scenarios such as hospitals, schools, rehabilitation centers, home-care health programs, hospices, psychosocial care centers and special education centers. To practice the profession, graduates must pass the licensing examination and obtain the occupational therapy assistant license.

Admission Requirements

1. Meet the Inter American University admission requirements.
2. Have minimum grade point index of 2.50.
3. Provide a health certificate issued by the Health Department or an authorized doctor.
4. Provide a certificate of no criminal record issued by the police of Puerto Rico.
5. Provide evidence of vaccination against Hepatitis B.

Retention Requirements

1. Meet all the academic progress norms established in the University’s General Catalog.
2. Pass all major courses with a minimum grade of C.

Students who fail on two occasions in a same major course will be placed on probation in the Assistant in Occupational Therapy Program. Students failing during the probation period in the same course will be dropped from the Program.

Graduation Requirements

1. Students must pass all major courses with a minimum grade of C.

The Ponce Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN SCIENCE DEGREE IN OCCUPATIONAL THERAPY ASSISTANT

| General Education Requirements | 23 credits |
| Major Requirements             | 52 credits |
| Total                           | 75         |

General Education Requirements - 23 credits

- GESP  Spanish  6
- GEEN  English  6
- GECF 1010 The Christian Faith 3
- GEIC 1000 Information and Computer Literacy 2
- GEHS 2010 Historical Process of Puerto Rico 3
- GEMA 1200 Fundamentals of Algebra 3

Major Requirements - 52 credits

- OCTH 1000 Introduction to Occupational Therapy 3
- OCTH 1010 Anatomy and Applied Physiology 4
- OCTH 1020 Principles of Human Interaction 2
- OCTH 1100 Occupation Throughout the Life Cycle 4
- OCTH 1110 Therapeutic Modalities I 3
- OCTH 1115 Therapeutic Modalities II 3
- OCTH 1120 Processes in Occupational Therapy 3
- OCTH 1130 Occupational Therapy Applied to Pediatrics 3
- OCTH 2030 Occupational Therapy Applied to Physical Dysfunction 3
- OCTH 2040 Therapeutic Modalities III 3
- OCTH 2060 Occupational Therapy Applied to Psychosocial Dysfunction 3
- OCTH 2070 Occupational Therapy Applied to Geriatrics 3
- OCTH 2090 Technological Assistance 3
Office Systems Administration (A.A. and B.A.)

Associate Program

The Associate of Arts Degree in Office Systems Administration is designed to provide students the opportunity of developing the fundamental skills and fundamental knowledge of this level, that train them to work effectively as professional administrative support personnel in office systems administration.

The requirements for admission, academic progress, and graduation are those established by this Catalog.

The student must pass the required courses of the major with a minimum grade of C.

Courses with an asterisk require the use of technological equipment and have a special fee.

All campuses are authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN OFFICE SYSTEMS ADMINISTRATION

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>23 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>37 credits</td>
</tr>
<tr>
<td>Total</td>
<td>60 credits</td>
</tr>
</tbody>
</table>

General Education Requirements - 23 credits

- GESP: Spanish (6 credits)
- GEEN: English (6 credits)
- GEMA 1000: Quantitative Reasoning (3 credits)
- GEHS 2010: Historical Process of Puerto Rico (3 credits)
- GEIC 1000: Information and Computer Literacy (2 credits)

Major Requirements - 37 credits

- OMSY 1101: Information Processing Skills I* (4 credits)
- OMSY 1102: Information Processing Skills II* (4 credits)
- OMSY 2000: Production of Business Documents* (4 credits)
- OMSY 2040: Spreadsheets in Office Applications* (3 credits)
- OMSY 2060: Management of Documents and Databases* (4 credits)
- OMSY 2230: Information Processing in Legal Affairs Offices* (3 credits)
- OMSY 2240: Information Processing in Medical Service Offices* (3 credits)
- OMSY 3020: Human Resources in the Organizational Environment (3 credits)
Bachelor’s Program

The Bachelor of Arts in Office Systems Administration responds to the need of satisfying the demands of the market for professionals of administrative support with knowledge in the operation of electronic systems, with the knowledge, techniques, procedures, and skills required to perform successfully in the office. This Program offers the cultural background and the basic knowledge of office administration that allow the professional administrative support personnel to participate effectively in decision-making, analysis of data, managing and processing of information, oral and written communication and in establishing effective interpersonal relations.

This Program aims to prepare professional administrative support personnel with the skills and knowledge necessary to explore self-employment as a viable alternative in other professional careers. In addition, it aspires to prepare self-directed students that can work in their future job with a minimum of supervision and that have the ability to work in a team.

The Program articulates the levels of preparation of the associate and bachelor’s degrees. During the first years of studies the student is offered the knowledge and skills of the associate degree, while during the last two years, there is emphasis on the knowledge and skills at the professional or bachelor degree levels. This way, it offers students the opportunity to obtain the Associate of Arts Degree in Office Systems Administration, once the student completes the 60 credits that are stipulated as requirements.

Students must pass all the required courses of the major with a minimum grade of C.

The Professional Practice course may be accepted for students who request it and show that they have satisfactorily met the established requirements. The University will only accept experiences that correspond to the degree that students hope to obtain from the Institution. This acceptance requires that students:

1. Make a formal request to the Director of the Department in which they show evidence of having worked without interruption for a minimum term of three years in a position similar or equivalent to an office administrator.
2. Present a Portfolio in which there is evidence of:
   a. years of experience
   b. period of time employed
   c. positions or positions occupied
   d. description of duties
   e. equipment used
   f. copy of evaluations received
   g. work that evidences skills developed in the position occupied
   h. any other evidence of the professional work during the time of employment
3. Pass an interview process, which will be coordinated by the Director of the Department along with faculty members.
4. Pay 50% of the tuition cost of the course OMSY 4910 – Professional Practicum.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMSY 3030</td>
<td>Business Communication Workshop in Spanish*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3040</td>
<td>Business Communication Workshop in English*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3080</td>
<td>Office Systems Administration</td>
<td>3</td>
</tr>
</tbody>
</table>
The courses that require the use of technological equipment have a special fee. Such courses are identified by an asterisk.

All campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN OFFICE SYSTEMS ADMINISTRATION

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>61</td>
</tr>
<tr>
<td>Related Requirements</td>
<td>7</td>
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<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” In addition to the course GEHS 2010--Historical Process of Puerto Rico, students of this Program will take course GEHS 2020 – Global Vision of Economy from the Historic and Social Context category. Students will select the other three (3) prescribed distributive credits from those available in this category.

Major Requirements - 61 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMSY 1010</td>
<td>Speed Writing in Spanish</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 1101</td>
<td>Information Processing Skills I*</td>
<td>4</td>
</tr>
<tr>
<td>OMSY 1102</td>
<td>Information Processing Skills II*</td>
<td>4</td>
</tr>
<tr>
<td>OMSY 2000</td>
<td>Production of Business Documents*</td>
<td>4</td>
</tr>
<tr>
<td>OMSY 2040</td>
<td>Spreadsheets in Office Applications*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 2060</td>
<td>Management of Documents and Databases*</td>
<td>4</td>
</tr>
<tr>
<td>OMSY 2230</td>
<td>Information Processing in Offices of Legal Affairs*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 2240</td>
<td>Information Processing in Offices of Medical Services*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3000</td>
<td>Medical Services Billing*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3020</td>
<td>Human Resources in the Organizational Environment</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3030</td>
<td>Business Communication Workshop in Spanish*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3040</td>
<td>Business Communication Workshop in English*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3050</td>
<td>Graphic Art Design for Offices*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3080</td>
<td>Office Systems Administration</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 3500</td>
<td>Interactive Business Communication in English*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 4010</td>
<td>Integrated Application Programs in Office Administration*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 4500</td>
<td>Telecommunications in the Office*</td>
<td>3</td>
</tr>
<tr>
<td>OMSY 4910</td>
<td>Professional Practicum</td>
<td>3</td>
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<tr>
<td>OMSY 4970</td>
<td>Integrating Seminar</td>
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</table>

Related Requirements - 7 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
</tbody>
</table>
Optical Science Technology (A.A.S.)

The course of studies for the applied science degree in Optical Science Technology has been designed to offer a university preparation that foments the development of the technical skills and the competencies of the profession. It also aims to provide a scientific base and the most recent knowledge in the optical science field.

The courses of the curriculum provide the understanding and the formal preparation that will permit an optical technician to demonstrate mastery in the performance of the functions and processes required in an optical laboratory. In addition, the courses are geared to prepare the technician to compete in the optical labor market in Puerto Rico and to take the professional validation examination. To graduate from this Program, all courses of the major must be passed with a minimum grade of C.

Admissions Requirement:

Provide a Health Certificate issued from the Puerto Rico Department of Health.

The Ponce Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE DEGREE IN APPLIED SCIENCE IN OPTICAL SCIENCE TECHNOLOGY

<table>
<thead>
<tr>
<th></th>
<th>23 credits</th>
<th>45 credits</th>
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<td>Major Requirements</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>68</td>
<td></td>
<td></td>
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</table>

General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA 1000</td>
<td>Quantitative Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
<td>2</td>
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</tbody>
</table>

Major Requirements - 45 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPST 1000</td>
<td>Fundamentals of Optics</td>
<td>4</td>
</tr>
<tr>
<td>OPST 1001</td>
<td>Ophthalmic Materials I</td>
<td>3</td>
</tr>
<tr>
<td>OPST 1002</td>
<td>Ophthalmic Materials II</td>
<td>4</td>
</tr>
<tr>
<td>OPST 1020</td>
<td>Anatomy and Physiology of the Eye</td>
<td>3</td>
</tr>
<tr>
<td>OPST 2000</td>
<td>Legal Considerations of Optical Practice</td>
<td>2</td>
</tr>
<tr>
<td>OPST 2001</td>
<td>Contact Lenses I</td>
<td>2</td>
</tr>
<tr>
<td>OPST 2002</td>
<td>Contact Lenses II</td>
<td>2</td>
</tr>
<tr>
<td>OPST 2003</td>
<td>Contact Lenses II Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>OPST 2010</td>
<td>Prescription Dispatch I</td>
<td>3</td>
</tr>
<tr>
<td>OPST 2011</td>
<td>Prescription Dispatch II</td>
<td>3</td>
</tr>
<tr>
<td>OPST 2000</td>
<td>Subnormal Vision</td>
<td>3</td>
</tr>
<tr>
<td>OPST 2911</td>
<td>Clinical Practice I</td>
<td>2</td>
</tr>
<tr>
<td>OPST 2912</td>
<td>Clinical Practice II</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 1006</td>
<td>Fundamentals of Biology</td>
<td>4</td>
</tr>
</tbody>
</table>
Pharmacy Technician (A.P.A.)

The course of studies for the Associate Degree in Pharmacy Technician aims to develop technicians with the necessary knowledge and skills that will enable them to perform efficiently and responsibly as Pharmacy Technicians.

The Program is designed to offer the scientific knowledge and the necessary technical abilities to work in a pharmacy, handle technological equipment and comply with the regulations governing the profession.

Admission Requirements:

1. Provide the following documents:
   a. a certificate of no criminal record
   b. a health certificate
   c. a negative drug test
   d. a certificate of vaccination against Hepatitis B.

2. Have an interview with the Associate Degree in Pharmacy Technician Coordinator or Committee.

The Guayama Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE DEGREE IN PHARMACY TECHNICIAN

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Major Requirements</td>
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</tr>
<tr>
<td>Elective Courses</td>
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<td><strong>Total</strong></td>
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General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA 1000</td>
<td>Quantitative Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
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</table>

Major Requirements - 45 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PHAR 1110</td>
<td>General Chemistry for Pharmacy Technicians</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 1120</td>
<td>Human Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 1150</td>
<td>Theoretical Pharmacy</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 1160</td>
<td>Pharmacognosy</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 1171, 1172</td>
<td>Applied Pharmacology I, II</td>
<td>6</td>
</tr>
<tr>
<td>PHAR 1180</td>
<td>Posology</td>
<td>3</td>
</tr>
</tbody>
</table>
PHAR  2211, 2212  Business Pharmacy I, II  6  
PHAR  2221, 2222  Practical Pharmacy I, II  6  
PHAR  2240  Pharmaceutical Legislation  1  
PHAR  2245  Computers for Pharmacy Technicians  2  
PHAR  2911, 2912  Supervised Practice I, II  6  
BIOL  1003  Basic Concepts of Biology  3  

Photography (A.A.S.)

The Associate Degree in Applied Science in Photography is designed to provide theoretical and practical preparation in photography. Graduates will be able to work as professionals in artistic or commercial areas of the photographic field.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE DEGREE IN APPLIED SCIENCE IN PHOTOGRAPHY

General Education Requirements  26 credits
Major Requirements  28 credits
Total 54

General Education Requirements - 26 credits

GESP  Spanish  6  
GEEN  English  6  
GEMA 1000  Quantitative Reasoning  3  
GEHS 2010  Historical Process of Puerto Rico  3  
GECF 1010  The Christian Faith  3  
GEIC 1000  Information and Computer Literacy  2  
GEPE 3010  Art Appreciation  3  

Major Requirements - 28 credits

COMU 1031  Photographic Techniques  3  
COMU 1032  Advanced Photographic Techniques  3  
COMU 2110  Advertising Design  3  
COMU 2510  Computer Graphic Production  3  
COMU 2610  Theory and Techniques of Lighting in Photography  3  
COMU 2621  Digital Photography I  3  
COMU 2622  Digital Photography II  3  
COMU 2915  Supervised Practice /Portfolio  4  
COMU 3325  Photojournalism  3  

Physical Therapy (A.S.)

The Associate of Science Degree Program in Physical Therapy aims to develop competent professionals who can offer quality services in their specialization. It offers a scientific knowledge base founded on concepts and principles of natural and social sciences.
and on the humanities in addition to sciences related to physical therapy. It is designed to prepare specialized paraprofessionals who use specialized knowledge and skills for treatment of individuals whose ability to function is limited or in danger of being limiting due to some disease or injury.

The Program guides students to the awareness of intervention strategies in the rehabilitation process. Students will work under the supervision of a registered physical therapist in institutions such as general and specialized hospitals; rehabilitation and home care centers; clinics and private offices; schools and industries. In order to practice, graduates must pass the licensing examination and obtain a license. Major requirements must be passed with a minimum grade of C.

**Admission Requirements**

1. Meet the admission requirements established in the Inter American University General Catalog.
2. Provide a certificate no criminal record issued by the police of Puerto Rico.
3. Provide a recent health certificate issued by the Health Department or an authorized doctor.
4. Provide evidence of vaccination against Hepatitis B.
5. Have minimum grade point index of 2.50.
6. Have an interview with the admission committee and/or Program coordinator.

**Retention Requirements**

1. Meet all the academic progress norms established in the University’s General Catalog.
2. Pass all major courses with a minimum grade of C.
3. Students who fail on two occasions in a same major course will be put on probation in the Assistant in Physical Therapy Program. Students failing during the probation period in the same course will be dropped from the Program.

**Graduation Requirements**

Students must pass all major courses with a minimum grade of C including the courses: BIOL 1003, 2151 and 2152.

The Ponce Campus is authorized to offer this Program.

**REQUIREMENTS OF THE ASSOCIATE IN SCIENCE DEGREE IN PHYSICAL THERAPY**

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>49 credits</td>
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<td><strong>Total</strong></td>
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**General Education Requirements - 23 credits**

<table>
<thead>
<tr>
<th>GESP</th>
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<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA 1000</td>
<td>Quantitative Reasoning</td>
<td>3</td>
</tr>
</tbody>
</table>
GEHS 2010 Historical Process of Puerto Rico 3
GECF 1010 The Christian Faith 3
GEIC 1000 Information and Computer Literacy 2

Major Requirements - 49 credits

PHTH 1000 Introduction to Physical Therapy 3
PHTH 1010 Principles of Patient Care in Physical Therapy 3
PHTH 1220 Therapeutic Modalities in Physical Therapy 4
PHTH 1221 Pathology of Physical Rehabilitation I 3
PHTH 2050 Emotional Dimension of Physical Incapacity 2
PHTH 2051 Professional Communication Skills in Physical Therapy 2
PHTH 2131 Pathology of Physical Rehabilitation II 3
PHTH 2141 Principles of Electrical Stimulation 3
PHTH 2151 Orthopedic Rehabilitation 3
PHTH 2351 Neurological Rehabilitation 3
PHTH 2911 Internship in Physical Therapy I 3
PHTH 2912 Internship in Physical Therapy II 3
PHTH 2913 Internship in Physical Therapy III 3
PHTH 2990 Integration Seminar in Physical Therapy 2
BIOL 1003 Basic Biological Concepts 3
BIOL 2151 Human Anatomy and Physiology I 3
BIOL 2152 Human Anatomy and Physiology II 3

Political Science (B.A.)

The mission of the Political Science Program is to provide students with the theoretical and philosophical foundation of the principles of politics and to develop student skills in analyzing and interpreting the political scene and understanding political problems. The Program aims to prepare students to think independently, communicate effectively, understand and analyze complex political structures and how they work in the modern world.

The objective of this Program is to prepare students to work in careers related to public service and/or private enterprises, to continue studies in this discipline, law, diplomacy, journalism, communication media, consulting, lobbying, advertisement agencies and others.

The Metropolitan and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN POLITICAL SCIENCE

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
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</tr>
<tr>
<td>Major Requirements</td>
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<td>Prescribed Distributive Requirements</td>
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<tr>
<td>Elective Courses</td>
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<tr>
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</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 42 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>POLS 1011</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>POLS 2040</td>
<td>Government of the United States</td>
<td>3</td>
</tr>
<tr>
<td>POLS 2088</td>
<td>The Government of the Commonwealth of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>POLS 2100</td>
<td>Political Analysis and Research Techniques</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3080</td>
<td>Political Economics</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3100</td>
<td>Comparative Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3150</td>
<td>Introduction to International Relations</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3401</td>
<td>Classic Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3402</td>
<td>Modern Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3501</td>
<td>Political Systems of Latin American</td>
<td>3</td>
</tr>
<tr>
<td>POLS</td>
<td>Seminar</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Nine additional credits from the course of POLS at the 3000 or 4000 level</td>
<td>9</td>
</tr>
</tbody>
</table>

Prescribed Distributive Requirements - 15 credits

Fifteen (15) credits from the following courses, including at least three (3) credits in each of the following categories:

Empirical Applications

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 3001</td>
<td>Statistical Methods I</td>
<td></td>
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<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (Micro)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (Macro)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3645</td>
<td>Demography</td>
<td>3</td>
</tr>
<tr>
<td>POLS 3180</td>
<td>The Political Scientist and Computers</td>
<td>3</td>
</tr>
</tbody>
</table>

Government, Regulations and Laws

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EVSC 2210</td>
<td>Environmental Policies, Laws and Regulations</td>
<td></td>
</tr>
<tr>
<td>POLS 3800</td>
<td>Government, Ecology and Public Environmental Policy</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3825</td>
<td>The Puerto Rican Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3311</td>
<td>Commercial Law I</td>
<td></td>
</tr>
<tr>
<td>POLS 3170</td>
<td>International Conflicts</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3312</td>
<td>Commercial Law II</td>
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</tr>
<tr>
<td>POLS 3200</td>
<td>Political Sociology</td>
<td>3</td>
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</table>
Popular Music (A.A. and B.A.)

Associate Program

The main purpose of this Program is to adequately prepare students to cope with the demanding professional world of popular music in all areas: performance and improvisation, composition, and arrangements and modern techniques of recording music. This demanding musical preparation is attained with courses in the history of both popular and classic world music taking Puerto Rican music as the basis. The primary aim of the Program is to develop highly competent musicians aware of their artistic role in our society.

The Program offers preparatory courses to enable students to attain the minimum required performance level in their principal instrument and/or in the theoretical foundations of music required for admission into the regular program. All students in this Program must own a principal instrument.

Admission Requirements

1. All students interested in admission to the Program must take an entrance examination composed of two parts:
   a. A written and practical test of music theory and sight singing.
   b. An audition before a jury of professors in the principal popular instrument.

2. Three options will be established for admission to the Program:
   a. Students who pass entrance examination and show musical ability will be placed in the regular program (first year).
   b. Candidates that do no pass the entrance examination and show musical ability must take from three (3) to twelve (12) credits in the preparatory component in accordance with their level of performance.

Preparatory Component

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 0531, 0532</td>
<td>Music Theory and Sight Singing (2 semesters, 6 credits)</td>
</tr>
<tr>
<td>MUSI 0501, 0502</td>
<td>Flute (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0511, 0512</td>
<td>Piano (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0521, 0522</td>
<td>Puerto Rican Cuatro (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0541, 0542</td>
<td>Saxophone (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0551, 0552</td>
<td>Trumpet (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0571, 0572</td>
<td>Trombone (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0581, 0582</td>
<td>Bass (2 semesters, 2 credits)</td>
</tr>
<tr>
<td>MUSI 0591, 0592</td>
<td>Contemporary Guitar (2 semesters, 2 credits)</td>
</tr>
</tbody>
</table>
MUSI 0601, 0602  Drums (American and Latin)
MUSI 0611, 0612  Latin Percussion
MUSI 0641, 0642  Voice (Singing)

c. All students that demonstrate a high level of performance in the entrance examination will receive a total of from three to six credits in Music Theory and Sight Singing and from three to six credits in their principal instrument.

The Metropolitan Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN POPULAR MUSIC

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>40</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
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**General Education Requirements - 23 credits**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
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<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
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<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA</td>
<td>Quantitative Reasoning</td>
<td>3</td>
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<tr>
<td>GEHS</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC</td>
<td>Information and Computer Literacy</td>
<td>2</td>
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</tbody>
</table>

**Major Requirements - 40 credits**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MUSI</td>
<td>History of Music I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUSI</td>
<td>Instrumental Ensemble I, II, III, IV or Choral Ensemble I, II, III, IV</td>
<td>4</td>
</tr>
<tr>
<td>MUSI</td>
<td>Music Theory and Sight Singing I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI</td>
<td>Complementary Piano I, II</td>
<td>2</td>
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<tr>
<td>MUSI</td>
<td>Improvisation</td>
<td>1</td>
</tr>
<tr>
<td>MUSI</td>
<td>Melodic and Rhythmic Harmony</td>
<td>2</td>
</tr>
<tr>
<td>MUSI</td>
<td>Popular Harmony I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUSI</td>
<td>Popular Keyboard Harmony</td>
<td>2</td>
</tr>
<tr>
<td>MUSI</td>
<td>Graduation Concert</td>
<td>1</td>
</tr>
<tr>
<td>MUSI</td>
<td>History of Puerto Rican and Latin American Music</td>
<td>2</td>
</tr>
</tbody>
</table>

*Students in Voice (Singing) should register each semester in Choral Ensemble. Students in other instruments should take only one semester in Choral Ensemble and three semesters in Instrumental Ensemble.

**Principal Popular Instrument 4 semesters - 12 credits**

Students will take 12 credits in performance on their principal instrument from the following courses:
MUSI 1501, 1502, 2503, 2504  Flute
MUSI 1511, 1512, 2513, 2514  Piano
MUSI 1521, 1522, 2523, 2524  Puerto Rican Cuatro
MUSI 1541, 1542, 2543, 2544  Saxophone
MUSI 1551, 1552, 2553, 2554  Trumpet
MUSI 1571, 1572, 2573, 2574  Trombone
MUSI 1581, 1582, 2583, 2584  Bass
MUSI 1591, 1592, 2593, 2594  Contemporary Guitar
MUSI 1601, 1602, 2603, 2604  Drums (American and Latin)
MUSI 1611, 1612, 2613, 1614  Latin Percussion
MUSI 1641, 1642, 2643, 2644  Voice (Singing)

Prescribed Distributive Requirements - 2 credits

Secondary Instrument. Two credits selected from the following courses:*

MUSI 0501, 0502, 1501, 1502  Flute
MUSI 0511, 1012, 1511, 1512  Piano
MUSI 0521, 0522, 1521, 1522  Puerto Rican Cuatro
MUSI 0541, 0542, 1541, 1542  Saxophone
MUSI 0551, 0552, 1551, 1552  Trumpet
MUSI 0571, 0572, 1571, 1572  Trombone
MUSI 0581, 0582, 1581, 1582  Bass
MUSI 0591, 0592, 1591, 1592  Contemporary Guitar
MUSI 0601, 0602, 1601, 1602  Drums (American and Latin)
MUSI 0611, 0612, 1611, 1612  Latin Percussion
MUSI 0641, 0642, 1641, 1642  Voice (Singing)

* These credits may be from the Preparatory Component or from the first year of the Principal Popular Instrument Component depending on the entrance examination.

Bachelor’s Program

The main purpose of this Program is to adequately prepare students to cope with the demanding professional world of popular music in all areas: performance and improvisation, composition, and arrangements and modern techniques of recording music. This demanding musical preparation is attained with courses in the history of both popular and classic world music taking Puerto Rican music as the basis. The primary aim of the Program is to develop highly competent musicians aware of their artistic role in our society.

The Program offers preparatory courses to enable students to attain the minimum required performance level in their principal instrument and/or in the theoretical foundations of music required for admission into the regular program. Students in the bachelor’s program in popular music must own a principal instrument.
Admission Requirements

1. All students interested in admission to the Program must take an entrance examination composed of two parts:
   a) A written and practical test of Music Theory and sight singing.
   b) An audition before a jury of professors in the principal popular instrument.

2. Three options will be established for admission to the Program:
   a) Students who pass the entrance examination will be placed in the regular program (first year).
   b) Candidates who do not pass the entrance examination and demonstrate musical ability must take from three to twelve credits in the preparatory component in accordance with their level of performance.

Preparatory Component

MUSI 0531, 0532 Music Theory and Sight Singing
   (2 semesters, 6 credits) Principal Instrument
   (2 semesters, 2 credits)
MUSI 0501, 0502 Flute
MUSI 0511, 0512 Piano
MUSI 0521, 0522 Puerto Rican Cuatro
MUSI 0541, 0542 Saxophone
MUSI 0551, 0552 Trumpet
MUSI 0571, 0572 Trombone
MUSI 0581, 0582 Bass
MUSI 0591, 0592 Contemporary Guitar
MUSI 0601, 0602 Drums (American and Latin)
MUSI 0611, 0612 Latin Percussion
MUSI 0641, 0642 Voice (Singing)

   c) All students who show a high level of performance in the entrance examination will receive a total of from three to six credits in music theory and sight singing and from three to six credits in their principal instrument.

The Metropolitan Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN POPULAR MUSIC

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>60</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
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<tr>
<td>Elective Courses</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>115</strong></td>
</tr>
</tbody>
</table>
**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 60 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1141, 1142</td>
<td>History of Music I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUSI 1321, 1322, 2323, 2324, 3335, 3336, 4327, 4328*</td>
<td>Instrumental Ensemble I, II, III, IV, V, VI, VII, VIII</td>
<td>8</td>
</tr>
<tr>
<td>or 1331, 1332, 2333, 2334, 3325, 3326, 4337, 4338*</td>
<td>Choral Ensemble I, II, III, IV, V, VI, VII, VIII</td>
<td>8</td>
</tr>
<tr>
<td>MUSI 1531, 1532</td>
<td>Music Theory and Sight Singing I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 1561, 1562</td>
<td>Complementary Piano I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2610</td>
<td>Improvisation</td>
<td>1</td>
</tr>
</tbody>
</table>

*Voice students (Singing) should register each semester in Choral Ensemble. Other students should take only one semester in Choral Ensemble and seven semesters in Instrumental Ensemble.*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 2611</td>
<td>Melodic and Rhythmic Interpretations</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 2621, 2622</td>
<td>Popular harmony I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUSI 2631, 2632</td>
<td>Popular Keyboard Harmony</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3320</td>
<td>History of Puerto Rican and Latin American Music</td>
<td>2</td>
</tr>
<tr>
<td>MUSI 3901, 3902</td>
<td>Popular Composition I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 4724, 4725</td>
<td>Popular Music Arrangements I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUSI 4734, 4735</td>
<td>Recording (M.I.D.I. Room) I, II</td>
<td>6</td>
</tr>
<tr>
<td>MUSI 4800</td>
<td>Graduation Concert</td>
<td>1</td>
</tr>
</tbody>
</table>

**Principal Popular Instrument 4 semesters - 12 credits**

Students will take 12 credits in performance on their principal instrument.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSI 1501, 1502, 2503, 2504</td>
<td>Flute</td>
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</tr>
<tr>
<td>MUSI 1511, 1512, 2513, 2514</td>
<td>Piano</td>
<td></td>
</tr>
<tr>
<td>MUSI 1521, 1522, 2523, 2524</td>
<td>Puerto Rican Cuatro</td>
<td></td>
</tr>
<tr>
<td>MUSI 1541, 1542, 2543, 2544</td>
<td>Saxophone</td>
<td></td>
</tr>
<tr>
<td>MUSI 1551, 1552, 2553, 2554</td>
<td>Trumpet</td>
<td></td>
</tr>
<tr>
<td>MUSI 1571, 1572, 2573, 2574</td>
<td>Trombone</td>
<td></td>
</tr>
<tr>
<td>MUSI 1581, 1582, 2583, 2584</td>
<td>Bass</td>
<td></td>
</tr>
<tr>
<td>MUSI 1591, 1592, 2593, 2594</td>
<td>Contemporary Guitar</td>
<td></td>
</tr>
<tr>
<td>MUSI 1601, 1602, 2603, 2604</td>
<td>Drums (American and Latin)</td>
<td></td>
</tr>
<tr>
<td>MUSI 1611, 1612, 2613, 1614</td>
<td>Latin Percussion</td>
<td></td>
</tr>
<tr>
<td>MUSI 1641, 1642, 2643, 2644</td>
<td>Voice (Singing)</td>
<td></td>
</tr>
</tbody>
</table>
Prescribed Distributive Requirements - 2 credits

Secondary Instrument. Two credits selected from the following courses:

- MUSI 0501, 0502, 1501, 1502 Flute
- MUSI 0511, 1012, 1511, 1512 Piano
- MUSI 0521, 0522, 1521, 1522 Puerto Rican Cuatro
- MUSI 0541, 0542, 1541, 1542 Saxophone
- MUSI 0551, 0552, 1551, 1552 Trumpet
- MUSI 0571, 0572, 1571, 1572 Trombone
- MUSI 0581, 0582, 1581, 1582 Bass
- MUSI 0591, 0592, 1591, 1592 Contemporary Guitar
- MUSI 0601, 0602, 1601, 1602 Drums (American and Latin)
- MUSI 0611, 0612, 1611, 1612 Latin Percussion
- MUSI 0641, 0642, 1641, 1642 Voice (Singing)

* These credits may be from the Preparatory Component or from the first year of the Principal Popular Instrument Component depending on the entrance examination.

Programming for Internet (A.A.S)

The program of studies for the Associate in Applied Science Degree in Programming for Internet has been designed to offer students a theoretical and practical preparation for the world of technical and diversified jobs characterized by emergent business technology and the design, of data processing through the use of Internet and telecommunications technology. This Program prepares students to work as systems programmers, using their knowledge of programming principles and the structuring of programs. On the other hand, they are trained in the application of mathematical knowledge useful in the solution of programming and design problems. The Program also allows them to acquire knowledge on the design of Web Servers, using the most common application programs on the market adaptable to Internet technology.

The Fajardo Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN PROGRAMMING FOR INTERNET

- General Education Requirements 23 credits
- Major Requirements 42 credits
- Elective Courses 3 credits
- Total 68 credits

General Education Requirements - 23 credits

- GESP Spanish 6
- GEEN English 6
- GEMA 1000 Quantitative Reasoning 3
- GEHS 2010 Historical Process of Puerto Rico 3
- GECE 1010 The Christian Faith 3

268
GEIC  1000  Information and Computer Literacy  2

**Major Requirements - 42 credits**

COMP 1010  Internet and its Technologies  3  
COMP 2050  Multimedia  3  
COMP 2110  Introduction to Computer Science  3  
COMP 2015  WEB Page Design  3  
COMP 2120  Programming Logic  3  
COMP 2300  Visual Programming  3  
COMP 2315  Structured Programming  3  
COMP 2320  Introduction to JAVA Programming  3  
COMP 2425  Programs and Applications for Internet  3  
COMP 2501  Discrete Computational Structures I  3  
COMP 2600  Business Programming  3  
COMP 2700  Configuration, Administration and Maintenance of the Web Server  3  
COMP 2760  Dynamic Webs with Databases and Configuration  3  
COMP 2975  Practice: Design, Development and Publication of Web Servers  3

**Psychology (B.A.)**

The courses offered in psychology are designed to develop student understanding and knowledge of the fundamental principles of psychology; to help students to understand themselves and their relations with others; and to provide students majoring in psychology with a background in the theory and critical evaluation of behavior as a basis for professional and graduate work.

The Metropolitan and San Germán campuses are authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN PSYCHOLOGY**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>50</td>
</tr>
<tr>
<td>Prescribed Distributive Requirements</td>
<td>6</td>
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<tr>
<td>Elective Courses</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>115</strong></td>
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</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 50 credits**

<table>
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<tr>
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<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
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<td>PSYC 1051</td>
<td>General Psychology I</td>
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</tr>
<tr>
<td>PSYC 1052</td>
<td>General Psychology II</td>
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</tr>
<tr>
<td>PSYC 3001</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3002</td>
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<td>PSYC 3100</td>
<td>Learning</td>
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<tr>
<td>PSYC 3113</td>
<td>Physiological Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>------------</td>
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<tr>
<td>PSYC 3300</td>
<td>Social Psychology</td>
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<tr>
<td>PSYC 4103</td>
<td>Community Intervention</td>
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<tr>
<td>PSYC 4113</td>
<td>Contemporary Theories</td>
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<tr>
<td>PSYC 4200</td>
<td>Principles of Psychological Testing</td>
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</tr>
<tr>
<td>PSYC 4213</td>
<td>Psychopathology</td>
<td>3</td>
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<tr>
<td>PSYC 4234</td>
<td>Psychology of Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4600</td>
<td>Experimental Psychology</td>
<td>4</td>
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<tr>
<td>ANTH 2030</td>
<td>Social Anthropology</td>
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<tr>
<td>BIOL 1006</td>
<td>Fundamentals of Biology</td>
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<tr>
<td>SOWO 3807</td>
<td>Fundamentals of Communication and Interviewing</td>
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</table>

Prescribed Distributive Requirements - 6 credits

Six credits from the following courses.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PSYC 3221</td>
<td>Life Cycle I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3222</td>
<td>Life Cycle II</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3268</td>
<td>Introduction to Counseling and Psychotherapy</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3313</td>
<td>Industrial Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3314</td>
<td>Environmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4100</td>
<td>Behavior Modification</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4210</td>
<td>Cognitive Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4313</td>
<td>Organizational Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4520</td>
<td>Crisis Intervention</td>
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</tr>
<tr>
<td>PSYC 4970</td>
<td>Seminar</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 3566</td>
<td>Women in Society</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 4873</td>
<td>Social Research Techniques</td>
<td>4</td>
</tr>
</tbody>
</table>

Psychosocial Human Services (B.A.)

The Bachelor of Arts degree in Psychosocial Human Services has the main purpose of preparing students in the disciplines that allow them to work as professionals in the areas of psychosocial problems. The curriculum is interdisciplinary in nature with knowledge branching out to psychology, sociology, and social work with emphasis on prevention and treatment of psychosocial problems.

Emphasis will be given to the development of intellectual skills, attitudes and values that will help students become successful in their profession and as members of society.

The Aguadilla Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN PSYCHOSOCIAL HUMAN SERVICES

- General Education Requirements: 47 credits
- Major Requirements: 49 credits
- Prescribed Distributive Requirements: 6 credits
- Specialization Requirements: 15 credits
- Elective Courses: 6 credits

Total: 123 credits
**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Of the nine credits required in the category Historic and Social Context, students will take courses 2010 and 3040 and one additional course from the remaining courses of the same category.

**Major Requirements - 49 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUSE 2020</td>
<td>Contemporary Puerto Rican Family</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 3200</td>
<td>Clinic Interview</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 4010</td>
<td>Ethical Concepts in Human Services</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 4030</td>
<td>Neuropsychology</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 4974</td>
<td>Seminar in Positive Life Styles</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1051</td>
<td>General Psychology I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1052</td>
<td>General Psychology II</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3001</td>
<td>Statistical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3221</td>
<td>Life Cycle I</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3222</td>
<td>Life Cycle II</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 3268</td>
<td>Introduction to Counseling and Psychotherapy</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4200</td>
<td>Principles of Psychological Testing</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4213</td>
<td>Psychopathology</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4234</td>
<td>Psychology of Personality</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 4520</td>
<td>Crisis Intervention</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 4873</td>
<td>Social Research Techniques</td>
<td>4</td>
</tr>
</tbody>
</table>

**Prescribed Distributive Requirements - 6 credits**

Select 6 credits from the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 4313</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3753</td>
<td>Social Problems of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 3825</td>
<td>The Puerto Rican Criminal Justice System</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 3566</td>
<td>Women's Affairs</td>
<td>3</td>
</tr>
</tbody>
</table>

**Specialization Requirements - 15 credits**

One of the following specializations is required

**Dysfunctional Families (Psychosocial Human Services)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUSE 3010</td>
<td>Domestic Violence and Intervention</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 3035</td>
<td>Childhood and Adolescence Emotional, Cognitive and Behavior Problems</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 3220</td>
<td>Family Conflicts Intervention</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 4020</td>
<td>Psychotherapeutic Treatment Techniques for Childhood and Adolescence Dysfunctional Behavior</td>
<td>3</td>
</tr>
<tr>
<td>HUSE 4910</td>
<td>Internships in Dysfunctional Families</td>
<td>3</td>
</tr>
</tbody>
</table>
Drug and Alcohol Prevention (Psychosocial Human Services)

HUSE 3110 Legal Basis for Addiction 3
HUSE 3120 Preventive Models in Drug and Alcohol Use 3
HUSE 3130 Intervention Models with Addictive Behaviors 3
HUSE 4913 Internship in Drug and Alcohol Prevention 3
CJUS 4020 Alcoholism and Drug Addiction 3

Radiological Science (B.S.)

The Bachelor of Science in Radiological Sciences offers a comprehensive educational program for students who have an Associate Degree in Radiological Technology and for certified radiological technologists. The main purpose of the Program is the development of clinical competence in advanced modalities of diagnostic images: Computerized Tomography and Magnetic Resonance.

The Program is designed to allow the student to develop personally and professionally through participation in a variety of didactic and clinical learning experiences. These include cognitive, psychomotor and affective components with scientific knowledge based on concepts and principles of the natural and social sciences, and the humanities; in addition to other sciences related to the discipline.

As a health related science, radiological science is deals with patient health and well-being through diagnosis and treatment of diseases by means of the creation of medical images using X-rays, ultrasound and nuclear magnetic resonance. The specialists in diagnostic images work in collaboration with radiologists and other medical specialists.

It is expected that graduates of this Program be prepared to work in different scenarios such as: general and specialized hospitals, medical, offices, specialized clinics, educational institutions, public health institutions, companies dealing in medical equipment, in industry, and others.

Admission Requirements

Candidates aspiring to enter this Program must meet the following requirements:

1. Submit evidence of having completed the graduation requirements for the Associate Degree in Radiological Technology in a properly accredited institution.
2. Have a minimum grade point average of 2.50
3. Meet the admission requirements established in the General Catalog of Inter American University of Puerto Rico.
4. Present two letters of recommendation from professors who know you as a student.
5. Be interviewed by the admission committee of and/or the Program coordinator.
6. Present a current copy of the following documents:
   - Health Certificate
   - Certificate of Immunization against Hepatitis B
   - Certificate of no Criminal Record provided by the Police of Puerto Rico
In addition to the above admission requirements, candidates who come from other institutions will be evaluated according to the curricular program of that institution and the necessary course adjustments will be determined.

**Academic Progress Requirements**

1. Meet the academic progress norms established in Inter American University’s General Catalog.
2. Pass all major courses with minimum grade of C.
3. All students failing in the same major course on two occasions will be placed on probation in the Bachelor’s Program in Radiological Sciences. If they fail the same course during the probationary period, they will be dropped from the Program.
4. Once students are assigned to a clinical center, they must attend according to the schedule established by the professor and Program coordinator.

**Graduation Requirements**

1. Meet the graduation requirements established in Inter American University’s General Catalog.
2. Pass all major courses with a minimum grade of C.

The Ponce Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE OF BACHELOR OF SCIENCE DEGREE IN RADIOTHERAPY TECHNOLOGY**

**General Education Requirements - 18 credits**

In order to receive the Bachelor of Science Degree in Radiological Sciences, students must take 18 credits in General Education in addition to the 23 credits approved for the Associate Degree. These 18 credits will be taken as follows: in the Philosophical and Esthetic Thought category, course GEPE 4040 and a course from among 2020, 3010 and 3020; in the Basic Skills in Spanish category, course GESP 2203; in the Basic Skills in English category, course GEEN 1103; in the Scientific and Technological Context category, either course GEST 2020 or 3030; in the Historical and Social Context category a course from among GEHS 3020, 3040 and 4030.

**Major Requirements - 30 credits**

- CTMR 3030 Physical Principles of Computerized Tomography and Magnetic Resonance 3
- CTMR 3040 Procedures and Images I 3
- CTMR 3041 Procedures and Images II 3
Radiological Technology (A.A.S., B.S.)

Associate Program

This Program was created to prepare radiological technologists that make up the health professionals responsible for performing radiographic procedures through the use of radiological diagnostic equipment.

The mission of the Associate Degree in Applied Sciences Program in Radiological Technology has its roots in the mission of Inter-American University of Puerto Rico.

This mission is achieved through the following goals:

1. To establish an academic program that responds to student needs and those of the society the Program serves.
2. To develop a curriculum in harmony with the practice standards established by the regulating agencies of the discipline.
3. To provide students with the knowledge and necessary educational experiences that will permit them to pass the revalidation examination.
4. To prepare professionals to be members of an interdisciplinary health team that will carry out its functions in a safe, effective and competent manner.
5. To promote learning as a continuous process so that these professionals keep updated in their field of specialty once they enter the world of work.

Various health institutions in different parts of the Island participate as affiliates in clinical instruction. Each campus will determine the maximum number of students to be admitted per year based on the facilities and resources available to attend to of them. Students who aim to complete the Associate Degree in Applied Sciences in Radiological Technology must meet the Program’s following specific admission requirements:

1. Be admitted to Inter-American University of Puerto Rico, in a campus authorized to offer the Program.
2. Submit a completed admission application on or before the date stipulated by the Program.
3. Present an official and updated transcript of recent studies.
4. Have a general grade point average of at least 2.50.
5. Present two (2) letters of recommendation from professors who know them as students.
6. Appear for an interview with the Admissions Committee of the Program.
After admission, present:

two (2) photos 2 x 2
a health certificate
evidence of vaccination against Hepatitis B
a certificate of no criminal record

Academic Progress Requirements

1. Meet the academic progress norms established in Inter-American University’s General Catalog.
2. Pass all major courses with a minimum grade of C, including courses BIOL 1003, 2151 and 2152.
3. Students who fail on two occasions in the same major course will be put on probation in the Radiological Technology Program. If they fail during the probationary period in the same course, they will be dismissed from the Program.
4. Once students are assigned to a clinical affiliate, they must attend as programmed by the Program Office.

The Ponce, San Germán and Barranquitas campuses are authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE DEGREE IN APPLIED SCIENCES IN RADIOLOGICAL TECHNOLOGY

General Education Requirements  23 credits
Major Requirements  49 credits
Prescribed Distributive Requirements  12 credits
Total 84 credits

General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
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</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GECF</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEHS</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GEIC</td>
<td>Information and Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>GEMA</td>
<td>Fundamentals of Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

Major Requirements - 49 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RATE</td>
<td>Radiation Protection</td>
<td>1</td>
</tr>
<tr>
<td>RATE</td>
<td>Patient Care</td>
<td>2</td>
</tr>
<tr>
<td>RATE</td>
<td>Introduction to Radiological Technology</td>
<td>2</td>
</tr>
<tr>
<td>RATE</td>
<td>Radiographic Procedure and Evaluation I</td>
<td>2</td>
</tr>
<tr>
<td>RATE</td>
<td>Principles of Radiographic Exposition and Processing</td>
<td>3</td>
</tr>
<tr>
<td>RATE</td>
<td>Contrast Media</td>
<td>1</td>
</tr>
<tr>
<td>RATE</td>
<td>Critique and Radiographic Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>RATE</td>
<td>Radiographic Procedures and Evaluations II</td>
<td>2</td>
</tr>
<tr>
<td>RATE</td>
<td>Radiographic Procedures and Evaluations III</td>
<td>2</td>
</tr>
</tbody>
</table>
RATE 2231 Radiological Physics I 3
RATE 2232 Radiological Physics II 3
RATE 2240 Radiographic Pathology and Medical Terminology 3
RATE 2250 Sectional Anatomy 2
RATE 2260 Radiobiology 2
RATE 2270 Diagnostic Image Modalities and Equipment 2
RATE 2911 Clinical Practice I 2
RATE 2912 Clinical Practice II 3
RATE 2913 Clinical Practice III 3
RATE 2917 Clinical Practice IV 4
RATE 2918 Clinical Practice V 4

Prescribed Distributive Requirements - 12 credits

BIOL 1003 Basic Concepts of Biology 3
BIOL 2151 Anatomy and Human Physiology I 3
BIOL 2152 Anatomy and Human Physiology II 3
EGHS 3030 Human Formation in the Contemporary Society 3

Bachelor’s Program

This Program is designed to develop students academically in the areas of radiological imaging and provides students the option of obtaining a diploma of Associate Degree in Applied Sciences in Radiological Technology upon completing the 84 required credits for the major. In addition, it aims to offer professionals who have obtained an Associate Degree in Radiological Technology from an accredited university, the opportunity to continue studies leading to the Bachelor in Science Degree in Radiological Technology with a major in Mammography and Angiography. The practice courses will be offered in different structured scenarios in affiliated and certified health institutions where the student will develop the required knowledge, skills and competencies to offer a quality service.

The Program aims to prepare health professionals capable of applying the knowledge of the components of mammography and angiography equipment to the identification of the diverse pathologies related to the study area. This professional will be able to make structured radiological studies in the areas of mammography and angiography that facilitate the analysis and interpretation of the results so that patient diagnoses can be made with a greater degree of precision. In addition, they will demonstrate a respectful attitude towards the patient by observing the professional ethics code and the Confidentiality Law (HIPAA).

Graduates from the Program will have a high sense of humanism, sensitivity and commitment to the profession, and will possess traits that will be shown by means of their effective work with the health team that intervenes in the diagnosis and treatment of diseases.

The Radiological Diagnosis Technology profession requires a license granted by the Examining Board of Radiology Technicians, after satisfactory approval of a revalidation examination. As a result of the formative process of the graduates of the Program, they will be capable of taking and to approving the evaluation required to exercise the profession.
Admission Requirements

Students who aspire to the Bachelor in Science Degree in Radiological Technology with a major in Mammography and Angiography must fulfill the following general admission requirements of the Program:

1. Submit a completed admissions application in or before the date stipulated by the Program.
2. Present an official and updated transcript of credits of recent studies.
3. Have a general grade index of 2.50 more.
4. Submit two (2) letters of recommendation from professors who know you as a student.
5. Be interviewed by the Admissions Committee of the Program.
6. After admission, submit:
   a) two (2) photos 2 x 2
   b) a health certificate
   c) proof of vaccination against Hepatitis B
   d) a certificate of no criminal record

Transfer Requirements

1. Meet all admission requirements for students transferring from another University campus or transfers established in the University’s General Catalog and by the corresponding Campus.
2. Both the Associate Director of Sciences and Technology and the Academic Coordinator of the Program must authorize all transfers or combined registration.
3. Have a minimum average of 2.50 in the major courses and have a certificate or an Associate Degree in Radiological Technology from a recognized and accredited Higher Education institution. If more than five (5) years have passed since finishing the Associate Degree, an active license, as Radiological Technologist must be presented.

Graduation Requirements

To complete the Bachelor of Science Degree in Radiological Technology with a major in Mammography and Angiography the student must:

1. Have passed major courses with a minimum average of 2.50.
2. Have obtained a minimum overall grade index of 2.00 points.

The Barranquitas Campus is authorized to offer this Program.
REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREE IN
RADIOLOGICAL TECHNOLOGY WITH A MAJOR IN MAMMOGRAPHY AND
ANGIOGRAPHY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>44</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>12</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>69</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

**General Education Requirements - 44 credits**

Forty-four (44) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students of this Program will take GEMA 1200 in the Basic Skills in Mathematics category. They are exempt from taking the course GEHP 3000.

**Core Course Requirements - 12 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1003</td>
<td>Basic Biological Concepts</td>
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</tr>
<tr>
<td>BIOL 2151</td>
<td>Human Anatomy and Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 2152</td>
<td>Anatomy and Human Physiology II</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 3030</td>
<td>Human Formation in Contemporary Society</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Requirements - 69 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RATE 1100</td>
<td>Radiation Protection</td>
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<tr>
<td>RATE 1110</td>
<td>Patient Care</td>
<td>2</td>
</tr>
<tr>
<td>RATE 1125</td>
<td>Introduction to Radiological Technology</td>
<td>2</td>
</tr>
<tr>
<td>RATE 1221</td>
<td>Radiographic Procedures and Evaluation I</td>
<td>2</td>
</tr>
<tr>
<td>RATE 1230</td>
<td>Principles of Radiographic Exposition and Processing</td>
<td>3</td>
</tr>
<tr>
<td>RATE 2080</td>
<td>Contrast Media</td>
<td>1</td>
</tr>
<tr>
<td>RATE 2210</td>
<td>Critique and Radiographic Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>RATE 2222</td>
<td>Radiographic Evaluation and Procedures II</td>
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</tr>
<tr>
<td>RATE 2223</td>
<td>Radiographic Evaluation and Procedures III</td>
<td>2</td>
</tr>
<tr>
<td>RATE 2231</td>
<td>Radiological Physics I</td>
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</tr>
<tr>
<td>RATE 2232</td>
<td>Radiological Physics II</td>
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</tr>
<tr>
<td>RATE 2240</td>
<td>Radiographic Pathology and Medical Terminology</td>
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<tr>
<td>RATE 2250</td>
<td>Sectional Anatomy</td>
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<tr>
<td>RATE 2260</td>
<td>Radiobiology</td>
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</tr>
<tr>
<td>RATE 2270</td>
<td>Diagnostic Image and Modalities Equipment</td>
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</tr>
<tr>
<td>RATE 2911</td>
<td>Clinical Practice I</td>
<td>2</td>
</tr>
<tr>
<td>RATE 2912</td>
<td>Clinical Practice II</td>
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<td>RATE 2913</td>
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<td>RATE 2917</td>
<td>Clinical Practice IV</td>
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<td>RATE 2918</td>
<td>Clinical Practice V</td>
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<td>RATE 3050</td>
<td>Mammographic Quality Control</td>
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<td>RATE 3060</td>
<td>Creation of Radiographic Images in Computer</td>
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</tr>
<tr>
<td>RATE 3070</td>
<td>Breast Anatomy and Pathology</td>
<td>2</td>
</tr>
</tbody>
</table>
Religion (A.A. and B.A.)

Associate Program

The Associate of Arts Degree in Studies in Religion aims to offer a degree that permits students to move to the Bachelor of Arts Degree to form facilitators capable of offering ecumenical instruction in harmony with the particular needs of society.

The Guayama and Metropolitan campuses are authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN STUDIES IN RELIGION

General Education Requirements  23 credits
Major Requirements  42 credits
Elective Courses          3 credits
Total                     68 credits

General Education Requirements - 23 credits

GESP Spanish  6
GEEN English  6
GEMA 1000 Quantitative Reasoning  3
GEHS 2010 Historical Process of Puerto Rico  3
GECF 1010 The Christian Faith  3
GEIC 1000 Information and Computer Literacy  2

Major Requirements - 42 credits

RELI 2023 Biblical Archaeology and Geography  3
RELI 3013 The Old Testament  3
RELI 3024 The New Testament  3
RELI 3026 History of Israel  3
RELI 3034 Spirituality  3
RELI 3065 Christian Ethics in an Ecumenical Context  3
RELI 4100 Christian Education  3
RELI 4300 Christian Education Curriculum  3
RELI 4353 Philosophy of Religion  3
RELI 4910 Internship in Religion  3
EDUC 2021 History and Philosophy of Education  3
EDUC 2031 Developmental Psychology  3
EDUC 3610 Groups Processes in the Classroom  3
PSYC 4213 Psychopathology  3
Bachelor’s Program

The courses in religion are in harmony with the Christian ecumenical orientation of the University and the official norms regarding this, which appear in this Catalog under “Religious Life Policy”. The Institutional goal is to develop individuals with an ecumenical perspective who: 1) understand the Christian faith and its implications for our culture; 2) know and respect the most important aspects of the world’s major religions, and 3) know and appreciate the study of religion in a university curriculum which maintains a dynamic and harmonious relationship between faith and critical reasoning; and between religion and the arts and sciences.

The Bachelor of Arts degree in Studies in Religion aims to forge facilitators capable of offering ecumenical instruction in agreement with the particular needs of society. The religion curriculum provides the option of an Associate of Arts degree in religion and allows students the option of continuing studies toward a Bachelor of Arts degree in Studies in Religion.

The Guayama and Metropolitan campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN STUDIES IN RELIGION

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>47 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Requirements</td>
<td>54 credits</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>13 credits</td>
</tr>
<tr>
<td>Total</td>
<td>114</td>
</tr>
</tbody>
</table>

**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 54 credits**

<table>
<thead>
<tr>
<th>RELI</th>
<th>2023</th>
<th>Biblical Archaeology and Geography</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELI</td>
<td>3013</td>
<td>The Old Testament</td>
<td>3</td>
</tr>
<tr>
<td>RELI</td>
<td>3024</td>
<td>The New Testament</td>
<td>3</td>
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<tr>
<td>RELI</td>
<td>3026</td>
<td>History of Israel</td>
<td>3</td>
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<tr>
<td>RELI</td>
<td>3034</td>
<td>Spirituality</td>
<td>3</td>
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<tr>
<td>RELI</td>
<td>3065</td>
<td>Christian Ethics in an Ecumenical Context</td>
<td>3</td>
</tr>
<tr>
<td>RELI</td>
<td>3230</td>
<td>Principles of Church Growth</td>
<td>3</td>
</tr>
<tr>
<td>RELI</td>
<td>3326</td>
<td>History of Christianity</td>
<td>3</td>
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<tr>
<td>RELI</td>
<td>4100</td>
<td>Christian Education</td>
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<tr>
<td>RELI</td>
<td>4300</td>
<td>Christian Education Curriculum</td>
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<tr>
<td>RELI</td>
<td>4353</td>
<td>Philosophy of Religion</td>
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<tr>
<td>RELI</td>
<td>4910</td>
<td>Internship in Religion</td>
<td>3</td>
</tr>
<tr>
<td>EDUC</td>
<td>2021</td>
<td>History and Philosophy of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC</td>
<td>2031</td>
<td>Developmental Psychology</td>
<td>3</td>
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<tr>
<td>EDUC</td>
<td>3610</td>
<td>Groups Processes in the Classroom</td>
<td>3</td>
</tr>
<tr>
<td>PSYC</td>
<td>3268</td>
<td>Introduction to Counseling and Psychotherapy</td>
<td>3</td>
</tr>
</tbody>
</table>
Sales (A.S)

The Associate of Science Degree in Sales aims to study the sales systems and their basic functions geared to achieve their objectives, contact clients and develop presentations on sales. The Program helps the student perform efficiently and effectively in the world of work.

The San Germán Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE OF SCIENCE DEGREE IN SALES

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
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<td>Major Requirements</td>
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<tr>
<td>Core Course Requirements</td>
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<td>Elective courses</td>
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<td><strong>Total</strong></td>
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</table>

**General Education Requirements - 23 credits**

- GESP Spanish 6
- GEEN English 6
- GEMA 1000 Quantitative Reasoning 3
- GEHS 2010 Historical Process of Puerto Rico 3
- GEIC 1000 Information and Computer Literacy 2

**Major Requirements - 15 credits**

- MKTG 1210 Introduction to Marketing 3
- MKTG 3230 Promotion 3
- MKTG 3234 Personal Sales 3
- MKTG 3235 Sales Management 3
- MKTG 3236 Retail Selling 3

**Core Course Requirements - 10 credits**

- ACCT 1151 Introduction to Accounting I 4
- BADM 2250 Administrative Theory 3
- MAEC 2211 Principles of Economics (Micro) 3

Small Business Administration (B.B.A.)

The course of studies for the major in Small Business Administration has been designed to give students the knowledge and principles governing business activities for the establishment of a small business. Students are exposed to the concepts, principles and basic practices of the different disciplines included in business administration and especially to those applicable to small business administration.
This Program aims to prepare capable professionals with the elements, concepts and theories needed for the establishment and administration of small businesses so they may contribute to the economic and social progress of the country.

The Fajardo Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN SMALL BUSINESS ADMINISTRATION

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Core Course Requirements</td>
<td>35</td>
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<td>Prescribed Distributive Requirements</td>
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<td>Elective Courses</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>121</strong></td>
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</tbody>
</table>

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 35 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
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<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
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<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
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<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
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<tr>
<td>FINA 3100</td>
<td>Managerial Finance</td>
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<tr>
<td>MAEC 2211</td>
<td>Principles of Economics (MICRO)</td>
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<tr>
<td>MAEC 2212</td>
<td>Principles of Economics (MACRO)</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2221</td>
<td>Basic Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MAEC 2222</td>
<td>Managerial Statistics</td>
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<tr>
<td>MATH 1070</td>
<td>Fundamentals of Applied Mathematics</td>
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</tr>
<tr>
<td>MKTG 1210</td>
<td>Introduction to Marketing</td>
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</table>

Major Requirements - 30 credits

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>SBAD 2110</td>
<td>Introduction to Small Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 2210</td>
<td>Relations with the Small Business Consumer</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 3220</td>
<td>Promotion and Selling through Internet</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 3330</td>
<td>Human Resources Administration in Small Businesses</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 3331</td>
<td>Federal and Puerto Rican Laws for Small Businesses</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 3430</td>
<td>Tax Laws for Small Business Administration</td>
<td>3</td>
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<tr>
<td>SBAD 4110</td>
<td>Small Business Operation</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 4220</td>
<td>Ethics in Small Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>SBAD 4910</td>
<td>Professional Practice in Small Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>BADM 3900</td>
<td>Business Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>
Prescribed Distributive Requirements - 3 credits

Three credits from the academic offerings of Small Business Administration (SBAD) at the 3000 or 4000 levels.

Credit may be granted for the professional practice course (SBAD 4910) to students who have had a satisfactory work experience and who apply for it in writing to the director of the academic department. This credit will be subject to the following:

1. Students have been working full-time in a company for a minimum of two consecutive years within the three-year period immediately prior to the date of their request.
2. Students submit a certification and letter from their employer or the Human Resources Office of their place of employment which specifies:
   a. Years of experience
   b. Period of the time employed
   c. Position or positions held
   d. Job description
   e. Copies of evaluations received
   f. Any other evidence of their professional performance during their employment.
3. Students pay 50% of the tuition costs of the practice course for which they are requesting credit.
4. The experience recognized by the University corresponds to the requirement for the degree that the student hopes to obtain from the Institution.

Social Work (B.A.)

Courses are offered in administration, theory and practice with the aim of preparing students for beginning generalist practice in the field of social work. The major in this discipline provides not only theoretical knowledge but the opportunity to gain experience through practical instruction in welfare agencies of various types in Puerto Rico.

Students will fill out the Program admission form after having completed course SOWO 2503, with a minimum grade of C. To take the practice courses (SOWO 4911, 4912), students must have successfully completed eighty-two (82) credits with a general grade index and a grade index in the major of at least 2.50.

The laboratory teaching method used in each course makes it necessary to limit course sections to maximum of 25 students.

The Arecibo, Fajardo and Metropolitan campuses are authorized to offer this Program.

The Program of the Arecibo and Metropolitan campuses is accredited by the Council on Social Work Education, [http://www.cswe.org](http://www.cswe.org).

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SOCIAL WORK

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>47</td>
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<tr>
<td>Major Requirements</td>
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<td>Elective Courses</td>
<td>9</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” In addition to taking course GEHS 2010, students of this Program will take courses 3020 and 3040 in the Historic and Social Context category.

Major Requirements - 55 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SOWO 2503</td>
<td>Introduction to Social Work</td>
<td>3</td>
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<tr>
<td>SOWO 2514</td>
<td>Social Policies and Services</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 3461, 3462</td>
<td>Humans and Their Social Environment I, II</td>
<td>6</td>
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<tr>
<td>SOWO 3504</td>
<td>Introduction to Agency Administration and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>SOWO 3801</td>
<td>Communication and Interview Process</td>
<td>3</td>
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<tr>
<td>SOWO 3802</td>
<td>Report Writing</td>
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<td>SOWO 3828</td>
<td>Social and Community Groups Generalist Social Work</td>
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<td>SOWO 4873</td>
<td>Social Scientific Research Methodology</td>
<td>4</td>
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<tr>
<td>SOWO 4911, 4912</td>
<td>Practice Experiences in Generalist Social Work I, II</td>
<td>8</td>
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<tr>
<td>SOWO 4931, 4932</td>
<td>Practice Methods in Generalist Social Work I, II</td>
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<tr>
<td>SOWO 497-</td>
<td>Seminar</td>
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<tr>
<td>BIOL 1006</td>
<td>Fundamentals of Biology</td>
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<tr>
<td>PSYC 1051</td>
<td>General Psychology I</td>
<td>3</td>
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<tr>
<td>PSYC 3001</td>
<td>Statistical Methods of Psychology</td>
<td>3</td>
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</tbody>
</table>

Sociology (B.A.)

The objective of the Sociology Program is to develop in the student an understanding of the collective behavior of human beings. The courses cover a variety of social groups such as social classes, the family and the community. Human beings are also seen in different contexts: rural, slums, the suburb and the modern city. The curriculum also covers behavioral themes such as population growth, migration, religion and deviance, particularly crime and juvenile delinquency. The courses are built on an empirical foundation designed to familiarize the students with sociological theories and research methods.

The Program is designed to provide a basis for graduate studies in sociology and anthropology and to prepare its students to work professionally with groups and individuals.

The Metropolitan and San Germán campuses are authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SOCIOLOGY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
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<tbody>
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<tr>
<td>Major Requirements</td>
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<tr>
<td>Prescribed Distributive Requirements</td>
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</tr>
<tr>
<td>Specialization Requirements</td>
<td>15 or 16</td>
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<tr>
<td>Elective Courses</td>
<td>15 or 14</td>
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<tr>
<td>Total</td>
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</table>
General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 23 credits

- SOCI 2030 Introduction to Sociology 3
- SOCI 3020 Social Structures and Social Change 3
- SOCI 3753 Social Problems of Puerto Rico 3
- SOCI 4694 History of Social Thought 3
- ANTH 1040 Introduction to Anthropology 3
- PSYC 1223 Careers in the Social Sciences 1
- PSYC 3001 Statistical Methods of Psychology I 3
- SOWO 4873 Social Research Techniques 4

Prescribed Distributive Requirements - 12 credits

Twelve credits from the following courses:

- GEOG 1144 Introduction to Cultural Geography 3
- HIST 1050 The Contemporary World 3
- HIST 2055 Puerto Rico II 3
- MAEC 2212 Principles of Economics (Macro) 3
- POLS 1011 Introduction to Political Science 3
- PSYC 1051 General Psychology I 3

Specialization Requirements - 15 or 16 credits

Student are required to take one of following specializations:

Criminal Justice (Sociology)

Criminal Justice - 15 credits

- SOCI 3825 The Criminal Justice System of Puerto Rico 3
- SOCI 3837 Rehabilitation of Delinquents 3
- SOCI 4495 Criminology and Juvenile Delinquents 3
- SOCI  Special Topics 3
- SOCI  Seminar 3

General Anthropology (Sociology)

General Anthropology – 16 credits

- ANTH 3013 Ethnological Methodology 3
- ANTH 3024 Physical Anthropology 4
- ANTH 4075 Caribbean Cultural Patterns 3

285
### General Sociology

**General Sociology – 15 credits**

- **SOCI 3404** Sociological Theories 3
- **SOCI 3530** Urban Society 3
- **SOCI 3645** Demography 3
- **SOCI** Special Topics 3
- **SOCI** Seminar 3

### Spanish (B.A.)

The curriculum in Spanish is designed to develop student skills in the oral and written language; to provide a survey of Spanish, Spanish-American and Puerto Rican literature in their historical and philological contexts.

A program of studies leading to the Bachelor of Arts Degree in Spanish and to a minor in Spanish is offered.

The Metropolitan Campus is authorized to offer this Program.

**REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SPANISH**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
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<tbody>
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<tr>
<td>Elective Courses</td>
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**General Education Requirements - 47 credits**

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

**Major Requirements - 39 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>SPAN 2510</td>
<td>Introduction to Text Analysis</td>
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</tr>
<tr>
<td>SPAN 2540</td>
<td>Advanced Grammar</td>
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<tr>
<td>SPAN 3011</td>
<td>Spanish Linguistics I</td>
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</tr>
<tr>
<td>SPAN 3012</td>
<td>Spanish Linguistics II</td>
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<tr>
<td>SPAN 3021</td>
<td>Spanish Literature I</td>
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<tr>
<td>SPAN 3022</td>
<td>Spanish Literature II</td>
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<tr>
<td>SPAN 3071</td>
<td>Spanish-American Literature I</td>
<td>3</td>
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<td>SPAN 3072</td>
<td>Spanish-American Literature II</td>
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<tr>
<td>SPAN 3211</td>
<td>Puerto Rican Literature I</td>
<td>3</td>
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<tr>
<td>SPAN 3212</td>
<td>Puerto Rican Literature II</td>
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<tr>
<td>SPAN 4196</td>
<td>The Language of Puerto Rico</td>
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<tr>
<td>LATI 1001, 1002</td>
<td>Elementary Latin</td>
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</table>
**Prescribed Distributive Requirements - 15 to 17 credits**

Three courses in Literature and/or Linguistics at the 4000 level  9  
Two semesters of another language (French, Italian or Portuguese)  6-8

**Minor in Bilingual Oral and Written Communication**

**Minor in Bilingual Oral and Written Communication - 21 credits**

<table>
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<th>Core Course Requirements - 18 credits</th>
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<tr>
<td>ENGL 3007</td>
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<td>ENGL 3025</td>
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<td>ENGL 3310</td>
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<td>SPAN 3015</td>
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<tr>
<td>SPAN 3020</td>
</tr>
<tr>
<td>SPAN 3025</td>
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**Prescribed Distributive Requirements - 3 credits**

| ENGL 4015  | Translation Workshop  | 3  |
| or SPAN 4015  | Translation Workshop  | 3  |

**Minor in Oral and Written Communication (Spanish)**

**Minor in Oral and Written Communication – 18 credits**

<table>
<thead>
<tr>
<th>Core Courses - 15 credit</th>
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<tr>
<td>SPAN 2540</td>
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<td>SPAN 3015</td>
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<td>SPAN 3020</td>
</tr>
<tr>
<td>SPAN 3025</td>
</tr>
<tr>
<td>SPAN 4196</td>
</tr>
</tbody>
</table>

**Prescribed Distributive Requirements - 3 credits**

An elective course in Spanish at the 3000 or 4000 level

**Minor in Spanish**

**Minor In Spanish - 21 credits**

<table>
<thead>
<tr>
<th>Core Courses - 9 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 2510</td>
</tr>
<tr>
<td>SPAN 2540</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Prescribed Distributive Requirements - 12 credits

Twelve (12) credits in two of the following options:

- SPAN 3021, 3022 Spanish Literature I, II 6
- SPAN 3071, 3072 Spanish-American Literature I, II 6
- SPAN 3211, 3212 Puerto Rican Literature I, II 6

Sports and Recreational Facilities Management (B.A.)

This Baccalaureate Program aims to prepare students in the area of administration and management of sport and recreational facilities. The curriculum is of an interdisciplinary nature with subject matter from management, marketing health, physical education, recreation and sports. Emphasis on the development of intellectual competencies, attitudes and values will help graduates to perform successfully in their profession and in society.

The Aguadilla Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE IN SPORTS AND RECREATIONAL FACILITIES MANAGEMENT

General Education Requirements 47 credits
Major Requirements 67 credits
Elective Courses 9 credits
Total 123 credits

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.”

Major Requirements - 67 credits

- SRIM 1020 Foundations of Sports and Recreation 3
- SRIM 2300 Introduction to Sports Marketing 3
- SRIM 3020 Government Administration of Sports Organizations 3
- SRIM 3030 Development of Programming of Sports and Recreational Centers 3
- SRIM 3040 Legal Aspects in Recreation and Sports 3
- SRIM 3060 Sports and Recreational Facilities Management 3
- SRIM 4010 Evaluation and Research in Sports and Recreational Facilities Management 3
- SRIM 4910 Internship in Sports and Recreational Facilities Management 3
- SRIM 4970 Seminar in Sports and Recreational Facilities Management 3
- ACCT 1151 Introduction to Accounting I 4
- ACCT 1152 Introduction to Accounting II 4
- BADM 2250 Administrative Theory 3
- BADM 2650 Human Behavior in Organizations 3
BADM 3300 Communication in Management 3
BADM 3330 Human Resources in Management 3
BADM 3900 Business Information Systems 3
HPER 2540 Social Recreation 3
HPER 3010 Sports Psychology 3
HPER 3050 Introduction to Athletic Training 3
HPER 3430 Personal and Community Health and Safety 3
HPER 3450 Recreational Experiences 2
HPER 4020 Administration of Physical Education, Wellness, Health and Sport Programs 3

Telecommunications Technology (A.A.S.)

The Program for the Associate in Applied Science Degree in Telecommunications Technology is geared towards providing basic understanding and essential skills in the telephony and telecommunications field. Upon completion of the Program it is expected that students will be capable of occupying positions in this field in industry and in government. The Program is also designed to prepare students for continuing studies towards a Bachelor’s Degree in Communication Technology or in related areas.

The Bayamón Campus is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN TELECOMMUNICATIONS TECHNOLOGY

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education Requirements</td>
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<tr>
<td>Major Requirements</td>
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</tr>
<tr>
<td>Total</td>
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</table>

General Education Requirements -23 credits

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
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<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
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<tr>
<td>GEMA 1200</td>
<td>Fundamentals of Algebra</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
<td>2</td>
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</table>

Major Requirements - 41 credits

<table>
<thead>
<tr>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>TCOM 1511</td>
<td>Fundamentals of Telephony Communication</td>
<td>3</td>
</tr>
<tr>
<td>TCOM 1512</td>
<td>Fundamentals of Telecommunications</td>
<td>3</td>
</tr>
<tr>
<td>TCOM 2523</td>
<td>Introduction to External Plants</td>
<td>3</td>
</tr>
<tr>
<td>TCOM 2533</td>
<td>Telephonic Transmission</td>
<td>3</td>
</tr>
<tr>
<td>TCOM 2542</td>
<td>Data Communication</td>
<td>4</td>
</tr>
<tr>
<td>TCOM 2544</td>
<td>Central Office Switching System</td>
<td>4</td>
</tr>
<tr>
<td>TCOM 2910</td>
<td>Practicum</td>
<td>3</td>
</tr>
<tr>
<td>COMP 2120</td>
<td>Programming Logic</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 1130</td>
<td>Basic Electronics</td>
<td>3</td>
</tr>
<tr>
<td>CSIR 1210</td>
<td>Computer Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>
Tourism (A.A.S. and B.B.A.)

Associate Program

The Associate in Applied Science Degree in Tourism with majors in Tourist Guide and Tourist Administrative Assistant studies principles, concepts and practice of the tourism industry and related areas. This degree is designed for individuals capable of communicating in English and Spanish and who wish to pursue a career in the tourism industry as well as for those with experience in this field who aspire to positions at a supervisory level.

Tourist Guide majors will develop skills in the following areas: tourism planning and development, excursion promotion and sales, and others. In order to practice the profession in Puerto Rico, students must pass a validation examination to obtain a Tourist Guide license from the Puerto Rico Tourism Company. Tourist Administrative Assistants will perform in the following areas: reception, reservations, human resources, accounting and management in diverse hotels and related industries, depending on their experience.

Admission Requirements

In addition to the regular admission requirements established in the General Catalog, the student must:

1. Have an average grade point average of at least 2.5 at the university level.
2. Have passed TURI 1020 (Fundamentals of Tourism) with a minimum grade of a C.
3. Have passed the following courses from the General Education Program with a minimum grade of a C:
   
   GEHS 2010 Historical Process of Puerto Rico
   GESP 1101 Literature and Communication: Narrative and Essay
   GEEN 1101 English as a Second Language I
   or
   GEEN 1201 Development of English through Reading I
   or
   GEEN 2311 Reading and Writing

4. Present a formal application and have approval from the Director of the Business Administration Department or from the Program Coordinator.

Requirements for Admission to the Internship

In order to be admitted to the Tourist Guide Internship or to the Tourist Administrative Assistant Internship, students must have a minimum grade point average of 2.50 in the core courses and specialization courses and must have authorization from the Department Director.
Graduation Requirements:

In addition to the regulations established in the General Catalog, students should have a minimum grade point average of 2.5 in the major.

The Fajardo Campuses is authorized to offer this Program.

REQUIREMENTS FOR THE ASSOCIATE IN APPLIED SCIENCE DEGREE IN TOURISM WITH MAJORS IN TOURIST GUIDE AND IN TOURIST ADMINISTRATIVE ASSISTANT

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education Requirements</td>
<td>23</td>
</tr>
<tr>
<td>Core Course Requirements</td>
<td>27</td>
</tr>
<tr>
<td>Specialization Requirements</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>

General Education Requirements - 23 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GESP</td>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>GEEN</td>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>GEMA 1200</td>
<td>Fundamentals of Algebra</td>
<td>3</td>
</tr>
<tr>
<td>GEHS 2010</td>
<td>Historical Process of Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>GECF 1010</td>
<td>The Christian Faith</td>
<td>3</td>
</tr>
<tr>
<td>GEIC 1000</td>
<td>Information and Computer Literacy</td>
<td>2</td>
</tr>
</tbody>
</table>

Core Course Requirements - 27 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURI 1020</td>
<td>Fundamentals of Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1030</td>
<td>Travel Agencies and Computerized Reservation Systems</td>
<td>2</td>
</tr>
<tr>
<td>TURI 1040</td>
<td>First Aid</td>
<td>1</td>
</tr>
<tr>
<td>TURI 2000</td>
<td>The Law and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2010</td>
<td>The Reception Department</td>
<td>2</td>
</tr>
<tr>
<td>TURI 2030</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2060</td>
<td>Tourist Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2054</td>
<td>Speech Workshop</td>
<td></td>
</tr>
<tr>
<td>SPAN 2451</td>
<td>Spanish as a Foreign Language</td>
<td>3</td>
</tr>
</tbody>
</table>

Specialization Requirements - 15 credits

One of the following majors is required:

Tourist Guide (A.A.S.)

Tourist Guide - 15 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURI 1050</td>
<td>The Tourist Guide</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2020</td>
<td>Geography and Tourism in Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2040</td>
<td>Planning and Developing Excursions</td>
<td>3</td>
</tr>
</tbody>
</table>
Bachelor’s Program

This Baccalaureate Degree offers students the required concepts, principles and practices for effective administration in tourism businesses, both in accommodations and mediation, commercialization, and sales of tourism products. The major in Hotel Administration is for those who wish to develop a profession in the area of tourism accommodations such as Hotels and Inns. They can develop themselves in the areas of reservations, reception, sales and marketing, food and beverages, among others. The major in Travel Agency Administration offers preparation in the areas of planning and developing tours (wholesale agencies), mediation and sales of tourist products (retail agencies) and advisement to tourists that visit us (receptive agencies) as well as the locals who want to travel from Puerto Rico (issuer agencies).

The Fajardo Campus is authorized to offer this Program.

REQUIREMENTS FOR THE BACHELOR OF BUSINESS ADMINISTRATION DEGREE IN TOURISM

General Education Requirements 47 credits
Core Course Requirements 32 credits
Major Requirements 36 credits
Elective Courses 6 credits
Total 121 credits

General Education Requirements - 47 credits

Forty-seven (47) credits are required as explained in the section “General Education Requirements for Bachelors’ Degrees.” Students are required to take courses at the basic, intermediate or advanced level in English. Students in this Program will take GEMA 1200 in the Basic Mathematical Skills category.

Core Course Requirements - 32 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 1151</td>
<td>Introduction to Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>ACCT 1152</td>
<td>Introduction to Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>BADM 2250</td>
<td>Administrative Theory</td>
<td>3</td>
</tr>
<tr>
<td>BADM 4300</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
</tbody>
</table>
FINA 3100 Managerial Finance 3
MAEC 2211 Principles of Economics (MICRO) 3
MAEC 2212 Principles of Economics (MACRO) 3
MAEC 2221 Basic Statistics 3
MAEC 2222 Managerial Statistics 3
MATH 1070 Fundamentals of Applied Mathematics 3

Hostelry Administration (Tourism, B.B.A.)

Requirements for the Major in Hostelry Administration - 36 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURI 1020</td>
<td>Fundamentals of Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1900</td>
<td>Hotel Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2000</td>
<td>Laws and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2010</td>
<td>Reception Department</td>
<td>2</td>
</tr>
<tr>
<td>TURI 2030</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2060</td>
<td>Tourist Marketing</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2400</td>
<td>Housekeeping Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3200</td>
<td>Human Resources Management in the Hotel Industry</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3300</td>
<td>Food and Services Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3400</td>
<td>Meetings and Convention Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 4913</td>
<td>Internship in Tourism Administration</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2054</td>
<td>Speech Workshop</td>
<td>3</td>
</tr>
</tbody>
</table>

Travel Agency Administration(Tourism B.B.A.)

Requirements for the Major in Travel Agency Administration - 36 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURI 1020</td>
<td>Fundamentals of Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 1030</td>
<td>Data Processing in Hotels</td>
<td>2</td>
</tr>
<tr>
<td>TURI 2000</td>
<td>Laws and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2020</td>
<td>Tourism and Geography in Puerto Rico</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2030</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2040</td>
<td>Tour Planning and Development</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2050</td>
<td>World Geography and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>TURI 2060</td>
<td>Tourist Marketing</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3320</td>
<td>Reservation Computer Systems</td>
<td>3</td>
</tr>
<tr>
<td>TURI 3400</td>
<td>Meetings and Convention Management</td>
<td>3</td>
</tr>
<tr>
<td>TURI 4913</td>
<td>Internship in Tourism Administration</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 2054</td>
<td>Speech Workshop</td>
<td>3</td>
</tr>
</tbody>
</table>

Credit may be granted for the internship (TURI 4913) to students who have had a satisfactory work experience and who apply for it in writing to the director of the academic department. This credit will be subject to the following:

1. Students have been working full-time in a company for a minimum of two consecutive years within the three-year period immediately prior to the date of their request.
2. Students submit a certification and letter from their employer or the Human Resources Office of their place of employment which specifies:
a. Years of experience
b. Period of the time employed
c. Position or positions held
d. Job description
e. Copies of evaluations received
f. Any other evidence of their professional performance during their employment.

3. Students pay 50% of the tuition costs of the internship course for which they are requesting credit.
4. The experience recognized by the University corresponds to the requirement for the degree that the student hopes to obtain from the Institution.
Course Descriptions

Courses in Accounting (ACCT)

**ACCT 1151 INTRODUCTION TO ACCOUNTING I**
Development and basic structure of accounting. The accounting cycle for service enterprises and those devoted to purchasing and sales accounting and control of: cash, accounts receivable, inventories and payroll systems.  
4 credits

**ACCT 1152 INTRODUCTION TO ACCOUNTING II**
Acquisition, depreciation, amortization, depletion and availability of long range assets, principles and concepts of accounting. Societies, corporations, long and short term liabilities and cash flow. Prerequisite: ACCT 1151.  
4 credits

**ACCT 2010 ELECTRONIC WORKSHEETS IN ACCOUNTING**
3 credits

**ACCT 2030 TAX SYSTEMS OF PUERTO RICO I**
Theoretical and practical aspects of the following topics: a) the income tax system of Puerto Rico and its application to individuals, b) tax obligations imposed by state and federal laws to Puerto Rico employers, c) municipal patent laws, and d) legal responsibilities of specialists in income tax forms. Prerequisite: ACCT 1151.  
3 credits

**ACCT 2031 GENERAL ACCOUNTING I (for Associate Degree Candidates)**
Theory and practice in accounting problems encountered in departments and branches, as well as in industrial accounting.  
3 credits

**ACCT 2032 GENERAL ACCOUNTING II (for Associate Degree Candidates)**
Emphasis on the analysis and interpretation of financial statements for the use of management in making decisions regarding planning and control.  
3 credits

**ACCT 2035 AUDITING PRINCIPLES (for Associate Degree Candidates)**
Auditing principles and concepts, with special emphasis on systems of internal control.  
3 credits

**ACCT 2050 COST ACCOUNTING**
Different accounting methods used by manufacturing firms and businesses that need to gather data on cost for planning, implementing and controlling operations. Includes job process, standard and just-in-time cost methods. Prerequisite: ACCT 1152.  
4 credits
ACCT 2051 INTERMEDIATE ACCOUNTING I
Analysis and discussion of theoretical and practical aspects of accounting based on professional literature and generally accepted accounting principles. Discussion of contents and the presentation of financial statements and the process used in their preparation. Study of theory and problems related to evaluating and classifying assets and their relationship to measuring income. Prerequisite: ACCT 1152.

ACCT 2052 INTERMEDIATE ACCOUNTING II
Analysis discussion, interpretation and application of the accounting theory and practice through the study of problems related to claims made by creditors and shareholders. Includes literature dealing with pensions, rentals and cash flow statements. Prerequisite: ACCT 2051.

ACCT 3050 MANAGERIAL ACCOUNTING
Analysis and interpretation of accounting information as a basis for decision making in the management processes of planning, implementation and control of operations. Includes basic concepts on costs, and can be used for decision making using the balance point as base; preparation, management and budget analysis and policies for establishing transfer price. Prerequisite: ACCT 2050.

ACCT 3070 SPECIALIZED ASPECTS OF ACCOUNTING
Specialized literature related to: accounting for income tax, intermediate reports and insolvent companies. Segmented reports, operations in foreign currency and other international and contemporary accounting aspects. Prerequisite: ACCT 2052.

ACCT 3080 INTRODUCTION TO FEDERAL TAXES
Dispositions of the federal Revenue Code relate to individual income tax, including the preparation of the required forms. Special dispositions applicable to Puerto Rico residents and discussion in general, of taxation of companies and corporations. Prerequisite: ACCT 2052.

ACCT 3090 MANAGEMENT AND ACCOUNTING FOR COOPERATIVE ENTERPRISES
Philosophical aspects, structure, political policy, internal, administrative and accounting control, regulatory requirements and principles of accounting as they apply to corporate business. Prerequisite: ACCT 1152.

ACCT 3095 BUSINESS ETHICS
Ethical aspects needed in the business world. Important publications by Puerto Rican and other authors on this topic. Analysis of cases and case applications. Identification and comparison of ethical codes of different professions with the Ethical Code for accountants in the United States and other countries.
ACCT 3100 ANALYSIS OF FINANCIAL STATEMENTS
Study of the various methods and techniques used to analyze basic financial statements: balance sheets, income statements and the statement of changes in financial conditions with emphasis on ratio analysis. Comparative financial statements are analyzed for various purposes. Prerequisite: ACCT 1152.

3 credits

ACCT 3451 ADVANCED ACCOUNTING
Advanced topics of accounting related to long term investments, including mergers and consolidations. Preparation of consolidated financial statements. Branches and partnerships (dissolution, liquidation and reorganization). Prerequisite: ACCT 2052.

3 credits

ACCT 3452 ACCOUNTING FOR NON PROFIT ORGANIZATIONS
Advanced study of accounting emphasizing non-profit organizations. Includes topics such as government, special entities (hospitals, universities, health and welfare organizations) and others such as trusts and estates. Prerequisite: ACCT 2052.

3 credits

ACCT 4090 AUDITING
Theory, practice and norms for auditing, planning of auditing and evaluation of auditing controls and systems, sampling and other auditing procedures and techniques. Certifications and reports prepared by certified public accountants. Prerequisite: ACCT 2052.

3 credits

ACCT 4133 REPORT WRITING FOR ACCOUNTANTS
Writing of audit and cost reports, management letters, recommendations, instructions to client personnel, internal control recommendations, systems descriptions and other memoranda which are required of accountants in the performance of their functions. Prerequisite: ACCT 4090.

3 credits

ACCT 4235 TAX SYSTEMS OF PUERTO RICO II
Analysis of Income Tax as it applies to corporations, partnerships, etc. Study of tax laws on movable and immovable property, tariffs, donations and inheritance. Tax laws regarding industrial incentives and their relationship to the Internal Revenue Code. Prerequisites: ACCT 2030, 3080.

3 credits

ACCT 4246 FEDERAL TAXES II
Analysis of federal income taxes: general norms of what constitutes income and identification of entities subject to taxation. Focus on the study of federal tax problems and emphasis on corporate income tax. Prerequisite: ACCT 3080.

3 credits

ACCT 4350 ACCOUNTING INFORMATION SYSTEMS AUDITING
Design and evaluation of administrative controls aimed to safeguard business resources and maintain the integrity and reliability of information. Includes controls related to
management, equipment, programming, input and output of information, data processing, and audit techniques.

3 credits

ACCT 4906 PROFESSIONAL ETHICS FOR ACCOUNTANTS
The Code of Ethics of the accounting profession and the different ways it is practiced. Includes the organizations governing professional practices, such as the Puerto Rico Accounting Board, the Association of Puerto Rican Accountants, the AICPA, the SEC and the AAA. The legal responsibility of the accountant with emphasis on the responsibilities of the certified public accountant. Prerequisite: ACCT 4090.

1 credit

ACCT 4911 ACCOUNTING INTERNSHIP
Accounting practice in an organization or company for a period of time equivalent to three academic credits. This requires no fewer than 45 hours of practice in the field of financial, operational auditing or in other technical areas of accounting. A faculty member will evaluate this practice and give the student a grade.

3 credits

ACCT 4915 BUSINESS LAW FOR CPA CANDIDATES
Areas of law examined in the Uniform Test for Certified Public Accountants, Contract laws in the United States, Uniform Business Law, special laws regulating business and legal work and responsibility of Certified Public Accountants. Prerequisites: ACCT 3452, 4090.

3 credits

ACCT 4950 COMPUTER APPLICATIONS IN ACCOUNTING
Study and practice in the use of the computer in the processes of collection, analysis, interpretation synthesis and presentation of accounting information. Use of software accepted in the computerized accounting market. Prerequisites: GEIC 1000, ACCT 2050, 3452, 4090. Students in the Auditing program are exempt from taking the prerequisite ACCT 2050.

3 credits

ACCT 4952 COOPERATIVE EDUCATION IN ACCOUNTING
Work experience that integrates theory and practice. Students will complete 145 hours in a work scenario in the accounting area. Includes training and supervision of activities. Prerequisites: ACCT 3452, EDCO 2000.

3 credits

Courses in Airway Science (AWSC)

AWSC 2000 INTRODUCTION TO AERONAUTICS
Basic knowledge of aviation. Includes historical development, basic flight fundamentals, navigation, communication, meteorology, aircraft systems, Federal Aviation Regulations and the use of AIM.

3 credits
AWSC 2105 PRIVATE PILOT THEORY
Study of the principles of flight for the development of skills required for the examination for Private Pilot Certification of the Federal Administration of Aviation (FAA). Prerequisite: AWSC 2000.

3 credits

AWSC 2123 BASIC FLIGHT TRAINING
Development of flight maneuver skills and flight planning and communication as preparation for the Private Pilot Certificate. Requires eight hours in a flight training device, 40 flight hours with an instructor, 15 flight hours alone and 96 hours of theory. Prerequisites: AWSC 2105, have passed the written test for Private Pilot and been interviewed by the Chief Instructor.

5 credits

AWSC 2200 GOVERNMENT AND AVIATION
Study of agreements, conferences, reports, conventions, acts and other related congressional laws related to the development and promotion of aviation in the United States and at the international level. Prerequisite: GEEN 1201.

3 credits

AWSC 2300 AIRLINE PASSENGER SERVICES
Development of skills related to services offered to passengers at airports.

3 credits

AWSC 3000 AERONAUTICAL LANGUAGE SKILLS
Develop skills required to effectively communicate within the aviation environment on land and in the air. Emphasis is placed on the terminology and phraseology. Prerequisite: AWSC 2000.

3 credits

AWSC 3145 THEORY FOR INSTRUMENT FLIGHT
Development of fundamental skills for instrument flight required for the Instruments Certificate of the Federal Administration of Aviation. Includes the use of flight instruments, regulations applicable to instrument flight and approach procedures, among others. Prerequisites: AWSC 2105, Private Pilot Certificate.

3 credits

AWSC 3146 INTERMEDIATE INSTRUMENT FLIGHT TRAINING
Development of skills for instrument flight rating. Includes navigation and the use of the National Aerospace System applying the Federal Agency of Aviation regulations. Requires 20 hours in a flight training device, 20 flight hours with an instructor and 80 hours of theory. Prerequisites: AWSC 3145, Private Pilot Certificate.

4 credits

AWSC 3152 THEORY FOR THE COMMERCIAL PILOT
Development of fundamental skills for the certification of commercial pilot of the Federal Administration of Aviation. Prerequisites: AWSC 3146, Private Pilot Certificate.

3 credits
AWSC 3200 AIR TRANSPORTATION
Analysis of the chronological development of commercial air transportation. Study of factors affecting the growth of this industry with important historic and technological events. Prerequisite: AWSC 2000.
3 credits

AWSC 3411 PRINCIPLES OF AIR TRAFFIC CONTROL I
Study of the basic foundations of air traffic control. Includes navigation, meteorology and Federal Air Regulations. Prerequisite: AWSC 2000.
3 credits

AWSC 3412 PRINCIPLES OF AIR TRAFFIC CONTROL II
Study of national airspace systems. Aircraft identification and radar and radio communications procedures. Prerequisite: AWSC 3411.
3 credits

AWSC 3481 ADVANCED FLIGHT TRAINING
Preparation for obtaining the Commercial Pilot Certificate. Includes long-range flights, precision maneuvers and navigation by radio, among others. Requires 60 flight hours alone and 15 flight hours with instructor in a single-engine aircraft. In addition, 15 flight hours with instructor in a multi-engine aircraft and 60 hours of theory are required. Prerequisites: AWSC 3152, Private Pilot Certificate with instrument certification and have passed the commercial pilot written examination.
5 credits

AWSC 3600 FLIGHT SAFETY
Motivation and perception of safe attitudes in the flight environment. Personal and organizational safety goals and procedures. Study of human factors and research and study of accidents. Prerequisite: AWSC 2000.
3 credits

AWSC 4000 AIRPORT DEVELOPMENT AND OPERATIONS
Analysis of the development of public airports by means of the master plan, managerial problems and the importance of this plan. Prerequisite: AWSC 3200.
3 credits

AWSC 4055 MANAGEMENT OF AIR CARGO
Analysis of the importance of air cargo service in national and international economics. Managerial aspects related to this area: history, competition, tariffs, cargo installations and their equipment, and future developments in the industry are studied. Prerequisite: AWSC 3200.
3 credits

AWSC 4106 AVIATION LAW
Analysis of principles of law, the statutes and agreements that govern air transportation and current international legal issues. Prerequisite: AWSC 3200.
3 credits
AWSC 4204 AIRLINE OPERATION
Analysis of the responsibilities of the flight dispatcher on air carriers and of flight regulations: Part 121 of the FAA. Use of different documents utilized in this work. Prerequisite: AWSC 3200.
3 credits

AWSC 4220 AVIONICS EQUIPMENT, TROUBLESHOOTING AND REPAIR
Course designed to apply the electronics theory to the analysis, troubleshooting and repair of electronic equipment used in aviation (Avionics). This laboratory gives the student practical knowledge of equipment utilized on modern aircraft. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: ELEC 3141, 3192.
3 credits

AWSC 4305 ADVANCED METEOROLOGY
Analysis of air masses and frontal systems, principles of atmospheric stability, and severe climatologic phenomena. Prerequisite: AWSC 2000.
3 credits

AWSC 4320 AIRCRAFT SYSTEMS
Analysis of the principles of the operating systems of piston-engine airplanes and of jet-powered airplanes. Prerequisites: AWSC 3152, PHYS 3002.
3 credits

AWSC 4340 APPLIED AERODYNAMICS
Analysis of the principles of subsonic, transonic and supersonic aerodynamics. Prerequisites: AWSC 3152, PHYS 3002.
3 credits

AWSC 4350 THEORY OF FLIGHT INSTRUCTION
Development of fundamentals of instruction in a flight training syllabus, lesson plan construction and teaching methods. Application of teaching and learning fundamentals of flight maneuvers and performance evaluation for flight instructor and flight instructor by instruments certification. Prerequisite: AWSC 3152.
3 credits

AWSC 4353 CERTIFIED FLIGHT INSTRUCTOR: SINGLE-ENGINE AIRPLANE
Instruction, flight training and practice teaching that will allow the student to obtain the aeronautical skills and knowledge necessary to meet the requirements for a Certified Flight Instructor Certificate with an Airplane Single-Engine Land Rating. Requires 17 hours in a single-engine airplane and 3 hours in a multi-engine airplane, all with an instructor, as preparation for the practical examination for flight instructor. In addition, 40 hours of theory are required. Prerequisites: AWSC 4350 and have passed the theoretical test for flight instructor or for the Flight Instructor Certificate.
1 credit

AWSC 4364 CERTIFIED FLIGHT INSTRUCTOR: INSTRUMENTS
Instruction, flight training and practice teaching that will allow the student to obtain the aeronautical skills and knowledge necessary to meet the requirements for a Certified Flight Instructor Certificate with an Instrument Airplane Rating. Requires 15 hours in a single-
engine airplane with an instructor and 30 hours of theory, as preparation for the practical examination for flight instructor with instruments. Prerequisites: AWSC 4350 and have passed the theoretical test for flight instructor or for Pilot by Instruments Certificate.

1 credit

**AWSC 4373 CERTIFIED FLIGHT INSTRUCTOR: MULTIENGINE**
Instruction, flight training and practice teaching that will allow the student to obtain the aeronautical skills and knowledge necessary to meet the requirements for a Certified Flight Instructor Certificate with an Airplane multiengine Rating. Requires 15 hours in a single-engine airplane with an instructor and 30 hours of theory, as preparation for the practical examination for flight instructor multiengine rating. Prerequisites: AWSC 4350 and a Certified Flight Instructor Certificate.

1 credit

**AWSC 4384 FLIGHT CREW TRAINING**
Analysis of human factors that cause aircraft accidents. The means and systems available to mitigate these factors, such as of flight crew supervision (CRM), standardization and flight procedures are studied. Prerequisite: AWSC 3600.

2 credits

**AWSC 4400 THEORY OF TRANSPORT AIRCRAFT**
Analysis of the specific systems of transport aircraft, limitations, normal and emergency procedures for aircraft used in this category. Prerequisites: AWSC 4320, 4340.

3 credits

**AWSC 4500 AIR-TRAFFIC CONTROL: TOWER OPERATION**
Development of basic communication and phraseology skills. Application of the rules of air traffic control of the duties of towers control operators. Prerequisites: AWSC 3412 and admission to the CTI program.

3 credits

**AWSC 4505 AIR-TRAFFIC CONTROL: RADAR OPERATION**
Development of intermediate communication and phraseology skills. Application of the rules of air traffic control of the duties of radar operators. Prerequisite: AWSC 4500.

3 credits

**AWSC 4510 AIR TRAFFIC CONTROL: ON-ROUTE AND IN THE TERMINAL**
Development of advanced communication and phraseology skills. Application of the rules of air traffic control of the duties of controllers. Prerequisite: AWSC 4505.

3 credits

**AWSC 4600 AIRLINE MANAGEMENT**
Analysis of management principles of the aviation industry. Includes planning, organization, management and controls used by airline administrations. Discussion of airline’s organizational structures, functions and departments. Prerequisite: BADM 2250.

3 credits

**AWSC 4680 AVIATION STRATEGIC MANAGEMENT**
Integration and application of administrative theories, experiences and knowledge acquired for the effective strategic management of an airline. Analysis of cases and management
situations to be used for the application of strategic management principles and for the
solution of organizational problems. Prerequisite: AWSC 4600.

3 credits

AWSC 4710 SECURITY MANAGEMENT AND ACCIDENT PREVENTION IN AVIATION
Analysis of files of plane crashes for application in the design, development, implementation and operation of a department of air security in an airline. Statistical methods and advanced computer programs are used to analyze tendencies. Prerequisite: AWSC 3600.

3 credits

AWSC 4913 AIR TRANSPORTATION PRACTICUM
Work experience in airline or airport operations. Competition, utilization of equipment and the study of space and time in this industry. Operations related to the movement of aircraft, passengers and freight. Prerequisite: Students must be graduation candidates.

3 credits

Courses in Anthropology (ANTH)
The courses in anthropology are an integral part of the major in sociology. A comparative conceptual framework offers the student an overview of the human being as a social entity. Anthropology helps in the intellectual formation of students in the social sciences by providing a view of the evolutionary development of mankind, of primitive societies, of social and cultural change, of the formation of communities and cities and of social behavior in complex societies. Central themes are detailed analyses of the concepts of culture, society, and social structure in their principal manifestations: family, community, language, religion and the arts. A variety of scientific methods are used, especially the ethnographical method.

ANTH 1040 INTRODUCTION TO ANTHROPOLOGY
Study of the origin of man and his culture; a comparative study of religion, art, social organization, government and economy in primitive and modern societies.

3 credits

ANTH 2030 SOCIAL ANTHROPOLOGY
Processes in the acquisition of culture and language and the individual’s participation in structural terms in the five basic institutions found in all sociocultural systems: economical, political, social, educational and religious.

3 credits

ANTH 3000 WORLD PREHISTORY
Development of culture from australopithecine to the time of recorded history; interplay of nature and culture through time in different parts of the world.

3 credits

ANTH 3013 PRINCIPLES OF ETHNOLOGY
Social organization, kinship, marriage, economy, art, technology, religion, long-term change, short-term change, processes of culture, ecology and schools of thought.

3 credits
ANTH 3024 PHYSICAL ANTHROPOLOGY
Man and the primates; fossil ancestry; human biology; genetics; race; populations; expansion of the nature-nurture concept; anthropometry; correlation of human biology with culture; statistical analysis. Lectures, laboratory and practical work.
4 credits

ANTH 4075 CARIBBEAN CULTURAL PATTERNS
Analysis of various published studies relating to community life in the Caribbean.
3 credits

ANTH 4400 CULTURAL CHANGE
Study of internal changes in cultures and changes engineered by social change and social service agencies. Innovation, acculturation and cultural ecology are included.
3 credits

ANTH 4443 PRIMITIVE RELIGION
Theories of the origin of religion; concepts of the supernatural; magic and religion, religious practitioners and participation; functions of religion and its relationship to culture.
3 credits

ANTH 4500 PRINCIPLES OF ARCHAEOLOGY
Culture and archaeology; the idea of prehistory; methods and techniques; archaeological interpretation; relationship of fact and theory; project formulation, recording and report writing. Practical work and field trips.
3 credits

Courses in Architecture (ARCH)

ARCH 2000 ARCHITECTURE EXPLORATION
Introductory course to the discipline of architecture articulated for the students to confront and study the basic problems of the profession. Students will recognize their talents, preferences, and abilities, through the application of basic principles of architectural design. The discipline is redefined during the course of the curricular experience, through the discussion and critique of projects presented by students, taking into account the different criteria inherent to the discipline. To emphasize that to be able to mould ideas is an important instrument for the architect; students experiment with the presentation of the parameters of architectonic design and the basic principles of space organization during the workshop. Students must pass the course with A or B grade to assure their entrance to the Consortium. A minimum of three hours lecture and six hours of laboratory daily during four (4) weeks is required. The professor will be available for individual and group critiques.
6 credits

ARCH 3011 INTRODUCTION TO ARCHITECTURE I
Introductory course of architectonic history and education from the Stone Age to the Renaissance according to the spaces created for human use through the years. Emphasis on the different definitions of what is architecture starting from the historical and cultural point of view. The Caribbean theme and the styles inherited in the Antilles. Concepts and
basic theories are presented in class, and are supported by assignments related to urban growth. Students are assigned a final project, where they should make use of the appropriate design and materials. Prerequisite: ARCH 2000.

ARCH 3012 INTRODUCTION TO ARCHITECTURE II
Study and critical analysis of the history of architectonic design and its theory from Renaissance to the present. Lectures will be based on the theories of architectonic design whose dissemination and acceptance throughout the history of architecture have made them crucial in understanding the contemporary world. Emphasizes the study of historical architectonic theories and their application to contemporary architecture. Concepts of formalism, typology, gestalt, and planning are compared and the context that gave them life and meaning throughout history. Prerequisite: ARCH 3011.

ARCH 3020 INTRODUCTION TO ARCHITECTONIC TECHNOLOGY
This course pursues the research of constructive technology to develop the knowledge of the systems that make up a building or a space, and how they influence in the form, texture, and character of a constructed environment. The course aims to provide the student with the theory and practice of architectonic constructive technology: structure, environmental and safety systems, and quality of life. The student will learn to integrate the individual requirements of each system in one architectonic concept. A technical approach will be given to the performance analysis of each constructive system. Prerequisite: ARCH 3012.

ARCH 3025 FUNDAMENTALS OF ARCHITECTURAL DRAWING
This workshop has the purpose of teaching architectonic drawing. It provides an introduction to the conventional norms of architectonic drawing and their representative techniques. This serves as a communication tool of architectonic ideas. The class is structured with readings, seminars, demonstrations, and field visits. Critiques of partial projects will be carried out and the final critique will be with an invited jury to expose the student to different opinions and critiques. Requires 15 hours of lecture and 60 hours of lab. Prerequisite: ARCH 2000.

ARCH 3030 INTRODUCTION TO AUTOCAD
The course consists in presenting and teaching the student the use of computers as drawing tools for the architectonic design. Study of the basic principles of delineation and examination of the fundamental components of the AutoCAD program. Emphasis on the correct use of basic commands, geometric constructions, dimensions, and editing control. Presentation of drawing in two dimensions and isometric drawings. Requires 15 hours of lecture and 90 hours of lab. Prerequisite: ARCH 3025.

ARCH 3111 FUNDAMENTALS OF ARCHITECTURE I
This course is based on a sequence of projects that explore the basic concepts and principles of architectonic design. Development of fundamental skills necessary to communicate through design and modeling the ideas of architectonic design. Emphasis on the conventionalisms of architectonic drawing and the existent relation in the way the
natural environment, people and different uses that life imposes on architectonic designs. Requires 30 hours of lecture and 90 hours of lab. Prerequisites: ARCH 3012, 3025.

4 credits

ARCH 3112 FUNDAMENTALS OF ARCHITECTURE II
This course pursues the development of designing abilities placing emphasis on the skills of basic design, drawing, diagrammatic programming, structure analysis and sensibility to the raised urban context. Different design interests will be analyzed: semiotics, program interpretation, and facade design. This will take place through problems and projects of a more complex nature than the one presented in the course ARCH 3111. For this reason, it should be understood that the intention of this course is to continue with the development of fundamental skills and of the strategies discussed in Foundations of Architecture I. Emphasis on the development of analytic skills and on the development of graphical and visual communication methods. Requires 30 hours of lecture and 90 hours of lab. Prerequisite: ARCH 3111.

4 credits

ARCH 3115 URBAN PLANNING
Introduction to the basic principles of urban planning and design through the exploration of the realities and opportunities for designing urban centers. Exposure to the socio-political factors and the economical forces that directly affect urban planning. The class consists of round table discussions of topics about current problems, and specific examples of urban reconstruction throughout the world. Prerequisites: ARCH 3111, 3020.

3 credits

Courses in Art (ARTS)

ARTS 1001, 1002, 2001, 2002, 3001, 3002, 4001, 4002 THEATER WORKSHOP
Designed to familiarize students with theatrical techniques and scenery; emphasis on acting, and managing all aspects of a stage production. Students will be required to audition before officially registering in the course. A maximum of eight credits can be completed in this elective. Each semester the students will receive a grade of P or NP.

2 credits per course

ARTS 1100 COLOR THEORY
Theory and practice of the relative concepts of color: its physical qualities, its interaction in a work of art. Requires 30 hours of lecture and 30 hours of lab.

3 credits

ARTS 1103 TECHNICAL FOUNDATIONS AND DRAWING PRACTICE
Application of basic elements and principles of art to drawing. Use of different techniques, with emphasis on work in two dimensions. Discussion of the basic elements of art and works of art at different epochs. Requires 30 hours of lecture and 30 hours of lab.

3 credits

ARTS 1104 DESIGN
Solution of the formal and technical aspects of bidimensional and three-dimensional design. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1103.

3 credits
ARTS 1150 PHILOSOPHY OF ART
Analysis of the philosophical theories of art in different cultures. The student is stimulated to critically judge artistic expression. 3 credits

ARTS 1300 POTTERY I
Development of ceramic skills; techniques of throwing and hand building. Use of glazes and engobes. Requires 30 hours of lecture and 60 hours of lab. 4 credits

ARTS 1400 BASIC PHOTOGRAPHY
Discussion of photography as tool for the creation of a plastic work of art. Analysis of theory and visual contact skills in elementary photography. Correct use of the camera, film development, types of film, amplification of negatives and different grades and sizes of photographic paper. Requires 30 hours of lecture and 30 hours of lab. 3 credits

ARTS 1500 ACTING I
Basic techniques for body, voice and physical improvisation, emphasizing pantomime and individual expression. 3 credits

ARTS 2100 DESIGNS IN NATIVE MATERIALS
Study of the innate properties of materials; exploration of their varied possibilities in the field of design and the development of aesthetic sensitivity. Discussion of assembly techniques, cutting and finishing works of art in these materials. Requires 30 hours of lecture and 30 hours of lab. 3 credits

ARTS 2104 HISTORICAL CONCEPTS OF PUERTO RICAN DESIGN
Systematic study of ideas related to design in painting, sculpture, architecture and the minor arts. 3 credits

ARTS 2105 DESIGNS IN MANUFACTURED MATERIALS
Creative experiences with disposable natural and industrial materials. Requires 30 hours of lecture and 30 hours of lab. 3 credits

ARTS 2140 DRAWING I
Basic problems in graphic execution with specific emphasis on the development of individual concepts. Requires 30 hours of lecture and 60 hours of lab. Prerequisite: ARTS 1103. 4 credits

ARTS 2250 PAINTING I
Principles of oil and acrylic painting. Figurative painting, still life and free forms. Requires 30 hours of lecture and 60 hours of lab. Prerequisites: ARTS 1104, 2140. ARTS 1100 is recommended. 4 credits
ARTS 2260 SCULPTURE I
Study of the principles and elements of art applied to works of art in three dimensions. Discussion of the sculptural form. Application to work in clay and plaster cast. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1104.

3 credits

ARTS 2300 POTTERY II
Study of advanced techniques in the construction of clay objects with the pottery wheel or by hand with emphasis on the technical aspects of ceramics. Basic chemistry of ceramics and study of the diverse methods of firing. Study of trends in the design of ceramics in different periods and their conceptual and technical solutions. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ART 1300.

3 credits

ARTS 2355 INTRODUCTION TO THE GRAPHIC ARTS
Study of the basic processes: wood engraving, linoleum engraving, engraving with burin and engraving by etching. Study of the development of engraving over time. Analysis of its particularities and possibilities as an artistic means. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2140.

3 credits

ARTS 2403 HISTORY OF ART
Panoramic study of art from prehistory to the realism of the nineteenth century.

3 credits

ARTS 2500 PUPPET THEATER
Selection, adaptation and preparation of a script for a puppet theater production. Application of basic construction techniques and utilization of disposable materials for puppet production.

3 credits

ARTS 2700 MULTIPLE TECHNIQUES
Application of different plastic techniques in creating works in two and three dimensions. Analysis of technical contributions to the solution of the concept in the work.

3 credits

ARTS 3105 METAL JEWELRY
Design on a small scale with emphasis on making jewelry utilizing metals such as copper, aluminum and sterling. Experimentation with casting on a small scale. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1103.

3 credits

ARTS 3150 DRAWING II - FIGURE
Study of the human anatomy as a form of art, using traditional techniques. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2140.

3 credits
ARTS 3210 PAINTING II
Introduction to freedom in handling painting techniques: oil, acrylics, collage etc. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2250. 3 credits

ARTS 3250 SCULPTURE II
Carving and modeling in one or two materials such as stone or clay. Discussion of the peculiarities in making works of art in round and relief. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2260. 3 credits

ARTS 3303 CERAMICS III
Application of complex techniques and the conceptual and technical aspects of sculptural ceramics. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2300. 3 credits

ARTS 3351 SERIGRAPHY I
Study of silk-screening as a means of creation in Puerto Rico. Study of engraving techniques in silk-screening. Review of the differences in use and qualities produced by printing methods. Suitable and safe use of the materials in silk-screening. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1103. 3 credits

ARTS 3352 SERIGRAPHY II
Application of the skills and concepts of silk-screening in artistic creation. Analysis of silk-screening creations as works of art in and outside Puerto Rico. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 3351. 3 credits

ARTS 3355 LINOLEUM AND WOOD ENGRAVING TECHNIQUES
Application of engraving processes in wood and linoleum. Technical study: creation of the plate, inking and the stamping. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: ARTS 2140, 2355. 3 credits

ARTS 3400 PHOTOGRAPHY III
Application of the skills learned in the field of photography. Introduction of new techniques such as solarization, “vignetting” and photographic diagram. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1400. 3 credits

ARTS 3403 HISTORY OF MODERN AND CONTEMPORARY ART
Panoramic study of the more recent artistic movements, beginning with Impressionism and including the styles of contemporary art. 3 credits

ARTS 3405 HISTORY OF PUERTO RICAN ART
Study of artistic evolution in Puerto Rico from the pre-Columbian period to the present. 3 credits
ARTS 3450 COLOR PHOTOGRAPHY
Introduction to the techniques and products utilized in color photography, stressing the composition and use of the descriptive and aesthetic aspect of color in photography. Requires 30 hours of lecture and 30 hours of lab.

3 credits

ARTS 3505 PUERTO RICAN THEATER
Historic and contemporary study of representative Puerto Rican theater productions requiring a public performance of a theatrical production.

3 credits

ARTS 4100 WATERCOLOR
Study of the techniques of transparent water color; analysis of the techniques and styles of various artists. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2140.

3 credits

ARTS 4150 ADVANCED DRAWING
Emphasis on the development of individual concepts in graphic execution. Use of charcoal, pencil, crayon, pen, drawing with washes, etc. Requires 15 hours of lecture and 75 hours of lab. Prerequisite: ARTS 2140.

3 credits

ARTS 4202 AIRBRUSH
Application of Airbrush techniques for general painting and commercial design. Study of different materials for this technique and their safe use. Requires 30 hours of lecture and 30 hours of lab.

3 credits

ARTS 4210 MURAL PAINTING
Study of mural concepts, independent projects. Analysis of the creation of mural paintings in and outside Puerto Rico. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2250.

3 credits

ARTS 4253 SCULPTURE III
Advanced techniques with emphasis on the development and improvement of traditional techniques. Experimentation with contemporary materials such as Plexiglas, polyester, resin, metals and others. Study of trends in sculpture over time. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 3250.

3 credits

ARTS 4254 METAL SCULPTURE
Creation of works of sculpture, utilizing techniques of soldering and casting in bronze and other metals. Requires 15 hours of lecture and 75 hours of lab. Prerequisite: ARTS 2260.

3 credits
ARTS 4255 PAINTING III
Experiments and research in painting. Emphasis on the development of individual concepts. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 3210. 3 credits

ARTS 4256 SCULPTURE - THE HUMAN FIGURE
Sculptural study of the human figure. Analysis of movement, proportion and rhythm of the human figure and its three-dimensional projection. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2250. 3 credits

ARTS 4303 CLAYS AND GLAZES
Chemical-physical relation of the materials utilized in ceramics and how they react during the different stages in making a ceramic object. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1300. 3 credits

ARTS 4350 INTAGLIO TECHNIQUES
Study and application of different techniques of Intaglio such as dry point, etching, aquatint and others. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2355. 3 credits

ARTS 4352 LAYOUT DESIGN
Design preparation for photo-mechanic printing. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1103. 3 credits

ARTS 4353 LITHOGRAPHY
Study and practice of the different graphic design techniques used in lithography. Knowledge of different materials used. Experimentation with the medium. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 2355. 3 credits

ARTS 4355 PHOTO SERIGRAPHY
Study of photographic images for creation, handling and printing when using silk-screening techniques. Emphasis on the application of photographic and typesetter prints in silk-screening artistic creations. Use of journalistic images, selection and handling of photographs taken to be used in the work and for making manual and electronic prints. Experimentation with typographic prints in silk-screening. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: ARTS 1104, 3351. 3 credits

ARTS 4360 DIGITAL ART
Use of the computer for making artistic works. Study of existing equipment and programming for making images, the manipulation and handling of images. Emphasis on the application of the elements and principles of art in images. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: ARTS 1104, GEIC 1000. 3 credits
ARTS 4365 COMPUTERIZED GRAPHIC DESIGN
Use of the computer and digital processes for making graphic designs. Study of programs for the design and printing of digital graphic material. Introduction to electronic publishing design. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: ARTS 1104, GEIC 1000.

3 credits

ARTS 4453 SPECIALIZED PHOTOGRAPHY
Introduction to the processes and techniques used by Island newspapers to publish photographs. Emphasis on the production of a visual and written narrative. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1400.

3 credits

ARTS 4500 STAGECRAFT
Global study of technical areas in theater: scene, costume and lighting design. Models and drawing projects required. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: ARTS 1103.

3 credits

Courses in Art Education (ARED)

ARED 1900 FUNDAMENTALS OF ART EDUCATION
Introduction to the study of art education principles. Students will become familiar with the educational system, specifically with the visual arts program by means of visits to schools and production workshops involved in art education. Students will observe different levels of art classes. Requires a minimum of six (6) hours of observation per semester.

3 credits

ARED 3750 EDUCATIONAL TECHNOLOGY IN ART TEACHING
Study, operation, and practice of audiovisual resources for the development of educational materials. Operation of different educational and graphical computer programs including the selection, evaluation, and their use to make the educational process viable in the area of the arts, as well as the graphical and artistic productions that facilitate the teaching-learning process. Requires 15 hours of lecture and 45 hours of lab. Prerequisite: ARED 1900.

2 credits

ARED 3850 METHODS AND CURRICULUM IN ART TEACHING
Study of the relation between curriculum and instruction. Provides experiences for the development of skills in the design, selection, modification of teaching units, courses, and programs. The criteria for the selection of texts, materials, and mediums for teaching arts. Facilitation of experiences for the future teacher to start to focus on the teacher-student relation, the actions that the teacher has to carry out to organize the classroom, and the different teaching strategies. Requires visits to classrooms to observe teaching strategies and class control when teaching art. Requires 30 hours of lecture and 30 hours of lab.

3 credits
ARED 4015 EVALUATION, ASSESSMENT AND RESEARCH IN ART TEACHING
Study and application of teaching-learning theories, the techniques, and the mediums used by art teachers in planning and developing educational activities. Diagnosis of needs, formulation of goals, selection of content, and planning of the techniques that will be used taking into account the principles of design and the elements of art. Application of evaluation instruments and assessment techniques to improve the teaching-learning process. Use of quantitative and qualitative results to introduce students to the research that they can perform in the classroom.

3 credits

ARED 4913 PRACTICE TEACHING IN ART
Practice teaching as a student teacher under the direct supervision of a cooperating teacher, specialized in art education, and of a University supervisor. The student teacher will have the opportunity to put art education methodology into practice and will have the responsibility of planning and giving a class during the school semester. The practicing student will be placed in an elementary or secondary private or public school classroom. The classroom becomes a laboratory where techniques, methods strategies of the profession are used. A minimum of three hours daily from Monday to Friday in an educational scenario is required. Prerequisites: 90 credits including ARTS 1104, 2403, ARED 3750, 3850, 4015.

6 credits

Courses in Auditing (AUDI)

AUDI 3195 GOVERNMENTAL REGULATIONS IN BUSINESS
Introductory study of regulations applying to business, such as: income tax laws, movable and immovable assets, sales tax, inheritance, and donations. Includes employer regulations related to occupational health and safety, and special laws that regulate business.

3 credits

AUDI 4194 REPORT WRITING IN AUDITING
Preparation of internal, external, compliance and operational auditing reports. This includes letters of representation, management, contract, recommendations for internal control, narrative, findings summary, internal auditing reports, opinions and other written communications that are part of the duties of the auditor’s role. Prerequisite: ACCT 4090 and INAU 4093.

3 credits

Courses in Bioinformatics (BIIN)

BIIN 3010 COMPUTATIONAL BIOLOGY
Practical approach to the computer applications in molecular biology. Study of the representation and analysis of biological sequences and structural information, including the relation between sequences, structure, and functions of the macromolecules. Includes sequence patterns, probability techniques, graphics and simulations. Emphasis on the use of algorithms to align sequences, allowing the identification of genes and secondary structures. Requires work in an open laboratory. Prerequisites: COMP 2900, BIOL 4604.

3 credits
BIIN 3020 MEDICAL INFORMATION
Principles of database design applied to health sciences, human-computer interfaces, medical vocabulary, codification systems, decisional analysis methods in medicine, architecture of clinical information systems, and methods to measure costs and benefits of health systems. Biomedical applications of Internet, use of literature and databases for molecular sequences, as well as systems for telemedicine. Requires work in an open laboratory. Prerequisites: BIIN 3010, COMP 2900.

3 credits

Courses in Biology (BIOL)

BIOL 1001 PRINCIPLES OF PLANT BIOLOGY
Introduction to the basic concepts of the structure and functioning of plants as live organisms. Emphasis on the study of the most important plants in the ornamental horticulture field. The organization, morphology, development and reproduction of ornamental plants in Puerto Rico and the Caribbean. This course is designed for students in the Associate Degree in horticulture sciences. Requires 30 hours of lecture and 30 hours of lab.

3 credits

BIOL 1003 BASIC BIOLOGICAL CONCEPTS
Basic concepts of biology such as: cells, genetics, physiology, development and ecology. Not to be taken for credit by majors in biology. Requires 30 hours of lecture and 30 hours of lab.

3 credits

BIOL 1006 FUNDAMENTALS OF BIOLOGY
Basic concepts in biology. The anatomy and function of the human respiratory, cardiovascular, excretory, digestive, nervous, endocrine and immunological systems. This course cannot be taken to meet the requirements of majors in natural sciences and nursing. Requires 45 hours of lecture and 30 hours of lab.

4 credits

BIOL 1101 MODERN BIOLOGY I
Characteristics and organization of living organisms. Scientific reasoning, description of the structure of the major macromolecules. The cell in terms of structure and function, as well as its metabolic processes.

2 credits

BIOL 1102 MODERN BIOLOGY II
Genetic processes including cell division, Mendelian and molecular heredity; with emphasis on protein synthesis and the fundamental regulation concepts. Principles of ecology and evolution are also included. Prerequisites: BIOL 1101, 1103.

2 credits

BIOL 1103 SKILLS LABORATORY I
Development of basic laboratory skills and techniques. Emphasis on safety rules, measuring systems, statistical methods and the adequate use of laboratory equipment and elections information resources. The scientific method is used for problem solving in the
field of biology. Students are required to submit laboratory reports following established scientific formats. Requires 45 hours of lab.

1 credit

**BIOL 1116 FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY**
Fundamental concepts of the structure and functions of different systems of the human body, including their pathophysiological consideration. Not to be taken for credit by majors in biology. Requires 60 hours of lecture and 45 hours of lab.

5 credits

**BIOL 2010 FUNDAMENTALS OF VEGETABLE AND ANIMAL BIOLOGY**
Integrated study of the main anatomic and physiological aspects in plants and animals. Emphasis on the contrast between evolutionary processes, development and growth, as well as the ecological relationships between both groups. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: BIOL 1102, 1103.

4 credits

**BIOL 2103 SKILLS LABORATORY II**
Laboratory techniques are used for the qualitative and quantitative analyses of living organisms with emphasis on the cells and biological macromolecules. Statistical methods are used for the analysis and interpretation of the generated data. Students are required to submit laboratory reports following established scientific formats. Requires 45 hours of lab. Prerequisite: BIOL 1103.

1 credit

**BIOL 2103 GENERAL ZOOLOGY**
Structure, function, development, reproduction, behavior and taxonomy of the main animal groups with emphasis on the evolutionary relationships. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: BIOL 1102, 2013.

4 credits

**BIOL 2104 GENERAL BOTANY**
Structure, function, development, reproductions and taxonomy of the main groups of plants and related organisms with emphasis on the evolutionary relationships. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: BIOL 1102, 2013.

4 credits

**BIOL 2151 HUMAN ANATOMY AND PHYSIOLOGY I**
Fundamental concepts of histology and the integumentary, skeletal, muscular and nervous systems in the human body from the anatomical and physiological points of view. Their pathophysiological considerations are excluded. Not to be taken for credit by majors in biology. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 1003.

3 credits

**BIOL 2152 HUMAN ANATOMY AND PHYSIOLOGY II**
Fundamental concepts of the endocrine, reproductive, cardiovascular, lymphatic, immunological, excretory, respiratory and digestive systems in the human body. Their pathophysiological considerations are excluded. Not be taken for credit by majors in biology. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2151.

3 credits
BIOL 2153 BIOSTATISTICS
Techniques used in biological investigation. Descriptive and inferential statistics for variance samples and grouped data will be studied. Requires 30 hours of lecture and 15 hours of lab. Prerequisite: GEMA 1200.
3 credits

BIOL 2154 FUNDAMENTALS OF MICROBIOLOGY
Basic principles of microbiology emphasizing bacteria as a representative prokaryotic cell. Position of this cell in relation to the other microorganisms and viruses regarding sanitation and health in higher organisms. Not to be taken for credit by majors in biology. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 1003 or 1102.
3 credits

BIOL 2155 GENETICS
Aspects related to inherence and their regulation mechanisms. Classical genetics to modern genetics, including the application of evolutionary processes will be dealt with. Prokaryotic and eucharistic cells will be used as models. Prerequisites: BIOL 1102, GEMA 1200.
3 credits

BIOL 3105 GENERAL MICROBIOLOGY
Fundamental concepts of microorganisms with emphasis on the study of bacteria. Includes their morphology, physiology, genetics, taxonomy, ecology and control. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 1102, 1103, 2013, CHEM 2212.
3 credits

BIOL 3106 ANATOMY AND HUMAN PHYSIOLOGY
Physiological structures and mechanisms of the human body. Study of the integration of the corporal systems, maintenance and alteration of the homeostasis. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: BIOL 2010, 2013, CHEM 2212.
4 credits

BIOL 3205 ECONOMIC ZOOLOGY
Economic exploitation of vertebrates and invertebrates. Emphasis on the reproduction, raising and handling of animals for consumption. Breeding and conservation of animals for the study of zoology. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.
3 credits

BIOL 3213 PARASITOLOGY
Morphology, taxonomy, life cycles and epidemiological aspects of human and domestic animal parasites. Emphasis on the host-parasite relationships. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.
3 credits

BIOL 3214 ENTOMOLOGY
Structure, physiology, taxonomy, behavior, ecology and economic importance of insects. Requires 30 hours of lecture and 45 hours of lab. Includes field studies. Prerequisite: BIOL 2010.
3 credits
BIOL 3216 ANIMAL BEHAVIOR
Analysis of the internal and external factors responsible for the regulation, development, and variation of animal behavioral patterns. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.
3 credits

BIOL 3219 BIOLOGY OF INVERTEBRATES
Morphology, physiology, ecology and systems of the representative invertebrate groups. Emphasis on species native to Puerto Rico. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.
3 credits

BIOL 3250 MOLECULAR BIOTECHNOLOGY
The structure, properties and functions of biological macro-cells in living cells. A detail of the concepts of handling cell organelle, to understand the architecture of biological molecules and to explain how they work in a living cell. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3105.
3 credits

BIOL 3255 ECONOMIC BOTANY
Economic importance of plants emphasizing the use of their products, cultivation and the relationship to human history. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.
3 credits

BIOL 3257 SYSTEMATIC BOTANY
Classification and nomenclature of vascular plants. The laboratory includes field trips. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.
3 credits

BIOL 3309 FOOD MICROBIOLOGY
Interaction between microorganisms and food; techniques for control of microorganisms and food preservation; production of fermented foods and diseases transmitted by microorganisms developing in foods. Includes health and quality controls. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3105.
3 credits

BIOL 3405 IMMUNOLOGY
Study of defense mechanisms of vertebrates at the cellular and molecular level. Description of the morphology and functions of the cells that participate in the immunological processes and of their products, such as antibodies, complements and other substances. Study of the structures and functions of immunoglobulins. Characterization of the reaction between antigens and antibodies, the regulation of the immunological system and the genetic controls. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3105.
3 credits
BIOL 3420 IMMUNOCHEMISTRY AND TISSUE CULTIVATION
The interaction of antigen-antibody and the detection of proteins using different types of immune-tests. Techniques and applications of the cultivation of cells “in vitro” with emphasis on the cells of mammals. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3405.

3 credits

BIOL 3454 PLANT ANATOMY
Characteristics of cells and tissues of vascular plants. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.

3 credits

BIOL 3503 GENERAL ECOLOGY
The biotic and abiotic factors limiting the distribution and abundance of organisms and their relation with the evolutionary processes. The adaptations of organisms are studied with their environment and the structure of the different organizational levels that make up the biosphere from the population to the biome. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 2010, 2013, CHEM 1111.

3 credits

BIOL 3504 ENVIRONMENTAL HEALTH
Interrelationship between the environment and human health. The effect of contamination by toxic and non-toxic wastes. Risk factors and biological, physical and social implications, as well as prevention and mechanisms for reducing the environmental impact are analyzed. Prerequisites: BIOL 3105, CHEM 2222, GEMA 1200.

3 credits

BIOL 3505 ENVIRONMENTAL LAWS, POLICIES AND REGULATIONS
Legal aspects and environmental policy, including their history and the scope of laws and regulations. The evaluation of an Environmental Impact Statement is required. Prerequisite: BIOL 3504.

3 credits

BIOL 3904 TOXICOLOGY
Principles of toxicokinetics and toxicodynamics, methods of analysis and evaluation of mutagenic, teratogenic and carcinogenic agents. Emphasis on hepatotoxicology and neurotoxicology. Prerequisites: BIOL 2010, CHEM 2222.

3 credits

BIOL 4104 PLANT PHYSIOLOGY
Fundamental functions of high-order plants, emphasizing the relationships of water, photosynthesis and reproduction. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.

3 credits

BIOL 4105 FUNDAMENTALS OF GEOGRAPHIC INFORMATION SYSTEMS (GIS)
Analysis of GIS concepts by means of computerized systems that process and examine spatial data. Discussion of geography, cartography and space analysis concepts based on
geographic locations. Application of space analysis using data and maps of Puerto Rico and other parts of the world. Requires 45 hours of lecture/lab. Requires additional hours in an open lab.

3 credits

**BIOL 4109 GENERAL PHYSIOLOGY**
Functions and processes exhibited by animals. Includes the concepts of transportation, respiration, digestion, excretion, reproduction, and hormonal, muscular and nervous control. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 2010.

3 credits

**BIOL 4303 MYCOLOGY**
The morphological, physiological and taxonomical study of fungi. Emphasis on their economic, medical, industrial and environmental importance. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3105.

3 credits

**BIOL 4304 MEDICAL MYCOLOGY**
Fungi pathogenic to human beings with emphasis on the epidemiology, clinical aspects, diagnosis and prevention. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3105.

3 credits

**BIOL 4305 MEDICAL MICROBIOLOGY**
Microorganisms which are pathogenic to human beings, emphasizing epidemiology, clinical conditions, diagnosis and prevention. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3105.

3 credits

**BIOL 4306 VIROLOGY**
Introduction to the concepts of the biology of viruses of bacteria, plants and animals, including morphological, genetic and epidemiological aspects. Emphasis on the principles of molecular biology that regulate the cycle of viral infection, the cellular metabolism and the cellular and systemic defense mechanisms. Prerequisites: BIOL 2155, 3105.

3 credits

**BIOL 4307 MICROTECHNIQUES**
The fixation, preservation and histological and histochemical preparation processes using different species of organisms. Requires 15 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3106.

2 credits

**BIOL 4403 EVOLUTION**
The processes responsible for the evolution of species. Evidence and contributions of paleontology, biogeography, molecular biology, genetics and ecology and their importance in the development of Western thought. Prerequisite: BIOL 2155.

3 credits
BIOL 4405 EMBRYOLOGY
Study of embryonic cells supplemented by experimental methods. Emphasis on fertilization, maturation and ontogenesis. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3106.

3 credits

BIOL 4407 HUMAN ANATOMY
Theoretical and practical study of tissues and organs and their interaction in the systems of the human body. Course designed for students in allied health fields. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 2010, 2013.

3 credits

BIOL 4408 COMPARATIVE FUNCTIONAL ANATOMY
Comparative study of vertebrates from the point of view of the relationship between structure and function. Systems that have evolved and diversified as a result of environmental conditions. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3106.

3 credits

BIOL 4433 INDUSTRIAL MICROBIOLOGY
Industrial applications of microorganisms in the production of metabolites with commercial importance. The processes of fermentation, biodegradation and bioconservation are discussed. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 3105, CHEM 2222.

3 credits

BIOL 4494 PHARMACOLOGY
The effects of medicine on the human body. Discussion of classification, action mechanisms, dosage, side effects, contraindications and interactions with other prescription drugs. Prerequisites: BIOL 3106, CHEM 2222.

3 credits

BIOL 4503 CONSERVATION AND MANAGEMENT OF NATURAL RESOURCES
The conservation of natural resources and the application of management techniques. Emphasis on limnological systems, coastal and forest resources, soils and fauna. Field trips are required. Prerequisite: BIOL 2010.

3 credits

BIOL 4600 HISTOLOGY
Function and structure of tissues, individual cells and their integration in the systems. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3106.

3 credits

BIOL 4604 CELLULAR AND MOLECULAR BIOLOGY
Study of the cell and its components. Discussion of the relationship between the cellular structures and their functions; their metabolic processes and cellular communication and the flow of molecular information. Discussion of experiments that have contributed to the study of the cell. Prerequisites: BIOL 2155, CHEM 2221. Recommended course: CHEM 2222.

3 credits
BIOL 4605 SKILLS LABORATORY III
Emphasis on the use experimentation techniques for problem solving and for the search for answers. Molecular biology and bioremediation techniques are used. A research project including the design and the performance of the experiment is required as well as the writing of the corresponding scientific report. Requires 60 hours of lab. Prerequisite: BIOL 2013.

2 credits

BIOL 4623 TECHNIQUES FOR GENETIC MATERIAL RECOMBINATION
Study of the regulation of genetical expression. Knowledge of the most recent laboratory techniques for the manipulation of the genome. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 4604, 4605.

3 credits

BIOL 4700 AGRICULTURAL AND ENVIRONMENTAL BIOTECHNOLOGY
Analysis of the effects and applications of the biotechnology in food production, in human health and in the preservation of the environment. Includes the study of theoretical foundations in biotechnology, current biotechnological strategies and the products that are generated through biotechnology. Discussion of the ethical, legal and economic aspects that arise from the development and implantation of biotechnology in society.

3 credits

BIOL 4728 GENETIC EXPRESSION AND PROTEIN PURIFICATION
The genome and how it manifests in protein. Emphasis on the structure of proteins and on their handling, analysis and purification. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: BIOL 4623, CHEM 4220.

3 credits

BIOL 4905 INTRODUCTION TO PATHOLOGY
Anatomical and histological alterations occurring in the different human systems, including their etiology, description and clinical aspects. Prerequisite: BIOL 3106 or BIOL 4407.

3 credits

BIOL 4907 HEALTH EDUCATION
Educational methods and techniques for achieving change in people’s attitudes on health matters. Prerequisite: BIOL 3504.

3 credits

BIOL 4909 PUBLIC HEALTH
Magnitude, distribution and causes of diseases in human populations. Mechanisms of disease transmission, incidence and prevalence in populations. Prerequisite: BIOL 4907.

3 credits

BIOL 4912 INTERNSHIP IN BIOLOGY
Supervised work practice in industries, research laboratories, governmental agencies, hospitals or other enterprises related to the different areas of study offered in biology. A minimum of 90 hours is required as well as periodical meetings with the course coordinator. Prerequisites: Have passed all core courses in biology at the bachelor’s level and the authorization of the Director of the Department.

3 credits
BIOL 4953 RESEARCH METHODS
Identification and utilization of the scientific method in the solution of problems. Setting up of hypothesis, bibliographical search, design and implementation of the experiment, data interpretation and writing scientific papers. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: 30 credits in natural sciences.

3 credits

BIOL 4955 INTEGRATING SEMINAR
Integration of the knowledge acquired by students through oral and written presentations of creative work, using scientific papers as primary base in their specialization in the area of biology. Prerequisite: 30 credits in biology.

1 credit

BIOL 4960 BIOETHICS
Study of the development, foundations and principles of bioethics. Analysis of the methodology of moral deliberation, using some moral problems in life sciences and health professions. Prerequisite: have passed a total of 90 credits.

3 credits

Courses in Biomedical Sciences (BMSC)

BMSC 2210 HUMAN GENETICS
Fundamental concepts of human genetics, from the perspective of structure, function and transmission of genes; including interaction gene-gene and gene-environment. Emphasis on the molecular aspects of human inheritance, genetic etiology of diseases and research techniques in human genetics. Prerequisite: BIOL 1102.

3 credits

BMSC 3011 FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY I
Fundamental concepts of histology and the integumentary, skeletal, muscular and nervous systems of the human body from the anatomical and physiological point of view, including pathophysiological considerations of these. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 1102.

3 credits

BMSC 3012 FUNDAMENTALS OF HUMAN ANATOMY AND PHYSIOLOGY II
Fundamental concepts of the endocrine, reproductive, cardiovascular, lymphatic, immune, excretory, respiratory and digestive systems of the human body, including pathophysiological considerations. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BMSC 3011.

3 credits

BMSC 4015 BIOCHEMISTRY OF HUMAN PHYSIOLOGY
Study of metabolic transformations that chemical compounds and biopolymers undergo at cellular level. Physiological studies that include bioenergetics, vitamin and hormone metabolism, anabolism and catabolism of carbohydrates, lipids and proteins, production of energy through the cycle of tricarbocyclic acid and oxidation phosphorilation. Prerequisite: CHEM 2222.

3 credits
BMSC 4020 BIOMEDICAL ETHICS
Ethical aspects in biomedical sciences. Analysis, discussion and application of ethics in situations of conflict in medicine and biomedical research. Prerequisite: Have completed 24 credits in the area of Biomedical Sciences. 3 credits

Courses in Business Administration (BADM)

The courses in Business Administration are designed to develop understanding of the principles that regulate the business activities of enterprises. They aim to expose students to the concepts, principles and fundamental practices of the different disciplines of business administration in major courses or in related and elective courses. The different fields are: management, accounting, marketing, economics, finance, quantitative methods and the use of human resources.

These courses allow students to understand and apply contemporary concepts, theories, analysis instruments and points of view on human behavior, all of which are vital elements in terms of the economic and social progress of the country.

BADM 1110 INTERGOVERNMENTAL FINANCIAL ADMINISTRATION
Administrative, political and economic aspects of revenue systems at the federal, state and local levels. Analysis of major taxes, intergovernmental financial relations, and the administration of public enterprise and debt. Prerequisite: MAEC 3234. 3 credits

BADM 1550 BUSINESS MANAGEMENT AND ORGANIZATION (for Associate Degree Candidates)
Management and organization in relation to types of business, location and physical layout; the buying, selling, pricing and operating functions of business. 3 credits

BADM 2030 BUSINESS MATHEMATICS (for Associate Degree Candidates)
Intensive practice in the computation and use of percentages, decimals, fractions and typical business calculations such as interests, averages, ratios, use of scales and the interpretation of graphs. Use of various types of calculators frequently found in the modern business office. 3 credits

BADM 2050 BUSINESS FINANCE (for Associate Degree Candidates)
Review of the role of the financial manager of a business or industrial enterprise in the procurement and management of short-term, intermediate and long-term funds with special emphasis on profitability cost, sources, timing and taxation. 3 credits

BADM 2130 MARKETING (for Associate Degree Candidates)
Nature of marketing: its functions, channels and institutions, pricing, marketing research, sales promotion and advertising. 3 credits
**BADM 2250 ADMINISTRATIVE THEORY**
Integrated study of administration emphasizing basic concepts of systems, decision-making, importance of interpersonal relations, changes that have arisen as a result of organizational development. Analysis of the functions of the managerial process, planning, organization, directing and controlling business.

3 credits

**BADM 2262 TOTAL QUALITY MANAGEMENT FOUNDATIONS**
Basic foundations of the total quality philosophy in organizations. Emphasis on methodology, architecture, philosophy, analysis and implementation of the concepts using more efficient tools to evaluate system performance and to satisfy clients’ needs. Prerequisite: BADM 2250.

3 credits

**BADM 2650 HUMAN BEHAVIOR IN THE ORGANIZATION**
Integrated study of the knowledge and skills necessary to work with individuals and groups. Analysis of the dynamics of human interactions in the organization. Emphasis on managerial strategies for handling situations related to work such as: motivation, communication, change, conflict, organizational design, decision making, leadership, teamwork, ethical values and principles. Prerequisite: BADM 2250.

3 credits

**BADM 3300 COMMUNICATION IN MANAGEMENT**
The basic elements of oral and written communication in the context of business administration. Emphasis on the development of communication skills and strategies at international business levels. Analysis of communication and its impact on intercultural business relations.

3 credits

**BADM 3311 COMMERCIAL LAW I**
Basic principles of the theory of contracts, sales, agencies, properties, negotiable instruments and the rights of the creditor according to the civil code, the commercial code and special laws of Puerto Rico.

3 credits

**BADM 3312 COMMERCIAL LAW II**
General laws, both civil and commercial, of corporations and partnerships in Puerto Rico. Special laws governing trade, business organization and the general study of the Uniform Commercial Code. Prerequisite: BADM 3311.

3 credits

**BADM 3320 PUBLIC POLICIES TOWARD BUSINESS**
The role of government in economic life with emphasis on the regulation of competition and monopoly in Puerto Rico and other areas.

3 credits

**BADM 3330 HUMAN RESOURCES MANAGEMENT**
Analysis of the effectiveness of rules and practices related to human resources in the public and private sectors. Emphasis on the activities of strategic planning of human resources, analysis, description, specification and design of positions, recruitment, selection and
hiring, equal opportunity laws, orientation, training, development, personnel changes, personnel evaluation, compensation, health and occupational security, industrial and labor relations, discipline, and audit of human resources. Prerequisite: BADM 2250.

3 credits

**BADM 3340 MANAGEMENT POLICIES AND STRATEGIES**
Behavioral management analysis and commercial ethics as part of the production process at the national and international levels. Application to small businesses. Prerequisite: BADM 2250.

3 credits

**BADM 3490 SUPERVISION**
Analysis of the behavioral sciences related to the sales and duties of management personnel with emphasis on line supervision. Discussion of supervisory problems related to strategic planning, recruitment and selection of personnel, training, evaluation, entrustment of authority, discipline, group morale, diversity, management of time and change. Prerequisite: BADM 2250.

3 credits

**BADM 3570 ADMINISTRATIVE AUDITING**
Nature and roles of auditing operations with respect to administrative policy, programs, organization, procedure, financing, personnel and their behavior. Prerequisites: PUAD 3300, 3510.

3 credits

**BADM 3900 BUSINESS INFORMATION SYSTEMS**
Study of the foundations and concepts of information systems and their use in organizations. The application of information systems in the solution of problems and their implications in managerial processes. Use of application programs that help in decision making. Sixty hours of lecture-lab. Prerequisites: BADM 2250, GEIC 1000.

3 credits

**BADM 3950 HUMAN RESOURCES TRAINING AND DEVELOPMENT**
Application of different learning methods in the design, implementation and evaluation of the training programs in work organizations. Planning of professional training programs that help motivate, stimulate and develop the human resources and permit them to maintain the competencies necessary to be effective and efficient in their performance. Also included is the planning of and training programs that will create a positive work atmosphere. Prerequisite: BADM 3330.

3 credits

**BADM 4190 ACCOUNTABILITY IN THE PUBLIC SECTOR**
Analysis of problems of distribution of resources in the public sector, especially social programs, including the cost of benefits analysis, the extent of result, the quality of service that determines demand, and the characteristics of resources invested. Prerequisites: PUAD 3300, 3510.

3 credits
BADM 4300 MANAGERIAL ECONOMICS
Application of contemporary economic theory. Use of analytical instruments from other disciplines in the managerial decision-making process. Prerequisites: MAEC 2212, 2221. 3 credits

BADM 4320 QUANTITATIVE MODELS IN MANAGEMENT
Application of management principles to the science of research of operations in the management process. Development, analysis and interpretation of quantitative models in the decision-making process of the firm. Prerequisites: BADM 2250, MATH 1070, MAEC 2222. 3 credits

BADM 4340 PROTECTIVE LABOR LEGISLATION
Analysis of the federal and state legal frame of Protective Labor Legislation. Constitutional guarantees, laws relative to work contract, antidiscrimination laws, labor insurances and health and occupational security. The articulation of public policy and the solution of labor conflicts in private and the government enterprises. Prerequisite: BADM 3330. 3 credits

BADM 4350 SYNDICATION AND COLLECTIVE BARGAINING
Study of the relations between union and management. Analysis of the legal and practical aspects of syndication, the process of collective bargaining and the administration of the collective agreement between workers and employer unions, in the public and private sectors. Emphasis on compliance with federal and state norms, illicit work practices and the importance of judicial precedents and arbitration in labor conflict resolution in industry and government. Prerequisite: BADM 4340. 3 credits

BADM 4430 WAGE AND SALARY MANAGEMENT
Study of the components of wage systems within their federal and state legal frame. Emphasis on the analysis, description and evaluation of positions, wage and salary management, incentives, fringe benefits, and non-monetary compensation. Prerequisite: BADM 3330. 3 credits

BADM 4800 OPERATIONS MANAGEMENT
Principles and methods of production and operations management. Organization and operation of an industrial enterprise, planning techniques, control management; application of these principles and methods to business activities. Prerequisite: BADM 4300. 3 credits

BADM 4820 BUYING AND MATERIALS MANAGEMENT
Analysis of the purchasing functions as the primary activity in production planning, bargaining and contracting principles. Selection and evaluation of supply sources. Computerized purchasing systems. Prerequisite: BADM 4800. 3 credits
**BADM 4915 HUMAN RESOURCES PRACTICUM**
Integration of knowledge and skills through experience in any work scenario in the area of human resources supervised by a university professor. Requires 90 hours of practice. Prerequisites: Have passed 21 credits in major courses with a 3.0 average, a general grade index of 2.50 and the authorization of the Department Director.

3 credits

The following courses, although not identified as business administration courses, are offered by that department. These courses are offered only for Associate Degree Candidates.

**MAMS 2410 TRANSPORTATION AND TRAFFIC MANAGEMENT**
Problems of transporting goods from the production line to the home. Advantages and limitations of transportation methods. The traffic department and the distributive business organization. Prerequisite: MKTG 1210.

3 credits

**MAMS 2630 PUBLIC RELATIONS**
Current public relations practice and its application to marketing. Organization of public relations work; planning and execution of the public relations program; new developments and trends and their application.

3 credits

**Courses in Chemistry and Chemical Technology (CHEM)**

**CHEM 1111 FUNDAMENTALS OF CHEMISTRY**
Study of matter, its relationship with energy, its properties and its behavior from a macroscopic and microscopic qualitative approach. Formulation of basic concepts of chemistry through laboratory experience. Requires 45 hours of lecture and 45 hours of lab. Corequisite: MATH 1500.

4 credits

**CHEM 2115 GENERAL CHEMISTRY FOR ENGINEERS**
Chemistry concepts and applications, relative to: experimental measurements, atomic and molecular theories; thermodynamics; properties of gases, kinetic molecular theory; liquid and solid states, their intermolecular forces; colligative forces and properties. Aqueous-media reactions: reduction/oxidation (red-ox), precipitation, acid-base combination. Requires 45 hours of lecture and 60 hours of lab. Not to be taken for credit by biology or chemistry majors. Prerequisite: MATH 1500.

4 credits

**CHEM 2212 INORGANIC CHEMISTRY**
Fundamental principles of chemistry and its applications with emphasis on the quantitative study of the structural and energetic properties associated with matter and its transformations. Includes topics related to solid and liquid states, solutions, thermodynamics, chemical kinetics, equilibrium and electrochemistry among others. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: CHEM 1111, MATH 1500.

4 credits
CHEM 2221 ORGANIC CHEMISTRY I
Theoretical and experimental study of the physical, chemical and spectroscopic traits of organic compounds. Emphasis on nomenclature, isomerism, synthesis and reactions of hydrocarbons, alcohols and alkylhalides. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: CHEM 1111.

CHEM 2222 ORGANIC CHEMISTRY II
Continuation of the theoretical and experimental study of organic compounds. Emphasis on nomenclature, isomerism, synthesis and reactions, including mechanisms, aromatic compounds, ethers, carbonylic and carboxylic, amines and compound of biological interest. Includes, in addition, the study of pericyclic reactions according to the frontier orbital theory. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: CHEM 2221.

CHEM 3000 ENVIRONMENTAL CHEMISTRY
Environmental contamination and conservation with emphasis on the chemical, biological and physical processes involved. Prerequisite: CHEM 2212.

CHEM 3010 ENVIRONMENTAL CHEMICAL ANALYSIS
Laboratory techniques for the analysis of water, soil and air. Methods commonly used in field and laboratory sampling and analysis. Description of the most recent technology for analysis and restoration. Requires 30 hours of lecture and 45 hours of lab. Not to be taken for credit by majors in chemistry and chemical technology. Prerequisite: CHEM 2212.

CHEM 3015 ENVIRONMENTAL ANALYTICAL CHEMISTRY
Practice in methods of chemical analyses for components and polluting agents of soil, natural and industrial waters and of air. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: CHEM 2212.

CHEM 3140 PETROCHEMISTRY
Conversion of petroleum into useful products with emphasis on the chemical processes involved. Prerequisite: CHEM 3320.

CHEM 3180 CHEMICAL LITERATURE AND INFORMATION RETRIEVAL

CHEM 3230 STRUCTURE DETERMINATION BY SPECTROSCOPIC ANALYSIS
Use of information obtained from the principal spectroscopic methods (Mass, Ultraviolet, Infrared, Infrared, Nuclear Magnetic Resonance) to determine the molecular structure of chemical compounds. Prerequisite: CHEM 2222. Corequisite: CHEM 3320.
CHEM 3310 FOOD CHEMISTRY
Chemical and functional foundations of the major and minor components of foods, including proteins, carbohydrates, lipids, water, pigments, flavors, antioxidants, vitamins and preservatives. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: CHEM 2222.

CHEM 3320 ANALYTICAL CHEMISTRY
Theory and application of quantitative, volumetric and potentiometric analysis. Includes fundamentals and applications of spectrophotometric methods of separation. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: CHEM 2212.

CHEM 3330 COMPUTATION AND CHEMICAL APPLICATIONS
Use and handling of the computer in the field of chemistry, directed to the solution of problems, writing of technical reports and the search, access and handling of information. Emphasis on basic programming of a language and use of computerized programs in the solution of problems and experiments in chemistry. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: CHEM 2221, MATH 1500.

CHEM 3350 PHARMACEUTICAL CHEMISTRY
Biochemical processes and the manufacture of industrial pharmaceutical products. Prerequisite: CHEM 3320.

CHEM 3351 LABORATORY OF PHARMACEUTICAL CHEMISTRY
Techniques for manipulating and analyzing pharmaceutical products in a practice scenario. Requires 45 hours of lab.

CHEM 3810 PHYSICAL CHEMISTRY: THERMODYNAMICS
Theoretical and experimental study of the basic physical principles governing the properties and behavior of chemical systems with emphasis on the microscopic approach to this study. Includes thermodynamics and its applications to phase equilibrium and chemical equilibrium: non-ideal systems, real gases and solutions and electrochemistry. Requires 45 hours of lecture and 60 hours of lab. Prerequisites: PHYS 3002, MATH 2252. Corequisite: CHEM 3320.

CHEM 3820 PHYSICAL CHEMISTRY: QUANTUM AND KINETIC
Theoretical and experimental study of basic physical principles governing the properties and behavior of chemical systems with emphasis on the microscopic approach to this study. Includes quantum mechanics and its application to the atomic and molecular structure, spectroscopy, stastical mechanics and chemical kinetics. Requires 45 hours of lecture and 60 hours of lab. Prerequisites: PHYS 3002, CHEM 2222, 3320, MATH 2252.
CHEM 3955 CHEMICAL SYNTHESIS
Synthesis of chemical compounds and their characterization by instrumental methods. Emphasis on the application of spectroscopic methods and multistep synthesis. Requires 60 hours of lab. Prerequisites: CHEM 3230, 3320. 2 credits

CHEM 397 _SPECIAL TOPICS
Analysis and discussion of specific topics in chemistry. 3 credits

CHEM 4003 INDUSTRIAL CHEMISTRY
Introduction to the chemical industry and its economic aspects; industrial processes emphasizing the application of chemical principles to the development of commercial products. Prerequisites: CHEM 2222, 3320. 3 credits

CHEM 4070 GENERAL INORGANIC CHEMISTRY
Structures and reactions of inorganic compounds. Course designed for secondary school teachers. Prerequisite: CHEM 3320. 3 credits

CHEM 4150 INDUSTRIAL CHEMICAL ANALYSIS
Application of standard methods of sample analysis, emphasizing instrumental procedures (optical spectroscopic and electrochemical methods) used in industrial chemical analysis. Designed for students in chemical technology. Requires 30 hours of lecture and 90 hours of lab. Prerequisites: CHEM 2222, 3320. 4 credits

CHEM 4180 ADVANCED ORGANIC CHEMISTRY
Mechanical, synthetic and stereochemical aspects of carbonations reactions, additions to multiple chains, reductions, oxidations, and pericyclic reactions. Emphasis on the retrosynthesis of compounds with optical activity. Prerequisite: CHEM 2222, 3230. 3 credits

CHEM 4210 INSTRUMENTAL ANALYTICAL CHEMISTRY
Study of modern methods of instrumental chemical analysis, their fundamentals and applications. Emphasis on the components and organization of the instruments. Requires 30 hours of lecture and 90 hours of lab. Prerequisites: CHEM 3230, 3820. 4 credits

CHEM 4220 BIOCHEMISTRY
Chemical reactions occurring in living matter, using modern techniques for the analysis of carbohydrates, lipids, proteins, nucleolar acids hormones and minerals. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: CHEM 2222, 3320. 4 credits

CHEM 4250 ADVANCED INORGANIC CHEMISTRY
Theoretical and experimental study of the reactions, properties and applications of inorganic and coordination compounds. Theories of valence bond, molecular orbitals and
crystalline field. Solid state, symmetry and their applications. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: CHEM 3820.

4 credits

CHEM 4650 CHEMICAL KINETICS
Kinetics of homogeneous reactions, theoretical kinetics, methods of determining order, reactions of simple order, compound reactions, complex reactions and reactions in solution. Photochemistry and homogeneous and heterogeneous catalysis. Prerequisites: CHEM 2222, MATH 2251.

3 credits

CHEM 4850 PROCESS VALIDATION
Basic concepts of methodology and applications in the validation process, which is defined as documented evidence constantly generated by a process or procedure in the elaboration of a product or in carrying out a function that meets previously determined specifications. Prerequisites: CHEM 3350, MATH 2252.

3 credits

CHEM 4910 INDUSTRIAL PRACTICE
One hundred twenty hours of practical experience in an industrial chemical laboratory under the supervision of program staff and industrial personnel. Prerequisite: CHEM 3955.

3 credits

CHEM 4913 INTERNSHIP IN CHEMICAL TECHNOLOGY
One hundred twenty hours of practical experience in an industrial chemical laboratory under the supervision of program staff and industrial personnel. Prerequisites: CHEM 2222, 4150.

3 credits

CHEM 4915 PRACTICE IN INDUSTRIAL CHEMISTRY
One hundred and twenty hours of practice work in an industrial chemical laboratory under the supervision of the industry and program personnel. Prerequisites: CHEM 4003, 4150.

3 credits

CHEM 4950 RESEARCH METHODS
Training in chemical research through the development of a specific project, using modern techniques. Prerequisites: CHEM 2222, 3180, 3320.

3-6 credits

CHEM 4960 SENIOR SEMINAR
Integration of knowledge acquired through an oral and written presentation of a theme in the field of chemistry. Prerequisite: Must have completed 36 credits in chemistry.

1 credit
Courses in Communications (COMU)

COMU 1000 INTRODUCTION TO COMMUNICATIONS
Current theories of interpersonal group communication and mass communication. Analysis of the importance of communication in society. 3 credits

COMU 1005 AUDIOVISUAL COMMUNICATION TECHNOLOGY
Application of the theoretical and technical foundations of audiovisual communication to the planning, design, and production of graphic and photographic materials in the field. Requires 45 hours of lecture and 45 hours of lab. 3 credits

COMU 1010 FUNDAMENTALS OF GRAPHIC COMMUNICATION
Theories and practices in graphic design for effective communication, introduction to the different visual communication media with emphasis on their adequate use and on related terminology. Requires 30 hours of lecture and 30 hours of lab. 3 credits

COMU 1020 INTRODUCTION TO COMMUNICATION MEDIA
Media theory as a process of cultural and social expression. The communication process and its implications as a means of mass expression in society. 3 credits

COMU 1031 PHOTOGRAPHIC TECHNIQUES
Theory and craftsmanship of visual communication involved in basic photography. Requires 30 hours of lecture and 60 hours of lab. Prerequisite: Approval of the Department Director or the Academic Advisor. 3 credits

COMU 1032 ADVANCED PHOTOGRAPHIC TECHNIQUES
Theory and practice of specialized art techniques in photography. The student will perfect the techniques of illumination, advanced laboratory techniques and techniques of post-production such as those of adjustment and assembly. The student will also become acquainted with the necessary materials and equipment for achieving art studio photography. Requires 30 hours of lecture and 60 hours of lab. Prerequisite: COMU 1031. 3 credits

COMU 1060 ADMINISTRATION OF THE INSTRUCTIONAL MATERIALS CENTER
New trends in the administration of educational technology programs. The principles of selection, classification, cataloging and storing of print and non-print instructional material. Requires 30 hours of lecture and 45 hours of lab. 3 credits

COMU 1120 SYSTEMATIC PLANNING
Media design and project production planning. Model utilization, discussion and application of components. Prerequisite: COMU 1020. 3 credits
COMU 2000 FUNDAMENTALS OF JOURNALISM
The history, theory and practice of journalism; the responsibility of the journalist to society, the ethics of journalism. 3 credits

COMU 2010 WRITING FOR THE MEDIA
Writing fundamentals, techniques, skills, styles and formats for the media. Press releases, editorials, speeches, special computerized programs, advertising messages and audience analyses. Requires additional time in an open lab. Prerequisite: GEEN 2203. 3 credits

COMU 2030 FUNDAMENTALS OF PUBLIC RELATIONS AND ADVERTISING
The history, theories and practice of public relations and advertising in businesses. Analysis of their evolution and impact on society, communication media and marketing. Evaluation of the effectiveness of communication media. Prerequisite: COMU 1000. 3 credits

COMU 2040 INTRODUCTION TO THE ANALYSIS OF JOURNALISTIC TEXTS
Analysis of the use and function of language in journalistic texts; basic techniques in the analysis of text with an emphasis on the development of one's own style. Prerequisite: COMU 2000. 3 credits

COMU 2110 ADVERTISING DESIGN
Development of advertising techniques using graphic arts, photography and other audiovisual means to produce an effective message to the masses and to the individual. Psychological and cultural aspects that determine the perception and the interpretation of these messages. Requires 30 hours of lecture and 30 hours of lab. 3 credits

COMU 2121 MEDIA WRITING I
Fundamentals and techniques used in writing and editing different script formats used in radio and television programs and in films with promotional and educational purposes. Requires 30 hours of lecture and 30 hours of lab. 3 credits

COMU 2122 MEDIA WRITING II
Fundamental and advanced technical applications used in writing and editing different script formats for radio, television, and films. Professional writing and editing of different script formats. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: COMU 2121. 3 credits

COMU 2223 SOUND RECORDING, AMPLIFICATION AND DISTRIBUTION
Nature and production of sound waves and how they become electromagnetic impulses. Ways of measuring and collecting sound. Amplification needs and ways of sound distribution. Sound conservation for future use. Practice with analog and digital circuits. Requires 30 hours of lecture and 30 hours of lab. 3 credits
COMU 2340 TELEVISION PRODUCTION TECHNIQUES
Integration of the theory and practice of techniques and principles governing television production. Requires 30 hours of lecture and 60 hours of lab. Prerequisites: COMU 1031, 2121, 2223.

4 credits

COMU 2510 COMPUTER GRAPHIC PRODUCTION
Computer operation and application in audiovisual presentations. Integration of traditional aspects of audiovisual communications to modern technology. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: COMU 2110, GEIC 1000.

3 credits

COMU 2610 THEORY AND TECHNIQUES OF ILLUMINATION IN PHOTOGRAPHY
Study of illumination theories for photography with emphasis on the psychological and physical effects that light produces in human perception. Emphasis on techniques for the use and manipulation of natural as well as artificial environmental light, in addition to the appropriate use and handling of equipment used to illuminate photographic scenes. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: COMU 1031, 1032.

3 credits

COMU 2615 RADIO PRODUCTION
Theory and practice of principles and techniques that control different types of radio program production, inside and outside a studio. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: COMU 2121, 2223.

3 credits

COMU 2621 DIGITAL PHOTOGRAPHY I
The difference between digital photography and traditional photography will be learned. Application of the basic concepts of composition and edition of digital images. The student will acquire the ability to handle a digital camera, to take photographs, and will learn to store and process photos and produce quality impressions. Requires 30 hours of lecture and 60 hours of lab. Prerequisites: COMU 1031, 2510.

3 credits

COMU 2622 DIGITAL PHOTOGRAPHY II
The techniques for photographic digitalization will be perfected. Exploration of advanced techniques in such a way that students will demonstrate mastery in the use of equipment and programs by combining techniques and creativity. The student will make pages for the Web and will also produce presentations, develop a folder of digital images, will produce advertisements for the Web and will work with the production of virtual images. Requires 30 hours of lecture and 60 hours of lab. Prerequisites: COMU 1031, 2510, 2621.

3 credits

COMU 2910 SUPERVISED PRACTICE (ASSOCIATE DEGREE)
Practical work experience in a program of educational technology. Two hours discussion twice a week with the practice supervisor. Requires 30 hours of lecture and 90 hours of lab.

4 credits
COMU 2915 SUPERVISED PRACTICE/PORTFOLIO
Practical experience in a real work environment in the area of photography. A minimum of 100 hours is required during the semester. Upon completion of the course students must hand in a professional portfolio of the work accomplished during their experience in industry. Thirty hours of lecture. Prerequisite: Approval of the Department Director.
4 credits

COMU 3000 RESEARCH PROCESSES IN COMMUNICATIONS
Analysis of the processes, techniques and available resources for conducting a research project including the selection and development of a current topic.
3 credits

COMU 3010 WRITING FOR JOURNALISTIC COMMUNICATION
Development of journalistic writing skills with an emphasis on legibility, clarity, fluid style, creativity and adequate use of language. Prerequisites: COMU 2000, GEEN 2203.
3 credits

COMU 3013 PUBLIC RELATIONS PLAN
Study and analysis of the necessary processes for implementing a public relations plan. Discussion of the research process, objectives, strategies, cost plan, selection of communication media, implementation of program and its evaluation. Analysis and discussion of cases related with public relations programs.
3 credits

COMU 3015 ADVERTISING PROJECTS
Planning, preparation and implementation of advertising campaigns. Emphasis on the creation and composition of advertising messages, market research, of goods and services, audience analysis, position of advertising cost, evaluation of effectiveness and campaign control. Study and analysis of advertising cases.
3 credits

COMU 3020 INTERPERSONAL COMMUNICATION: TECHNIQUES AND STYLE
Presentation, analysis and utilization of strategies for the development of assertiveness; techniques for initiating and maintaining communication in journalistic situations.
3 credits

COMU 3021 TELEVISION AND RADIO PRODUCTION
Television and radio production, libretto preparation, techniques used in electronic media. Prerequisite: COMU 2010.
3 credits

COMU 3030 PRODUCTION OF RESEARCH REPORTS
The process of producing research reports that include analysis of the audience, selection of topics, collection of data and writing for different media. Prerequisites: COMU 2010, 3020.
3 credits
COMU 3040 TELEVISION FIELD PRODUCTION
Application of principles and techniques of remote production outside the television studio. Practice outside a studio with portable video equipment for taping news, short feature films and advertisements in exteriors. Requires 30 hours of lecture and 60 hours of lab. Prerequisite: COMU 2340.
4 credits

COMU 3225 VOICE AND DICTION
Emphasis on speaking properly, correctly and with adequate pronunciation. Provides extensive practice in language mastery, especially in oral expression. Requires 15 hours of lecture and 45 hours of lab. Prerequisite: COMU 2223.
3 credits

COMU 3244 VIDEO RECORDING, AMPLIFICATION AND SIGNAL DISTRIBUTION
Video theory and video use in different media. Industrial, commercial, educational and domestic uses. Requires 30 hours of lecture and 45 hours of lab.
3 credits

COMU 3325 PHOTOJOURNALISM
The use of photography to document events in written and electronic media. Requires 15 hours of lecture and 45 hours of lab. Prerequisite: COMU 1031 or ARTS 1400.
3 credits

COMU 3226 ADVANCED VOICE AND DICTION
Integration of theory and practice of the techniques associated with professional locution and oral communication in mass media and related areas. Emphasis on advanced skills such as improvisation (“ad-lib”) and voice-over for radio and commercial, educational and corporative television. Discussion and practice in television and sound studios. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: COMU 3225.
3 credits

COMU 3340 JOURNALISTIC STRUCTURE AND TECHNIQUE
Application of basic concepts in news production. Emphasis on the writing of journalistic events. Exploration of the different methods to obtain information, as well as the formats for writing news. Analysis of the journalistic communication in agreement with the media in which it will be emitted or published. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: COMU 2122.
3 credits

COMU 3355 MEDIA INTERVIEWS
Development of skills in question writing, editing and presentation for interviews. Management of difficult and conflicting situations. Proper manners with the interviewed person. Prerequisites: COMU 2121, 3225.
3 credits

COMU 3420 INDUSTRIAL VIDEOS PRODUCTION
Video production for industrial and institutional uses. Program planning and production for instruction and training, presentations of processes or new products, reports and internal
communication. Emphasis on production according to the client’s objectives and with an assigned audience, taking into consideration time, equipment and personnel limitations. Includes visits to television studios that offer satellite teleconferences in public and private enterprises. Requires 30 hours of lecture and 60 hours of lab. Prerequisite: COMU 2340.

4 credits

**COMU 3435 ILLUMINATION FOR VIDEO**
Application of specialized techniques in the design of interior as well as exterior lighting for video. Emphasis on advanced lighting skills, conceptualization of foreground and background lighting, assembly of lighting areas and diagnosis of video quality. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: COMU 3040.

3 credits

**COMU 3520 DIRECTING FOR THE MEDIA**
Participation in directing different programs for radio, television and others. These programs may be dramatic, informative, remote or in a studio. Requires 30 hours of lecture and 45 hours of lab. Prerequisite COMU 2615, 3040.

3 credits

**COMU 4266 MULTIMEDIA DESIGN AND PRODUCTION**
Processes in production of multi-images presentations. Script design, taking slides, recording audiotapes and programming a multi-image presentation. Requires 30 hours of lecture and 60 hours of lab.

4 credits

**COMU 4320 LEGAL AND ETHICAL ASPECTS OF COMMUNICATION**
Federal and state regulations applicable to media. Laws that apply to radio, television and press: libel, censorship, and copyrights, among others.

3 credits

**COMU 4410 MEDIA MANAGEMENT**
Modern trends that regulate media management: radio, television, and press. Commercial firms as educational and social entities that respond to the needs of a dynamic and complex society. Discussion and analysis of media management problems and ways to solve them. Prerequisite: COMU 1020.

3 credits

**COMU 4444 FUNDAMENTALS OF MEDIA RESEARCH**
Media research processes and techniques. Application of basic scientific and social research techniques using interpersonal, group and mass communication topics. Research design, sampling, tools to collect data; interpretation and application of results. Planning and development of a research topic. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: COMU 1020, MAEG 2221.

3 credits

**COMU 4910 SUPERVISED PRACTICE (BACHELOR’S DEGREE)**
Internship or supervised practice in radio and television stations, independent production companies, educational institutions, government agencies or commercial enterprises that have adequate media systems. Requires a minimum of 100 hours of practice. Prerequisite: Permission from the Director of the Department.

4 credits
COMU 4920 INTERNSHIP
Application of theoretical knowledge to real situations in an organizational context; practice in real scenarios in the world of work. Prerequisites: Have approved 18 credits in specific course requirements and have approved all specialization courses with a grade point index of at least 2.50 and a general grade index of at least 2.00. Students are required to devote at least 225 hours to the internship and to attend several internship seminars.  
6 credits

COMU 4970 SEMINAR IN JOURNALISM
Current topics in the area of journalism. Analysis of specific cases. Students must devote a minimum of 20 hours as observers in a real journalism work scenario or its equivalent. Prerequisite: Have approved 18 credits in the journalism specialization.  
3 credits

COMU 4973 SEMINAR IN PUBLIC RELATIONS AND ADVERTISING
Current topics in the field of public relations and advertising. Analysis of specific cases. Students must devote a minimum of 20 hours per in a real public relations or advertising work scenario or its equivalent. Prerequisites: Have approved 18 credits in the public relations and advertising specialization.  
3 credits

COMU 4975 SEMINAR ON RADIO PRODUCTION ON LINE
Application of proper operational and production processes for a radio transmitter through Internet in a real work context. Includes writing for the media, sound manipulation, locution and production for the radio in the operation of an online radio transmitter. Prerequisites: COMU 2615, 3225.  
3 credits

Courses in Computer Engineering (COEN)

COEN 2310 DISCRETE MATHEMATICS FOR COMPUTER ENGINEERING
Study of forms and logical equivalences, circuits and their simplification, Boolean algebra, numerical systems, combinations, and substitutions. Emphasis on propositional logic. Includes the deductive process and rules of inference. Functions, Theory of graphs and trees, difference equations, vectors and linear transformations. Requires additional hours in an open lab. Prerequisite: ENGR 2010.  
3 credits

COEN 4410 COMPUTERIZED INFORMATION SYSTEMS DESIGN
Analysis and design of information systems. Design of databases. Emphasis on logical models of data and on relational database management systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: COMP 4200.  
4 credits

COEN 4430 VISION SYSTEMS BY COMPUTERS
Introduction to the modern elements of vision by computer, representation of image information, extraction of scenes in 3D of information of images in 2D, algorithms for
analogous images. Applications. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: COMP 3400.

4 credits

**COEN 4500 COMPUTER SYSTEMS DESIGN**
Emphasis on design methodologies. Application of hardware description languages. Synthesis and implementation of digital systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3321.

4 credits

**COEN 4525 VHDL DESIGN**
Study of combinational logic using VHDL models. Construction of combinational blocks. Sequential synchronous design. Includes sequential models of VHDL logical blocks. Complex sequential systems. Simulation of VHDL. Synthesis of VHDL. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4520.

4 credits

**COEN 4530 DESIGN AND CONSTRUCTION OF COMPILERS**
Analysis and application of the design and construction of compilers: lexicon, robot, parsing techniques, grammar free of context, tables of symbols, syntax directed translations and other related topics. Requires 45 hours of lecture and 45 hours in a closed lab. Prerequisite: COMP 3500.

4 credits

**COEN 4540 PARALLEL COMPUTATION DESIGN**
Design of computer programming in parallel and distributed. Emphasis on multiprocessing, parallel programming. Includes interconnection, communication and systems synchronization. Paradigms and models in parallel. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3340.

4 credits

**COEN 4545 DESIGN WITH MICROCONTROLLERS**
Elaboration of systems design projects with microcontrollers. Analysis of microcontrollers role versus single chip microcomputers, control of real time, methods for expanding the microcontroller and alternate tools for the development of hardware. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4520.

4 credits

**COEN 4550 DESIGN OF EXPERT SYSTEMS**
Introduction to the field of expert systems with emphasis on their application in engineering. Acquisition and representation of knowledge, inference motor, reasoning strategies, hybrid expert systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: COMP 3500, ELEN 3340.

4 credits

**Courses in Computer Science (COMP)**

**COMP 1010 INTERNET AND ITS TECHNOLOGIES**
History of Internet. Terminology used in Internet. Components for telecommunication between computers. Characteristics and operations of browsers. Use of search engines.
Management of files through Internet. Use of e-mail. Design of simple web pages using applications. Connections to Internet through applications such as word processors, electronic spreadsheets, or presentation applications. Closed laboratory.

COMP 2014 PRINCIPLES OF PROGRAMMING AND ASSEMBLY OPERATIONS
Physical components, principles of computer operation and applications. Basic principles of logical design, architecture, data representation, algorithms and flowcharts. Introduction to BASIC. For Associate Degree candidates only. Requires 45 hours of lecture and 30 hours of lab.

3 credits

COMP 2015 WEB PAGE DESIGN
Study of concepts and strategies for the analysis and design of sites and pages used through Internet. Analysis, design, and programming of interactive pages using code generators for HTML, DHTML and JavaScript. Design and adaptation of graphical elements and multimedia used in interactive pages. Design principles and integration of visual elements that use vectorial animation. Closed laboratory. Requires additional time in an open laboratory. Prerequisite: COMP 1010.

4 credits

COMP 2021 MICROCOMPUTER APPLICATION PROGRAMS I
Introduction to the operation and use of application programs. Word processors, electronic spreadsheets, database program, and presentations program, agendas and e-mail. Introduction to Internet. Closed laboratory. Requires additional time in an open laboratory. Prerequisite: GEIC 1000.

3 credits

COMP 2022 MICROCOMPUTER APPLICATION PROGRAMS II
Study of advanced techniques in the operation and use of application programs. Word processor, electronic spreadsheets, data base programs, and presentation programs. Closed laboratory. Requires additional time in an open laboratory. Prerequisite: COMP 2021.

3 credits

COMP 2050 MULTIMEDIA
Convergence in the use of audio, video, image, telecommunications, and other human communication mechanisms under the digital control of the computer. Study of digital processing standards for audio, video and image. Evolution of telephony in the digital era and technologies of communication networks. Compression and codification methods for the transmission of audio and video signals through communication networks. Analysis of equipment and programming that allow the use and creation of multimedia systems. Closed laboratory.

3 credits

COMP 2060 MICROCOMPUTER REPAIR AND MAINTENANCE
Physical and peripheral components of computer systems. Comparative study of different technologies used in the components of computer systems. Installation of application programs. Preventive maintenance of the equipment, hardware configuration and installation of personal computers. Diagnosis and solution of problems related to the
operation of hardware. Computer updating. Requires 30 hours of lecture and 30 hours of closed lab.

3 credits

**COMP 2110 INTRODUCTION TO COMPUTER SCIENCE**
Discussion of the historical development of the computer. Emphasis on the basic areas of computer science, such as: operating systems, networks, databases, information systems, programming languages, careers in computation and ethics in a computer environment. Requires 30 hours of lecture and 30 hours of closed lab. Corequisite: GEIC 1000, if it has not been taken previously.

3 credits

**COMP 2120 PROGRAMMING LOGIC**
Numerical systems, data representation arithmetic and logical expressions. Analysis, design, evaluation and representation of algorithms, including flow charts and pseudo codes.

3 credits

**COMP 2205 INTRODUCTION TO DATABASES**
Study of the basic concepts of database programs, different types of databases, data types and flow control. Discussion of fundamental programming structures. Requires 30 hours of lecture and 15 hours in a closed lab. Prerequisite: GEIC 1000.

3 credits

**COMP 2210 DESIGN AND MANAGEMENT OF DATABASES**
Design and programming of Access or SQL Language concepts: tables, consultations, forms, reports, macros, classes, modules and process control. Creation of fundamental programming structures. Requires 30 hours of lecture and 30 hours in a closed lab. Prerequisite: COMP 2205.

3 credits

**COMP 2300 VISUAL PROGRAMMING**
Analysis, design, and implementation of programs using a visual programming language. Use of objects, their properties, events and methods. Definition of variables, types of data, registers, and other structures of programming. Subprograms, iteration, decision and selection structures. Closed laboratory. Requires additional time in an open laboratory. Prerequisites: COMP 2110, 2120.

3 credits

**COMP 2315 STRUCTURED PROGRAMMING**
Introduction to programming. Data types, declarations, control structures and subprograms. Structured programming in blocks and transfer of data. Capability of variables. Basic data structures: sets, records, files and pointers. Design, coding, verification, elimination of errors and documentation. Requires additional time in an open laboratory. Requires 30 hours of lecture and 30 hours in a closed lab. Prerequisites: COMP 2110, 2120.

3 credits
COMP 2318 FORTRAN
Syntax, assignments, declarations, decisions, loops, arrays, subprograms, data input and output utilizing format instructions. The course emphasizes efficient programming and adequate documentation. Requires additional time in an open laboratory. Prerequisite: GEIC 1000. 3 credits

COMP 2320 INTRODUCTION TO JAVA PROGRAMMING
Introduction to the basic concepts of Java language: types of data and flow control. Fundamental structures of programming, classes, objects, and methods. Graphic interfaces, Applets and HTLM. Closed laboratory. Prerequisite: COMP 2315. 3 credits

COMP 2325 ADA PROGRAMMING
Introduction to the development of system programs. Concepts such as data abstraction, multitasking, exception handling and encapsulation. Lexical style of ADA language. Scalar and numbered types, control structures and compound types in ADA. Subprograms such as functions and procedures, packages, and library units, and data transferal between them. Private types. Management of exceptions. Principles of tasking such as parallelism, rendezvous, timing and scheduling. Requires additional time in an open laboratory. Prerequisite: COMP 2315. 3 credits

COMP 2340 PROGRAMMING OF RELATIONAL DATABASES
Design and configuration of Structured Query Language (SQL). Creation and management of archives, groups, databases, tables, parallel structures of connections and relational data. Requires 30 hours of lecture and 30 hours in a closed lab. Prerequisite: COMP 2205. 3 credits

COMP 2350 AVIATION PROGRAMMING IN C LANGUAGE
Analysis and design of algorithms, data types and structures. Programming in C Language and its application to aviation for problem solving. Lexical and syntactic level, functions, control flow and fork operations. Arrays, strings, pointers, electronic problems, management, flight planning and meteorology. Basic concepts of the UNIX operational system, a platform for maintaining, modifying or developing programs in C. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: COMP 2120. 3 credits

COMP 2400 OBJECT ORIENTED PROGRAMMING
Introduction to object-oriented languages. Objects, kinds, messages, instances, variables, encapsulating, heritage, methods, expressions, blocks, collections, flows, and applications. Requires additional time in an open laboratory. Prerequisite: COMP 2300. 3 credits

COMP 2425 PROGRAMS AND APPLICATIONS FOR INTERNET
Configuration, use and maintenance of communication tools for Internet such as electronic forums, distribution lists, electronic mail and chat. Requires 30 hours of lecture and 30 hours in a closed lab. Requires additional time in an open lab. 3 credits
**COMP 2501 DISCRETE COMPUTATIONAL STRUCTURES I**

**COMP 2502 DISCRETE COMPUTATIONAL STRUCTURES II**

**COMP 2525 IMPLEMENTATION AND MANAGEMENT OF RELATIONAL DATABASES**
Development and implementation of the necessary type of platform and infrastructure for the development of databases. Use of platforms and operating systems for databases. Requires 30 hours of lecture and 30 hours in a closed lab. Prerequisite: COMP 2340. 3 credits

**COMP 2550 LOGICAL AND FUNCTIONAL PROGRAMMING**
Fundamental concepts: Atoms, lists, expressions, basic functions, logic operations, recursions and iterations, advantages and disadvantages of types. Logic clause and predicates of first order. Creation of knowledge bases and their access. Goals, binding, and backtracking. Cut operation. Requires 30 hours of lecture and 30 hours in a closed lab. Requires additional time in an open lab. Prerequisite: COMP 2501. 3 credits

**COMP 2555 APPLICATIONS IN RELATIONAL DATABASES**
Introduction to relational database programming for solving problems of updating, editing, summaries and reports in enterprises. Includes the necessary skills for installing, configuring and adapting a well-accepted commercial relational database to the user’s particular needs. Requires 45 hours of lecture-lab in a closed lab. Requires additional time in an open lab. Prerequisite: COMP 2300. 3 credits

**COMP 2600 BUSINESS PROGRAMMING**
Introduction to the data-processing environment. Basic file organization. Master and transaction files. Operations with file creation, update, restoration, merge and back-up copies. Design and generation of reports through a commercially oriented programming language. Requires additional time in an open lab. Prerequisites: COMP 2300, 2315. 3 credits

**COMP 2625 MANAGEMENT AND MAINTENANCE OF RELATIONAL DATABASES**
Planning, administration and evaluation of platforms and networks using relational databases as a means of integration and management of information and archives. Use of
individual and multi-user databases. Requires 30 hours of lecture and 30 hours in a closed lab. Prerequisite: COMP 2340.

**COMP 2700 CONFIGURATION, ADMINISTRATION AND MAINTENANCE OF THE WEB SERVER**
Evaluation and planning of the type of platform and infrastructure necessary to mount a Web Server. Use of operating systems and programming for Web Servers. Study and application of recognized techniques for the maintenance of Web Servers. Closed laboratory. Also requires additional time in an open laboratory. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: COMP 1010, 2425.

3 credits

**COMP 2760 DYNAMIC WEBS WITH DATABASE AND CONFIGURATION**
Current techniques and methods for the definition, configuration and administration of Web Servers in Internet. Planning, control and evaluation of Web Servers through the use of databases. Closed laboratory. Also requires additional time in an open laboratory. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: COMP 1010, 2015.

3 credits

**COMP 2900 DATA STRUCTURES**
Design and implementation of objects from capsulated data and their operations. Handling of data in sequential and dynamic structures. Solution of problems with basic abstract such as, stacks, queues, arrays, trees and graphs. Techniques for handling data such as searching and ordering. Implementation of different data structures using recursive and non-recursive processes. Use of an object oriented programming language. Requires additional time in an open laboratory. Prerequisites: COMP 2400, 2501.

3 credits

**COMP 2910 PRACTICUM: DESIGN, DEVELOPMENT AND INTEGRATION OF RELATIONAL DATABASES**
Experience in a real work environment. Planning and presentation of a project in the area of database platforms under the supervision of a faculty member. A minimum of 120 hours is required: 105 hours in the work scenario and 15 in meetings with the professor.

3 credits

**COMP 2970 SEMINAR FOR THE ASSOCIATE DEGREE IN APPLIED SCIENCE IN COMPUTER SCIENCE**
Research and study of important topics in computer science. Practice in skills and knowledge developed in the study of the Associate Degree in Applied Science in Computer Science. For Associate Degree candidates only.

3 credits

**COMP 2975 PRACTICE: DESIGN, DEVELOPMENT AND PUBLICATION OF WEB SERVERS**
Experience in a real work environment in an institution approved by the course supervisor. Development and presentation of a project in the field of Internet, under the supervision of a faculty member. Prerequisites: Have approved at least 50 credits and authorization of the Department Director.

3 credits
COMP 3010 FILE MANAGEMENT AND ORGANIZATION
3 credits

COMP 3200 COMPUTER ORGANIZATION AND ASSEMBLER LANGUAGE
Digital systems. Organization and structure of main components in computer systems. Representation and manipulation of numerical and non-numerical data at machine level. Comparison between different instruction sets and corresponding directional modes. Fetching and operations execution, depending on architecture. Interruption concepts. Access-and memory management techniques, registers and peripherals. Requires additional time in an open lab. Prerequisite: COMP 2900.
3 credits

COMP 3320 THE COMPUTER IN TEACHING
Computer languages developed to teach computer skills to children (LOGO, PILOT and others). “Turtle” graphics. Set of instructions, programming and comparative language model to develop instructional modules. Evaluation of selected educational programs and discussion of the applied psychological principles and other attributes that have made such programs attractive and adequate for teaching. Requires additional time in an open lab.
3 credits

COMP 3400 SOFTWARE ENGINEERING
Techniques in the cycle of development and implementation of software: analysis, specifications, design, verification, validation, documentation and maintenance. Measurements of efficiency. Requires additional time in an open lab. Prerequisite: COMP 2900.
3 credits

COMP 3500 OPERATING SYSTEMS
Concepts and functions of operating systems. Multi-programming, multi-processing, real time and time sharing. Processor, memory and device management. Virtual memory and file handling. Security and protection. Requires additional time in an open lab. Prerequisite: COMP 3200.
3 credits

COMP 3600 COMPUTER GRAPHICS
3 credits

COMP 3800 PROGRAMMING LANGUAGES
Evolution of programming languages. Basic concepts, including kinds of data, operations, type verification, control structures, data control and access, memory handling, syntax, semantics, and relocation of memory contents (binding). Introduction to alternate
paradigms in programming languages. Comparison in implementing different basic concepts among several programming languages. Requires additional time in an open lab. Prerequisite: COMP 3200. 3 credits

COMP 3850 THEORY OF DATABANKS
Basic objectives, functions, models, components and applications for databank systems. Analysis of the different data models. Considerations on the design and implementation of a databank. Operational requirements: performance, integrity, security, concurrence and retrieval. Requires additional time in an open lab. Prerequisites: COMP 2900. 3 credits

COMP 397X SPECIAL TOPICS
Current topics relevant to the computer science area. Prerequisite: Authorization from the Director of the Department. 1-6 credits

COMP 4000 MICROPROCESSORS ARCHITECTURE AND PROGRAMMING
Microprocessors of 16, 32 and 64 binary digits. Large scale integrated circuits. Devices, interfacing, interrupt input and output, memory and bus structures. Programming and design of control systems based on microprocessors. Requires additional time in an open lab. Prerequisites: COMP 3200. 3 credits

COMP 4160 PARALLEL PROCESSING
Evolution of parallel processing in computation systems. Parallel-processing architecture. Pipeline principles. Vector and Matrix processing. Techniques for developing control algorithms for concurrent multiple processing. Applications of multi-process systems will be discussed. Requires additional time in an open lab. Prerequisites: COMP 3500, 4000. 3 credits

COMP 4200 TELEPROCESSING AND NETWORKS
Fundamental concepts of communication, classification, topology, analysis, design, implementation, data communication network security and communication architecture, including the OSI model. Communication protocols and distributed processing. Hardware equipment evaluation and software programs of high commercial acceptance networks. Requires additional time in an open lab. Prerequisites: COMP 2502, 3500. 3 credits

COMP 4220 ADVANCED TELEPROCESSING AND NETWORKS
Modulation concepts with emphasis on PSK and FSK, compression and decompression of data, “Packet Switched Networks,” “Circuit Switched Networks,” ATM, ISDN, private networks, data encryption and communications safety. Prerequisite: COMP 4200. 3 credits

COMP 4230 INSTALLATION AND CONFIGURATION OF NETWORK PHYSICAL COMPONENTS
Installation and configuration of the physical components of networks. Basic concepts and preparation of physical transmission means such as optic fiber, coaxial cable and twisted pair. Prerequisite: COMP 4220. 3 credits
COMP 4235 OPERATING SYSTEMS FOR NETWORKS
Concepts and functions of operating systems for networks with emphasis on Unix. Advanced concepts of TCP/IP. Requires additional time in an open lab. Prerequisites: COMP 3500, 4200.

3 credits

COMP 4240 NETWORK MANAGEMENT
Basic functions of planning, organizing, directing and controlling a computer network. Structures and procedures for evaluating and selecting software for implementing a network. Prerequisite: COMP 4230.

3 credits

COMP 4250 DATABASE DEVELOPMENT, IMPLEMENTATION AND ADMINISTRATION

3 credits

COMP 4270 AUTOMATON THEORY

3 credits

COMP 4280 COMPILERS
Design and construction of lexical and syntax analyzers, parsing techniques, intermediate code generation. Management of symbol tables, object code optimization and generation in the design of computers. Requires additional time in an open lab. Prerequisites: COMP 3800, 4270.

3 credits

COMP 4420 SYSTEMS DESIGN AND ANALYSIS
Description of systems and systems analysis environment. Basic tools for design and analysis, and applications to the systems life cycle and development. Project-management principles and methods. Prerequisite: COMP 3400.

3 credits

COMP 4430 SYSTEMS DEVELOPMENT AND IMPLEMENTATION
Determination of programming tools. Prototype elaboration, testing, debugging and validation. Processes for change; the techniques used for systems implementation. Systems documentation and users operation manual. Systems evaluation and optimization. Requires additional time in an open lab. Prerequisite: COMP 4420.

3 credits
COMP 4480 ARTIFICIAL INTELLIGENCE
History, fundamentals and applications of artificial intelligence. State space, heuristic search strategies and search control (depth first, breadth first). Representation of knowledge. Reasoning strategies (forward, backward). Knowledge engineering: production rules, diffuse logic. Requires additional time in an open laboratory. Requires 30 hours of lecture and 15 hours in a closed lab. Prerequisites: COMP 2550, 2900. 3 credits

COMP 4500 EXPERT SYSTEMS

COMP 4580 INTRODUCTION TO ROBOTICS

COMP 4600 COMPUTER ARCHITECTURE
Memory hierarchy, access strategies, virtual memory, serial and parallel processors, multiprocessing, processors of regular order, cost analysis and economic considerations in computer design. Prerequisite: COMP 3200. 3 credits

COMP 4910 INTERNSHIP AND PROFESSIONAL ETHICS
Experience in real-work environment in institutions approved by course supervisor. Development and presentation of project in computer science under the supervision of a faculty member. Seminars on professional ethics. Course requires the students to work for at least 120 hours in internship and attend seminars related to professional ethics. Prerequisites: COMP 4200, 4420. 3 credits

Courses in Computer System Installation and Repair (CSIR)

CSIR 1110 COMPUTER PROGRAMS
Technical and business application of microcomputers. Evaluation and hands-on experience in application programs such as: word-processing, electronic spreadsheets, databases, desktop publishing and graphics. Requires 45 hours of lecture and 30 hours of lab. 4 credits
CSIR 1130 BASIC ELECTRONICS

3 credits

CSIR 1210 COMPUTER MATHEMATICS
Boolean algebra, truth tables, numeric systems: Binary, Octal, Hexadecimal. Arithmetic operations and information applications. Symbolic character representation using ASCII.

3 credits

CSIR 1220 INTRODUCTION TO DATA COMMUNICATION
Concepts and terminology associated with the dynamic industry of data communication. Development of data communication, architecture of data networks, strategies in computer communication, network interconnection, work tendencies in communication networks. Prerequisite: CSIR 1110.

2 credits

CSIR 1230 INTRODUCTION TO MICROCOMPUTER OPERATING SYSTEMS
Principles of the functioning of data processing systems by block, multiprogramming, time sharing, memory management, paging, segmentation, virtual memory, expanded memory, life system, I/O operation. The management of components and processors by means of practice in microcomputer operating systems. Requires 30 hours of lecture and 30 hours of lab.

3 credits

CSIR 2121 NETWORK ADMINISTRATION I
General knowledge in network administration and its resources. System administration and responsibilities in handling resources, basic components, network types, topologies, expansion and interconnection, network program basic structures, data distribution processes, directory structure, volume pointers, security, supervision, console commands, printing of data. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: CSIR 1220.

3 credits

CSIR 2122 NETWORK ADMINISTRATION II
Knowledge and practice in networks. Installation of network programs in servers and nodes. Physical requirements (processor, memory, communication boards and hard disk), control and supervision of resources and users, setting utilities to user, evaluation of functions, installation of printer servers. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: CSIR 2121.

3 credits

CSIR 2130 MAINTENANCE AND REPAIR OF PRINTERS AND MONITORS
Maintenance and repair of printers and monitors, Schematic lecture components, disassembly, repairing programs, preventive maintenance. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: CSIR 1110, 1130.

3 credits
CSIR 2140 INTRODUCTION TO MICROPROCESSOR ELECTRONICS
Architecture, instruction set, programming and interconnection of microprocessors 8, 16 and 32 binary digits. Time diagrams, interrupters and exceptions, handling I/O memory and some support components. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: CSIR 1130, 1210.
3 credits

CSIR 2150 PROGRAM INSTALLATION AND CONFIGURATION
Installation, presentation, configuration of hard disks with most used application programs in the market for example: WordPerfect, Lotus 1-2-3, Harvard Graphics, Windows, Corel Draw, Excel, PageMaker, shield programs, communication programs by modem, FAX and others. Requires 15 hours of lecture and 30 hours of lab. Prerequisite: CSIR 1110.
2 credits

CSIR 2160 NETWORK INSTALLATION
Preparation and installation of physical components of a network. Types of topologies and interface boards, media communication, programs: NOVELL, LANTASTIC, APPLE TALK, TOP, BANYAN VINES AND UNIX. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: CSIR 1230, 2140.
2 credits

CSIR 2210 TECHNICAL MAINTENANCE OF PERSONAL COMPUTER
Principal signs of computer problems during the assembling of boards, energy suppliers, processor, memory, disk, cables, operating system and peripheral equipment, handling and diagnostic programs for computer repairing. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: CSIR 2140.
3 credits

CSIR 2230 NETWORK SERVICE AND MAINTENANCE
Network service and diagnostic workshop. Identification of technical problems or degradation of the system by the use of diagnostic programs. Installing new workstations, servers, and network interconnections. Diagnosis and replacement of physical components of a network. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: CSIR 1220, 2140.
3 credits

CSIR 2240 SEMINAR
Open topics in the design, configuration of network systems and interconnections. New computer system products on the market. Thirty hours of practice in the private sector in administration, installation and repair of computer systems. Prerequisite: A minimum of 20 credits of specialization requirements.
2 credits

CSIR 3300 ARCHITECTURE OF COMPUTERIZED SYSTEMS
Organization and structure of the principal components of computerized systems. Multiprocessing, batch processing, multiprogramming, shared time, memory hierarchy, access strategies, virtual memory, processors, cost analysis and considerations in computer design. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: CSIR 1110, 1130, 1210, 1220, 1230.
3 credits
CSIR 3310 DATABASE ANALYSIS AND DESIGN
Analysis of different data models. Design and implementation of a database. Objectives, functions, models, components and applications of a database system. Operational Requirements: performance, integrity, security, approvals and CSIR. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: CSIR 1110, 1230.

3 credits

CSIR 3315 ANALYSIS AND DESIGN OF COMPUTERIZED SYSTEMS
Computer systems analysis and the environment of system analysts. The basis design tools and principles of project management. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: CSIR 1110, 1230.

3 credits

CSIR 4100 INSTALLATION AND CONFIGURATION OF NETWORK PROGRAMS
Installation, preparation and configuration of servers utilizing the most currently used computer network programs on the market, such as: Novell 4.1, Windows NT and others. Requires 15 hours of lecture and 30 hours of lab.

2 credits

CSIR 4140 CREATION OF ELECTRONIC PRESENTATIONS AND PUBLICATIONS
Creation of electronic presentation and publication pages. Use of stationary visuals. Construction of options and suboptions, logical operations and strategies in communication. Includes the creation of a communication service page “Internet.”. Requires 15 hours of lecture and 30 hours of lab.

2 credits

CSIR 4300 INFORMATION SYSTEMS MANAGEMENT
Planning, direction, organization and control of an information processing center. Methods of selection and acquisition of equipment, applications and systems development. Prerequisites: CSIR 1110, BADM 1550.

3 credits

CSIR 4500 COMPUTER ASSEMBLY
Selection and acquisition of parts and equipment for computer construction. Design and construction of a personal computer. The modification process and techniques for implementing the system. Quotation analysis and optimization of system components. Requires 30 hours of lecture and 45 hours of lab.

3 credits

CSIR 4970 SEMINAR
Supervised work experience in the installation and repair of computerized systems, under the supervision of a faculty member. Students are required to devote 120 hours in the development of the assigned project. The course offers students the opportunity to apply the skills learned in the laboratory to practical experiences. Requires 45 hours of lecture-lab. Prerequisite: Have passed at least 50 credits in the major.

3 credits
Courses in Computerized Management Information Systems (CMIS)

CMIS 2100 INTRODUCTION TO COMPUTERIZED INFORMATION SYSTEMS
Components of an information system and its basic elements. Concepts and principles that govern data processing and information generation, introduction to information systems based on computers and the basic programs used by people working with the final reports. Requires additional time in an open lab.
3 credits

CMIS 2200 PROGRAMMING ALGORITHMS
Algorithms development with the necessary constructions for the solution of numerical and non-numerical problems. Prerequisite: CMIS 2100.
3 credits

CMIS 2301 COBOL I
The study of COBOL (Common Business Oriented Language) in structured form, the syntax of programming, documentation, data description, organization and techniques and business applications. Requires additional time in an open lab. Prerequisites: CMIS 2200, ACCT 1151.
3 credits

CMIS 2302 COBOL II
Techniques of structured programming in COBOL, the syntax of programming and data description, process of transforming data into information and its use in management decision-making. Requires additional time in an open lab. Prerequisite: CMIS 2301.
3 credits

CMIS 3130 DATABASE MANAGEMENT SYSTEMS
Managerial information for decision making, modular relationship and file structure, administrative management of projects, data and control. System updates, information requirements and availability within the enterprise. Systematic study of existing software for management of databases by industry or business classifications. Economic and financial models by segments. Prerequisite: CMIS 2100.
3 credits

CMIS 3300 RPG
Production of reports by means of RPG (Report Program Generator), file maintenance and processing managerial information. Requires additional time in an open lab. Prerequisites: CMIS 2200, ACCT 1151.
3 credits

CMIS 3301 MULTIMEDIA AND AUTHORSHIP SYSTEMS
Characteristics and functional capacity of platforms and authorship systems for multimedia and hypertext programs. Methodologies, tools and techniques for planning, designing, producing and implementing multimedia projects with emphasis on the use of the emerging technologies such as audiovideo, CD-ROM and laser disks. Requires additional time in an open lab. Prerequisite: CMIS 2100.
3 credits

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CMIS 3310 APPLIED BASIC
Programming concepts in BASIC with a high degree of sophistication and applicability to specific industrial and business problems. Intensive use of the computer laboratory in the solution of managerial problems. Requires additional time in an open lab. Prerequisite: CMIS 2200 or ACCT 1152.

CMIS 3320 INFORMATION SYSTEMS ANALYSIS
The sequence of procedures, activities and considerations for the analysis phase of information systems. Tools and techniques to support the analysis process. Requires additional time in an open lab. Prerequisite: CMIS 3130.

CMIS 3330 C LANGUAGE
Study of C Programming Language and its usefulness in solving problems beginning with the creation of compilers to modulation. Prerequisite: CMIS 2200.

CMIS 3350 TELECOMMUNICATIONS AND BUSINESS NETWORKS
Basic concepts of data communication and telecommunications from an organizational perspective. Telecommunication technologies, equipment and systems in which information provides support for business functions. Traditional systems of voice and data communication and systems with new technologies for the communication of images and video. Design of remote and local networks (WANs, MANs and LANs) as integral parts of business environments of any size. Prerequisite: CMIS 2100.

CMIS 3450 INTERNET IN THE ENTERPRISE
Fundamental concepts for the management and practical application of resources and tools offered by Internet to the business field. Communication protocols, interconnection of Networks, page publications, information searches and services offered by the network. Requires additional time in an open lab. Prerequisite: CMIS 2100.

CMIS 4100 HUMAN-COMPUTER INTERACTION
Theories, principals and norms that guarantee high-quality user interface. Principles of human engineering and their fundamentals as a base for designing an interface. Performance analysis concepts, learning time, frequency of errors, types of interactions, manipulations and user satisfaction indispensable for developing highly efficient and commercially successful programs. Prerequisite: CMIS 3320.

CMIS 4244 EXPERT SYSTEMS AND DECISION SUPPORT
Systems based on knowledge and decision support systems and their applications, especially in business. Basic principles of design and operation. Methods and technologies applied to construction, integration and complementation. Prerequisite: CMIS 3320.
CMIS 4320 INFORMATION SYSTEMS DESIGN
The sequence of procedures, activities and considerations for the design phase of an
information system. Tools and techniques to support the design process. Requires
additional time in an open lab. Prerequisite: CMIS 3320. 3 credits

CMIS 4435 PROJECT MANAGEMENT, CONTROL AND AUDITING
Basic concepts and principles of project management and control and operations design in
the production of goods and services. Quantitative methods and economic principles
applied to business situations. Tools and models for decision-making in a business,
production and operational environment. Prerequisite: CMIS 3320. 3 credits

CMIS 4915 PRACTICUM
Supervised work experience in the field of computerized management information systems
under the supervision of a faculty member. Students are required to devote at least 135
hours to develop the work or project assigned in lieu of the practicum. 3 credits

CMIS 4970 SEMINAR IN INFORMATION SYSTEMS
Current topics that may give a view of future trends in computer technology and their
interactions with information systems. Areas of the great demand such as communications,
artificial intelligence, the optimization of operations and the interaction of media in a
changing society in search of new technological alternatives to meet the challenges of an
organizational environment in continuous evolution. Prerequisite: have approved 30
credits in core courses and in major courses. 3 credits

Courses in Computerized Tomography and Magnetic
Resonance (CTMR)

CTMR 3030 PHYSICAL PRINCIPLES OF COMPUTERIZED TOMOGRAPHY
AND MAGNETIC RESONANCE
Study of the physical principles of computerized tomography and magnetic resonance.
Methods of acquiring and processing data, the components of the system for acquiring and
reconstruction of images, the programs and technical parameters used in the acquisition of
images including the equipment and quality assurance are discussed. Prerequisites: RATE
2231, 2232. 3 credits

CTMR 3040 PROCEDURES AND IMAGES I
Study and discussion of tracking techniques related to the criteria for the acquisition of
high quality images applied to the central nervous system. Includes the study of anatomy,
positioning criteria, protocol options and the associated pathology. Prerequisite: RATE
2250. 3 credits
CTMR 3041 PROCEDURES AND IMAGES II
Study and discussion of tracking techniques related to the criteria for the acquisition of high quality images applied to the neck, thorax and mediastinum. Includes the study of anatomy, positioning criteria, protocol options and the associated pathology. Prerequisites: CTMR 3030, 3040.

3 credits

CTMR 4020 PROCEDURES AND IMAGES III
Study and discussion of tracking techniques related to the criteria for the acquisition of high quality images applied to the area of the abdomen and pelvis. Includes the study of anatomy, positioning criteria, protocol options and the associated pathology. Prerequisites: CTMR 4911, 3041.

3 credits

CTMR 4021 PROCEDURES AND IMAGES IV
Study and discussion of tracking techniques related to the criteria for the acquisition of high quality images applied to the musculoskeletal regions. Includes the study of anatomy, positioning criteria, protocol options and the associated pathology. Prerequisites: CTMR 4912, 4020.

3 credits

CTMR 4911 INTERNSHIP IN COMPUTERIZED TOMOGRAPHY I
Clinical experience aimed to develop and improve the professional skills acquired in previous courses for making images of the head, neck and spine by computerized tomography and magnetic resonance. The student will be under the supervision of a qualified specialist in computerized tomography and magnetic resonance. One hundred eighty (180) hours of practice. Prerequisites: CTMR 3030, 3040.

3 credits

CTMR 4912 INTERNSHIP IN COMPUTERIZED TOMOGRAPHY II
Clinical experience aimed to develop and improve the professional skills acquired in previous courses for making images of the thorax, mediastina and the muscular-skeletal system by computerized tomography and magnetic resonance. The student will be under the supervision of a qualified specialist in computerized tomography and magnetic resonance. One hundred eighty (180) hours of practice. Prerequisites: CTMR 4911, 3041.

3 credits

CTMR 4913 INTERNSHIP IN COMPUTERIZED TOMOGRAPHY III
Clinical experience aimed to develop and improve the professional skills acquired in previous courses for making images of the area of the abdomen and pelvis by computerized tomography and magnetic resonance. The student will be under the supervision of a qualified specialist in computerized tomography and magnetic resonance. One hundred eighty (180) hours of practice. Prerequisites: CTMR 4912, 4020.

3 credits
Courses in Criminal Justice (CJUS)

CJUS 1000 INTRODUCTION TO CRIMINOLOGY
Discussion of the principles and foundation of the etiology of crime and the criminological theories from a biopsychosocial context. Includes intervention and prevention strategies.
3 credits

CJUS 2050 VICTIMS OF CRIME
Discussion on the victims of crime from a social, political and legal approach. Analysis of programs, services, support groups and their implications for the victims and their families.
3 credits

CJUS 2070 HUMAN AND CIVIL RIGHTS
Discussion of the principles and contemporary foundations of human and civil rights. Prerequisite: POLS 1011.
3 credits

CJUS 2075 SOCIAL DEVIATION
Discussion of the theoretical foundations of social deviation. Emphasis on the identification of the biopsycosocial factors that influence altered conduct and social reaction.
3 credits

CJUS 2090 JUVENILE JUSTICE SYSTEM IN PUERTO RICO
Discussion of the origin, philosophy and development of the Juvenile Justice System in Puerto Rico and its substantive and procedural aspects. Emphasis on the System response to juvenile delinquency, its course, development and analysis.
3 credits

CJUS 2910 INTERNSHIP IN CRIMINAL JUSTICE
Integration and application of knowledge acquired and skills developed in the core and specialization courses to the study and analysis of situations related to criminal investigation. Seventy-five hours are required: 65 hours of practical experience in a criminal investigation scene and 10 class hours. Prerequisites: Have passed a minimum of 50 credits, including courses CJUS 3025, 3030, 4030, 4040 and SOCI 3825. Prerequisite: the written approval of the Coordinator of the Criminal Justice Program.
3 credits

CJUS 3015 WOMEN FACED WITH CRIME
Analysis of the contemporary vision of women facing crime and the justice system. Emphasis on the theories regarding women in relation to sex, gender, crime and the criminal process.
3 credits

CJUS 3025 CRIMINAL LAW
Application of the basic principles of Criminal Law and interpretation rules. Crimes with greatest social impact and applicable legislation.
3 credits
CJUS 3027 WHITE COLLAR CRIME
Analysis of the sociological and legal aspects of white-collar crime and its corporative and individual manifestations. Emphasis on the social, economic and ethical cost of this behavior. Discussion of cases and applicable jurisprudence.

3 credits

CJUS 3030 INTERVIEWS AND INTERROGATION
Analysis of interviewing and interrogation techniques as sources of primary information in criminal investigation. Emphasis on these techniques and report preparation and procedures for presentation.

3 credits

CJUS 3035 SPECIAL CRIMINAL LAWS
Analysis of criteria for interpretation, application and discussion of Special Criminal Laws in Criminal Justice. Study of applicable legislation. Prerequisite: CJUS 3025.

3 credits

CJUS 3040 PENOLOGY
Analysis of modern penology and its repercussion in the criminal justice system and in society. Includes the evolution of sanctions, correctional models, therapeutic strategies and institutional treatment.

3 credits

CJUS 3045 RIGHTS OF THE CORRECTIONAL POPULATION
Analysis of disciplinary, civil and criminal actions and the implementation of security measures. Includes legislative, administrative and judicial decisions applicable to the rights of the correctional population. Prerequisites: CJUS 3025, 3040.

3 credits

CJUS 3055 FEDERAL JURISDICTION
Analysis of the functions and duties of the agencies that compose the Federal Criminal Justice System. Emphasis on the substantive and procedural aspects of federal criminal legislation.

3 credits

CJUS 3060 CORRECTIONAL ADMINISTRATION
Application of basic principles of management and operation of correctional institutions. Emphasis on administration of services, security measures, supervision and discipline of the correctional population institutional groups.

3 credits

CJUS 3080 COMMUNITY BASED REHABILITATION
Identification of nonprofit institutions that offer rehabilitation services leading to reeducation and reintegration of the transgressor outside an institutional environment. Analysis of the differences and effectiveness of alternate programs of rehabilitation and prevention of recidivism.

3 credits
CJUS 4020 ALCOHOLISM AND DRUG ADDICTION
Analysis of the physiological, psychological and sociological factors that motivate the use and abuse of alcohol and controlled substances; legal aspects. Emphasis on the behavior of the drug addict and the alcoholic, prevention and rehabilitation programs.  3 credits

CJUS 4030 CRIMINAL INVESTIGATION I
Analysis of general concepts of modern techniques for investigating crimes. Application of the scientific method and auxiliary sciences to the study of cases in criminal investigation. Prerequisites: CJUS 3025, 3030.  3 credits

CJUS 4035 MODERN TECHNOLOGY IN CRIMINAL INVESTIGATION
Study on modern technology advances in the field of the criminal investigation. Emphasis on the application of technology to aspects of forensic sciences. Visits and activities in centers and specialized laboratories. Prerequisite: CJUS 4030.  3 credits

CJUS 4040 EVIDENCE MANAGEMENT
Analysis and management of Rules of Evidence and Criminal Procedure applicable to investigation. Study of cases and applicable jurisprudence. Prerequisite: CJUS 4030.  3 credits

CJUS 4060 FRAUD DETECTION AND MANAGEMENT
Analysis of the concept of fraud and its different manifestations in public and private institutions. Discussion of alternatives for prevention and applicable legislation. Prerequisites: CJUS 3025, 4030.  3 credits

CJUS 4910 INTERNSHIP IN PENOLOGY
Integration of knowledge, skills and attitudes in the work scenario in the area of penology, supervised by a professor. One hundred hours are required: 90 hours of practical experience in a penal institution or in a social treatment center and 10 lecture hours. Prerequisites: A minimum of 90 approved credits including 12 credits in the major and all requirements established in the Internship Handbook.  3 credits

CJUS 4914 INTERNSHIP IN CRIMINAL INVESTIGATION
Integration of knowledge, skills and attitudes in the work scenario in the area of criminal investigation, supervised by a professor. One hundred hours are required: 90 hours of practical experience and 10 lecture hours. Prerequisites: A minimum of 90 approved credits including 12 credits in the major and all requirements established in the Internship Handbook.  3 credits

CJUS 4972 SEMINAR IN CRIMINAL JUSTICE
Application of the knowledge, skills and attitudes of the discipline to situations related to the Criminal Justice System. Prerequisites: CJUS 2090, 3025, SOCI 2080.  3 credits
Courses in Education (EDUC)

EDUC 1080 EXPERIENCES IN EDUCATIONAL ENVIRONMENT I
During these experiences the student is expected to visit a diversity of schools and other community agencies that have education programs. The main objective is to acquaint students with all aspects of an educational setting from which they recently graduated, but from the perspective of the future teacher. Includes activities such as group and individual visits to schools and other educational settings (public and private, different levels, tutorial centers or educational programs); interviews with teachers of different disciplines, school personnel and students; and observation of classes, recreational periods, students entering, lunch, students exiting, and class change. A minimum of 10 hours in the educational setting is required as well as 10 hours of meetings with the professor.
1 credit

EDUC 2020 HEALTH, NUTRITION AND FIRST-AID
Discussion of concepts and principles related to health, nutrition and first-aid. Prevention as a concept and mental attitude. Includes the study of infectious diseases and other common childhood conditions. Emphasis on the immunization schedule. Relationship between health and nutrition. Importance of breast feeding and good nutrition. Planning a menu that responds to the nutritional needs of children. The appropriate first aid practices to treat common accidents; emphasis on emergency plans and simulations and the function of the teacher in planning a safe and healthy environment inside and outside the school.
3 credits

EDUC 2021 HISTORY AND PHILOSOPHY OF EDUCATION
Critical analysis of the philosophical and historical development of education and its objectives. Consideration of educational practice in light of historical developments in the western world in general and Puerto Rico in particular.
3 credits

EDUC 2022 SOCIETY AND EDUCATION
Critical analysis of social, cultural and educational situations and the educational and societal alternatives to attend to these situations. Emphasis on problems and ethical and legal aspects confronting schools in Puerto Rico and in modern society.
3 credits

EDUC 2031 DEVELOPMENTAL PSYCHOLOGY
Processes of development during the life cycle and their effect on behavior, especially those occurring from birth to old age including death. Identification and analysis of developmental problems and their repercussions on the teaching-learning process and on students’ future development.
3 credits

EDUC 2032 LEARNING PSYCHOLOGY
The different approaches and theories of learning and their application to teaching in the classroom, in particular in those cases that promote independent, interdependent, constructive, reflective and critical learning. Analysis and evaluation of the strategies and techniques of teaching derived from these different approaches and theories and their relationship with the general goals of formal education. Prerequisites: EDUC 2021, 2031.
3 credits
EDUC 2060 USE OF TECHNOLOGY IN EDUCATION
Administration of different computerized educational programs, including the search for information and the use of multimedia for conducting the educational process. Will be offered in a computer and multimedia laboratory. Prerequisite: GEIC 1000.

2 credits

EDUC 2840 CHILD DEVELOPMENT
Detailed study of each stage of development of a child from conception to the period of adolescence. Prerequisite: EDUC 2031.

3 credits

EDUC 2870 THE EXCEPTIONAL STUDENT POPULATION
Discussion of the general characteristics presented by the different groups that comprise the exceptional student population, as well as the strategies and procedures for working with these groups in the regular classroom. Includes the use of technological assistance. Identification of educational services offered to this population in Puerto Rico and the analysis of laws that guarantee their right to education, especially the exceptional student population under 21 years of age.

4 credits

EDUC 2875 LANGUAGE STIMULATION
Emphasis on the emergent literacy and relationship between language and thought. The theories and approaches regarding the acquisition and development of language in early childhood. Analysis of factors that affect language development; functions of the teacher and parents in creating an environment that promotes linguistic development. Discussions of characteristics of children with speech and language problems and their etiology. Planning activities for the development of auditory skills, oral expression, comprehension, interpretation and vocabulary enrichment.

3 credits

EDUC 2890 EXPERIENCES IN EDUCATIONAL ENVIRONMENT II
During these experiences it is expected that the future teacher will begin to focus on the teacher-student team, on one hand; on the actions which the teacher has to carry out in order to organize a classroom, administration strategies and different teaching strategies, on the other hand; on student characteristics, their behavior and their reactions to the strategies used by the teacher. These experiences should be primarily in the discipline and at the level in which the future teacher is going to specialize. Some of the observations included are the following: observation of specific classes; observation of specific teaching strategies; observation of management strategies used by teachers; observation of specific students (including their work); analysis of work performed by students (including examinations prepared by teachers). A minimum of 15 hours in an educational scenario and 15 hours of meetings with the professor are required.

2 credits

EDUC 2905 NATURE AND NEEDS OF STUDENTS WITH MENTAL RETARDATION AND EMOTIONAL DISTURBANCES
Study of mental retardation and emotional disturbances. The etiology, identification, characteristics and needs of the students are discussed as well as different educational
programs beginning at the preschool level. Includes orientation to parents and the community.

3 credits

**EDUC 2906 NATURE AND NEEDS OF STUDENTS WITH SPECIFIC LEARNING PROBLEMS, ADD AND ADHD**

Study of specific learning problems, ADD and ADHD. Discussion of the etiology, identification, characteristics and needs of these students and the different educational programs beginning at the preschool level. Includes orientation to parents and community.

3 credits

**EDUC 2915 NATURE AND NEEDS OF STUDENTS WITH SEVERE DISABILITIES**

Severe limitations are studied with emphasis on mental retardation and emotional disturbances. The etiology, identification, characteristics and needs of these students are discussed as well as different educational programs beginning at the preschool level. Includes orientation to parents and the community.

4 credits

**EDUC 2950 NATURE AND NEEDS OF STUDENTS WITH COMMUNICATION DISORDERS**

Speech and language disabilities are studied giving emphasis to auditory problems. The etiology, identification, characteristics and needs of these students are discussed as well as the different educational programs available from the preschool to the secondary level. Includes orientation to students and the community.

4 credits

**EDUC 3003 NATURE AND NEEDS OF INFANTS AND PRESCHOOL AGE CHILDREN WITH DEVELOPMENTAL DEFICIENCIES**

Introduction to early intervention. Topics related to appropriate intervention methods with children up to five years of age with disabilities and the skills that they should develop. Techniques and instruments used to evaluate the development of infants and preschool children that are suspected to have some disability. Students will have the opportunity to analyze existing instruments, construct new instruments and experience the evaluation of a child. The role of the family in the development of the plan for its individualized services and its role in the intervention program.

3 credits

**EDUC 3010 SOCIAL, EMOTIONAL AND COGNITIVE DEVELOPMENT OF THE CHILD**


3 credits

**EDUC 3013 TEACHING STRATEGIES**

Careful examination of the strategies used by teachers to establish a favorable learning climate. Study of the most effective teaching methods including those that promote the development of values and their application in the classroom. Utilization of educational technology as a resource aid in class design. Emphasis on the formulation of questions, the
problematization of learning and on activities which lead students to meet and build their own understanding. Use of collaborative work (in teams) as a teaching technique.

2 credits

EDUC 3015 EXPERIENCES IN EDUCATIONAL ENVIRONMENT III
Placement as a teacher aide in a school at the same level and in the same subject matter as the student's specialization, with emphasis on the utilization of diverse instructional strategies to work initially with small groups and later with the entire group. A minimum of 20 hours in the educational scenario and 10 hours of meetings with the professor is required.

2 credits

EDUC 3050 THE CHILD AND THE SOCIAL ENVIRONMENT
The child in the social and cultural context; analysis of social forces affecting the most important agencies and their contribution toward the achievement of educational goals. Prerequisite: EDUC 2031.

3 credits

EDUC 3075 MATHEMATICS CURRICULUM, TEACHING AND ASSESSMENT IN THE PRIMARY GRADES (K-3)
Analysis and discussion of the mathematics curriculum with emphasis on the mastery, interpretation and understanding of curricular content in the primary grades. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards for the mathematics program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for teaching mathematics at this level.

2 credits

EDUC 3076 MATHEMATICS CURRICULUM, TEACHING AND ASSESSMENT IN THE PRIMARY GRADES (4-6)
Analysis and discussion of the mathematics curriculum with emphasis on the mastery, interpretation and understanding of curricular content at the elementary level. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards for the mathematics program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for teaching mathematics at this level.

3 credits

EDUC 3083 SOCIAL STUDIES CURRICULUM, TEACHING AND ASSESSMENT IN THE PRIMARY GRADES (K-3)
Analysis and discussion of the social sciences curriculum with emphasis on the mastery, interpretation and understanding of curricular content in the primary grades. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards for the social studies program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for teaching social studies at this level.

2 credits
EDUC 3084 SOCIAL STUDIES CURRICULUM, TEACHING AND ASSESSMENT IN THE PRIMARY GRADES (4-6)
Analysis and discussion of the social sciences curriculum with emphasis on the mastery, interpretation and understanding of the curricular content at the elementary level. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards for the social studies program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for teaching social studies at this level.

3 credits

EDUC 3090 CHILDREN'S LITERATURE
Evaluative and critical study of the literary forms and content for children from the most ancient folkloric forms through modern forms. Critical selection of a representative literary anthology for each teaching level in the Puerto Rican and universal environments. Problems, creative projects and laboratory, including the production of a creative literary work, reading, reports, practical observations, discussion and demonstrations of the effective use of children’s literature from a non-discriminatory perspective.

3 credits

EDUC 3110 DIAGNOSIS AND CORRECTION OF DEFICIENCIES IN ORAL AND WRITTEN COMMUNICATION OF SECONDARY LEVEL STUDENTS
The deficiencies in oral and written communication of secondary level students with emphasis on methods of diagnosing and correcting them. Tests and techniques available to correct these deficiencies. Prerequisite: EDUC 2031.

3 credits

EDUC 3126 PSYCHO-PHILOSOPHICAL INFLUENCES IN CURRICULUM MODELS FOR EARLY CHILDHOOD EDUCATION
Historical background of preschool education. The principal psycho-philosophical trends and their influence in curricular models at the preschool level. The constructive, behavioral and maturation theories and their educational implications. Includes the analysis and comparison of the principal models and/or educational programs for early childhood (Head Start, Montessori, High Scope, Distar and Bank Street, among others) based on the relationship of the variables they have in common. Emphasis on the design of a curriculum guide for the preschool level based on the principles of the appropriate practices for the development and planning of teaching.

4 credits

EDUC 3130 FINE ARTS IN THE EDUCATIONAL PROCESS
Teaching fundamentals in the visual arts, drama and music. Use of painting, modeling, simple puppet construction and mobile and stationary art to stimulate artistic creativity in children. Auditory, rhythmic and instrumental experience of a creative nature. Songs, simple games and organization of arrangements for orchestras and drama.

3 credits

EDUC 3140 LANGUAGE AND READING
Discussion of the nature of language, its formation and development, and its importance in the concept of reading. Analysis of the factors affecting the development of language and
the concepts related to the ability to read. Includes planning, strategies and techniques for the development of language and reading skills. Prerequisite: EDUC 2031.

3 credits

EDUC 3150 THE KINDERGARTEN IN THE SCHOOL PROGRAM
Global vision of preschool age children: the suggested curriculum for their personal and academic preparation and for mastery of the necessary skills that will promote self-management and satisfy their needs. Lectures, discussions, preparation of materials and observation of classes at the early childhood level. Study of the most important works in this field. Prerequisite: EDUC 2031.

3 credits

EDUC 3170 PARENTS AS EDUCATORS
Analysis and study of the means and/or programs to achieve active parent participation in the educational process of the child. Techniques for promoting effective relations between family, school and community. Discussion of the practices and/or styles of rearing favorable to complete development during childhood. Program designs for educating parents as models, leaders and participants in the complete development of their children. Focus on the traditional and nontraditional structure of the family in the Puerto Rican and universal contexts.

3 credits

EDUC 3185 ENGLISH CURRICULUM, TEACHING AND ASSESSMENT AT THE ELEMENTARY LEVEL (K-3)
Analysis and discussion of the English curriculum with emphasis on mastery, interpretation and understanding of curricular content in the primary grades. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards of the English Program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for the teaching of English at this level.

2 credits

EDUC 3186 ENGLISH CURRICULUM, TEACHING AND ASSESSMENT AT THE ELEMENTARY LEVEL (4-6)
Analysis and discussion of the English curriculum with emphasis on mastery, interpretation and understanding of curricular content at the elementary level. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards of the English Program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for the teaching of English at this level.

3 credits

EDUC 3187 ENGLISH CURRICULUM, TEACHING AND ASSESSMENT AT THE ELEMENTARY LEVEL (K-6)
Application of teaching-learning theories and instructional models in the process of planning and developing educational activities. Diagnosis of needs, formulation of objectives, selection of content and planning of teaching units in the teaching of English as a Second Language and elaboration of materials. Application of assessment instruments and techniques in English. The teaching of reading-writing as a cognitive process.

4 credits
EDUC 3188 ENGLISH CURRICULUM, TEACHING AND ASSESSMENT AT THE SECONDARY LEVEL
Application of teaching-learning theories and instructional models in the process of planning and developing educational activities. Diagnosis of needs, formulation of objectives, selection of content and planning of teaching units in the teaching of English as a Second Language and elaboration of materials. Application of assessment instruments and techniques in English. The teaching of reading-writing as a cognitive process.

4 credits

EDUC 3190 LANGUAGE ARTS IN EARLY CHILDHOOD
Teacher training to develop and direct activities that will help the child in the developmental stage of attitudes and skills for a better management of language. Discussion of the appropriate techniques to enrich the child’s vocabulary and to correct speech defects. Techniques learned in previous courses will be used. Prerequisite: EDUC 2875.

3 credits

EDUC 3232 LANGUAGE ARTS CURRICULUM, TEACHING AND ASSESSMENT AT THE ELEMENTARY LEVEL (4-6)
Analysis and discussion of the language arts curriculum with emphasis on mastery, interpretation and understanding of curricular content at the elementary level. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards of the Spanish Program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for the teaching of language arts at this level.

3 credits

EDUC 3235 READING AND WRITING IN THE PRIMARY GRADES
Study and analysis of different stages in the development of reading and writing. Discussion and application of different techniques, methods and strategies for the teaching of reading and writing. Design of an environment that promotes the development and learning of reading and writing skills in the home and at school. Use of the computer in the process of teaching reading and writing. Evaluation and assessment of reading and writing skills. Development of favorable habits and attitudes towards reading and writing. Emphasis on the standards of the Spanish Program of the Puerto Rico Department of Education.

3 credits

EDUC 3260 ORGANIZATION AND ADMINISTRATION OF CHILDHOOD SERVICES
Planning, administration and evaluation of programs and services for the child. Discussion of the rules that govern the operation of different types of public, private or individually owned centers. Review of the roles and responsibilities of the board of directors, the administration, the teacher and other employees. Emphasis on budgetary management and personnel supervision and evaluation. Includes the planning of physical space inside and outside the classroom, as well as the criteria for the selection and purchase of materials and equipment. Discussion of the policies of the centers as they relate to the operating norms manual.

3 credits
EDUC 3265 NATURAL SCIENCES CURRICULUM, TEACHING AND ASSESSMENT IN THE PRIMARY GRADES (K-3)
Analysis and discussion of the natural sciences curriculum with emphasis on the mastery, interpretation and understanding of curricular content in the primary grades. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards for the natural sciences program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for teaching natural sciences at this level.

2 credits

EDUC 3266 NATURAL SCIENCES CURRICULUM, TEACHING AND ASSESSMENT IN THE PRIMARY GRADES (4-6)
Analysis and discussion of the natural sciences curriculum with emphasis on the mastery, interpretation and understanding of curricular content at the elementary level. Includes needs assessment and the planning, implementation, evaluation and assessment of the teaching learning process taking into account individual differences. Emphasis on the standards for the natural sciences program of the Puerto Rico Department of Education. Critical analysis of computerized programs appropriate for teaching natural sciences at this level.

3 credits

EDUC 3270 EDUCATIONAL DIAGNOSIS, EVALUATION AND ASSESSMENT FOR STUDENTS WITH DISABILITIES
Study, management and interpretation of formal and informal evaluation instruments used for collecting data related to how exceptional students function at the different educational levels. Analysis of the evaluation process for the diagnosis, placement and preparation of the individualized educational program of the student. The use of alternate techniques of evaluation and assessment is required.

3 credits

EDUC 3290 CLASSROOM MANAGEMENT
Analysis of theories and principles related to management of behavior in the classroom. Application and practice of strategies, methods and intervention and prevention techniques that can be used by the teacher at the different educational levels. The importance of collaboration and the consultation process with teachers, parents and another personnel will be discussed.

3 credits

EDUC 3300 ADAPTIVE LIVING SKILLS FOR THE HANDICAPPED
Emotional and social problems, resources and services for persons with disabilities. Legal rights, life style, social organizations, interpersonal relations, community services and the use of leisure time. Includes basic home economics skills for persons with disabilities. Prerequisite: EDUC 2031.

3 credits

EDUC 3400 THE DEAF AND HARD OF HEARING CHILD
Physio-anatomical and acoustic bases of speech reproduction; interrelationship of speech and hearing. Prerequisite: EDUC 2031.

3 credits
EDUC 3420 CURRICULAR CONTENT, DIAGNOSIS AND TREATMENT OF LEARNING PROBLEMS IN MATHEMATICS
Analysis of curricular content, methods and techniques for teaching mathematics to students with limitations at the different educational levels. Application of evaluation, measurement and assessment instruments for identifying problems in this area. Planning, selection and design of materials and use of technology in teaching.

3 credits

EDUC 3440 CURRICULAR CONTENT, DIAGNOSIS AND CORRECTION OF READING AND WRITING PROBLEMS
Analysis of reading and writing curricular content. Application of teaching methods and techniques to students with limitations that present deficiencies in the lecto-writing area. Use of evaluation, measurement and assessment instruments for identifying the different problems presented. Planning, selection and design of materials and use of technology in teaching at the different educational levels. Prerequisite: EDUC 3140.

3 credits

EDUC 3460 DESIGN AND DEVELOPMENT OF PRESCHOOL CURRICULUM AND MATERIALS FOR DISABLED CHILDREN
The study and analysis of basic curriculum principles of preschool level special education and their application to Puerto Rico. The presentation and discussion of innovative teaching techniques used in natural environments. Emphasis on the integration of knowledge, critical thinking and the solution of problems within the curricular content. Students will create and adapt curricular material and use technology to meet the developmental and individual needs of the children in small and in large groups.

3 credits

EDUC 3464 DEVELOPMENT OF PROGRAMS AND SERVICES FOR CHILDREN WITH DISABILITIES AND THEIR FAMILIES
Service program models available in Puerto Rico for children with disabilities and their families. Emphasis on the integration of services among governmental and private agencies. Includes visits to observe programs that offer direct services to infants and preschool children with disabilities. Includes the preparation of a proposal for the development of a service program for infants and preschool children with disabilities.

3 credits

EDUC 3466 SEMINAR: INFANTS AND PRESCHOOLERS WITH DISABILITIES
Study and evaluation of needs of children with disabilities and their families. Development of the necessary skills for working with families that have children with disabilities. Includes 50 hours of experience supervised by the University professor in family settings, cooperative work with the family and the drafting of an individualized service program for the family.

4 credits

EDUC 3470 TECHNOLOGICAL ASSISTANCE, CURRICULUM AND MATERIALS FOR TEACHING STUDENTS WITH DISABILITIES
Analysis of curriculum, elaboration and adaptation of materials and handling of equipment. Study of technological and instructional programs that can be used in the teaching-learning process at the different educational levels and application of the technological assistance.

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Discussion of the importance of alternate evaluation processes, collaboration, training and technical assistance for teachers, parents and other personnel.  

**EDUC 3480 CURRICULUM FOR TEACHING STUDENTS WITH SEVERE DISABILITIES**
Analysis and design of the content of all curriculum fields; the drafting of individualized educational plans. Includes the preparation and adaptation of educational materials and the use of technological assistance.  

3 credits

**EDUC 3495 CURRICULUM FOR TEACHING STUDENTS WITH COMMUNICATION DISORDERS**
Analysis and design of curriculum content from the preschool to the secondary level; the drafting of individualized educational plans. Includes the preparation and adaptation of educational materials and the use of technological assistance. Experience in educational settings giving attention to students with communication disorders is required.  

3 credits

**EDUC 3515 BASIC FUNDAMENTALS OF SIGN LANGUAGE**
Development of the skills necessary for teaching sign language to students with communication disorders.  

3 credits

**EDUC 3563 METHODS AND TECHNIQUES IN OFFICE SYSTEMS ADMINISTRATION**
Application of theories and models of the teaching and learning processes in the planning, development and assessment in the field of Office Systems Administration. Emphasis on needs assessment, formulation of educational objectives and the application of technology. Prerequisites: EDUC 2031 and having passed the 2000 and 3000 level courses of the Office Systems Administration program.  

3 credits

**EDUC 3564 METHODS AND TECHNIQUES FOR TEACHING SOCIAL SCIENCES**
Application of the theories and models of teaching and learning processes in the planning, developing, and assessing of learning. Selection and preparation of materials for teaching social sciences. Emphasis on the diagnosis of needs, formulation of educational goals, and application of technology for teaching the discipline. Prerequisite: EDUC 3013.  

3 credits

**EDUC 3565 METHODS AND TECHNIQUES FOR TEACHING HISTORY**
Application of the theories and models of teaching and learning processes in the planning, developing, and assessing of learning. Selection and preparation of materials for teaching history. Emphasis on the diagnosis of needs, formulation of educational goals, and application of technology for teaching the discipline. Prerequisite: EDUC 3013.  

3 credits
EDUC 3566 METHODS AND TECHNIQUES FOR TEACHING CHEMISTRY
Application of the theories and models of teaching and learning processes in the planning, developing, and assessing of learning. Selection and preparation of materials for teaching chemistry. Emphasis on the diagnosis of needs, formulation of educational goals, and application of technology for teaching the discipline. Prerequisite: EDUC 3013.

3 credits

EDUC 3570 TEACHING STRATEGIES, METHODS AND TECHNIQUES FOR STUDENTS WITH DISABILITIES
Analysis of individualized educational programs, teaching strategies, methods and techniques. Includes experience in educational environments where students with different limitations are cared for. Emphasis on daily planning accompanied by simulations.

3 credits

EDUC 3580 METHODS AND TECHNIQUES FOR TEACHING STUDENTS WITH SEVERE DISABILITIES
Systematic planning, analysis of methods, strategies and teaching techniques and of the transition process in the different stages of school life of students with severe disabilities. Includes simulations using innovative teaching practices emphasizing self-help, communication and motor skills. Experience is required in educational environments where students with severe disabilities are served.

3 credits

EDUC 3595 METHODS AND TECHNIQUES FOR TEACHING STUDENTS WITH COMMUNICATION DISORDERS
Systematic planning, analysis of methods, strategies and teaching techniques and of the transition process in the different stages of school life of students with communication disorders. Includes simulations using Total Communication and innovative teaching practices for the teaching of these students.

3 credits

EDUC 3600 USE OF THE COMPUTER IN TEACHING
Practice in the use of the microcomputer for data processing and as a resource in the teaching-learning process for problem solving and skills development in mathematics, language and data processing. Prerequisites: EDUC 2031, GEIC 1000.

2 credits

EDUC 3610 GROUP PROCESSES IN THE CLASSROOM
Analysis of theories related to group interaction and dynamics in the classroom. Application to real classroom situations by means of simulations. Prerequisite: EDUC 2031.

3 credits

EDUC 3620 HUMANISTIC FOCUS IN TEACHING
The humanistic approach in relation to learning and human development. The implications of these approaches to teaching, to study programs and to the student-teacher relation in the classroom. Prerequisite: EDUC 2031.

3 credits
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Description</th>
<th>Prerequisite:</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC 3630</td>
<td>SCHOOL AND COMMUNITY</td>
<td>Human resources and public and private agencies that support the school in its educational function. Strategies to enlist the cooperation of community agencies in education.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3640</td>
<td>ADULT EDUCATION</td>
<td>The characteristics of the adult student population, their educational goals, and implications for teaching and programs of study. Analysis of teaching strategies for adults.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3650</td>
<td>EDUCATIONAL RESEARCH</td>
<td>Practice in the use of different research techniques for decision-making in the educational process.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3660</td>
<td>BILINGUAL EDUCATION</td>
<td>The characteristics of the bilingual student population and their implications for teaching. Teaching strategies and educational programs that help the bilingual student integrate satisfactorily into the school setting.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3670</td>
<td>NON-TRADITIONAL PROGRAMS</td>
<td>The different educational alternatives to the regular instructional programs in public and private schools. The principles upon which their objectives, learning activities and educational programs are based. Among those studied are: The Non-Graded School, the Montessori School, Community Project and Educational Resource Center.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3680</td>
<td>CHILDREN WITH PHYSICAL AND HEALTH DISABILITIES</td>
<td>The causes of health and physical disabilities (including disorders in the process of neurological development leading to physical disabilities). Incidence, procedures for service and adaptations required for the school environment.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3690</td>
<td>EDUCATION OF CHILDREN WITH VISUAL DISABILITIES</td>
<td>The causes of visual problems, incidence, characteristics and available educational services. Procedures for identification, evaluation and diagnosis and educational strategies for students with visual disabilities.</td>
<td>EDUC 2031</td>
<td>3 credits</td>
</tr>
<tr>
<td>EDUC 3700</td>
<td>SECONDARY EDUCATION FOR YOUTHS WITH DISABILITIES</td>
<td>Analysis of the variety of educational programs available at the secondary and university levels for youths with disabilities, including guidance and counseling services for the youths and their parents. Includes the prevocational and vocational programs available and the participation of these youths in the work world. Attention is given to rights guaranteed by law and to community service programs.</td>
<td>EDUC 2031</td>
<td>2 credits</td>
</tr>
</tbody>
</table>
EDUC 3710 INTEGRATION OF CHILDREN WITH DISABILITIES IN REGULAR CLASSROOMS
The role of the special education teacher in helping the regular education teacher prepare materials and curriculum modifications for children with disabilities in regular classrooms. Prerequisite: EDUC 2031.

3 credits

EDUC 3720 EDUCATIONAL INNOVATIONS
Analysis of changes and trends in modern education. Analysis of innovative projects that have been implemented in different educational settings. Prerequisite: EDUC 2031.

3 credits

EDUC 3750 EDUCATIONAL TECHNOLOGY LABORATORY
Psychological and educational basis for the use of television, radio, movies, filmstrips, videotapes, tape recordings and other audiovisual materials in the teaching-learning situation. Approximately 20 hours will be devoted to laboratory experience. Prerequisite: EDUC 2031.

3 credits

EDUC 3863 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF BIOLOGY
Theories of instruction and their application in planning and developing learning activities in the teaching of biology. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.

3 credits

EDUC 3864 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF SCIENCE IN THE JUNIOR HIGH SCHOOL
Theories of instruction and their application in planning and developing learning activities in the teaching of science in the junior high school. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.

3 credits

EDUC 3865 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF SPANISH AT THE SECONDARY LEVEL
Theories of instruction and their application in planning and developing learning activities in the teaching of Spanish at the secondary level. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.

3 credits
EDUC 3869 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF MATHEMATICS AT THE SECONDARY LEVEL
Theories of instruction and their application in planning and developing learning activities in the teaching of mathematics. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.
3 credits

EDUC 3872 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN PRESCHOOL SPECIAL EDUCATION
Theories of instruction and their application to planning and developing learning experiences for special education preschoolers. Emphasis on the preparation of teaching materials using technological resources, creativity and innovation. Practice in the use of microcomputers as teaching tools. Selection and evaluation of commercially produced teaching materials. Prerequisite: EDUC 2031.
3 credits

EDUC 3873 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF THE VISUAL ARTS
Theories of instruction and their application in planning and developing learning activities in the teaching of the visual arts. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.
3 credits

EDUC 3875 EDUCATIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF PHYSICAL EDUCATION AT THE SECONDARY LEVEL 7-12
Educational theories, selection of materials, teaching styles and strategies as they apply to the planning, organization, motivation and management of the discipline. Practice in the use of technological equipment as a teaching resource and in the selection and application of educational materials during the teaching learning process. Experience of this process in the discipline is required.
3 credits

EDUC 3876 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF MUSIC
Theories of instruction and their application in planning and developing learning activities in the teaching of music. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.
3 credits
EDUC 3877 INSTRUCTIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN SPECIAL EDUCATION
Theories of instruction and their application in planning and developing learning activities in special education. Preparation of teaching materials using technological resources and stimulating creativity and innovation. Practice in the use of the microcomputer as a teaching resource. Selection and evaluation of commercially produced educational resources. Prerequisite: EDUC 2031.
3 credits

EDUC 3878 EDUCATIONAL THEORY, METHODOLOGY AND TECHNOLOGICAL RESOURCES IN THE TEACHING OF PHYSICAL EDUCATION AT THE ELEMENTARY LEVEL
Educational theories, selection of materials, teaching styles and strategies as they apply to the planning, organization, motivation and management of the discipline. Practice in the use of technological equipment as a teaching resource and in the selection and application of educational materials during the teaching learning process. Experience of this process in the discipline is required.
3 credits

EDUC 3880 METHODOLOGY FOR TEACHING GRAMMAR
Practice in the basic techniques and skills required for the teaching of grammar. Prerequisites: EDUC 2031, SPAN 2540.
3 credits

EDUC 3883 METHODOLOGY FOR TEACHING THE LITERARY GENRES
Analysis of the basic techniques and skills required for teaching the literary genres. Prerequisites: Three credits in literature and EDUC 2031.
3 credits

EDUC 3884 METHODOLOGY FOR TEACHING WRITING TECHNIQUES
Practice in the basic techniques and skills required for teaching writing. Prerequisites: EDUC 2031, GESP 2203, SPAN 2540.
3 credits

EDUC 3885 EDUCATIONAL THEORIES AND TECHNOLOGICAL RESOURCES FOR THE TEACHING OF ADAPTED PHYSICAL EDUCATION
Instructional theories, selection of materials, teaching styles and strategies as they apply to the planning, organization, motivation and management of the discipline. Practice in the use of technological equipment as a teaching resource and in the selection and application of educational materials during the teaching learning process. Experience of this process in the discipline is required.
3 credits

EDUC 3886 EDUCATIONAL THEORY, METHODOLOGY, AND TECHNOLOGICAL RESOURCES IN TEACHING SCHOOL HEALTH (K-12)
Educational theories, models, teaching styles and strategies of education as they apply to the planning of school health. Discussion of the models most used in the design and development of the curriculum of the discipline. Practice in the use of technological
equipment as resources that assist the educational process. Selection and preparation of didactic materials for teaching health at the K-12 levels. Prerequisite: EDUC 2032.

3 credits

EDUC 3900 PHYSICAL EDUCATION, RECREATION AND HEALTH PROGRAMS FOR CHILDREN WITH DISABILITIES
Preparation of the future teacher for developing physical education, recreational, health and first aid activities and for the prevention of transmittable diseases in accordance with the needs that the children with disabilities exhibit. Includes the design of teaching materials for these areas.

3 credits

EDUC 4009 TECHNOLOGICAL ASSISTANCE FOR TEACHING CHILDREN AND YOUNG PEOPLE WITH MILD DISABILITIES
Application of technology as an educational means for teaching students with mild disabilities. Operation of technological equipment and programs of an educational nature to facilitate the teaching-learning process for this population.

1 credit

EDUC 4011 EVALUATION AND ASSESSMENT
Theories, techniques and means used by teachers for evaluation and assessment. Analysis of these techniques by comparing the subject content with the instrument used. Preparation, administration, correction and interpretation of tests and other evaluation and assessment techniques. Emphasis on the use of results as a means to improve the teaching-learning process. Prerequisite: EDUC 2032.

3 credits

EDUC 4012 CLASSROOM RESEARCH
Introduction to research that can be carried out by the teacher in the classroom using applied quantitative and qualitative methods. Study and analysis of research carried out by teachers in the classroom.

2 credits

EDUC 4013 EXPERIENCES IN EDUCATIONAL ENVIRONMENT IV
Practice teaching as a student teacher under the direct supervision of a teacher in the classroom and the University supervisor. The student teacher has the responsibility of planning and teaching a class during the school semester. At the elementary level this may be two subjects in one grade, or one subject in two grades; at the secondary level the practice should be in the student’s discipline with two different groups or grades. A minimum of three hours daily in the educational setting is required.

4 credits

EDUC 4014 EXPERIENCES IN THE EDUCATIONAL ENVIRONMENT V
(SPECIAL EDUCATION IN MILD DISABILITIES)
Teaching practice as a student teacher in the special education program with students with slight disabilities under the direct supervision of a special education teacher in the classroom and a university supervisor. The student teacher has the responsibility for planning and giving a class during a school semester. A minimum of 3 hours daily in a teaching scenario is required.

4 credits
EDUC 4020 PHILOSOPHY OF EDUCATION
Critical analysis of the philosophical development of teaching and the effect these developments have had on educational policies and practices. One of the principal objectives of the course consists in helping students develop their own educational philosophy. Prerequisite: EDUC 2031.

EDUC 4030 ENVIRONMENTAL HEALTH AND ECOLOGY
Analysis of activities that cause contamination of the environment, their effects on the different ecosystems and the living beings with emphasis on human beings. Study of health conservation practices of human beings as well as of their natural surroundings. Emphasis on the process of problem solving related to environmental health. Problems are considered from the individual and communitarian point of view.

EDUC 4040 COUNSELING IN HEALTH ASPECTS
Analysis of inadequate behaviors and life styles, through the study of situations in which habits and customs are perceived that put integral health at risk. Development of the professional competencies necessary for recognizing risk behaviors and for planning courses of action that facilitate reconciliation and adoption of healthful practices and life styles from birth to old age.

EDUC 4050 CURRICULUM DESIGN
The principles for the design of educational courses and programs. The relationship between curriculum and instruction. Experiences are provided for developing skills in the design, selection and modification of teaching units, courses and programs. In addition, the criteria for the selection of texts and educational materials are studied. Prerequisites: EDUC 3013, 4011.

EDUC 4090 TEACHING THE CULTURALLY DEPRIVED
The influence exerted by a culturally deprived environment on the cognitive aspects of learning, social functions and the self-esteem of the child. Analysis of teaching methods, techniques and educational materials. Prerequisite: EDUC 2031.

EDUC 4100 SOCIOLOGY OF EDUCATION
The sociological factors on which education is based and their effect on education. Emphasis on social problems confronting schools and society. Prerequisite: EDUC 2031.

EDUC 4110 CHILDREN'S PLAY AS A LEARNING PROCESS

3 credits
EDUC 4250 PLANNING STUDENT ACTIVITIES IN THE SECONDARY SCHOOL
Problems, practices, controversies and current trends related to sponsoring, directing and supervising student activities in the intermediate and secondary school. Objectives and organization of student councils, homerooms, clubs, school publications, assemblies, literary and oratory contests, and other student activities are studied as integrating factors in the general program of instruction.
3 credits

EDUC 4510 PRINCIPLES OF ADULT STUDENT EDUCATION
Discussion of concepts, theories, approaches, principles and trends in the education of adults and their implications in the adult teaching-learning process.
3 credits

EDUC 4520 SOCIO CULTURAL -FOUNDATIONS OF ADULT EDUCATION
Discussion of the principle socio cultural factors affecting the education of the adult student and their implications for the teaching-learning process.
3 credits

EDUC 4530 PSYCHOLOGY OF THE ADULT LEARNER
Discussion and analysis of the principle theories of development, growth and learning of the adult and the implications of these for teaching adults.
3 credits

EDUC 4540 ADULT STUDENT TEACHING METHODS
Application of proper methods, techniques, strategies and activities for teaching the adult student. Includes the use of the computer.
3 credits

EDUC 4550 EVALUATION OF LEARNING OF THE ADULT STUDENT
Discussion and application of assessment techniques for the formative evaluation of adult student learning. Includes the use of the computer for simple statistical analyses.
3 credits

EDUC 4926 STUDENT TEACHING IN SCHOOL HEALTH
Teaching experience as a student teacher under the supervision of a cooperating teacher in the classroom and by a university supervisor. Students perform the duties of a regular classroom teacher and show the competencies they have acquired through the academic program. Fifteen hours of seminar in student teaching are required per semester. Prerequisite: EDUC 3886.
6 credits

Courses in Educational Computing (ECMP)

ECMP 1010 FOUNDATIONS OF EDUCATIONAL TECHNOLOGY
Study of the historical and theoretical foundations of the fields of educational technology and educational computation emphasizing their impact on the teaching-learning process. Study of research done on the applications of the theories studied. Study of the theoretical principles of artificial intelligence, human-computer interaction and virtual reality
regarding their implications on learning. Analysis of the National Standards of Educational Technology in regard to their implications in the teaching-learning process.

1 credit

**ECMP 2070 INFORMATION AND TELECOMMUNICATIONS TECHNOLOGIES**
Fundamentals of data communication, telecommunications and their relation with the world of information science. Analysis of classifications and topologies; design and implementation of networks for data communication. Study of distributed processing and communication protocols. Methods of evaluating data communication network equipment and software.

3 credits

**ECMP 2090 INTRODUCTION TO COMPUTERIZED GRAPHIC DESIGN**
Introduction to the basic techniques of design and edition of computerized graphs. Discussion of computerized graphic design as a means of visual communication. Study of the principles of the theory of color, light and shade and of their properties in different contexts. Principles of typography as an essential element of visual communication. Theory, planning and elaboration of interfaces and multidirectional composition. Requires additional time in the laboratory.

3 credits

**ECMP 3000 LEARNING AND ASSESSMENT EXPERIENCES**
Application of learning theories and the paradigms of current education in the planning, development and assessment processes of learning through the incorporation of the computer. Development and effective management of the propitious atmosphere for learning through use of the computer. Practice in the use of computerized applications that contribute to expand learning and assessment. Study of research and projects dealing with the integration of the computer in teaching-learning and assessment processes. Emphasis on the use of the computer to articulate the teaching-learning and assessment processes with the standards established by the Puerto Rico Department of Education. Requires additional time in an open lab.

3 credits

**ECMP 3050 DESIGN AND IMPLEMENTATION OF DISTANCE LEARNING**
Application of learning principles in the design and development of distance learning experiences with emphasis on constructivist approaches. Study of the historical and theoretical foundations of distance learning. Discussion of subjects related to publication rights and public regulations and policy regarding the design and implementation of distance learning. Discussion of the scope of different distance learning technologies on learning. Study of cultural impact on the design and implementation of distance learning experiences. Requires additional time in a laboratory.

3 credits

**ECMP 4010 ADMINISTRATION OF COMPUTER LABORATORIES**
Study of fundamental aspects for the administration of a computers laboratory in a school environment. Use of models that facilitate the administration of a computer laboratory. Techniques and management of application program installation processes, preventive maintenance of equipment, and configuration of computer hardware. Diagnosis and solution of problems related to the operation of computer equipment.

3 credits
ECMP 4020 COMPUTER ASSISTED CURRICULAR DESIGN
Design of computerized interactive instructional modules. Analysis of theoretical foundations and models of curricular design. Study of the implications of the incorporation of the computer in curricular design. Emphasis on articulation of curricular design with the Standards of Excellence of the Department of Puerto Rico.

3 credits

Courses in Educational Cooperation (EDCO)

EDCO 2000 SEMINAR IN EDUCATIONAL COOPERATION
Different techniques for obtaining and keeping employment. Orientation on the different types of organizations in the world of the labor market and the nature of different professions. Analysis of activities to be performed in the workplace. Interpersonal relations, personal appearance and qualities.

1 credit

EDCO 3001, 3002 EDUCATIONAL COOPERATION I, II
Work experience integrating theory with practice. Students will complete 145 hours in a workplace with a minimum of 10 hours weekly. Training and supervision in the activities performed. Prerequisite: EDCO 2000.

3 credits per course

Courses in Electronics Technology (ELTE)

ELTE 2210 COMMUNICATIONS TECHNOLOGY
Fundamental concepts of communication systems. Transmission and reception of AM, FM and television signals. Wave transmission, antennas, optical fiber and microwave communication systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 2351.

4 credits

ELTE 2250 INSTRUMENTATION TECHNOLOGY
Fundamental concepts of loopback industrial control systems. This includes characteristics of transducers, preparation of the analogous control signal, processing of the signal in the controller, final control of the deviation of parameter under control and the connection between the different components of the control system. Requires 45 hours of lecture and 45 hours of lab. Corequisite: ELEC 3490.

4 credits

ELTE 2590 TECHNOLOGY CONTROL
Introduction to the terminology, concepts, principles, procedures, and computation used by technicians to analyze, select, specify, design and maintain control systems. Discussion of fundamental concepts of open and loopback systems, characteristics of the processes and discussion of the control manner selection. Study of final cycle methods and reaction of the process for controller design. Emphasis on the application of the methods established with the aid of computer programs. Requires 45 hours of lecture and 45 hours of lab. Corequisite: ELEC 3490.

4 credits
ELTE 2910 PRACTICE IN INDUSTRY
Practical experience in industry or an agency of government where the student will have
the opportunity to use the knowledge and skills acquired to solve problems related to
electronics. A written report based on this practical experience must be turned in by the
student upon completing the academic term. A faculty member will supervise the student’s
practical experience. The student must complete at least 160 hours of practical experience.
Corequisite: ELEC 3490.
4 credits

Courses in Electronics Technology and Electrical Power Technology (ELEC)

ELEC 2120 INDUSTRIAL SAFETY
Regulations related to the Occupational Safety and Health Act (OSHA). Safety in
ambulatory and work areas, mechanical platforms, elevators, dangerous materials,
equipment for personnel protection against fires, compressed air and gas equipment,
working with machine protectors, manual and electrical tools and first aid.
2 credits

ELEC 2140 ELECTRICAL LAWS AND CODES
Interpretation of the National Electrical Code and the rules that apply to electrical systems.
Emphasis on topics related to typical electrical systems in businesses, residences and
industries. Prerequisite: ELEC 2120.
3 credits

ELEC 2170 ELECTRONIC DRAWING
Introduction to computer aided drawing (CAD). Layers, line types, units and
dimensioning. Block diagrams, schematic diagrams and printed circuit board (PCB).
Introduction to computer aided simulation and computer aided instrumentation. Requires
30 hours of lecture and 45 hours of lab. Additional time in an open lab is required.
3 credits

ELEC 2351 ELECTRIC CIRCUITS I
Circuit variables. Circuit elements. Simple resistive circuits. Techniques of circuit
Requires 45 hours of lecture and 45 hours of lab. Prerequisite: MATH 1500.
4 credits

ELEC 2352 ELECTRIC CIRCUITS II
Sinusoidal steady-state analysis. Sinusoidal steady-state power calculations. Balanced tri-
phase circuits. Mutual inductance. Series and parallel resonant circuits. Introduction to
Laplace Transform. Transfer functions. Two-port circuits. Requires 45 hours of lecture
and 45 hours of lab. Prerequisite: ELEC 2351.
4 credits

ELEC 2410 LIGHTING
Study of the basic principles of selecting and installing artificial light. Discussion of the
different factors that affect lighting and the ways to produce artificial light. Prerequisite:
ELEC 2351.
3 credits
ELEC 2420 READING ELECTRICAL LOADS AND PLANS
Interpretation of electrical plans for power, lighting system, itineraries and details as they apply to industrial facilities, businesses, residential facilities and others. Study of electrical energy in accord with the National Electrical Code guidelines. Prerequisite: ELEC 2351.
3 credits

ELEC 2520 ELECTRICAL MACHINES AND TRANSFORMERS
Study of the elementary concepts of magnetic circuits and of direct current (DC) and alternate current (AC) engines. Discussion of rotating engines and transformers. Prerequisite: ELEC 2351.
3 credits

ELEC 2530 ELECTRICAL CONTROLS
Study of the operation and application of the following basic devices in typical facilities: switches, relays, starter motors and Variable Frequency Drivers (VFD). Prerequisite: ELEC 2520.
3 credits

ELEC2540 LOGIC CONTROLLERS FOR POWER
Study of electromechanical relays, step diagrams, basic concepts, programming and application of logic controllers. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: ELEC 2530.
3 credits

ELEC 2915 PROFESSIONAL PRACTICE
Practical experience in industry, private companies or government agencies under the direct supervision of a coordinator of the practice scenario and a member of the faculty, where the student will apply the acquired knowledge and skills to solve problems related to electrical power. Requires 120 hours of practical experience. Prerequisites: Have passed a minimum of 25 credits in the major and the authorization of the program director or coordinator.
3 credits

ELEC 3141 LOGIC CIRCUITS I
Analysis of combinational and sequential digital circuits from mathematical logic to physical implementation including truth tables for the different gates, methods for analysis of logic circuits such as Boolean Algebra, Karnaugh Maps, Quine Method, etc. The electronic properties and characteristics of the family of integrated logic circuits in common use are studied. Emphasis on TTL and CMOS. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: MATH 1500.
4 credits

ELEC 3142 LOGIC CIRCUITS II
Study and analysis of the different families of logic bipolar circuits (DTL, TTL, ECL, 12L, DCTL) and unipolar circuits (NMOS, PMOS, CMOS, GAAS) and interphase methods between them, large scale integration circuits (LSI VLSI) and their application, arrangements of programmable logic (PAL or PLA), memories (ROM, RAM, PROM, EPROM, EEPROM), analog-digital and D/A digital-analog conversion and integrated digital circuits of specific application (ASIC/ASDIC). Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 3141.
4 credits
ELEC 3191 ELECTRONIC CIRCUITS I  
Characteristics of solid-state devices; diodes, semiconductors, bipolar transistors, bias and stability of transistor circuits, amplifier design; rectifiers and filters. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 2351.  
4 credits

ELEC 3192 ELECTRONICS CIRCUITS II  
Analysis of small signal and large signal circuits. Field-effect transistors (FET). Analysis and design of low, high and medium frequency amplifiers. Linear integrated circuits, feedback amplifiers and active filters. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 3191.  
4 credits

ELEC 3420 ELECTRICAL SYSTEMS  
Establishing the principles of electrical protection (personnel and equipment). Introduction to magnetic materials and properties followed by analysis of transformers and induction motors. Application of circuit analysis principles to calculate real, reactive and apparent power in both single-phase and tri-phase systems. Motor control devices and programmable logic controller input and output devices. Basic concepts of the use of communication for the control of power systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 2352.  
4 credits

ELEC 3490 INDUSTRIAL ELECTRONICS  
Theory and practical study of electronic circuits and the procedures and processes used in the electronics industry. Fundamentals of the theory and application of control and integrated circuits, electrical temperature sensing, flow meters and displacement flow meters, principles of programmable controllers and operational amplifiers applications. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: ELEC 2352, 3191.  
4 credits

ELEC 4050 INSTRUMENTATION  
Transducers in electronic measurement systems. Characteristics of transducers and measurement techniques. Basic concepts related to sensors and their application to the measurement of acceleration, displacement, flow, force, torsion, pressure, temperature, etc. are also discussed. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 3490.  
4 credits

ELEC 4080 OPERATIONAL AMPLIFIERS  
Detailed study of the characteristics, uses, limitations and design of operational amplifiers. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 3192.  
4 credits

ELEC 4140 MICROPROCESSORS  
Introduction to the basic organization, addressing modes, assembly language, basic instruction set, simple software examples, macros and interrupts, different types of interfacing. The laboratory will provide practical experience on software applications and interfacing. Topics include the study of a particular architecture and its corresponding
instruction set, assembly language techniques, control signals and I/O structures, memory
design, interrupts and interrupt process. Requires 45 hours of lecture and 45 hours of lab.
Prerequisite: ELEC 3141.

4 credits

ELEC 4211 COMMUNICATIONS I
Resonant circuits. Basic principles of communication, modulation, transmission and
reception of AM, SSB, DSB, FM. Sampling and reconstruction of FDM signals.
Communication systems block diagrams. Noise effects on communication. Examples of
communication systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisites:
ELEC 2352, 3191.

4 credits

ELEC 4212 COMMUNICATIONS II
Impedance matching, transmission lines. Use of the Smith Chart Y and S parameters.
High frequency equivalent circuits of transistors. Radio frequency amplifiers. Radio
frequency filters. Introduction to wave propagation and antennas. Network
communications. Introduction to microwave engineering. Requires 45 hours of lecture
and 45 hours of lab. Prerequisite: ELEC 4211.

4 credits

ELEC 4215 TELECOMMUNICATIONS NETWORKS
Introduction to existing telecommunication networks and their standards and protocols.
Voice and data architecture, open networks, ISDN, open layer, data transport protocols and
local and wide area networks. Study of data transport media such as cellular networks,
satellite and telephone systems. Optimization and modeling of telecommunication
networks will also be discussed. Requires 45 hours of lecture and 45 hours of lab.
Prerequisite: ELEC 4211.

4 credits

ELEC 4390 CONTROL SYSTEMS TECHNOLOGY
Introduction to basic concepts of a control system: feedback theory and transfer function
concept. Study of control modes: proportional, integral and derivative and their
combinations. Basic control systems’ components: mechanics, electro mechanics and
electronics are also presented. Requires 45 hours of lecture and 45 hours of lab.
Prerequisites: ELEC 3192, 3490.

4 credits

ELEC 4440 LOGICAL PROGRAMMABLE CONTROLLE
Introduction to the characteristics and applications of PLC (Programmable Logic
Controllers). Identification of common features of programmable controllers, i.e.
Description of the CPU, functionality of I/O modules, organization of memory structure,
organization of the data table. Interpretation of various control instructions, i.e., timer
instructions (TON, TOFF), counter instructions, sequencers and mathematical instructions.
Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEC 3192.

4 credits

ELEC 4450 ROBOTICS AND AUTOMATION
Basics of industrial robotics. Manipulators, actuators, end effectors and controllers.
Industrial robots classification. Internal and external sensors theory. Industrial robots

4 credits

ELEC 4910 PROFESSIONAL PRACTICE
Practical experience in the appropriate environment of an industrial or governmental organization to reinforce the applicability of acquired knowledge, and prepare the student for the world of work. Minimum of 160 hours is required. Prerequisite: Approval of the instructor in charge of supervising the practice.

4 credits

Courses in Engineering (General) (ENGR)

ENGR 1100 INTRODUCTION TO ENGINEERING
The history and development of engineering as a profession. Social and professional responsibilities of an engineer and their function in society. Discussion of ethics and the study of real cases. Study of traditional and modern engineering tools. Career opportunities and options are explored as well as job placement strategies.

3 credits

ENGR 2120 INTRODUCTION TO ENGINEERING COMPUTING
History of computing and its organization. Fundamentals of hardware, software and networks are discussed. A history of programming languages and their development is viewed from a scientific standpoint. Structured programming using a high level language, algorithms, and data structures. Requires 45 hours of lecture and 30 hours of lab. Prerequisites: ENGR 1100, GEIC 1000, MATH 1500.

4 credits

ENGR 2220 COMPUTERIZED ENGINEERING GRAPHICS

3 credits

ENGR 3200 PROBABILITY AND STATISTICS

3 credits
ENGR 3300 ENGINEERING ECONOMICS
Criteria and techniques for economic analyses related to the decision-making process in engineering projects where time and money are important. Includes discounted cash flows, alternative comparisons by equivalent annual costs, present net worth, and rate of return on investment (ROI). Analysis of break-even points, depreciation; effect of income tax rates, equipment replacement; risk and sensitivity analysis. Prerequisite: ENGR 3200.
3 credits

ENGR 3340 STATICS AND DYNAMICS
3 credits

ENGR 3343 HEAT TRANSFER AND THERMODYNAMICS
4 credits

ENGR 3350 MATERIAL SCIENCES
3 credits

ENGR 3360 FUNDAMENTALS OF ELECTRONICS AND INSTRUMENTATION
4 credits

Courses in Electrical Engineering (ELEN)

ELEN 3301 ELECTRIC CIRCUITS I
power. Emphasizes math analysis and design. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: PHYS 3312.

4 credits

**ELEN 3302 ELECTRIC CIRCUITS II**

Use of Laplace Transform techniques to solve linear circuits with and without initial conditions. Circuit characterization using the impedance, admittance and transmission parameters. Circuit frequency response using poles and zeros in the complex plane. Relationship between transfer function and impulse response. High- and Low- pass filter design. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3301.

4 credits

**ELEN 3311 ELECTRONICS I**

Semiconductors theory and characteristics. Diodes, bipolar junction transistors and field-effect transistors. Single stage and multistage amplifier analysis and design considerations. Signal generator circuits. Introduction to operational amplifiers. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3301.

4 credits

**ELEN 3312 ELECTRONICS II**


4 credits

**ELEN 3321 LOGIC CIRCUITS I**

Introduction to Boolean algebra using theorems and postulates. Minimization techniques for Boolean functions. Combinational logic circuits design. Theory of sequential circuits; analysis and synthesis of D, J-K, and T flip-flop based sequential circuits. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: MATE 1500.

4 credits

**ELEN 3322 LOGIC CIRCUITS II**

Design of Boolean logic and finite state machine. Standard SSI, MSI, and LSI parts. Drawing standards, dependency notation. Implementation with different logic families, mainly TTL and MOS. Synchronous system design, ALU, memory; analysis and synthesis of D, JK, and T flip flops based sequential circuits; Mealy and Moore models of sequential circuits. Functional blocks in microprocessors. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3321.

4 credits

**ELEN 3330 ELECTRIC MACHINERY**

Study of electromechanical energy conversion principles. The following topics are also covered: single-phase and three-phase synchronized machines, single-phase and three-phase induction machines, single-phase and three-phase transformers, DC machines and stepper motors. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3351.

4 credits
ELEN 3340 MICROPROCESSORS

ELEN 3351 ELECTROMAGNETIC I

ELEN 3352 ELECTROMAGNETICS II
Study of the Maxwell equations, wave equations and plane-wave propagation. Wave propagation in dielectric and conductive materials. Wave polarization, reflection and transmission. Signal radiation and antennas. Study of guided medium as the transmission lines, impedance matching using the Smith Chart and resonant cavities. Prerequisite: ELEN 3351. 3 credits

ELEN 3420 SIGNALS AND SYSTEMS
Analysis, design and classification of systems in both the time domain and frequency domain. Continuous time linear time invariant systems; Fourier series, Fourier transform, bilateral Laplace transform. Discrete time linear time invariant difference equations, Fourier transform, bilateral Z transform, sampling, quantization, and discrete time processing of sampled continuous time signals. Prerequisites: MATH 3400, ELEN 3301. 3 credits

ELEN 4304 ELECTRONICS DESIGN
Design principles of electronic hardware. Design techniques for linear, digital, and power supply circuits, for regulated DC supplies and analog circuits. Designs using Op-Amps. Digital and interface design. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3311. 4 credits

ELEN 4323 VLSI DESIGN
Design techniques for rapid implementations of very large-scale integrated (VLSI) circuits, MOS technology and logic. Structured design. Design rules, layout procedures. Design aids: layout, design rule checking, logic, and circuit simulation. Timing. Testability. Architectures for VLSI. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3312. 4 credits
ELEN 4327 MEASUREMENTS AND INSTRUMENTATION
Study of sensors, transducers and transducer interfacing. Principles of analog and digital signal conditioning. Data acquisition and recording. Noise measurements and noise reduction techniques. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3312.

4 credits

ELEN 4351 POWER SYSTEMS ANALYSIS I
Analysis of power systems, parameters of transmission lines and systems models. Study of three-phase power systems, complex power and power factor. Study of the ideal transformer and behavior in the steady state. Includes the voltage regulation and symmetrical components. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3330.

4 credits

ELEN 4352 POWER SYSTEMS ANALYSIS II
Study of network calculations and power flow analysis. Includes study of faults, network sequences and stability in power systems. Analysis of the economic operation of a power system, the matrices of admittance and impedance and the use of computer programs for analysis of load flow and protection against failure of the power systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4351.

4 credits

ELEN 4355 ELECTRICAL SYSTEMS DESIGN
Analysis and design of distribution systems. Use of the National Electrical Code in the design process. Study of load characteristics, transformers, voltage drop calculations and systems protection. Design of lighting systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4351.

4 credits

ELEN 4360 COMMUNICATIONS

4 credits

ELEN 4364 DIGITAL COMMUNICATIONS

4 credits

ELEN 4365 DIGITAL SIGNAL PROCESSING
Applications. Design aspects are emphasized. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4360.

4 credits

**ELEN 4367 RADIO FREQUENCY ENGINEERING I**
Filter design. Design of matching networks using the Smith Chart. Measurement techniques using the spectrum and network analyzer and power meter. Circuits and passive RF components. Analysis and design of RF amplifiers using the small-signal model. Analysis and design of RF oscillators and mixers. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4360.

4 credits

**ELEN 4368 RADIO FREQUENCY ENGINEERING II**
Radio frequency active components. Noise figure and its effect over amplifier’s power gain and performance. Design of different types of RF amplifiers: low noise amplifier (LNA), broadband and narrowband amplifiers, power amplifier. Design and analysis of receivers and transmitters subsystems. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: ELEN 3352, 4367.

4 credits

**ELEN 4380 DATA COMMUNICATION NETWORKS**

4 credits

**ELEN 4390 CONTROL SYSTEMS**

4 credits

**ELEN 4520 DESIGN OF MICROPROCESSOR BASED SYSTEMS**
Fundamental criteria for the design of microprocessors base systems. Types of commercially available microprocessors and how to select them for a given application. Interfaces, memories Bus structure. Interface design with keyboards, digitizers, pens, mice, displays, mass memory and other devices. Series and parallel data communication. Multiprocessor systems. Students will develop a project related to industry application. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3340.

4 credits

**ELEN 4525 POWER ELECTRONICS**
Introduction to the fundamental operating principles of power conditioning circuits that are currently being used to effect power flow from ac to dc and vice versa. Emphasis is in the
relationship between form and function of these circuits. Circuits discussed will include AC/DC line-commutated converters, DC/DC converters, DC/AC and AC/DC power converters. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3311.

4 credits

**ELEN 4530 ANALOG FILTER DESIGN**

Introduction to passive and active analog filter design and applications. Response characteristics of low-, high-, band- and stop-band filters. Butterworth and Chebyshev transfer functions. Implementation of passive and active filters. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 3311.

4 credits

**ELEN 4560 PROCESS CONTROL BY COMPUTER**


4 credits

**ELEN 4570 COMPUTER AIDED CONTROL SYSTEM DESIGN**

Design of control systems applied to industry using specialized simulation software. Representation of physical systems with mathematical models. Design methods and practical aspects of computer controlled systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: ELEN 4390.

4 credits

**ELEN 4580 ROBOTICS AND AUTOMATION**


4 credits

**ELEN 4590 DIGITAL CONTROL SYSTEMS**


4 credits

**ELEN 4910 ELECTRICAL ENGINEERING PRACTICAL EXPERIENCE**

Supervised electrical engineering practical experience in the industry or government agency. A comprehensive report must be submitted at the end of the term based on the electrical engineering practical experience. A faculty member will supervise the practical experience of the student. The student must complete at least 160 hours of practical experience. Prerequisites: Have passed the electrical engineering courses corresponding to
the fourth year in the Electrical Engineering curriculum; be admitted to a company related to electrical engineering and have the approval of the supervisor professor.

4 credits

Courses in English (ENGL)

ENGL 2054 SPEECH WORKSHOP
Emphasis on pronunciation, syntax and intonation through oral practice and laboratory training. For non-native speakers of English.

ENGL 2060 CONVERSATION AND GRAMMAR REVIEW
Development of oral expression by discussion of current events and daily life. Practice in pronunciation and oral comprehension. Grammar review stressing oral expression. Systematic study of vocabulary and common idiomatic expressions. Prerequisite: 9 credits in English.

3 credits

ENGL 2075 TECHNICAL LITERATURE
Selected technical literature is studied in terms of structure and content. Emphasis on the preparation and use of technical reports.

3 credits

ENGL 2076 READING AND WRITING OF TECHNICAL TEXTS
Analysis of academic texts such as textbooks, professional journals and literature available on line and used in content courses; practice of reading and writing strategies of required specialized technical texts; workshops using the computer as a work tool.

3 credits

ENGL 2086 BUSINESS ENGLISH
Fundamentals of grammar, sentence structure, punctuation, spelling, and vocabulary building; practice in writing business communications.

3 credits

ENGL 3007 ADVANCED COMPOSITION
Emphasis on the development of formal literary style suitable for expository and argumentative writing.

3 credits

ENGL 3025 WRITING OF PROFESSIONAL DOCUMENTS
Theory and practice of professional writing techniques. Emphasis on the type of written communication mostly used in different work scenarios. Writing of reports, proposals and correspondence. Use of the computer in writing professional documents. Review of the grammatical structure of English in context.

3 credits

ENGL 3030 TECHNICAL-SCIENTIFIC WRITING IN SCIENCES
Development of skills in technical-scientific writing. Emphasis on research techniques, technical reports and publications of scientific findings. Prerequisite: Have passed nine (9) credits in English at the corresponding level with a minimum grade of C.

3 credits
ENGL 3073 INTRODUCTION TO LINGUISTICS
Understanding language as a human expression. The focus is on theories of language, including the fundamental concepts of phonology, morphology, syntax, lexicon, and semantics.

3 credits

ENGL 3310 ADVANCED ORAL COMMUNICATION
Understanding, development and practice of skills for the preparation and presentation of lectures, reports and other oral communication activities. Development of critical ability in oral comprehension. Improvement of pronunciation.

3 credits

ENGL 3320 FUNDAMENTALS OF GRAMMAR
Descriptive analysis of the morphology and syntax of English and their application in the classroom.

3 credits

ENGL 3325 FUNDAMENTALS OF PHONETICS
The production and perception of the phonetic and phonemic systems of United States English. Techniques and methods used to correct deficiencies in pronunciation and their application in the classroom. Requires 45 hours of lecture and 15 hours of lab.

3 credits

ENGL 3330 COMPARATIVE ANALYSIS OF ENGLISH AND SPANISH
Description and comparison of phonetics, morphology, syntax, semantics, and lexicon of English and Spanish. Analysis of their implications in the teaching of English as a second language.

3 credits

ENGL 3350 ANALYSIS OF LITERARY GENRES
Methods of analysis and interpretation of novels, short stories, poetry, and drama.

3 credits

ENGL 3400 LITERATURE FOR ADOLESCENTS
Study and analysis of literature intended for adolescents and the criteria used in its selection in the teaching of English as a second language. Prerequisite: ENGL 3350.

3 credits

ENGL 3410 ANALYSIS OF MAJOR NORTH AMERICAN AUTHORS
Reading and analysis of major North American authors, including the evolution of their ideas and literary styles. Prerequisite: ENGL 3350.

3 credits

ENGL 3420 ANALYSIS OF SELECTED WORKS OF BRITISH AUTHORS
Reading and analysis of literary genres of British authors: poetry, essays, theater, short stories, and novels. Study of the evolutionary development of their thought and literary styles. Prerequisite: ENGL 3350.

3 credits
ENGL 3435 PUERTO RICAN VOICES
Study of literature written in English by Puerto Ricans. Review of cultural, social and economic aspects that give origin to individuality as well as to the diversity of their voices.  
3 credits

ENGL 3440 CHILDREN'S LITERATURE IN ENGLISH
Study and analysis of literature geared towards the preadolescent reader and the criteria used in its selection in the teaching of English as a second language.  
3 credits

ENGL 3510 POPULAR CULTURE
Study of terms, icons and contemporary forms of the popular culture, such as movies, television and texts in multimedia and hypermedia. Analysis of the social and political meaning and the impact of technology on the study of literature and communication.  
3 credits

ENGL 3520 CROSS CULTURAL STUDIES
Analysis of readings addressing issues of cultural diversity and interaction. Critical study of cultural themes such as gender, race, ethnic origin and identity through reading and writing.  
3 credits

ENGL 3850 THE SHORT STORY
Emphasis on the interpretative analysis of techniques, style and themes through a survey of the short story as a literary genre. Prerequisite: ENGL 3350.  
3 credits

ENGL 3863 POETRY
The most important poems from all periods with special emphasis on form and close verbal analysis. Prerequisite: ENGL 3350.  
3 credits

ENGL 4000 SHAKESPEARE
The most representative plays illustrating their structure, including the Elizabethan Theater, and Shakespeare’s thought and art. Selection of tragedies, comedies, stories and poetry. Prerequisite: ENGL 3350.  
3 credits

ENGL 4014 MODERN DRAMA
Reading and discussion of plays, from the late nineteenth century to the present. Prerequisite: ENGL 3350.  
3 credits

ENGL 4015 TRANSLATION WORKSHOP
Development of the basic skills for translation of Spanish to English. Use of translated texts to improve English communication. Prerequisite: GEEN 2203 or 2313 passed with a C grade or better.  
3 credits
ENGL 4030 CREATIVE WRITING
Theory and practice of thought and writing in its creative aspect. Process and techniques for writing creative texts, such as the story, memoirs, diary, poetry and drama. Preparation of manuscripts.

3 credits

ENGL 4073 ACQUISITION OF ENGLISH AS A SECOND LANGUAGE
Theories of second language acquisition as compared and contrasted to first language acquisition. Variables that affect the acquisition of English as a second language including relative findings in the areas of psychology, sociology, neurolinguistics and anthropology.

3 credits

ENGL 4083 INTRODUCTION TO SOCIOLINGUISTICS
Variations in form and use of language as determined by social situation and socio-cultural group, with special emphasis on English. The rules of discourse and their effects. The difference between what is said and what is meant. Verbal skill and verbal art. Language and identity. Signals that indicate the flaws in communication among members of different socio-cultural groups. Bilingualism.

3 credits

ENGL 4400 THE NOVEL
Interpretative analysis of the techniques, styles and themes in novels as a literary genre. Study of novels written by outstanding, world recognized authors. Prerequisite: ENGL 3350.

3 credits

ENGL 4440 CARIBBEAN VOICES
Study of topics and literary genres of the Caribbean. Analysis of the cultural, historic and artistic roots of the multiple identities of the Caribbean reflected in literature written in English.

3 credits

ENGL 4700 LITERATURE SINCE 1945
Literature written since the end of World War II, emphasizing its literary values from a sociological and philosophical perspective. Prerequisite: ENGL 3350.

3 credits

ENGL 4800 RESEARCH IN ENGLISH
Preparation of a research project in all its phases: selection, organization, presentation and information documentation available through electronic media. Prerequisite: GEIC 1000.

3 credits

ENGL 4950 INTEGRATIVE SEMINAR
Integration of the knowledge obtained in the courses of the major. Requires the oral and written presentation of a project paper. Prerequisite: 24 credits in the major.

3 credits
Courses in Entrepreneurial Development (ENDE)

The following entrepreneurial development courses contribute to the preparation of professionals who may offer direct services to society in the field of management and in technical areas for enterprises, industry and business. Courses will be offered for business administration students as well as for students from other majors that wish to take them.

ENDE 1100 INTRODUCTION TO ENTREPRENEURIAL DEVELOPMENT
Introduction to the basic concepts for starting and developing a business. Discussion of legal, financial and personal requirements for establishing a business with emphasis on the planning and elaboration of the business plan.
2 credits

ENDE 3315 FUNDAMENTAL PROCEDURES FOR ESTABLISHING A BUSINESS
Study and analysis of basic procedures for establishing a business. Emphasis on the entrepreneurial vision, type of business entity, a product versus a service enterprise, viability, governmental requirements and sources for financing. Prerequisite: ENDE 1100.
3 credits

ENDE 3316 BUSINESS MANAGEMENT
Integration of basic management principles, marketing and accounting in business management. In the field of management, the organizational structure, functions, job descriptions, assignment of responsibilities and personnel evaluation are included; in the accounting areas, the financial structure of the enterprise and cash management are included and in the field of marketing the market and profile of clientele, the analysis of the competition and marketing strategies are discussed.
3 credits

Courses in Environmental Evaluation and Protection (ENEP)

ENEP 2001 ECOLOGICAL BIODIVERSITY I
A biotic components of the ecosystem. Basic concepts of microbiology and botany, with emphasis on the diversity, role and the interactions of organisms in the ecosystems. Requires 30 hours of lecture and 45 hours of lab.
3 credits

ENEP 2002 ECOLOGICAL BIODIVERSITY II
Basic concepts of zoology, with emphasis on the diversity, role and the interactions of organisms in the ecosystems. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: ENEP 2001.
3 credits

ENEP 2210 PRINCIPLES OF GEOPHYSICS AND METEOROLOGY
Integration of the basic concepts of geography and meteorology into the study of the methods of evaluation and protection of the environment. Emphasis on the forces and the internal and external development of the planet.
3 credits
ENEP 4200 EVALUATION AND PROTECTION OF OCCUPATIONAL SETTINGS
Development of occupational safety and health programs according to the Occupational Safety and Health Act (OSHA). Emphasis on the identification, consequences and correction of risks in the occupational setting. Includes oral and written presentations. Prerequisites: BIOL 3504, MATH 2250. 3 credits

ENEP 4309 MICROBIAL ECOLOGY
Interaction between the microbial world and the inhabitants of the soil, water, air and artificial environments. Impact of microorganisms on biogeochemical cycles. Study and analysis of environmental laws, rules and regulations. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: ENEP 2002. 3 credits

ENEP 4900 ENVIRONMENTAL ETHICS
Theoretical study of ethical considerations related to environmental evaluation and protection practices. Use of case studies to promote reflection on environmental ethics issues. Prerequisite: Approval of at least 15 credits in Environmental Evaluation and Protection. 2 credits

Courses in Environmental Sciences (EVSC)

EVSC 1110 INTRODUCTION TO ENVIRONMENTAL SCIENCES
Introduction to the study of environmental sciences with emphasis on its scientific base. Attention will be given to the social and economic aspects. Requires 30 hours of lecture and 45 hours of lab. 3 credits

EVSC 2210 ENVIRONMENTAL POLICIES, LAWS AND REGULATIONS
Study and analysis of the policies and most relevant legal resources for pollution control and the conservation of natural resources in Puerto Rico and the United States. Prerequisite: EVSC 1110. 3 credits

EVSC 3001 MANAGEMENT AND CONSERVATION OF NATURAL RESOURCES
Introduction to the use, conservation and management of natural resources: soil, water, forests, wild life, sea, minerals and air. The principal conservation mechanisms and strategies as well as restoration will be studied. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: EVSC 1110, BIOL 1101, 1103. 4 credits

EVSC 3600 WASTE MANAGEMENT
Study of the generation, handling, disposition and treatment of solid, dangerous and toxic wastes. In addition, their sources, characteristics, storage, transport, reduction, reuse and recycling are studied. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: EVSC 2210, BIOL 3504, CHEM 2111. 3 credits
EVSC 3603 HEALTH AND OCCUPATIONAL SAFETY IN ENVIRONMENTAL PROTECTION
Introduction to the study of health and occupational safety in environmental protection. Includes the identification of dangers, description of risks, prevention of damage and regulations. Emphasis on the development and handling of programs in the industrial and commercial context. Prerequisite: EVSC 3600.

3 credits

EVSC 3713 USE OF LAND AND GEOGRAPHIC INFORMATION SYSTEMS
Description and analysis of the different uses of land and the available mechanisms to facilitate planning. Emphasis on the use of Geographic Information Systems to facilitate planning of land use. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: EVSC 3001.

3 credits

EVSC 4401 RESEARCH AND STATISTICAL METHODS IN ENVIRONMENTAL SCIENCES
Review of the most used research methods and designs in environmental sciences for evaluation, analysis and control of pollution and the conservation and management of natural resources. Requires 30 hours of lecture and 45 hours of lab.

3 credits

EVSC 4504 USE, CONSERVATION AND QUALITY OF WATER
Evaluation of water as a resource, its use, and its relation to the environment. Emphasis on protection mechanisms to maintain its quality such as treatment, quality standards and analysis. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: EVSC 3602, CHEM 2212.

3 credits

EVSC 4910 INTERNSHIP IN ENVIRONMENTAL SCIENCES
Practical work experience in government, business, industry or other organization with a program of environmental control or protection. This practice will be performed under the supervision of enterprise personnel in coordination with the assigned professor. This experience may be directed to the areas of pollution-control and/or conservation of natural resources. 120 hours of work are required. Prerequisite: The approval of 21 credits from the major and related requirements.

3 credits

EVSC 4955 INTEGRATION SEMINAR IN ENVIRONMENTAL SCIENCES
Development and oral and written presentation of a creative work using as the primary base scientific articles in which the knowledge and experience acquired in environmental sciences are integrated. Prerequisite: The approval of 24 credits in environmental science courses.

1 credit
Courses in Environmental Technology (EVTH)

EVTH 3010 ENVIRONMENTAL PUBLIC POLICY
State and federal laws on environmental public policy and safety in different works scenarios. Emphasis on the general concepts and principles regarding policy, planning, and administration of natural resources; in addition, procedure requirements and techniques for preparing and utilizing different types of environment documents and their effect on decision-making. Prerequisite: CHEM 2221.
3 credits

EVTH 4020 ENVIRONMENTAL EVALUATION
Application of the practices, techniques and methods used in activities for planning, protection and environmental evaluation. Emphasis on the identification and solution of problems from a interdisciplinary perspective. Prerequisites: EVTH 3010, CHEM 3000.
3 credits

EVTH 397_ SPECIAL TOPICS
Analysis and discussion of specific topics related to the environment.
3 credits

EVTH 4910 INTERNSHIP
Conduct of a research project in a governmental agency, private company or in another organization that carries out activities such as of research, conservation or environmental management. A minimum of 120 hours under the supervision of a faculty member is required. Prerequisites: Have passed 40 credits of the major and the authorization of the director of the department.
3 credits

EVTH 4960 INTEGRATION SEMINAR
Integration of acquired knowledge by oral and written presentations of themes dealing with the environment. Analysis, discussion and possible solutions to environmental problems. Emphasis on matters related to regulations, use and management of environmental resources and ethical implications. Prerequisite: permission of the Department Director.
1 credit

Courses in Finance (FINA and MAMS)

FINA 3100 MANAGERIAL FINANCE
Main objectives and uses of managerial finance. Decisional criteria for business investment and financing; assessment of present and future value; investment and financial management of fixed and current assets; short and long term financing; financial ratios and financial planning. Prerequisite: ACCT 1152.
3 credits

FINA 3130 CREDITS AND COLLECTIONS
Nature and function of credit; instruments of credit; sources of information on credit; risks and their analysis.
3 credits
FINA 3150 PERSONAL FINANCE
Personal finance planning of available resources on a short and long term basis. Analysis of financial and investment decisions with regards to present and future available income and the personal or family budget. Emphasis on the decision making process for the selection of means of financial protection (insurance); retirement planning; personal investment; and tax payments. Prerequisite: FINA 3100.

3 credits

FINA 3190 THE STOCK MARKET
Functions and characteristics of the main, primary and secondary, financial markets. The role of brokers and financial institutions. Analysis of the indexes and averages of the markets and of published financial information. Study of the theory of efficient markets and review of investment strategies. Prerequisite: FINA 3100.

3 credits

FINA 3200 PRINCIPLES OF INVESTMENT
Characteristics and practices of the investment process, yield assessment and risk analysis. Emphasis on the analysis of the principal types of investments: Bonds, stocks, mutual funds, options, and others and their market characteristics. Investment analysis and portfolio management. Prerequisite: FINA 3190, MAEC 2222.

3 credits

FINA 3400 INTRODUCTION TO INSURANCE
Basic principles and techniques involved in risk management for individuals and businesses. Emphasis on the principles and the operations of insurance and general industrial aspects involved in this field. Prerequisite: FINA 3100.

3 credits

FINA 3500 INTRODUCTION TO REAL ESTATE
Principles that govern the adequate use and possession of real estate within a legal, social and economic context. Financial arrangements, appraisals and real estate management. Prerequisite: FINA 3100.

3 credits

FINA 3600 ADVANCED MANAGERIAL FINANCE

3 credits

FINA 4100 INTERNATIONAL FINANCE
Concepts and practices of corporate managerial finance in the international and global context as well as in international financial markets. Emphasis on money exchange and common markets, fixation of exchange rates and means to reduce the risk of their fluctuations. The balance of payments in relation to the economy and monetary markets. Prerequisites: FINA 3190, 3200.

3 credits
FINA 4200 CONTEMPORARY FINANCIAL TRENDS
Development trends in the fields of money, banking, foreign exchange, corporate finance and investments. Prerequisites: FINA 3190, 3200.
3 credits

The following courses are part of the academic offerings in finance. These courses are only for Associate Degree Candidates.

MAMS 2440 CREDIT AND COLLECTIONS
Credit reporting and collection services. Existing organizations and opportunities. Credit reporting and collection service activities. Capital and personal requirements. Laws pertaining to credit bureaus. Office and business management. Prerequisite: ACCT 1151.
3 credits

MAMS 2620 PURCHASING PRINCIPLES AND TECHNIQUES
Principles and techniques of purchasing. Aspects of purchasing with emphasis on long term policies and profit-making opportunities. Prerequisite: BADM 1550.
3 credits

Courses in Food Services Administration (FSMT)

FSMT 1210 SANITATION AND SECURITY IN FOOD SERVICES
Elaboration of a plan using current control guides in preparing and serving foods. Study of the biological, chemical and physical aspects in food security. Discussion and application of health and security practices in the work scene.
1 credit

FSMT 1220 SERVICE THEORIES AND PRACTICES
Study of general norms for serving tables and formal table manners. Discussion of theories and styles for serving clients. Application of service norms.
2 credits

FSMT 2101 PURCHASING SYSTEMS AND INVENTORY AND STORAGE CONTROL
Description of purchasing, distribution and selection systems. Study of product quality and available specialized equipment for different food services. Discussion of different types of storages and inventory controls.
2 credits

FSMT 2104 BUFFET AND CATERING SERVICES
Description of the development, operation and management of buffet and catering businesses. Comparison of traditional meals and buffets. Planning of buffet and catering services. Design of creative concepts in planning the business. Prerequisites: FSMT 1210, 1220, TURI 3302.
3 credits

FSMT 2203 RESTAURANT MANAGEMENT
Application of management skills to analyze, plan, implement and control the operation of a restaurant. Identification and application of international concepts in managing this type of establishment. Prerequisites: FSMT 1210, 1220, 2101, TURI 3302.
3 credits
FSMT 2915 RESTAURANT MANAGEMENT INTERNSHIP
Practice in a real scenario of the learned concepts, skills and attitudes, especially in the major courses. Work experience supervised by a member of the faculty in the field of restaurant management. Students are required to devote at least 15 hours to lecture courses and 200 hours to practice. Must be taken with previous authorization of the director of the Department. Prerequisites: ACCT 1151, FSMT 2101, TURI 3302. 3 credits

Courses in Food Technology (FTEC)

FTEC 3100 FOOD TECHNOLOGY AND PROCESSING
Procedures used for food processing and preservation in business conditions. Includes freezing, dehydration, fermentation refrigeration, canning, packaging, cooking, additives and radiation. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BIOL 3309. 3 credits

FTEC 3200 FRESH MEAT TECHNOLOGY
Principles and practices in handling, processing and preservation of fish, seafood, beef, fowl and pork. Requires 30 hours of lecture and 45 hours of lab. 3 credits

FTEC 3300 MILK PRODUCTS TECHNOLOGY
Principles and practices involved in processing milk and products derived from it. This includes butter, cheese, yogurt and ice cream. Requires 30 hours of lecture and 45 hours of lab. 3 credits

FTEC 4000 RESEARCH AND THE DEVELOPMENT AND GUARANTEE OF FOOD QUALITY
Introduction to techniques used to evaluate food quality attributes in processing plants, from the purchase and storage of the raw material to their preparation and distribution. Design and development of new products using principles of chemistry, food processing, nutrition, sensory analysis and statistics. 4 credits

FTEC 4910 INTERNSHIP
Practical experience in food technology in cooperation with a private or government agency. Students will undergo a practical experience under a shared supervision of the academic department, the coordinator of the cooperative program and an officer of the participating company. One hundred twenty (120) of practical work. Prerequisite: 29 specific credits of the major. 3 credits

Courses in Forensic Science (FORS)

FORS 2000 INTRODUCTION TO FORENSIC SCIENCE
Introduction to the study of the general concepts and technical aspects of forensic science and its relation to the justice system. 3 credits
FORS 3400 FORENSIC TOXICOLOGY
Application of the principles of toxicology to the area of forensic science. Emphasis on legal medical aspects, mechanism of action and on analysis techniques for toxic substances. Prerequisites: BIOL 1116, CHEM 2222.
3 credits

FORS 3970 SPECIAL TOPICS
Analysis and discussion of different specific topics on forensic science with emphasis on the discussion of cases. Prerequisite: Authorization of the Director of the Department.
3 credits

FORS 4421 FORENSIC INVESTIGATION I
Scientific study of the crime scene with the purpose of reconstructing the scene and gathering information and evidence to be used in establishing how the acts occurred and identifying those responsible for the crime. Prerequisites: FORS 2000, CJUS 2000.
3 credits

FORS 4422 FORENSIC INVESTIGATION II
Introduction to the theoretical and practical study of the methods used in the gathering, management, preservation and analysis of physical evidence at the scene of the crime. Emphasis on analysis proceedings employed in the field and in the laboratory. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: FORS 4421, CHEM 4220.
4 credits

FORS 4910 FORENSIC PRACTICE
One hundred twenty hours of practical work at the scene of criminal investigation under the supervision of personnel of the security agency and of the Program. Prerequisite: Have passed thirty (30) credits in courses of the major.
3 credits

FORS 4960 INTEGRATING SEMINAR
Integration of knowledge obtained in the courses of the major by means of an oral and written presentation of a creative work in which a contemporary problem of forensic investigation is analyzed. Prerequisite: Have passed thirty (30) credits in courses of the major.
1 credit

Courses in French (FREN)

FREN 1001, 1002 ELEMENTARY FRENCH
Essentials of French grammar with emphasis on the spoken language.
4 credits per course

FREN 2021, 2022 INTERMEDIATE FRENCH
Review of grammar and study of composition. Continued emphasis on the spoken language. Prerequisite: FREN 1002 or two years of high school French.
3 credits per course
Courses in Geography (GEOG)

The courses in geography are designed to give basic preparation and additional training to students so they can pursue a career in the field. Some courses aim to provide geographically related information to people in other career areas such as biology, botany, ecology, history, economics, education and political science. Included in the curriculum are basic courses in oceanography. No major in geography is offered.

GEOG 1014 ELEMENTS OF OCEANOGRAPHY
General study of oceans including habitats, sea farming and the importance of ecology and natural resources to man. Requires 45 hours of lecture and related field projects. Non-credit course, except by arrangement with the Dean of Studies.

GEOG 1114 INTRODUCTION TO THE OCEAN SCIENCES
Fundamentals of marine biology, physical oceanography and oceanographic methods presented in an interdisciplinary context. Requires 30 hours of lecture and 60 hours of field trips or lab.

4 credits

GEOG 1144 INTRODUCTION TO CULTURAL GEOGRAPHY
Man-created environment: population; cultural landscape; social, economic and political phenomena in relation to natural environment.

3 credits

GEOG 2000 EARTH SCIENCES
Basic concepts of land sciences including the natural physical environment, the interior and exterior surface of the earth, rocks and minerals, atmosphere, bodies of water, climate and other phenomena related to changes that affect our planet. Basic principles of space flights, history and geological time. Skills in cooperative work and solution of problems. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: GEMA 1200.

4 credits

GEOG 2034 INTRODUCTION TO PHYSICAL GEOGRAPHY
Study of the natural environment: earth-sun relations, time, space, location, maps; structure of earth, land forms, water bodies; weather and climate; soils, plants and animals. Requires 45 hours of lecture and 30 hours of lab.

4 credits

GEOG 3014 CARTOGRAPHY AND AERIAL AND SATELLITE PHOTOGRAPHY
Map projections, charts and diagrams; map and air photo analysis and interpretation; map making.

3 credits

GEOG 3024 CLIMATOLOGY
Systematic study of the elements of weather, regional analysis of the world’s climates.

3 credits
**GEOG 3274 ECONOMIC GEOGRAPHY**
Emphasis on the economic location theory and occupations approach to the production and
distribution of world products. Population, resources, transportation and primary activities.  
3 credits

**GEOG 3284 GEOGRAPHY OF MANUFACTURING**
Geographic location theory in relation to primary, secondary and tertiary production;
transport networks and trade areas at varied scales, accessibility. Geographic analysis of
major industrial countries.  
3 credits

**GEOG 3414 GEOGRAPHY OF ANGLO-AMERICA**
Systematic and regional analysis of geographic conditions of North America north of the
Rio Grande.  
3 credits

**GEOG 3424 GEOGRAPHY OF SOUTH AMERICA**
Geographic bases for the economic and political development of the continent; its future
potentialities.  
3 credits

**GEOG 3434 GEOGRAPHY OF MIDDLE AMERICA AND THE CARIBBEAN**
Systematic study of the physical environment, population and resources of Mexico, Central
America and the Caribbean; regional analysis of their human development.  
3 credits

**GEOG 4224 POLITICAL GEOGRAPHY**
Geographic analysis of political developments in their spatial distribution; their relationship
to environment, resources and technology. Geopolitical patterns of the world.  
3 credits

**GEOG 4494 GEOGRAPHY OF PUERTO RICO**
Geographic bases in Puerto Rican development; land use in Puerto Rico. Requires field
trips.  
3 credits

**GEOG 4514 GEOGRAPHY OF EUROPE**
Regional study of the continent exclusive of the Commonwealth of Independent States.  
3 credits

**GEOG 4524 GEOGRAPHY OF THE COMMONWEALTH OF INDEPENDENT
STATES**
Geographic bases of the Commonwealth of Independent States and their influence upon the
development of these countries.  
3 credits

**GEOG 4904 HISTORY OF GEOGRAPHIC THOUGHT**
Evolution of human knowledge and concepts of the earth through the development of the
science of geography. Biographical sketches of outstanding geographers.  
3 credits
GEOG 4934 GEOGRAPHY OF ENERGY AND MASS
Geographic variations in the energy budget, forms, availability and uses of energy; relationships between exchanges and conversions of energy and other natural resources; conservation and management. Requires 45 hours of lecture and 30 hours of lab.
4 credits

GEOG 4964 THE ARCTIC AND CIRCUMPOLAR LANDS
Comprehensive treatment of the circumpolar countries and Arctic basin. An account of the Arctic and sub-Arctic environment with special emphasis on the unique northern elements. Reviews of recent research in geomorphology, climatology, glaciology, oceanography, wildlife, fisheries, transportation, construction, anthropology and community development in the middle north and high Arctic.
3 credits

Courses in German (GERM)

GERM 1001, 1002 ELEMENTARY GERMAN
Essentials of German grammar with emphasis on the spoken language.
4 credits per course

GERM 2021, 2022 INTERMEDIATE GERMAN
Review of grammar and study of composition. Practice in reading at the intermediate level. Prerequisite: GERM 1002 or two years of high school German.
3 credits per course

Courses in Health Information Systems (HEIN)

HEIN 1110 BASIC SKILLS IN HEALTH INFORMATION
Principles and techniques related to the medical record in different health care settings. Definition and application of the techniques needed to document health services in the medical record. Application of techniques and skills needed to perform filing, retention, disposal, maintenance and retrieval of health information contained in primary and secondary records. Requires 30 hours of lecture and 45 hours of lab.
3 credits

HEIN 1115 MEDICAL TERMINOLOGY
Prefixes, suffixes, roots, and abbreviations essential to understand Medical Terminology. Names of diseases, operations, and drug terminology with emphasis on pronunciation, spelling and usage. Prerequisites: BIOL 2152, HEIN 1110.
3 credits

HEIN 1140 MEDICAL HOSPITAL STATISTICS
Collection, organization, analysis, interpretation, and presentation of information related to health services. Prerequisite: HEIN 1110.
2 credits
HEIN 1143 MANAGEMENT AND SUPERVISION OF HUMAN RESOURCES
Introduction to the field of management. Functions of planning, organization, direction, controlling, and the techniques of personnel supervision that apply to the operation of the Department of Health Information. Prerequisite: HEIN 1110. 2 credits

HEIN 1525 LEGAL ASPECTS OF MEDICAL RECORDS
Legal aspects that encompass the rights of patients and their clinical application of legal principles, institutional policies, regulations, and standards that apply in the control and management of health information. Prerequisite: HEIN 1110. 2 credits

HEIN 2110 COMPUTERS APPLIED TO MEDICAL RECORDS
Use and application of the different computer programs mainly used in the Department of Health Information. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: GEIC 1000, HEIN 1110. 2 credits

HEIN 2113 PATHOPHYSIOLOGICAL PROCESS OF DISEASES
Diseases of the anatomical system, including their nature, causes and treatment. Prerequisites: BIOL 2152, HEIN 1115. 2 credits

HEIN 2116 CONTINUOUS IMPROVEMENT OF QUALITY
The function of the Program of Continuous Improvement of the Quality of services offered to the patient. Emphasis on concepts and techniques related to the assessment of healthcare. Analysis of the importance of the Diagnosis-Related Group (DRG’s) in the billing of health services offered to the patient. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: HEIN 1110. 3 credits

HEIN 2130 MEDICAL TRANSCRIPTION
Transcription of medical reports including histories, physical examinations, summaries, operations, autopsies, consultations, pathology and radiology, among others, using different means. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: HEIN 1115, 2110, OMSY 1000. 2 credits

HEIN 2150 NOMENCLATURES AND CLASSIFICATION SYSTEMS
The different systems of nomenclature and application of the classification of diagnoses and clinical procedures for the purpose of supplies, studies, indexes, registers, standardization, and statistical analysis, among others. Requires 45 hours of lecture and 60 hours of lab. Prerequisites: HEIN 1115, BIOL 2152. 4 credits

HEIN 2911 SUPERVISED PRACTICE I
Application of technical skills related to the technology of medical records. Practical experiences in various health organizations and assignment to a center of clinical practice...
in a health institution that will have, as a minimum, Medicare certification. A minimum of 180 hours of practice is required.

HEIN 2912 SUPERVISED PRACTICE II
Application of the skills and knowledge acquired in the technology of medical records. The student will be assigned to a Clinical Practicum Center in a Health Institution that will have, at least, Medicare certification. A minimum of 240 hours of practice is required. Prerequisite: HEIN 2911.

4 credits

HEIN 2970 INTEGRATIVE SEMINAR
Critical analysis of current situations and tendencies in providing health services. Discussion of cases and problem solving related to the management of health information in the Department of Health Information. Independent studies and lectures. Prerequisite: HEIN 2911. Corequisite: HEIN 2912.

2 credits

Courses in Health, Physical Education and Recreation (HPER)

HPER 1870, 1880 THEMES IN HEALTH, PHYSICAL EDUCATION AND RECREATION
Individual, dual, team sports and dance; physical conditioning, weight control; simple games. Two hours of theory-practice per week.

2 credits per course

HPER 2030 PHILOSOPHY AND BASIC PRINCIPLES OF HEALTH
Critical analysis of the philosophical development of basic health principles. Includes the study of degenerative diseases, physical and mental limitations, transmissible diseases, defenses of the body and immunization programs.

3 credits

HPER 2140 EXPERIENCES IN MOVEMENT I
Theory and practice of the fundamentals and related concepts of human movement, basic motor skills and basic gymnastics. Study of physical activity and games as means of discovering the attributes of the individual. New, traditional and creative games.

2 credits

HPER 2150 HEALTH AND PHYSICAL EDUCATION PROGRAM IN THE ELEMENTARY SCHOOL
Philosophy of the health and physical education program at the elementary level. The health phase includes instruction, services and healthful school living; the physical education phase covers teaching simple games and rhythmic, self-exploration and self-discovery activities.

3 credits
HPER 2210 FUNDAMENTALS OF THE PHYSICAL EDUCATION DISCIPLINE AND PROFESSION, FUNCTION OF THE TEACHER IN THE DISCIPLINE AND IN SOCIETY
The philosophical foundations, social and historical principles of physical education and its evolution through the history of the world and in Puerto Rico and its contribution to society. Functions of professionals, their responsibilities, functions and contributions to social, political, cultural and economic development.
3 credits

HPER 2220 EXPERIENCES IN MOVEMENT II
The rationale, the theory and practice of physical and recreational activities in nature, aquatic activity including swimming and aerobic activities.
3 credits

HPER 2230 SCHOOL HEALTH EDUCATION
Methods and materials for teaching health in the elementary schools; role and responsibilities of the teacher in the school health program.
3 credits

HPER 2320 FIRST AID AND PERSONAL SAFETY FOR CHILDREN, YOUTH AND ADULTS
Principles and techniques of first aid for offering primary assistance in the home, at school, at work, on the road, and in recreation and sports. The application of preventive taping, massages, therapeutic methods and strategies of rehabilitation for rapid recuperation. Includes practical experience.
2 credits

HPER 2540 SOCIAL RECREATION
Theoretical and practical aspects of social recreation; planning, organizing and directing activities and programs in social recreation; emphasis on leadership techniques.
3 credits

HPER 3010 SPORTS PSYCHOLOGY
Research and theories related to the mental, emotional and psychological aspects of participants in athletic activities and in physical education.
3 credits

HPER 3050 INTRODUCTION TO ATHLETIC TRAINING
Components of a program for prevention of athletic injuries. Includes protective equipment, bandaging and safety in the sports environment.
3 credits

HPER 3111 ELEMENTARY GYMNASTICS
Tumbling and basic exercises. Includes an introduction to gymnastic apparatus.
2 credits

HPER 3112 ADVANCED GYMNASTICS
Tumbling and exercises at the advanced level. Use of gymnastic apparatus and practice of gymnastic routines. Prerequisite: HPER 3111.
2 credits
HPER 3160 EDUCATIONAL AND RECREATIONAL GAMES IN THE CURRICULUM FOR THE ELEMENTARY LEVEL
Analysis of the importance of games as tools for the cognitive, emotional, social and physical development of the child. Design and development of educational activities through games with the utilization of apparatus and educational implements for integrating curriculum. Experience in recreational activities, simple, creative and innovative games without the use of implements, cooperative games and lead-up activities for the students from K-6. Requires practical experience in the school or in educational centers. 3 credits

HPER 3220 THEORY AND DESIGN OF PHYSICAL EDUCATION PROGRAMS FOR THE ELEMENTARY LEVEL K-6
Review of the basis of the discipline, contemporary focuses and trends in curriculum models most relevant for grades K-6. Skills for curriculum development, design and implementation and the evaluation of programs. Laws and related regulations and national and state norms. Writing of curriculum documents applicable to teaching. 3 credits

HPER 3230 THEORY AND DESIGN OF PHYSICAL EDUCATION PROGRAMS LEVEL 7-12
Review of the basis of the discipline, contemporary focuses and trends in curriculum models most relevant for grades 7-12. Skills for curriculum development, design and implementation and the evaluation of programs. Laws and related regulations and national and state norms. Writing of curriculum documents applicable to teaching. 3 credits

HPER 3270 ANATOMY AND KINESIOLOGY
Study of the biomechanics of movement applied to different sport activities, analysis of anatomical and muscular-skeletal factors that affect the performance of human movement applied to typical and atypical populations. Laboratory experience provided. 3 credits

HPER 3310 EXPERIENCES IN MOVEMENT III
Experience leading to the development of corporal expression and knowledge, the values and mastery of skills related to dancing and rhythmic activities. 2 credits

HPER 3330 EXPERIENCES IN MOVEMENT IV
The development of knowledge, appreciation for and skills in the most established sports of our society. Sport skills, performance and evaluation (volleyball, basketball, softball and soccer). 2 credits

HPER 3340 SKILLS IN TEAM SPORTS II
Analysis and development of basic skills for teaching soccer and softball. 3 credits
HPER 3350 MOTOR LEARNING AND ANALYSIS OF MOVEMENT
3 credits

HPER 3360 EXPERIENCES IN MOVEMENT V
Development of knowledge and appreciation for the teaching of the best known individual sports; ping-pong, tennis and track and field.
2 credits

HPER 3370 SKILLS IN INDIVIDUAL SPORTS II
Analysis and development of basic skills for teaching archery, badminton and gymnastics.
3 credits

HPER 3430 PERSONAL AND COMMUNITY HEALTH AND SAFETY
The integration of the concepts of a healthy lifestyle, personal safety, stress management, nutrition and prevention in the use of alcohol and drugs. Analysis of the importance of physical activities including sleep and rest.
3 credits

HPER 3450 RECREATIONAL EXPERIENCES
Methods, materials and techniques for teaching recreational activities. Includes outdoor experiences.
2 credits

HPER 3470 MOTOR THERAPY FOR CHILDREN WITH DISABILITIES
Analysis of the principal motor problems affecting the performance of children with disabilities. Design of adequate therapeutic activities. Special attention is given to experiences for the development of mobility in children. Field experiences provided.
3 credits

HPER 3475 THEORY AND DESIGN OF PROGRAMS FOR SPECIAL POPULATIONS
Review of the basis of the discipline, contemporary focuses and trends in curriculum models most relevant for special populations. Skills for curriculum development, design and implementation and the evaluation of programs. Laws and related regulations and national and state norms. Writing of curriculum documents applicable to particular scenarios.
3 credits

HPER 3480 NUTRITION FOR SPORTS TRAINING
Nutrition and its interrelationship with health and performance in sports. Analysis of energy used and required during training and the development of a nutritional program during the training period.
3 credits
HPER 3495 PRINCIPLES OF THERAPEUTIC RECREATION
Study and application of principles for developing therapeutic activities. Analysis of the most used therapeutic models for special populations. Organization of therapeutic recreational activities. Field experiences provided.  
3 credits

HPER 3800 TRENDS AND ISSUES IN ATHLETIC TRAINING
Analysis of the different problems encountered in athletic training. Readings, demonstrations and discussions related to the work of athletic coaches and the legal implications of fulfilling their responsibilities.  
3 credits

HPER 3900 HUMAN SEXUALITY
Basic principles of human sexuality, with attention to the biological, psychosocial and cultural aspects, including family planning. Study of the activities, beliefs and sentiments with respect to human sexuality directed to foment the prevention of sexually transmissible diseases and the individual's responsibility in sexual conduct.  
3 credits

HPER 4020 ADMINISTRATION OF PHYSICAL EDUCATION, WELLNESS, HEALTH AND SPORT PROGRAMS
The principal administrative theories and their application to physical education. Analysis of administrative processes involved in the organization of sports activities including interscholastic, intramural and invitational as well as tournaments and carnivals. Evaluation of facilities and equipment, the legal implications in case of accidents and poor security. Study of budgets. Includes laboratory experiences in practice.  
3 credits

HPER 4110 EVALUATION, ASSESSMENT AND RESEARCH IN THE TEACHING AND LEARNING OF PHYSICAL EDUCATION K-6
Knowledge, interpretation and application of evaluation concepts, measurement, assessment and research and their relationship with the evaluation process in physical education at the elementary level. Analysis, design and application of techniques and evaluation instruments, theoretical and practical tests. Includes the study of technology in the area. Provides practical experience.  
3 credits

HPER 4120 EVALUATION, ASSESSMENT AND RESEARCH IN THE TEACHING AND LEARNING OF PHYSICAL EDUCATION 7-12
Knowledge and application of evaluation concepts, measurement, assessment and research and their relationship with the evaluation process in physical education at the secondary level. Analysis, design and application of techniques and evaluation instruments, theoretical and practical tests. Includes the study of technology in the area. Provides practical experience.  
3 credits
HPER 4130 EVALUATION, ASSESSMENT AND RESEARCH IN THE TEACHING AND LEARNING OF ADAPTED PHYSICAL EDUCATION
Knowledge and application of evaluation concepts, measurement, assessment and research and their relationship with the evaluation process in physical education for children with disabilities. Analysis, design and application of techniques and evaluation instruments, theoretical and practical tests. Includes the study of technology in the area. Provides practical experience.  
3 credits

HPER 4140 ASSESSMENT, EVALUATION AND RESEARCH OF TEACHING AND LEARNING IN SCHOOL HEALTH EDUCATION
Study of the concepts of evaluation, measurement, assessment and investigation and their relation with the educational process in health education. Analysis, design and application of evaluation techniques and instruments, theoretical tests and practices. Includes the use of the technology related to the area. Provides practical experience.  
3 credits

HPER 4170 PHYSIOLOGY OF HUMAN MOVEMENT
The physiological changes (responses and adaptations) that occur in the human organism as a result of physical activity. Physiology of muscular contraction, cardiovascular system and the respiratory system and their function in sport activities. Application to different populations. Provides laboratory experience.  
3 credits

HPER 4300 SPORTS TRAINING METHODOLOGY
Analysis of the general aspects of the physiology, biomedical, psychological, social and nutrition aspects that affect the athlete's performance. Evaluation of scientific training programs directed towards the improvement of the athlete's performance in sports. Provides practical experience.  
3 credits

HPER 4320 COACHING AND OFFICIATING SOCCER
The skills, basic drills, conditioning activities, coaching techniques, principles of team selection and theoretical knowledge of soccer.  
2 credits

HPER 4330 COACHING AND OFFICIATING BASKETBALL
The skills, basic drills, conditioning activities, coaching techniques, principles of team selection and theoretical knowledge of basketball.  
2 credits

HPER 4340 COACHING AND OFFICIATING BASEBALL
The skills, basic drills, conditioning activities, coaching techniques, principles of team selection and theoretical knowledge of baseball.  
2 credits

HPER 4350 COACHING AND OFFICIATING TRACK AND FIELD
The skills, basic drills, conditioning activities, coaching techniques, principles of team selection and theoretical knowledge of track and field.  
2 credits
HPER 4360 COACHING AND OFFICIATING VOLLEYBALL
The skills, basic drills, conditioning activities, coaching techniques, principles of team selection and theoretical knowledge of volleyball.
2 credits

HPER 4370 THE TEACHING OF PHYSICAL EDUCATION FOR SPECIAL POPULATIONS
Study and application of methodologies for teaching special populations, adaptation of activities, equipment and materials, study of related laws, evaluation and elaboration of the required documents for the physical education class. Provides practical experience.
3 credits

HPER 4407 MOVEMENT EXPERIENCES
Movement patterns commonly used by children in self-discovery; relation of the body to space, applying the elements of time, weight, balance and force.
3 credits

HPER 4441 PRACTICUM IN ATHLETIC TRAINING I
Supervised clinical experience by professional personnel in the application of the principles of athletic training. Includes an emergency plan for injuries, transportation of the injured, risk reduction in practice and games, and record keeping.
3 credits

HPER 4442 PRACTICUM IN ATHLETIC TRAINING II
Second clinical experience including the use of devices, protective equipment, conditioning machines, taping and special problems of the athlete with recurring injuries. Prerequisite: HPER 4441.
3 credits

Courses in Health Sciences (HESC)

HESC 3000 BIOLOGICAL BASIS OF ILLNESS
Introduction to the fundamental principles of physical science and its relation with anatomy, physiology, disease, and health practices. Study of the organization of the human body, physiology of basic cells, levels of biological organization, and the scientific method to provide students with a basic understanding of the human body.
3 credits

HESC 3010 ETHICAL AND LEGAL CONSIDERATIONS IN HEALTH SERVICES
Discussion of different codes of ethical behavior and principles of respect for human dignity. The laws that regulate the administration of health services in Puerto Rico and those external regulations that are pertinent and apply to local jurisdiction.
3 credits

HESC 3015 TRENDS AND CONTROVERSIES IN HEALTH SERVICES IN PUERTO RICO
Ample vision of the current trends and controversies of health services in Puerto Rico, and the impact of the new direction at a national level in health services and the emphasis on the promotion of health and prevention of disease, alternative medicine, environmental
health, healthy elderly, among others. Discussion on the implications of the reforms to health services in Puerto Rico.

3 credits

**HESC 4000 HEALTH AND ILLNESS THROUGHOUT THE LIFE CYCLE**
Diseases throughout the life cycle, integration of technology in the diagnosis and therapeutic modalities and their economic impact on health services. Discussion of congenital anomalies, disabling conditions, teenage pregnancy, suicide, accidents on the job, conditions and phases unique to women, unique conditions of men, health/well-being of elderly in Puerto Rico, among others. The psychological aspect of disease and disability. Includes the process of death and dying, the crisis process, ethical controversies on euthanasia and prolongation of life through mechanical devices. Prerequisite: HESC 3000.

4 credits

**HESC 4010 RESEARCH METHODS IN HEALTH SCIENCES**
Methodological basis of scientific research. Theoretical base and development of skills to interpret and critique research reports, identify possible problems for research. Discussion of the research process.

3 credits

**HESC 4015 QUALITY GUARANTEE AND IMPROVEMENT**
Theoretical and philosophical frames for improving the quality of health services. Discussions of models such as: Total Quality Management, Quality Assessment, and Continuous Quality Improvement. Analysis of the latest trends in the guarantee and improvement of quality.

3 credits

**HESC 4025 EPIDEMIOLOGY AND HEALTH INDICATORS**
Diseases of groups or populations, correlating risk factors with the disease and factors that protect from the disease. Strategies for searching health problems in the community and identifying trends related to the problems of public health and health indicators. Prerequisites: HESC 3000, 4010.

3 credits

**HESC 4030 COLLECTIVE HEALTH PROMOTION**
Comprehensive approach to three main areas: promotion of health in the community, protection of environmental health, health services and resources. Study of alterations in the health patterns of family and community based on the principles of public health. Social problems in Puerto Rico and their impact on health. Analysis of the role of the health educator and care provider in the communities. Integration of principles for disease prevention. Prerequisite: HESC 4010.

3 credits

**HESC 4050 PLANNING AND MARKETING HEALTH SERVICES**
Discussion of the marketing system and the strategy components of promotion from the perspective of providing health services. Design, implementation, and control of marketing programs of services taking into consideration the social responsibility of the health agency. Includes ethical principles that regulate the marketing field.

3 credits
HESC 4055 METHODS AND TECHNIQUES IN TEACHING HEALTH SCIENCE
Theories of instruction applied to the planning and development of teaching health sciences. Analysis, use of methods and techniques of teaching, selection and preparation of materials for teaching integrating technological resources, innovation, and creativity. Prerequisite: EDUC 2032.
3 credits

HESC 4060 DESIGN AND DEVELOPMENT OF AN EDUCATIONAL HEALTH PLAN
Diagnosis of needs, formulation of goals, selection of content, planning and evaluation in the instruction of health sciences. Techniques for the evaluation of learning. Emphasis in the education of clients in the clinical scenario, based on the assessment of the state of physical and emotional health, and the phase of growth and development. Prerequisites: HESC 4030, EDUC 2032.
3 credits

HESC 4065 AUDITING PRINCIPLES APPLIED TO HEALTH SERVICES
Principles and concepts of auditing applied to the health systems in Puerto Rico. Emphasis on internal control systems.
3 credits

HESC 4913 INTERNSHIP
Practical on the job experience under the supervision of a professor or a supervisor of the health education program in an agency or hospital. Requires 180 hours of experience. Prerequisite: Have passed 19 to 24 credits in courses of the major.
3 credits

HESC 4915 INTERNSHIP
Practical on the job experience directed in the execution of daily administrative operations in a health services facility. Requires the application of administrative theory. Requires 180 hours. Prerequisite: Have passed 19 to 23 credits in courses of the major.
3 credits

HESC 4970 INTEGRATING SEMINAR
Analysis of the trends and controversies in the health system of Puerto Rico and its impact of the economy in society. Study of the effect social problems in Puerto Rico have on the health of the people and the psychological aspect of the disease. Discussion of ethical-legal principles when providing health services. Prerequisite: Have passed 19 to 24 credits in courses of the major.
3 credits

Courses in History (HIST)

HIST 1020 THE ANCIENT WORLD
Economic, social, political and cultural changes experienced by humanity from its appearance on Earth up to the fifth century of the Christian Era.
3 credits
HIST 1030 THE MEDIEVAL WORLD
Economic, social, political and cultural changes experienced by humanity from the fifth to the fifteenth century of the Christian era. 3 credits

HIST 1040 THE MODERN WORLD
Economic, social, political and cultural changes that the western world has experienced from the 15th century Christian era to the 17th century. 3 credits

HIST 1050 THE CONTEMPORARY WORLD
Economic, social, political and cultural changes the western world has experienced from the 18th century to the present. 3 credits

HIST 2010 LATIN AMERICAN INDIGENOUS CULTURES
Study the indigenous cultures of Latin America, including the Antilles, from the pre-Columbian era to the present. Particular attention is paid to the study of the world view of these cultures and how they first confronted the Europeans and then the dominant republican groups. 3 credits

HIST 2020 SPAIN AND PORTUGAL I
Economic, social, political and cultural transformations experienced by the inhabitants of the Iberian Peninsula from the arrival of the first settlers to the fifteenth century of the Christian era. 3 credits

HIST 2025 SPAIN AND PORTUGAL II
Economic, social, political and cultural transformations experienced by the inhabitants of the Iberian Peninsula from the fifteenth century to the present. 3 credits

HIST 2030 COLONIAL LATIN AMERICA
Economic, social, political and cultural transformations experienced by Latin America from the time of its discovery and conquest to its struggle for independence. 3 credits

HIST 2035 LATIN AMERICA SINCE ITS INDEPENDENCE
Economic, social, political and cultural transformations experienced by Latin America, from the wars for independence to the present. 3 credits

HIST 2040 THE CARIBBEAN SINCE THE 17th CENTURY
The Caribbean region, touching on key aspects of development in the 17th century when this region entered the world economy as an important producer of sugar and other tropical products. Emphasis is placed on the Haitian Revolution and its importance in the political and economic development thereafter. Emphasis on the relationship between the Caribbean and Puerto Rican history. 3 credits
HIST 2050 PUERTO RICO I
Economic, social, political and cultural transformations experienced by Puerto Rico through an analysis of historical documents and historiographical sources. Covers the history of Puerto Rico from the arrival of the first settlers to 1810.  
3 credits

HIST 2055 PUERTO RICO II
Economic, social, political and cultural transformations experienced by Puerto Rico through an analysis of historical documents and historiographical sources. Covers the history of Puerto Rico from 1810 to the present.  
3 credits

HIST 2210 THE COMPUTER IN HISTORICAL RESEARCH
Use of the computer in historical research. Includes an introduction to computer technology, use of databases, with an emphasis on the Internet and commercially available programs related to historical research. Study of examples of applying computers to research, including the development of a research exercise by the students. (No previous knowledge of computers is required).  
3 credits

HIST 2220 PUERTO RICO AND THE INSULAR CARIBBEAN IN THE 20TH CENTURY
Political, economic and social development of the insular Caribbean in the 20th century from a perspective of Puerto Rico as a Caribbean country. Course emphasis on the process of dissolution of the English, French and Dutch colonial empires, as well as North American presence in the Caribbean.  
3 credits

HIST 3010 HISTORICAL PROCESS OF THE UNITED STATES OF AMERICA
Survey of political, social, economic and cultural events; institutions and movements of significance in the development of the United States.  
3 credits

HIST 3020 EUROPE I
Economic, social, political and cultural transformations contributing to the formation of Europe from the fifteenth to eighteenth century.  
3 credits

HIST 3025 EUROPE II
Economic, social, political and cultural transformations contributing to the formation of Europe from the nineteenth century to the present.  
3 credits

HIST 3030 THE ARAB WORLD
Introduction to the study of the Arab world, its ethnic origin and its territorial expansion after the founding of Islam in the 7th century AD, and its diffusion throughout North Africa, Spain and the Orient. Political, religious and cultural aspects and their impact on the world are studied.  
3 credits
HIST 3040 SUB-SAHARAN AFRICA
Economic, social, political and cultural transformations contributing to the formation of contemporary Sub-Saharan Africa. Emphasis on the partition of Africa by European powers and the development of the current African states. 3 credits

HIST 3050 UNITED STATES I
Economic, social, political and cultural transformations contributing to the establishment of the United States as a nation, from its European colonization to the Civil War. 3 credits

HIST 3055 UNITED STATES II
Economic, social, political and cultural transformations experienced by the United States from the Reconstruction Period to the present. 3 credits

HIST 3060 ASIA
Economic, social, political and cultural transformations contributing to the formation of the current Asian states. Emphasis on the European penetration into India, China and other regions of Asia, the rise of the Japanese Empire, the Chinese Revolution and the struggles for independence following World War II. 3 credits

HIST 3070 RUSSIA UNTIL 19th CENTURY
Economic, social, political and cultural transformations that the inhabitants of the Russian territories have experienced from pre-history until the decade of the 1860s. 3 credits

HISTORY 3075 RUSSIA DURING THE 19th AND 20th CENTURIES
Economic, social, political and cultural transformations the inhabitants of the Russian Empire and Soviet Union territories have experienced from the decade of 1860 until the present. 3 credits

HIST 3210 THE SECOND BRITISH EMPIRE
The British Empire from the end of 18th century to its dissolution. Economic, social and political aspects that allowed for territorial expansion since the 18th century are examined as well as the prevailing conditions in the 20th century that influenced independence movements. 3 credits

HIST 3220 MEXICO SINCE ITS INDEPENDENCE
History of the political evolution and the ideological struggles in Mexico since its independence to the present. 3 credits

HIST 4020 HISTORIOGRAPHY
Study of historical thought process found in the most outstanding texts dating from antiquity to the present. Modern conditions of history are stressed. 3 credits
HIST 4110 HISTORICAL PROBLEMS
Intensive study of a historical problem in one of the areas or periods presented in catalog courses or in a historical area that goes beyond geographical or chronological limits. The particular problem to be analyzed by the course and the prerequisites will be announced by the department each time the course is offered.

3 credits

HIST 4210 HISTORICAL RESEARCH
Study of research methods and techniques used by historians. Selection of a topic and the research and elaboration of this subject using an integrated vision. Oral and written presentation of a principle monographs that shows the application of one or various techniques of research. Prerequisite: HIST 4020.

3 credits

HIST 4220 BRAZIL
History of the political, social and economic development of Brazil under Portuguese rule and as an independent country. Its role in the 20th century international community is emphasized.

3 credits

HIST 4230 SPANISH AMERICAN INSTITUTIONS BEFORE INDEPENDENCE
Development of institutions established by Spain in their colonies: administrative, economic and legal policies and “El Patronato” (the “Land Owners”). The legacy and influence of these on present institutions is examined.

3 credits

HIST 4240 COUNTRIES OF THE SOUTHERN CONE
Political, economic and social development of Argentina, Uruguay and Chile from independence to the present. Analysis of the differential factor which surfaced due to the impact of European immigration on the development of these countries, seen in the context of America and its international relationships.

3 credits

HIST 4250 CANADA
The political, economic, social and cultural development since Canada’s organization as a power in 1867. The evolution of its constitution, its relationships as an independent country and its position as one of the top seven economic powers of the world are analyzed.

3 credits

HIST 4299 STUDY-TRAVEL SEMINAR
Panoramic study from a political, economic, social and cultural point of view of the history of the countries to be visited. This course is required to participate in the trip.

3 credits

HIST 4300 STUDY-TRAVEL
Visit to the countries studied during the previous seminar to enhance, on site, the acquired knowledge of their political, economic, social and cultural development.

3 credits
Courses in Hotel Management and in Tourism (TURI)

TURI 1020 FUNDAMENTALS OF TOURISM
Basic concepts and general areas in tourism as one of the important components of a country’s development. The importance of tourism to the local and world economy. The characteristics of Puerto Rico for development of this industry. The socioeconomic impact of tourism.
3 credits

TURI 1030 DATA PROCESSING IN HOTELS
2 credits

TURI 1040 FIRST AID
Training in first aid and medical emergency techniques in hotels and open areas.
1 credit

TURI 1050 TOURISM GUIDE
Functions and responsibilities of a guide. Types of guides. Requirements to practice the profession. Handling maps for designing and reading routes. Professional ethics and psychological factors that affect groups.
3 credits

TURI 1060 INTRODUCTION TO MARKETING IN THE HOTEL INDUSTRY
Principles and basic marketing concepts applied to the hotel industry. Organization, planning and marketing strategies for services pertaining to lodging facilities. The variables controlled by enterprises and those beyond their control. Consumer behavior and modern marketing tendencies, segmentation and location of markets and information systems.
3 credits

TURI 1900 HOTEL MANAGEMENT
Study of hotels and hotel management. Location and construction of hotels, hotel indicators, minimum occupancy, prospecting and viability. Study of the operational structure. Establishing chains of commands and interdepartmental relationships. Prerequisites: TURI 1020, ACCT 1151, BADM 2250.
3 credits

TURI 2000 LAWS AND TOURISM
The most important laws and regulations in the tourism field in Puerto Rico. Knowledge of the legal organization of tourism in the country. Laws and regulations in the federal jurisdiction of the United States applicable to Puerto Rico and international organism regulations that in some way influence tourism. Prerequisites: TURI 1020.
3 credits

TURI 2010 RECEPTION DEPARTMENT
Systematic focus on procedures in a hotel reception office. Includes the complete process from reservations to checkout and billing. Review of management elements to achieve
effectiveness, planning and evaluating performance and human resources within a general operational context of a hotel.  

**TURI 2020 TOURISM AND GEOGRAPHY IN PUERTO RICO**  

3 credits

**TURI 2030 INTERCULTURAL COMMUNICATION**  
Verbal and non-verbal communication as they influence perceptions, feelings, affections and actions of other people and cultures and the implications for tourism.  

3 credits

**TURI 2040 TOUR PLANNING AND DEVELOPMENT**  
Characteristics and methods for efficiently planning tourist excursions. Evaluation of tourist areas, preparing excursions, determining rates, preparing itineraries and reservations. Emphasis on the relationship among tourists, travel agencies, hotels and transportation services.  

3 credits

**TURI 2050 WORLD GEOGRAPHY AND TOURISM**  
Principal world tourist destinations and their historical, geographical, human, economic and tourist diversity.  

3 credits

**TURI 2060 TOURIST MARKETING**  
Marketing concepts and applications in the tourism industry with emphasis on promotion and sales. The role of publicity in sales. Prerequisite: MKTG 1210.  

3 credits

**TURI 2400 HOUSEKEEPING MANAGEMENT**  
Systematic focus and management of room operations in a hotel and its public areas. The different operation areas, management of inventory, control of costs and management of human resources. Prerequisite: BADM 2250.  

3 credits

**TURI 2600 PHYSICAL FACILITIES MANAGEMENT**  
Principles and basic concepts for management of buildings and land in hotels and restaurants to effectively work with engineering and maintenance departments. Structural aspects, services, waste reduction and cost control.  

3 credits

**TURI 2910 INTERNSHIP TOURIST ADMINISTRATIVE ASSISTANT**  
Learning experiences for the specialization of Tourist Administrative Assistant in a center approved by the faculty for the practice of acquired theories, concepts and skills. Requires one hundred and fifty (150) hours of practice and fifteen (15) hours of seminar for a total of one hundred sixty-five (165) hours. Prerequisite: Authorization from the Director of the Department.  

3 credits
TURI 2913 INTERNSHIP TOURISM GUIDE
Learning experiences for the specialization of Tourist Guide in a center approved by the faculty for the practice of acquired theories, concepts and skills. Requires one hundred and fifty (150) hours of practice and fifteen (15) hours of seminar for a total of one hundred sixty-five (165) hours. Prerequisite: Authorization from the Director of the Department.

3 credits

TURI 3000 TOURISM PLANNING
Integrated study of planning, emphasizing basic system concepts, decision-making, resource analysis techniques, tourism programs and services including the preparation of plans. Analysis of the functions of the planning process applied to the field of tourism.

3 credits

TURI 3010 ECOTOURISM
Concepts, basic principles, historical evolution. Study of the eco-tourism market. Practical applications for the planning and conduct of activities aimed for the development of eco-tourism.

3 credits

TURI 3100 INFORMATION SYSTEMS
Importance of the available information systems and their application. Planning expenses, projections, tourist resource inventories and strategies used by competitors to reach their customers. Prerequisites: TURI 3000, MAEC 2221, MKTG 1210.

3 credits

TURI 3200 HUMAN RESOURCES MANAGEMENT IN THE HOTEL INDUSTRY
Analysis of the effectiveness of the regulations and related practices with personnel through conferences, discussions and case studies. Emphasis on hiring, selection, assignment and development of human resources. Emphasis on the study of practices related to personnel in the hotel industry. Prerequisites: TURI 2400, BADM 2250.

3 credits

TURI 3300 FOOD AND SERVICES MANAGEMENT
Importance of food management and control of material supplies and services. Development of a continuous plan for determining standards, operational budgets, analysis and control of costs, labor expenses, volume and profits, income and price calculations.

3 credits

TURI 3301 FOOD AND BEVERAGE MANAGEMENT I
Introduction to the organization of the kitchen, health and safety regulations, the Puerto Rico Health Law and determination of food and service standards. Introduction to service styles, the process of buying and the use of equipment for preparing and serving meals. Analysis and calculation of prices per portion of food. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: GEMA 1200.

3 credits

TURI 3302 FOOD AND BEVERAGE MANAGEMENT II
Application of the process for determining food standards. Production and food service in small portions. Use of the buying system and equipment for the preparation and service of...
food. Analysis and calculations of food prices per portion. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: TURI 3301.

3 credits

**TURI 3310 COCKTAIL SERVICES**
Provides necessary knowledge for the preparation of a great diversity of alcoholic and non-alcoholic beverages, served in domestic and international settings. Presentation of the techniques, procedures, and practices appropriate for handling and using glassware, materials, and equipment. Application or simulation of the measurements and liquors in mixing drinks. Ethical and legal aspects of the profession.

3 credits

**TURI 3320 RESERVATION COMPUTER SYSTEMS**
Basic concepts of the use of computer reservation systems in travel agencies. Place reservations in transportation, accommodations, and other tourist services. Estimate of services. Emission of documents through the computer. Requires 45 hours of lecture and 15 hours of lab. Prerequisites: TURI 1020, 1030.

3 credits

**TURI 3400 MEETINGS AND CONVENTION MANAGEMENT**
Sales process and servicing the meetings market. Identification and study of the segments that form this market. Analysis of effective sales techniques for these segments. Planning and developing different types of services for conventions and meetings. Prerequisites: TURI 1060, 2010, 2400.

3 credits

**TURI 3500 INFORMATION SYSTEMS IN THE HOTEL INDUSTRY**
Fundamental aspects of computerized systems and management of hotel information systems. Application of the computer to food, beverages, purchasing, sales and accounting. Prerequisite: TURI 1900.

3 credits

**TURI 4303 FOOD AND BEVERAGE MANAGEMENT III**
Different types of foods and beverages. Application of concepts of food and beverage preparation and service. Analysis and control of total costs in planning and serving food and beverages. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: TURI 3302.

3 credits

**TURI 4915 INTERNSHIP**
Practice theories and learned concepts in a real setting. Work experiences supervised in the field of management of lodging facilities and under the supervision of a faculty member. The student is required to devote at least 15 hours to lectures and 90 hours to the practice center to complete the assigned work. Course must be taken the last academic term. Prerequisite: prior approval of the Department Director.

3 credits
Courses in Industrial Engineering (INEN)

INEN 3411 OPTIMIZATION I
Linear programming: problem solutions through the Simplex method, duality concept, sensitivity analysis and the transportation problem. Network programming is included for project management applications: Critical Path Methods (CPM), Program Evaluation and Review Technique (PERT). Prerequisite: ENGR 3200.
3 credits

INEN 3412 OPTIMIZATION II
Application of various optimization methods, including linear programming and applications; dynamic, integer and non-linear programming. Emphasis on formulating, modeling and applications. Computer usage for problem solving. Prerequisite: INEN 3411.
3 credits

INEN 3430 QUANTITATIVE METHODS IN INDUSTRIAL ENGINEERING
Application of advanced statistical methods, intervals of confidence, tolerance and prediction. Includes tests of hypothesis of matched data and variance. Emphasis on the analysis of variance, multiple regression, transformations, logistic regression and non-parametric methods applied to industrial engineering. Introduction to experiment design. Prerequisite: ENGR 3200.
3 credits

INEN 3550 COST CONTROL AND ANALYSIS
Application of principles of accounting: financial reports, work orders. Cost systems: Standard and historic; cost characteristics and control concepts; cost analysis and applications for the decision-making process. Includes field experience. Prerequisite: ENGR 3300.
3 credits

INEN 3650 SYSTEMS SIMULATION
Modeling of the relationship between components of systems by computer programs. Generation of random and stochastic variables. Study of highly specialized simulation languages. Statistical considerations for procedures of simulation. Application of simulation to solution of problems in industrial production and technical services. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: INEN 3411, 3430.
3 credits

INEN 3720 SYSTEMS ANALYSIS AND DESIGN
Analysis of industrial operations. Includes the flow and evaluation of processes, analysis and design of methods and workstations. Application of techniques to develop time standards for measuring work and designing equipment. Introduction to the study of transportation of materials and display of facilities. Prerequisites: ENGR 3300 and INEN 3650.
3 credits
INEN 4300 QUALITY MEASUREMENT AND ANALYSIS
Application of concepts related to the statistical quality control of processes, plus control graphics for variables and attributes. Includes process-capacity analysis. Analysis, design and planning of samples for inspection. Product acceptance and rework, defect prevention. Modern graphic methods for following and improving quality. Includes field experience. Requires 45 hours of lecture and 30 hours of lab. Prerequisite: INEN 3430. 4 credits

INEN 4400 HUMAN FACTORS IN DESIGN ENGINEERING
Analysis of limitations and achievement capabilities of human beings. Principles and data for application in equipment design and adaptation to the work place environment. Requires 45 hours of lecture and 30 hours of lab. Prerequisite: INEN 3720. 4 credits

INEN 4490 OPERATIONS PLANNING AND CONTROL
Planning and control of production for large-scale operations. Inventory models, and design of inventory systems; techniques to forecast demand; added-production planning. Development of master production schedules. Resources sequencing, programming and dispatching. Basic concepts for Just in Time (JIT) and Materials Requirements Planning (MRP). Emphasis on computer applications for production planning and control. Prerequisites: ENGR 3300, INEN 3411. 3 credits

INEN 4510 DECISION MAKING UNDER UNCERTAINTY
Application of the following decision rules: admissible decision rules, Bayes decision rules and minimal rules. Analysis of criteria for choosing decision rules and their relationship to games theory. Use of linear programming for construction of minimal rules. Includes costs of information gathering into loss function. Problems related to time sequence decisions and their relationship to dynamic programming. Prerequisite: INEN 3411. 3 credits

INEN 4520 SYSTEMS RELIABILITY
Lifetime functions. Point estimation, interval estimation for failure statistical models. Mortality tests, truncated functions. Systems reliability. Reliability software. Reliability increase and handling. Prerequisite: INEN 4300. 3 credits

INEN 4530 VALIDATION OF PHARMACEUTICAL PROCESSES
Application of validation techniques for pharmaceutical processes and their characterization. Includes the validation of water systems, cleaning, automatic systems, computerized systems, as well as the assessment of manufacturing equipment. Emphasis on emerging trends and techniques in validation processes. Prerequisite: INEN 4300. 3 credits

INEN 4550 FACILITY LAYOUT AND DESIGN
Application of principles and practice relative to planning, location, and design of facilities and materials handling. Emphasis on operations research techniques to facilities engineering and design. Discussion of technology and the most used equipment for
INEN 4520 MATERIALS TRANSPORT AND HANDLING
Performing materials transport tasks. Includes field experience. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: INEN 3720, 4490.

3 credits

INEN 4560 INDUSTRIAL SAFETY

3 credits

INEN 4570 STOCHASTIC PROCESSES
Application of basic concepts and techniques related to random processes applied to the construction of models for a variety of practical problems. Emphasis on Poisson processes, Markov chains, queuing models, renovation theory and reliability. Prerequisite: INEN 3650.

3 credits

INEN 4580 RESOURCES PROGRAMMING AND ASSIGNMENT
Analysis of programming problems. Resource allocations such as: Includes only one resource, parallel processing and workshops. Application of dynamic and integer programming methodology, heuristic methods and simulation to the solution of problems of the area. Prerequisites: INEN 3411, 3720.

3 credits

INEN 4590 PROJECT MANAGEMENT
Analysis of organizational alternatives of a project and the process stages by controlling the range, time and cost. Integration of a project in its totality: from planning to implementation. Prerequisites: ENGR 3300, INEN 4490.

3 credits

INEN 4600 AUTOMATED MANUFACTURING
Components and design of automated manufacturing systems, including transfer lines and automated assembly lines. Digitally controlled machines, industrial robots, automated material handling systems. Programmable logic controllers (PLC). Flexible manufacturing systems. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: IMEC 4140.

3 credits

INEN 4700 DESIGN OF EXPERIMENTS
Analysis and applications of experimentation design such as balanced blocks, incomplete blocks, Latin squares and random blocks. Includes variance and covariance analysis; factorial experiments. Statistical problems for finding process operating optimal conditions. Analysis for methodology of response surface. Prerequisite: INEN 4300.

3 credits

INEN 4910 PRACTICAL PROJECT OF COMPREHENSIVE DESIGN EXPERIENCES
Integration of fundamental knowledge of the specialty, through design of a methodology, economic evaluation, analysis and optimization. Emphasis on design skills, teamwork, and effective oral and written communication. The supervision of a faculty member and
authorization of the Director of the Department are required. Prerequisites: INEN 4550, 4560.

Courses in Industrial Relations (INRE)

INRE 2063 INDUSTRIAL SAFETY AND OCCUPATIONAL HEALTH
Introduction to the fundamental concepts of industrial safety and occupational health, covering industrial and environmental factors and hazards, their effects and control. This course is required in the Chemical Technology, Instrumentation Technology and Industrial Management programs.

Courses in Internal Auditing (INAU)

INAU 4093 FUNDAMENTALS OF INTERNAL AUDITING
Introduction to internal and operational auditing. Evolution and characteristics of internal auditing are studied as well as the relationship of auditing to other disciplines and its role in management. Complete view of the auditing cycle is presented: initial stage, report preparation and discussion. Study and analysis of different formats and documents in data collection. Relative importance of the evidence collected during the audit is examined and the Code of Professional Ethics of the Internal Auditor is studied. Prerequisite: ACCT 4090.

INAU 4094 EDP AUDITING
Internal auditing techniques. The responsibilities and role of the internal auditor in the EDP field as well as in aspects included in the operational auditing of the computer center. Development of an auditing system for applying line systems including the controls related to: management, hardware and software, information input and output, data processing, etc. Prerequisites: INAU 4093, ACCT 4950.

INAU 4095 INTERNAL AUDITING ADMINISTRATION
Function of the internal auditor within the administrative framework of the enterprise. Analysis of the responsibilities of the Internal Auditing Department. Strategy planning for the development of a short term and long term work plan with emphasis on relationships to external auditors, management and the board of directors. Study of the implementation of the quality control program for evaluating internal auditing. Prerequisite: INAU 4093.

INAU 4910 INTERNSHIP IN INTERNAL AUDITING
Application of acquired skills through a study program. Students are required to complete 200 hours of supervised practice in an internal auditing office. Prerequisite: INAU 4095.
Courses in International Business (INTB)

INTB 2100 INTRODUCTION TO INTERNATIONAL BUSINESS
Study and analysis of international business from the perspective of foreign investment principles, the impact on financial markets, international markets and the operation of multinational corporations. Prerequisite: MKTG 1210. 3 credits

INTB 2200 CULTURAL CONSCIENCE IN INTERNATIONAL BUSINESS
The historical and cultural processes that serve as the framework for economic and business situations in international businesses of different countries and how these situations affect business relationships. The cultures and economic perspectives of Latin American, European and Pacific countries will be analyzed. Prerequisite: MKTG 1210. 3 credits

INTB 2301 PRINCIPLES OF IMPORTS AND EXPORTS
The required steps for importing and exporting a product. Introduction to the functioning of the Federal Customs and State Tax Services, functions of a customs broker, laws and regulations that affect importing and exporting a product. Prerequisite: INTB 2100. 3 credits

INTB 2302 LICENSES AND REGULATIONS FOR IMPORTS AND EXPORTS
Analysis of the requirements of the Federal and State Customs with regard to licensing and the necessary regulations for imports and exports. The Commodity Control List (CCL) and the Export Control Commodity Numbering (ECCN) are studied. The application for licenses to import and export, functions of the customs broker and the Bureau of Export Administration (BXA) are also studied. Prerequisite: INTB 2100. 3 credits

INTB 3330 MANAGEMENT OF HUMAN RESOURCES AT THE INTERNATIONAL LEVEL
Study and analysis of the principles which govern the management of human resources from an international perspective. Emphasis on the recruitment process of persons who will work in conditions different from those prevailing in their place of origin. In addition, emphasis will be placed on decisions made regarding the requirement of the recruitment of nationals as a condition to establish business in a determined country. Study of managerial strategies focused on identifying the differences among countries and the necessary capacitating of employees to perform effectively in these circumstances and to convert this challenge into a competitive benefit. Prerequisites: INTB 2100, BADM 2250. 3 credits

INTB 3600 INTERNATIONAL BUSINESS ENVIRONMENT IN THE AMERICAS, EUROPE AND THE PACIFIC
Study of international business in the Americas, Europe and the Pacific. Analysis of opportunities for exports and imports, the impact of culture, restrictions, regulations and the necessary strategies for entrance to these markets in light of their respective commercial treaties. Prerequisites: INTB 2200, 2301, 2302. 3 credits
INTB 3710 INTERNATIONAL SALES CONTRACTS AND TERMS OF INTERNATIONAL BUSINESS
Study of international sales contracts through analysis of the specific and general conditions in the process of selling products. Discussion of the function of International Business terms in the allocation of risks and costs, as part of the responsibilities among the exporter, importer and transportation companies in international transactions. Prerequisite: INTB 2301.
3 credits

INTB 3800 ADMINISTRATION OF INTERNATIONAL TRANSPORTATION: OCEAN, AIR AND LAND
Analysis of the selection and management of transportation in international transactions. Study of document management, information systems and inventories for all type of merchandise. Emphasis on the importance of shipments in containers and the function of freight agents in the international environment. Prerequisite: INTB 2301.
3 credits

INTB 3900 MANAGEMENT INFORMATION SYSTEMS IN INTERNATIONAL BUSINESS
Systematic study of existing software for obtaining information by use of computerized technology in international business. Prerequisites: INTB 2100, 2200.
3 credits

INTB 4200 INTERNATIONAL DISTRIBUTION SYSTEMS
Introductory study of the available options for transportation and distribution of goods with regard to a business’s imports and exports. Includes distribution and transportation systems by air and sea and market distribution. Emphasis on the selection and evaluation of foreign distributors. Prerequisite: INTB 2100.
3 credits

INTB 4911 PRACTICE IN INTERNATIONAL BUSINESS
Supervised work experience in an organization or company related with international business. Students are required to devote at least 90 hours during the academic term. Prerequisites: INTB 2301, 2302 and MAEC 3243.
3 credits

Courses in Italian (ITAL)

ITAL 1001, 1002 ELEMENTARY ITALIAN
Essentials of Italian grammar with emphasis on the spoken language. 4 credits per course

ITAL 2021, 2022 INTERMEDIATE ITALIAN
Review of grammar and study of composition. Continued emphasis on the spoken language. Prerequisite: ITAL 1002 or two years of high school Italian. 3 credits per course
Courses in Landscape Design (LADE)

**LADE 2130 CONTROL OF INSECTS AND DISEASE**
Techniques and recommendations for the control of insects and diseases of greatest economic impact on the cultivation of ornamental plants. Use of appropriate equipment in the application of insecticides according to norms and regulation established to protect the environment. Requires 22.5 hours of lecture and 30 hours of lab.  
2 credits

**LADE 2150 SOIL FERTILIZING TECHNOLOGY**
Classifications of soil, its physical and chemical properties, topography, erosion, their effects and fertility. The use of fertilizers and their application. Requires 30 hours of lecture and 45 hours of lab.  
3 credits

**LADE 2260 FOLIAGED PLANTS FOR LANDSCAPING**
Selection, use and management of trees, shrubs and lawns by considering the climate, their capacity to adapt, types of growth, physiological requirements, planting, fertilizing and cultivation procedures. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: LADE 1120.  
3 credits

Courses in Latin (LATI)

**LATI 1001, 1002 ELEMENTARY LATIN**
Basic Latin grammar with stress on the relationship among Latin, Spanish and English.  
3 credits per course

**LATI 2021, 2022 INTERMEDIATE LATIN**
Review of Latin grammar. Selected readings from Latin literature. Prerequisite: LATI 1002 or equivalent.  
3 credits per course

Courses in Linguistics (LING)

**LING 4006 TUTORIAL ENGLISH**
Emphasis on solving individual student problems in communication skills. The preparation and writing of a research paper.  
3 credits

Courses in Managerial Economics (MAEC)

**MAEC 1213 HISTORY OF ECONOMIC THOUGHT**
The main currents of economic thought since ancient times to the present. The evolution of economic theories are followed together with their maximum exponents and their impact at different historical stages.  
3 credits
MAEC 2211 PRINCIPLES OF ECONOMICS (MICRO)
Basic theories and principles relative to the operation of the market in an economic system with special emphasis on the microanalysis of the individual decision-making economic units. Prerequisite: GEMA 1200.

3 credits

MAEC 2212 PRINCIPLES OF ECONOMICS (MACRO)
Functioning of the economy as a whole; integration of global economy; principles, hypotheses and theories attempting to explain the macroeconomic process. Prerequisite: MAEG 2211.

3 credits

MAEC 2221 BASIC STATISTICS

3 credits

MAEC 2222 MANAGERIAL STATISTICS
Time series analysis; analysis of variance; bivariate linear regression and correlation; tests of significance, statistical quality control; index numbers. Introduction to statistical inference stressed. Prerequisites: MAEC 2221, MATH 1070.

3 credits

MAEC 2320 POLITICAL ECONOMY
Integrated study of political and economic institutions and the effect of their interaction.

3 credits

MAEC 3234 LABOR ECONOMICS
Introduction to the field of labor relations from an economic point of view. The labor force as an economic resource in production as opposed to other production factors: capital and work. Prerequisite: MAEC 2211.

3 credits

MAEC 3235 MONEY AND BANKING
Role of money in the development and financing of financial institutions of a banking and non-banking nature and in the economic system in general. The instruments of the money market, of capital, the role of the Federal Reserve System, monetary policy and the International Monetary Fund are studied. Prerequisite: MAEC 2212.

3 credits

MAEC 3236 PUBLIC FINANCE AND FISCAL POLICY
General survey of governmental finance at the federal, state and local levels with special emphasis on the Puerto Rican setting. Prerequisite: MAEC 2212.

3 credits

MAEC 3240 MATHEMATICS FOR DECISION-MAKING
Functions and relations; functions and their graphs; some basic functional equations in economics. Differential and integral calculus of elementary functions and their application
in economic situations. Linear difference in decision-making equations in economics. Matrix and vector analysis and its use in economic analysis. Prerequisite: MATH 1070.
3 credits

**MAEC 3243 INTERNATIONAL ECONOMICS**
Survey of the theory of international trade, tariffs, other trade barriers, balance of payments, commercial policies, international finance, foreign exchange rates, foreign investments and international financial institutions. Prerequisite: MAEC 2212.
3 credits

**MAEC 3250 INTERMEDIATE STATISTICS**
Statistical techniques used in decision-making under uncertain situations: Decision analysis, prediction models, regression and correlation. Prerequisite: MAEC 2222.
3 credits

**MAEC 3330 ECONOMICS OF PUERTO RICO**
Economy of Puerto Rico emphasizing the analysis of the characteristics and trends of our economy. These include: economic geography and history, role of agriculture, economic relations with the United States, public income and expenditures, credit facilities, net income and gross product, balance of external payments; economic policy of the state government; industrial development and facilities for future development. Prerequisite: MAEC 2212.
3 credits

**MAEC 4210 ECONOMICS OF MULTINATIONAL FIRMS**
Operations of multinational firms and the economic analysis of conditions that facilitate or hinder their development.
3 credits

**MAEC 4213 MACROECONOMICS APPLIED TO BUSINESS**
Aggregate economic activities as related to the analysis of economic projections and public policy considering their use in managerial decisions. Prerequisite: MAEC 2212.
3 credits

**MAEC 4214 INTERMEDIATE ECONOMIC ANALYSIS (MICRO)**
Pricing processes in the private enterprise economy under various isolated and competitive markets. Emphasis on recent quantitative developments in the theory of demand and the firm. Prerequisites: MAEC 4213, MATH 1070.
3 credits

**MAEC 4220 INTRODUCTION TO ECONOMETRIC**
Introduction to the art and science of building and applying economic models using quantitative instruments. Requires additional time in an open lab. Prerequisites: MAEC 2222, 3240, 4213.
3 credits

**MAEC 4334 ENERGY RESOURCES AND ENVIRONMENTAL ADMINISTRATION**
Theoretical aspects of natural resource allocations stressing those with energy value. Discussion of topics such as inter-temporal methods of assigning resources, external
problems applied to environmental economy, optimizing energy resources at the company level, and analysis of aspects of energy and environmental policy as they apply to business.  3 credits

MAEC 4520 ECONOMIC DEVELOPMENT OF EMERGING AREAS
Analysis of the environmental background of the economic growth of nations and their history, emphasizing problems of emerging areas. Prerequisite: MAEC 2211.  3 credits

Courses in Marketing (MKTG)

MKTG 1210 INTRODUCTION TO MARKETING
Basic concepts of integrated marketing from the conception of the product until its distribution and use. Meeting needs through the process of goods exchange, services and ideas. Variables that organization can and cannot control.  3 credits

MKTG 1220 INTRODUCTION TO AGRICULTURAL MARKETING
Introduction to the marketing system from an agricultural perspective. The necessary operations for the distribution of agricultural goods and services from the producer to the consumer. Study of the controlled variables such as products, price, promotion and distribution as well as the non-controlled variables of an agricultural enterprise.  3 credits

MKTG 2220 STRATEGIC MARKETING MANAGEMENT
Marketing strategy. Analysis of the market, identification of opportunities and threats. Formulation of strategies with emphasis entrepreneurial emphasis on hypothetical situations. Prerequisite: MKTG 1210.  3 credits

MKTG 2223 CONSUMER BEHAVIOR
Review of the economic, psychological and socio-cultural factors affecting the behavior and the decision-making process of the consumer. Analysis of consumer behavior when in search of alternatives (goods and/or services) that may satisfy needs and how this procedure affects management decision-making in business organizations. Prerequisite: MKTG 1210.  3 credits

MKTG 3230 PROMOTION
Basic concepts of integral communication applied to marketing. Analysis of components of promotion strategy. Emphasis on the role of each of these components in marketing procedures, their differences, advantages and disadvantages. Prerequisite: MKTG 1210.  3 credits

MKTG 3233 PUBLIC RELATIONS IN ORGANIZATIONS
Consideration of the typical interrelations between business organizations and both the internal and external environment. A systematic discussion on how these organizations can develop and maintain a favorable public image. Prerequisite: MKTG 3230.  3 credits
MKTG 3234 PERSONAL SALES
Analysis of the sales process and its role within the global marketing process. Incorporation of the behavioral sciences and commercial strategies for the development of better sales presentations to the client. Prerequisite: MKTG 3230.
3 credits

MKTG 3235 SALES MANAGEMENT
3 credits

MKTG 3236 RETAIL SELLING
Evolution of retail practices due to changes in consumer behavior and technological advances. Strategies used in buying, promotion, inventory control and in the operation of retail selling establishments. Prerequisite: MKTG 3230.
3 credits

MKTG 3237 SERVICE MARKETING
Analysis of variables contracted by marketing management. Application of marketing strategies to consumer and industrial services. Prerequisite: MKTG 2220.
3 credits

MKTG 3238 PRINCIPLES OF PUBLICITY
Analysis, evaluation and application of fundamental aspects of publicity and its role in contemporary marketing. Emphasis on the concepts of developing advertisement, graphic design, media selection, creative plan, customer service and other aspects related to the publicity campaign. Prerequisites: MKTG 2220, 3230.
3 credits

MKTG 3239 SOCIAL MARKETING
Design, implementation and control of programs developed to achieve a wider acceptance of an idea or of a particular practice in a chosen area of marketing. Prerequisite: MKTG 2220.
3 credits

MKTG 3240 ETHICS IN MARKETING
Ethical principles governing marketing from a primarily management perspective. Ethical and moral variables for decision-making. The company’s social responsibility within the philosophical environment of marketing concepts. Discussion of cases and articles describing how decision making is developed, that is, how to distinguish between what is correct and incorrect. Prerequisite: MKTG 1210.
3 credits

MKTG 3241 GRAPHIC ART IN MARKETING
Basic processes of graphic design. Graphic arts used in products and services in industry. Technological aspects in graphics design. Requires 30 hours of lecture and 30 hours of lab.
3 credits
MKTG 3242 DIRECT RESPONSE MARKETING
Components of a new marketing system that uses social communication media to obtain a rapid and measurable reaction to the marketing objective according to the strategies used. Prerequisites: MKTG 2220, 2223, 3230.
3 credits

MKTG 3243 DISTRIBUTION CHANNELS
Mechanisms permitting an efficient and optimum distribution of goods, services and ideas from the producer to the consumer. Selection, configuration and management of distribution channels integrated to the marketing components. Importance of the sales force in product distribution, domestically and internationally. Prerequisite: MKTG 2220.
3 credits

MKTG 4243 MARKETING RESEARCH
Application of marketing research in non-profit commercial institutions. Planning process, generation, collection, analysis and reporting of information that assists management in the decision-making process. Requires additional time in an open laboratory. Prerequisites: MKTG 1210, MAEC 2222.
3 credits

MKTG 4244 INTERNATIONAL MARKETING
Analysis of marketing concepts and practices used between different countries. Study of the marketing process, market identification, strategy planning, and modifications and adaptations needed for the operation of marketing in different environments. Prerequisite: MKTG 2220.
3 credits

MKTG 4245 MARKETING AND ELECTRONIC BUSINESS
Design, development and implementation of technological communication and its impact using cybernetic tools. Emphasis on marketing through Internet and related technological aspects. Analysis of Internet’s dimensions, its capabilities, limitations and the technological communication bases directing Internet. Prerequisites: GEIC 1000, MKTG 2220, 3230.
3 credits

MKTG 4246 PRODUCT MANAGEMENT
Elements affecting product management. Analysis of the variables to consider when marketing efforts are coordinated towards a particular product or brand. Prerequisite: MKTG 2220.
3 credits

MKTG 4248 SMALL BUSINESS MARKETING
Marketing theories, principles, concepts and practices in small business. Discussion of articles and cases relative to the establishment of a business and its marketing strategies. External and internal variables that influence the development and marketing process of a small business. Prerequisites: MKTG 2220, 4243.
3 credits
MKTG 4249 ADVANCED MARKETING RESEARCH
Discussion and application of techniques for sampling, analysis and presentation of information obtained from different research designs. The role of research from the perspective of its usefulness in managerial decision-making.

3 credits

MKTG 4910 INTERNSHIP
Practical experience in the field of marketing supervised jointly by a university faculty member and a professional designated by the management of the practice center. The student is required to devote at least 90 hours to complete the work assigned. Prerequisites: Authorization from the Department Director, 24 credits approved in core courses and 24 credits in the major.

3 credits

MKTG 4973 MARKETING SEMINAR
Analysis of topics in marketing with emphasis on modern marketing trends. Topics will change according to student needs, skill development and new knowledge in the field for understanding and integrating current concepts and marketing dynamics. Prerequisites: MKTG 4243, 4244.

3 credits

Courses in Materials Management (MMAT)

MMAT 2103 INTRODUCTION TO MATERIALS MANAGEMENT
Introduction to the systems of planning, organization and control of the flow of materials. Includes the basic elements of inventory systems, available techniques for predicting demand and different types of operational environments. The interaction of the finished product is studied.

3 credits

MMAT 3211 INVENTORY MANAGEMENT
Planning and inventory control systems. Includes inventory decisions for independent and dependent demand, master production plan, materials requirement plan and capacity plan. Includes, in addition, the aspects of management control of these systems, such as: information requirements for planning and control, performance and feedback of results. Practical applications of these concepts using a materials requirement plan. Prerequisites: GEIC 1000, MMAT 2103.

3 credits

MMAT 3212 PLANNING AND PRODUCTION CONTROL
The principles and techniques used for planning, controlling and evaluating production activities. Plans are studied at different time levels: strategic, short and long range, and feedback methods. Different forms of production (workshops, repetitive and process) are studied. Prerequisite: MMAT 3211.

3 credits

MMAT 3220 PURCHASING MANAGEMENT
Techniques related to the purchasing process. Bargaining and contracting in accordance with the commercial code and special laws of Puerto Rico. Identification and development
of materials supply sources. Selection of suppliers, control and evaluation of their performance. Computerized purchasing systems, maintenance of a database and the interaction with the materials requirements plan. Prerequisite: MMAT 2103.

3 credits

**MMAT 3250 TRANSPORTATION MANAGEMENT**
Basic knowledge of materials distribution. Emphasis on theoretical aspects applied to transportation. Discussion of basic transportation modes integrated with traditional topics, such as: product distribution and economic policies and problems. The relationship between demand, cost, rates and their influence in the economic and cooperative system. Prerequisites: MMAT 2103, MAEC 2211.

3 credits

**MMAT 4350 PLANNING OF BUSINESS RESOURCES**
The process necessary for implementing the materials requirements plan and the manufacturing resources plan from the world class point of view. Emphasis on information system processing, flow and integration. Prerequisites GEIC 1000, MMAT 3212.

3 credits

**MMAT 4360 MANAGERIAL PRODUCTIVITY TECHNIQUES**
Managerial productivity strategies and techniques that that may lead an enterprise to low production costs and at the same time, to high-quality products. The Kanban inventory system and its comparison with the materials requirement plan. The classical concept of economic order quantity compared with the policy of not producing and buying by lot, but rather, part by part. Strategy for establishing reliability of suppliers with regard to deliveries and quality levels. Principles of quality management. Analysis of quality circles and analysis techniques. Improvement in productivity by computerized integrated management. Prerequisites: MMAT 3212.

3 credits

**Courses in Mathematics (MATH)**

**MATH 1015 BASIC MATHEMATICS FOR LANDSCAPE DESIGN**
Metric decimal system, estimation and mathematical vocabulary: problem solving. Conversion from one system to another. Study of the fundamental concepts of geometry and trigonometry. Surface, volume and angle problem solving.

3 credits

**MATH 1020 BUSINESS MATHEMATICS**
Review of the basic principles of arithmetic such as decimals, percentages, calculus, squares and square roots.

3 credits

**MATH 1030 MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS**
Fundamental concepts of arithmetic, numerical systems and geometry. Metric system, mathematical estimates, vocabulary and problem solving. Use of calculators and computers. Prerequisite: GEMA 1000.

3 credits
MATH 1070 FUNDAMENTALS OF APPLIED MATHEMATICS
Study of linear and quadratic functions through the supply, demand, cost, revenue, profit and simple interest functions. Application of the exponential and logarithmic functions through compound and continuously compounded interests. Systems of linear equations and their break-even, point and linear programming applications. Study of the concept of a matrix, operations with matrices and their applications. The derivative of a function as a rate of change and as the principal agent in marginal analysis: cost, revenue and profit. Prerequisite: GEMA 1200.

3 credits

MATH 1500 PRECALCULUS
Study of functions, with emphasis on linear, polynomical, rational, exponential, logarithmic and trigonometric functions. Operations with functions and inverse functions. Study of analytical trigonometry of complex numbers; linear and nonlinear equation systems, inequalities, matrices, determinants and polar coordinates. Prerequisite: GEMA 1200.

5 credits

MATH 2000 DISCRETE METHODS
Theory of sets. Binary operations. Relations and functions. Theory of graphs: trees, Eulerian and Hamiltonian circuits and combinatorial analysis. Motivation of problems and applications; elementary principles of counting; permutations and combinations; principles of inclusion/exclusion; recurrence relations. Prerequisite: GEMA 1200.

3 credits

MATH 2100 INTRODUCTION TO PROBABILITY AND STATISTICS

3 credits

MATH 2250 CALCULUS FOR BIOLOGY AND ENVIRONMENTAL SCIENCES
Study of the fundamental concepts of calculus: limit, continuity, derivatives and integral of polynomial, rational, exponential and logarithmic functions and their applications for the biological and environmental sciences. Application of the derivative for tracing and interpretation of graphs and optimization problems. Prerequisite: MATH 1500.

3 credits

MATH 2251 CALCULUS I
Limits of a function, the derivative, Rolle’s theorem and the mean value theorem, application of the derivative. The definite integral and the fundamental theorem of calculus. Derivatives and integrals of trigonometric, exponential and logarithmic functions. Applications of the definite integral. Topics of analytical geometry: the circle, parabola, ellipse, and hyperbola. Prerequisite: MATH 1500.

5 credits
MATH 2252 CALCULUS II

4 credits

MATH 3080 TOPICS IN GEOMETRY
Basics of mathematical logic, nature of proof, and some Euclidean geometry: finite geometries, geometric transformations, sets and convex bodies. Basics of non-Euclidean geometries; hyperbolic, elliptic and projective geometries; geometric topology. Prerequisite: MATH 2251.

3 credits

MATH 3091 MATHEMATICAL STATISTICS I
Sample spaces, axioms and elementary theorems of conditional probability, Bayes’ theorem, probability distributions and their properties. Mathematical expectations. Mean and variance, moment-generating functions, transformation of random variables. Chebyshev’s inequality, the law of large numbers, the Central Limit Theorem. Regression and correlation. Prerequisite: MATH 2251.

3 credits

MATH 3092 MATHEMATICAL STATISTICS II
Estimation, hypothesis testing, order statistics. Analysis of variance (ANOVA), factorial experiments, simple and multiple regression. Analysis of covariance (ANACOVA). Prerequisite: MATH 3091.

3 credits

MATH 3130 THEORY OF NUMBERS

3 credits

MATH 3250 CALCULUS III
Study of the vectors in plane and in space. Cylindrical and spherical coordinates. The calculus of functions of several independent variables: limit, continuity, partial differentiation, chain rule gradient, directional differentiation, tangents planes and normal lines. Determination of extreme values of a two variable function. Multiple integration of rectangular, cylindrical and spherical coordinates. Surface area and volume. Study of integration in vectorial campus: line integrals, divergence theorem and the Green and Stokes theorems. Prerequisite: MATH 2252.

3 credits
MATH 3350 LINEAR ALGEBRA
Systems of linear equations, matrices and determinants, vector spaces, linear dependency, bases, dimension, linear transformations, quadratic forms, eigen values and eigen vectors. Numeric methods and applications. Prerequisite: MATH 2251.
3 credits

MATH 3370 INTRODUCTION TO MATHEMATICAL LOGIC
Calculus of sets, truth rules, propositional calculus. Introduction to axiomatic systems. Prerequisite: MATH 1500.
3 credits

MATH 3400 DIFFERENTIAL EQUATIONS
Study and application of first order differential equations; linear equations with constant coefficients; linear differential equations of the second and highest-order. Study of mathematical models leading to systems of equations and their applications. Numerical approximations. Study of Laplace transforms, Fourier series and orthogonal functions. Prerequisite: MATH 2252.
3 credits

MATH 3710 INTRODUCTION TO MATHEMATICAL MODELS
Concept of a mathematical model. Utility and limitations of models. The three steps: 1) abstraction, idealization and formulation; 2) solution of the mathematical problem; 3) relevance of the solution with respect to the original problem. The student will construct and analyze a model for a particular problem. Prerequisite: MATH 3091.
3 credits

MATH 3810 HISTORY OF MATHEMATICS
Development of mathematics through the centuries. References to astronomy, quantum mechanics and mathematical physics. Prerequisite: MATH 2251.
3 credits

MATH 4100 APPLIED ALGEBRA
Sets, binary relations, set functions, basic graph terminology. Partial order, Boolean Algebras and their relationship to the theory of circuits; machines of finite state; formal languages recognized for machines; groups, semigroups and monoid applications; modular arithmetic, the Euclidean algorithm. Prerequisite: MATH 3350.
3 credits

MATH 4151 NUMERICAL ANALYSIS I
Finite differences, interpolation with equal and unequal intervals, central differences, sums, methods of numerical integration and differentiation, sequential approximations or techniques of iteration, matrices and determinants, methods of numerical approximation for systems of linear equations. Prerequisite: MATH 2252.
3 credits

MATH 4152 NUMERICAL ANALYSIS II
Study of difference equations, numerical integration of differential equations, approximation of solutions; partial differential equations. Analysis of finite elements; error
analysis. Proofs of the use and limitations of these methods in the computer. Prerequisites: MATH 3250, 3400, 4151 and a programming course in a high level language.  

MATH 4391 ABSTRACT ALGEBRA I  
Groups, normal subgroups, quotient groups, Cayley’s theorem, homomorphism theorems. Ideals and quotient rings. Fields. Prerequisites: MATH 3350 and MATH 2000 or COMP 2501.  

MATH 4392 ABSTRACT ALGEBRA II  
Groups of geometry and analysis, Sylow theorems, application of Sylow’s theory, torsion groups, rings of polynomials, extension fields, elements of the Galois theory. Prerequisite: MATH 4391.  

MATH 4430 SEMINAR FOR SECONDARY SCHOOL TEACHERS  
Selection of relevant topics for future high school mathematics teachers. Development of mathematics and its relation to other disciplines. Emphasis on methods of solving problems such as the Polya method. Use of manipulative and available technology. Prerequisite: MATH 2251.  

MATH 4470 COMPLEX ANALYSIS  
Complex differentiation and antidifferentiation, integral formulas of Cauchy-Riemann and related theorems. Taylor and Laurent series, residues and conformal transformations. Prerequisite: MATH 3250.  

MATH 4550 ADVANCED CALCULUS  
Fundamental theorems of continuous functions. Introduction to topology in Euclidean Rn space and in metric spaces. Theory of convergence of sequences and series of functions. Concept of derivatives, the Riemann Integral. Prerequisite: MATH 3250.  

MATH 4580 INTRODUCTION TO TOPOLOGY  
Sets and functions, compactness, metric spaces, topological spaces, separation axioms and connectedness. Prerequisite: MATH 4100 or 4391.  

MATH 4970 INTEGRATION SEMINAR  
Integration of the knowledge acquired in the mathematics courses through the preparation and presentation of an oral and written creative work, using primarily mathematical articles or practical problems related to the major study area of the student. Prerequisite: have approved 38 credits in mathematics.  

3 credits

3 credits

3 credits

3 credits

3 credits

3 credits

3 credits

3 credits
Courses in Mechanical Engineering (MECN)

MECN 3110 FLUID MECHANICS AND APPLICATIONS

4 credits

MECN 3120 ADVANCED STATICS AND DYNAMICS
An advanced course in statics and dynamics for students in the mechanical engineering program. The course continues the themes of IGEN 3340 and continues with structural analysis, distributive force analysis and center of mass problems. In addition, more advanced topics in dynamic behavior are treated such as: gyroscopic forces and motion, vibration and advanced rigid body analysis. Prerequisite: ENGR 3340.

3 credits

MECN 3135 SOLID MECHANICS
Stress and strain due to several types of load: axial, flexural, torsional, shearing and combined. Analysis of beams supporting defined and undefined loads. Column theory and dynamic loads. Computer visualization to show stress-strain relationship and concepts. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: MECN 3120.

4 credits

MECN 3140 POWER SYSTEMS OF FLUIDS
Application of the dynamic principles of fluids in power systems using the flow of fluids. Development of design and analysis techniques applied to turbo machines such as turbines, pumps and fans related to industrial needs. Consideration of alternate sources of energy. Prerequisite: MECN 3110.

4 credits

MECN 3500 NUMERICAL METHODS FOR ENGINEERING
Application of numerical methods for engineering problem solving. Methods to be considered are iterations, polynomial roots, interpolation, integration, derivative approximation, systems of simultaneous equations, and optimization techniques. Prerequisites: ENGR 2120, MECN 3120, MATH 3400.

3 credits

MECN 4100 MECHANICAL VIBRATIONS
Modeling and analysis of linear systems, in one or more degrees of freedom, subjected to free or forced vibrations. Includes matrix representations of multidimensional systems. Application of energy methods and advanced analysis techniques for dynamic systems. Introduction to non-linear and random systems. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: ENGR 2120, MECN 3120, MATH 3400.

4 credits
MECN 4110 MECHANISMS DESIGN
Kinematics of mechanisms, mobility analysis. Analysis of computerized and graphical
techniques for analysis of position, velocity, and acceleration in mechanisms. Analysis and
design of flexible connectors, cams and gears. Introduction to mechanisms synthesis.
Requires 30 hours of lecture and 30 hours of lab. Prerequisites: ENGR 2220, MECN
3120.
3 credits

MECN 4120 DESIGN OF MACHINE ELEMENTS
Application of problem solving to the design of machine elements. Includes design of
axles, couplings, wedges, springs, screws, bushings, clutches, brakes, and joints. Use of
engineering codes and choice of components from manufacturers’ catalogs. Prerequisites:
ENGR 3350, MECN 3135, 4110.
3 credits

MECN 4130 COMPUTER AIDED DESIGN AND MANUFACTURING
Application of modern techniques used in computer-aided design and manufacturing (CAD
/CAM) systems. Emphasis on numerical methods, solutions to non-linear equations, finite
elements, optimization. Modeling and simulation of mechanical systems. Use of
techniques and methods for designing components and parts by computer. Prerequisites:
ENGR 2220, MECN 4120.
3 credits

MECN 4140 MANUFACTURING PROCESSES
Analysis of the nature and properties of materials in engineering. Application of the
following processes: production of ferrous and non-ferrous metals, melting processes,
powder metallurgy, thermal treatments and welding. Includes the processes of machining,
shaping, joining, cutting and polishing. Introduction to integrated and automated systems
for manufacturing. Requires 45 hours of lecture and 30 hours of lab. Prerequisite: ENGR
3350.
4 credits

MECN 4150 MANUFACTURING DESIGN
Introduction to simultaneous engineering. Application of knowledge of manufacturing
processes to the product design phase to improve quality and decrease costs. Methods of
documenting design for manufacture; quality control and assurance; selecting tolerances,
dimensions, and assembly orders. Prerequisites: ENGR 3200, MECN 4140.
3 credits

MECN 4200 APPLIED THERMODYNAMICS
Application of thermodynamics fundamentals to engineering systems. Emphasis on mass
and energy conservation in closed and open systems. Includes physical properties and
equations of state for pure substances. Second law of thermodynamics and the study of
systems working with steam cycles, gas cycles and refrigeration cycles. Discussion of the
Carnot Cycle and availability of energy, combustion and thermochemistry and thermal
equilibrium. Prerequisites: ENGR 3343, MATH 3250.
3 credits
MECN 4210 HEAT TRANSFER

3 credits

MECN 4220 DESIGN OF THERMAL SYSTEMS
Review of basic principles of thermodynamics and applications to thermal-systems design. Computer design tools: economic analysis, modeling and optimization. Application of computer design tools to the methodology solution of engineering problems relevant to Puerto Rico. Prerequisites: MECN 4200, 4210.

3 credits

MECN 4230 AIR CONDITIONING AND REFRIGERATION
Fundamentals of air conditioning and refrigeration, psychometric computation, comfort concepts, load calculation. Commercial and industrial refrigeration requirements. Selection of equipment: Pump, fans, heat exchanger and louvers. Prerequisites: MECN 4200, 4210.

3 credits

MECN 4240 SOLAR ENERGY APPLICATIONS
Application of the principles of outer-space solar radiation and atmospheric irradiation. Use of prediction and mean value estimates for irradiation by means of mathematical models using tabulated data. Discussion of fluid mechanics and heat-transfer mechanisms, characteristics of materials and surfaces and their impact on energy transfer. Emphasis on economic feasibility analysis. Applications of solar energy in different geographic scenarios. Prerequisite: MECN 4210.

3 credits

MECN 4300 ENGINEERING MATERIALS
Introduction to engineering materials science. Composition, processing, properties and structures of metals and alloys, ceramics, composites, plastics and semiconductors. The processes to be discussed include solidification, deformation, heat treatment and others. Electronic structures, together with lattice macro/micro imperfections. Emphasis is given to the relationship between chemical and physical properties and the behavior of engineering materials. Requires 45 hours of lecture and 30 hours of lab. Prerequisites: ENGR 3350, MECN 3135.

4 credits

MECN 4310 PLASTICS ENGINEERING
Analysis of the chemical-physical properties of plastics. Includes determination of their stress and strain. Applications in design and manufacture of plastics. Manufacturing processes include injection, extrusion, cold stamping, thermosetting, thermomolding, rotational and blow molding. Prerequisite: MECN 4140.

3 credits
MECN 4320 METAL FATIGUE
3 credits

MECN 4325 ADVANCED ENGINEERING MATERIALS
Analysis of properties and manufacturing of plastics and compound materials. Includes structural fatigue failure, corrosion control and manufacturing methods. Emphasis on the analysis and modern design of manufacturing techniques. Prerequisite: MECN 4300.
4 credits

MECN 4330 CORROSION CONTROL
Application of electrochemical principles and mechanisms of corrosion. Includes the protection and prevention of metal corrosion. Temperature, metallurgy and environmental effects on metal corrosion. Emphasis on preventive techniques: cathodic protection, proper materials and laminating selection. Prerequisite: MECN 4300.
3 credits

MECN 4340 FRACTURE MECHANICS
3 credits

MECN 4600 DESIGN OF EXPERIMENTS AND INSTRUMENTATION
Application of computerized techniques for measurements, lab interface in instruments and equipment and data acquisition. Includes planning, design and evaluation of experiments in areas such as fluid dynamics, kinematics, heat transfer and energy conversion, among others. Requires 45 hours of lecture and 30 hours of lab. Prerequisites: ENGR 3200, 3360.
4 credits

MECN 4910 PRACTICAL PROBLEM – CAPSTONE DESIGN PROJECT
Integration of engineering fundamentals: design methodology, economic evaluation, analysis and optimization. Students will be assigned a project for design in their chosen area. Emphasis on design, teamwork and effective communication. Requires 15 hours of lecture and 60 hours field practice. Prerequisite: Permission of the Director of the Department.
3 credits
Courses in Medical Emergencies (EMMT)

**EMMT 1161 FUNCTIONS OF THE PARAMEDIC**
Exposure of the student to the nature of the paramedic’s practice. Discussion of the roles and the medical, ethical and, legal responsibilities, as well as the essential components for the control of different scenarios in which the practice is carried out.

2 credits

**EMMT 1162 PRACTICE IN FUNCTIONS OF THE PARAMEDIC**
Development of skills in the preparation of clinical history, physical examination of the patient, and communicating effectively the information obtained. Practice in the management of scene control and transportation of patient. Requires 30 hours of lab. Corequisite: EMMT 1161.

1 credit

**EMMT 1171 BIOMEDIC I**
Study of principles and basic concepts of human anatomy. Emphasis on the anatomy of the integumentary, muscle-skeletal, nervous, cardiovascular, and respiratory systems of the adult and child.

2 credits

**EMMT 1172 PRACTICE IN BIOMEDIC I**
Development of the skills to identify anatomic structures of the human body. Emphasis on the anatomic structures of the respiratory system in which the procedures of tracheotomy and circothyrotomy, and the techniques for endotracheal intubation take place. Practice of intubating techniques and evaluation of the respiratory pattern. Requires 30 hours of lab. Corequisite: EMMT 1171.

1 credit

**EMMT 1260 BIOMEDIC II**
Studies related to the physiology and function of each of the anatomic structures that make up of the human body. Discussion of pathologies of greater incidence, their care and how to handle the scene in order to prevent complications and preserve the life of the patient.

3 credits

**EMMT 1271 MEDICAL EMERGENCIES I**
Study of emergencies related to the respiratory and cardiovascular systems. Emphasis in the study of signs and symptoms indicative of emergency in these systems.

2 credits

**EMMT 1272 PRACTICE IN MEDICAL EMERGENCIES I**
Development of skills and practice of techniques, procedures, and use of equipment in the management of respiratory and cardiovascular emergencies. Requires 60 hours of lab. Corequisite: EMMT 1271.

2 credits

**EMMT 1280 COMMUNICATION AND DISPATCH TECHNIQUES**
Development of skills in the transmission of and reception from radio equipment. Study of rules, types of systems, procedures, and ways of operation of radio communication system.
Practice on dispatch techniques. Management of radio communication and dispatch. Requires 60 hours of lab. 2 credits

**EMMT 1290 HANDLING OF PATIENTS WITH EMOTIONAL PROBLEMS**
Study of the most common emotional problems that the medical emergency technician intervenes with. Discussion of basic components of the psychosocial history of the patient, strategies and modalities for handling these situations and the implied ethical and legal aspects. 2 credits

**EMMT 2161 PHARMACOLOGY IN MEDICAL EMERGENCIES**
The basic concepts of dosage, and pharmacology, and related medical terminology. Emphasis in pharmacodynamics and pharmacokinetics of medicines. Discussion of legal aspects related to the administration of medicines. Prerequisite: GEMA 1000. 2 credits

**EMMT 2162 PRACTICE IN PHARMACOLOGY IN MEDICAL EMERGENCIES**
The duties of the medical emergency technician in the preparation and administration of medicines orally, intravenously, intramuscularly, and others. Requires 60 hours of lab. Corequisite: EMMT 2161. 2 credits

**EMMT 2171 GYNECOLOGICAL-OBSTETRICAL AND NEWBORN EMERGENCIES**
The anatomy and physiology of the female reproductive system, physiology of pregnancy, and gynecological-obstetrical emergencies. Emphasis on the common processes in complications of pregnancy and labor. Discussion of the components of immediate evaluation of the newborn and possible complications. 2 credits

**EMMT 2172 PRACTICE IN GYNECOLOGICAL-OBSTETRICAL AND NEWBORN EMERGENCIES**
Development of technical skills in the intervention and management of labor and in situations of gynecological emergencies, such as hemorrhages and abortion, among others. Immediate care for the normal newborn and management of complications. Practice in the use of equipment and material for the management of labor and the newborn. Requires 60 hours of lab. Corequisite: EMMT 2171. 2 credits

**EMMT 2181 MEDICAL EMERGENCIES II**
Study of the management of emergencies related to soft tissue injuries, damage to the muscle-skeletal, neurological and endocrine systems. Knowledge and skills needed for immediate attention on the scene to persons of any age with dysfunction or trauma to those systems. 3 credits

**EMMT 2182 PRACTICE IN MEDICAL EMERGENCIES II**
Development of skills to give attention to persons with injuries to the soft tissue and to the muscle-skeletal, neurological, and endocrine systems. Practice of techniques and
procedures used in the treatment of wounds, burns, fractures, and traumas in different parts of the head, hemorrhages, dislocations, convulsions, and coma. Requires 60 hours of lab. Corequisite: EMMT 2181. Prerequisites: All previous courses.

EMMT 2190 EXTRICATION AND RESCUE
The fundamentals and general principles of extrication and rescue. Practice of techniques for rescuing patients. Integrated practice of the types of intervention and paramedic teamwork in the management of emergencies in disaster cases. Requires 60 hours of lab. 2 credits

EMMT 2261 MEDICAL URGENCIES
Study of emergency situations, such as diabetic emergencies, anaphylactic reactions, environmental emergencies or from radiation exposure. Focus on abdominal pathologies, genitourinary problems, and the emergencies of geriatric patients. Study of the most common transmissible diseases. Prerequisites: All previous courses. 3 credits

EMMT 2262 PRACTICE IN MEDICAL URGENCIES
Development of skills in the management of toxicological emergencies. Practice of techniques in the elimination of toxic agents in the organism, and management of emergencies for the ingestion of alcohol or addictive drugs. Requires 30 hours of lab. Corequisite: EMMT 2261. Prerequisites: All previous courses. 1 credit

EMMT 2910 FIELD INTERNSHIP
Integration of knowledge in the different scenarios related with the practice of medical emergencies. Integrated practices in the application of previously acquired clinical skills, refinement of communications skills, problem solving, decision-making, and exercise of clinical judgment. Student will reinforce their identity as paramedics and the ability to manage tension on the scene and in any clinical problem. Values and attitudes are strengthened in the work environment. Requires 180 hours of lab. Prerequisites: All previous courses. 6 credits

Courses in Medical Technology (MEDT)

MEDT 4501 BASIC PRINCIPLES AND TECHNIQUES OF THE CLINICAL LABORATORY
Basic essential concepts and skills such as the application of mathematical calculations, discussion and evaluation of instrumentation and automation principles, with emphasis on maintenance and corrective actions. Training and application of quality control programs. Discussion of clinical laboratory safety norms established by the different regulatory agencies. Ninety hours of lecture-lab and problem solving. 3 credits

MEDT 4510 CLINICAL CHEMISTRY AND PATHOLOGY
Theory and application of the principles of chemical methods and the correlation of laboratory results with the physiological and pathological processes. Discussion of sample
collection, handling and processing techniques according to applicable standards. One hundred twenty hours of lecture-lab and case studies. Prerequisite: MEDT 4501.

4 credits

MEDT 4520 BODY FLUIDS
Anatomy, physiology and pathology of different body fluids including urine, spinal fluid, peritoneal, pleural and others. Sample collection, handling and processing techniques. Thirty hours of lecture-lab and case studies. Prerequisite: MEDT 4501.

1 credit

MEDT 4531 CLINICAL IMMUNOLOGY
Mechanisms, functions, evaluation and pathology of the human immune system. Antigen and antibody reactions and their application to serological tests. Quality assurance, interpretation and correlation of immunological and serological test results with infectious conditions. Sixty hours of lecture-lab. Prerequisite: MEDT 4501.

2 credits

MEDT 4532 BLOOD BANKING
Detection and identification of antibodies, antigen tests, compatibility tests, blood group immunogenetics and hemotherapy. Interpretation of results and correlation of pathological conditions. Quality control and assurance. Ninety hours of lecture-lab and case studies. Prerequisites: MEDT 4501, 4531.

3 credits

MEDT 4540 HEMATOLOGY AND COAGULATION
Blood cells, plasma components and related clinical disorders. Techniques for sample collection and processing. Discussion and analysis of routine and specialized hematological and homeostatic tests and their correlation with pathological conditions. Quality control and instrumentation concepts. One hundred twenty hours of lecture-lab and case studies. Prerequisite: MEDT 4501.

4 credits

MEDT 4560 MYCOLOGY AND VIROLOGY
Fundamental concepts of clinically important fungi and viruses. Sample collection, handling and processing. Application of these concepts in their identification and clinical correlation. Thirty hours of lecture-lab and case studies. Prerequisite: MEDT 4501.

1 credit

MEDT 4570 CLINICAL BACTERIOLOGY
Basic principles of clinical microbiology, its application in medically important bacteria isolation and identification and the correlation of results with infectious conditions. Techniques for the collection, handling and processing of samples and quality assurance. One hundred twenty hours of lecture-lab and case studies. Prerequisite: MEDT 4501.

4 credits

MEDT 4580 CLINICAL PARASITOLOGY
Diagnosis of parasitic conditions through laboratory methods. Study of significant characteristics of the life cycle, classification and pathology. Thirty hours of lecture-lab and case studies. Prerequisite: MEDT 4501.

1 credit
MEDT 4591 LABORATORY ADMINISTRATION, ETHICS AND EDUCATION
Administration concepts, information systems, professional ethics, personnel recruitment and evaluation, laws and regulations governing laboratories and the profession. Trends affecting the health industry. Discussion of concepts of the educational process and evaluation of the effectiveness of teaching strategies. Ninety hours of lecture-lab and study of cases. Prerequisite: MEDT 4501.
3 credits

MEDT 4595 ADVANCED SEMINAR
Discussion of clinical cases, interdisciplin ary correlation of laboratory results, independent studies and lectures on specialized topics related to previous courses. Will be taken simultaneously with courses in clinical practice. The passing of a final comprehensive test is required. Thirty hours of lecture and discussion of clinical cases.
1 credit

MEDT 4914 CLINICAL PRACTICE IN URINALYSIS
Training in the urinalysis area including routine procedures and special tests. A minimum of thirty-five hours of practice is required.
1 credit

MEDT 4915 CLINICAL PRACTICE IN BLOOD BANKING
Training in donor selection and components, collection, processing, preparation, storage and transportation. Application of quality assurance protocol. A minimum of one hundred five hours of practice is required.
3 credits

MEDT 4916 CLINICAL PRACTICE IN SEROLOGY, IMMUNOLOGY AND VIROLOGY
Training in serological and immunological testing techniques and procedures. Application of quality assurance protocol. A minimum of seventy hours of practice is required.
2 credits

MEDT 4919 CLINICAL PRACTICE IN PARASITOLOGY
Training in laboratory procedures for the isolation and identification of parasites present in feces, tissues and body fluids. A minimum of thirty-five hours of practice is required.
1 credit

MEDT 4921 PRACTICE IN CLINICAL CHEMISTRY
Training in techniques and procedures related to the determination of analytes of clinical interest in the laboratory including the quality assurance protocol. A minimum of one hundred forty hours of practice is required.
4 credits

MEDT 4922 CLINICAL PRACTICE IN HEMATOLOGY AND COAGULATION
Training in hematology and coagulation techniques and procedures. Application of quality assurance protocol. A minimum of one hundred forty of practice is required.
4 credits
MEDT 4923 CLINICAL PRACTICE IN MICROBIOLOGY
Training in techniques utilized in the isolation and identification of microbial agents associated with infectious diseases. Application of quality assurance protocol. A minimum of one hundred forty hours of practice is required.

4 credits

Courses in Microbiology (MICR)

MICR 3211 MICROBIAL PHYSIOLOGY
Study of the functions and processes of microorganisms. Includes nutrition, growth, metabolism, placing emphasis on the fermentation and production of energy. The effect of microorganisms in environmental processes is also included. Prerequisite: BIOL 3105.

3 credits

MICR 4010 MICROBIAL ECOLOGY
Study of the ecology of microorganisms, microbial biodiversity, the structure and dynamics of populations of clinical and environmental importance. Analysis of the interactions of microorganisms with plants, animals and other microorganisms that surround them. Discussion of the cycles of nutrients with emphasis on the decomposition of organic matter. Requires thirty hours of lecture and forty-five hours of lab. Prerequisite: BIOL 3105.

3 credits

MICR 4505 MICROBIOLOGICAL APPLICATION TECHNIQUES
Greater emphasis on laboratory skills for handling microorganisms. Refinement of microbiological procedures of techniques of growth curve; nutrition and growth of bacteria; cultivation of anaerobics; DNA extraction and detection; isolation of mutants; transformation, conjugation and recombination in bacteria and bioremediation in soil. Emphasis on the application of asepsis measures and security in a controlled environment. Requires 90 hours of lab. Prerequisites: BIOL 3105, MICR 3211.

2 credits

MICR 4910 INTERNSHIP
Application of microbiological knowledge and skills in a microbiology laboratory. Students will complete 120 hours of supervised practice. Includes training and oral presentation of work experiences, at the end of the academic term. Prerequisite: MICR 4505.

2 credits

Courses in Music (MUSI)

MUSI 101, 102 FUNDAMENTALS OF APPLIED MUSIC I, II
Individual instruction in the student’s principal instrument: one half-hour class per week. Placement in these courses will be by audition. Courses are for the training of students in the Music Department who lack the skills required to enter the first level of applied music in their principal instruments. MUSI 1102 requires a performance test before a jury. A minimum grade of 70 percent is required for passing this course. Grade P/NP.

1 credit per course
MUSI 121, 122, 221, 222, 321, 322, 421, 422 APPLIED MUSIC FOR NON-MAJORS
Designed for students other than music majors who intend to learn to play an instrument and for music students who intend to learn a second instrument. The content of the course will depend on students’ ability when they begin the first course in the series.

MUSI 1110 RUDIMENTS OF MUSIC
Study written music, rhythm principles, notes and tones, intervals, scales, triads. Acquire audio, sight-reading and musical dictation skills. Course designed for students with little or no experience in the music field. A minimum grade of 70 percent is required for passing this course. Grade P/NP.

MUSI 1210-1280 CHAMBER ENSEMBLE: INSTRUMENTAL
Study of instrumental repertoire for small and medium-size ensembles. Admission by audition.

MUSI 1131, 1132 GUITAR: GROUP CLASS I, II
Group instruction for students interested in learning the basic fundamentals of the guitar to enable them to play and read melodies, chords and accompanying patterns. This course is not part of the sequence of courses in classical guitar.

MUSI 1201-1220 CHAMBER ENSEMBLE: VOCAL
Study and preparation of choral and written operatic repertoire for different vocal ensembles and categories. Entails learning and execution of the singing roles with emphasis on acting. Admission by audition.

MUSI 1231-32 CONCERT BAND I, II; MUSI 2231-32 CONCERT BAND III, IV; MUSI 3231-32 CONCERT BAND V, VI; MUSI 4321-32 CONCERT BAND VII, VIII
Large instrumental ensemble open to music students and to students majoring in other disciplines. Admission by audition.

MUSI 1241-42 UNIVERSITY CHOIR I, II; MUSI 2241-42 UNIVERSITY CHOIR III, IV; MUSI 3241-42 UNIVERSITY CHOIR V, VI; MUSI 4241-42 UNIVERSITY CHOIR VII, VIII
Large choral ensemble open to music students and students majoring in other disciplines. Admission by audition.

MUSI 1-4 (251-252) UNIVERSITY ORCHESTRA
Large instrumental ensemble open to music students and to students majoring in other disciplines. Admission by audition.

MUSI 1311 DRUMS I
Study of theoretical-practical knowledge of the rudiments, reading techniques and coordination necessary for the correct execution on the drums.

1 credit per course

4 credits
MUSI 1312 DRUMS II
Refinement of the basic skills of execution on the drums. Study of tuning concepts, new rhythms, musical styles, exercising technique, and musical reading incorporating the use of polyrhythm and rhythmic independence. Prerequisite: MUSI 1311.
1 credit

MUSI 1400 THEORY AND SIGHT-READING
Active study of sight-reading and Music Theory with emphasis on development of auditory skills: reading, rhythmic perception, intonation and dictation. Prerequisite: MUSI 1110 or placement test.
3 credits per course

MUSI 1461, 1462 PIANO: GROUP CLASS I, II
Course to prepare the student to use the keyboard as a means of practicing, applying and demonstrating the skills and concepts acquired in other courses. Basic principles of performance techniques for the piano, in order to facilitate the reading of rhythms, melodies, chords and accompanying routines. Prerequisite: MUSI 1110 or passing a placement test.
1 credit per course

MUSI 2311 DRUMS III
Application of theoretical-practical knowledge of rudiments, techniques and rhythms of the drum in styles of Latin and North American pop music. Emphasis on the development of acquired skills, knowledge of the advanced repertoire of styles, and rhythmical reading at first sight. Prerequisite: MUSI 1312.
1 credit

Courses in Applied Music (MUSI)
Individual instruction on the principal or secondary instrument of the student majoring either in applied music or in music education. Two (2) credits per semester are required for students in applied music and one (1) credit per semester for students in music education. Two (2) credit classes require one hour weekly; the one (1) credit classes require one half-hour lesson per week. Admission to each series of courses depends on an audition. All the courses ending in digit 2 require a practical test before a jury.

<table>
<thead>
<tr>
<th>MUSI</th>
<th>1701, 1702, 2701, 2702, 3701, 3702, 4701, 4702</th>
<th>Flute</th>
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<tr>
<td>MUSI</td>
<td>1711, 1712, 2711, 2712, 3711, 3712, 4711, 4712</td>
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<tr>
<td>MUSI</td>
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<td>Clarinet</td>
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<td>MUSI</td>
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<td>Bassoon</td>
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<tr>
<td>MUSI</td>
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<td>Saxophone</td>
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<tr>
<td>MUSI</td>
<td>1751, 1752, 2751, 2752, 3751, 3752, 4751, 4752</td>
<td>Trumpet</td>
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<tr>
<td>MUSI</td>
<td>1761, 1762, 2761, 2762, 3761, 3762, 4761, 4762</td>
<td>Horn</td>
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<tr>
<td>MUSI</td>
<td>1771, 1772, 2771, 2772, 3771, 3772, 4771, 4772</td>
<td>Trombone</td>
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<td>MUSI</td>
<td>1781, 1782, 2781, 2782, 3781, 3782, 4781, 4782</td>
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<td>MUSI</td>
<td>1791, 1792, 2791, 2792, 3791, 3792, 4791, 4792</td>
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<td>1801, 1802, 2801, 2802, 3801, 3802, 4801, 4802</td>
<td>Percussion</td>
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<tr>
<td>MUSI</td>
<td>1811, 1812, 2811, 2812, 3811, 3812, 4811, 4812</td>
<td>Piano</td>
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<td>MUSI</td>
<td>1821, 1822, 2821, 2822, 3821, 3822, 4821, 4822</td>
<td>Organ</td>
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<td>Course Code</td>
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<td>MUSI 1841, 1842, 2841, 2842, 3841, 3842, 4841, 4842</td>
<td>Voice</td>
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<td>MUSI 1851, 1852, 2851, 2852, 3851, 3852, 4851, 4852</td>
<td>Violin</td>
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<tr>
<td>MUSI 1861, 1862, 2861, 2862, 3861, 3862, 4861, 4862</td>
<td>Viola</td>
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<td>MUSI 1871, 1872, 2871, 2872, 3871, 3872, 4871, 4872</td>
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<tr>
<td>MUSI 1881, 1882, 2881, 2882, 3881, 3882, 4881, 4882</td>
<td>Contrabass</td>
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<tr>
<td>MUSI 1891, 1892, 2891, 2892, 3891, 3892, 4891, 4892</td>
<td>Classical Guitar</td>
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</tbody>
</table>

1 or 2 credits per course

MUSI 1901 ETHNIC PERCUSSION I
Application of performance techniques in the use of instruments for ethnic and folklore music. Includes the refining, projection of sound, memorization and interpretation of basic rhythms from the cultures of regions of Africa, Arabia, Europe, North America and Latin America. Individualized instruction is provided.
1 credit

MUSI 1902 ETHNIC PERCUSSION II
Emphasis on the application of performance techniques in the use of the musical instruments, ethnic and folkloric rhythms and the musical styles of each area. Individualized instruction is provided. Prerequisite: MUSI 1901.
1 credit

MUSI 1991 ELECTRIC BASS I
Individualized introduction to performance on the electric bass. Emphasis on theoretical explanations and practical exercises. Analysis and performance of elementary musical compositions to increase student skills in different rhythms and musical styles.
1 credit

MUSI 1992 ELECTRIC BASS II
1 credit

MUSI 1993 ELECTRIC BASS III
1 credit

MUSI 1994 ELECTRIC BASS IV
Individualized introduction to performance on the electric bass. Emphasis on theoretical explanations and practical exercises. Analysis and performance of advanced musical compositions to increase student skills in different rhythm and musical styles. Prerequisite: MUSI 1993.
1 credit
MUSI 2411, 2412 HARMONY AND COUNTERPOINT I, II
Detailed study of the formation and linkage of chords, their auditory identification, their
analysis and use in accompanying melodies. Includes the dictation of these chords, the
intonation of their notes and the melodies they form when linked. Detailed study of the
techniques for linking simultaneous melodies, using this material for the practice of sight-
reading. Prerequisite: MUSI 1400.
3 credits per course

MUSI 2470 KEYBOARD HARMONY
Course designed to enable students to read, construct, listen to, reproduce, analyze, perform
and transpose melody and the chord progressions at the keyboard and to apply and
demonstrate the concepts learned in other music courses. Selected repertoire of musical
compositions that help to develop the above-mentioned skills. Prerequisite: MUSI 1462.
2 credits

MUSI 2901 ETHNIC PERCUSSION III
Refinement of performance techniques in the use of musical instruments ethnic and
folkloric, rhythms and the musical styles of each area. Individualized instruction is
provided. Prerequisite MUSI 1902.
1 credit

MUSI 3070 JAZZ IN GUITAR
Acquaintance with modern codes used in jazz, after a study of modern musical
nomenclature.
1 credit

MUSI 3130 POPULAR MUSIC WORKSHOP
Study, analysis, arrangement, orchestration and performance of different genres of Puerto
Rican and international popular music. Direct experience interpreting diverse genres of
popular music.
1 credit

MUSI 3301, 3302 VOCAL TECHNIQUES I, II
The fundamentals of vocal techniques and methodology in vocal-choral instruction.
Includes study of the International Phonetic Alphabet and its applications to diction. Study
of the basic pronunciation rules in the following languages: Spanish, Italian, French,
German and English.
2 credits per course

MUSI 3311, 3312 WESTERN MUSIC: HISTORY AND LITERATURE I, II
Survey of the development of music from its primitive beginnings to the present. The first
course includes the history and literature of music up to 1750. The second course covers
the period from 1750 to the present.
3 credits per course

MUSI 3320 HISTORY OF PUERTO RICAN AND LATIN AMERICAN MUSIC
Overview of the origins and development of Puerto Rican music. Interaction of Puerto
Rican and Latin American music.
2 credits
MUSI 3321, 3322 MUSICAL INSTRUMENT TECHNIQUES I, II
Survey of the technical and practical problems relevant to the teaching of musical instruments. First semester: emphasis on brass and woodwind instruments. Second semester: emphasis on percussion and stringed instruments. 3 credits per course

MUSI 3440 FORM AND ANALYSIS
The musical structures of various historical periods based on the parameters of rhythm, melody and accompaniment already established in the courses on theory and harmony and counterpoint sight-reading. Prerequisites: MUSI 2412. 3 credits

MUSI 4431, 4432 ORCHESTRATION AND ARRANGING I, II
Study and application of the basic techniques in reproducing and adapting original or existing music for solo instruments or varied ensembles, such as choirs, bands, and orchestras. Includes the use of melodic and harmonic dictation and the use of transposition. In addition, a detailed study of the range of each instrument, its particular timbre and the sound combinations resulting from the merging of these instruments. Laboratory hours are required for both courses. Prerequisite: MUSI 3440. 2 credits per course

MUSI 4451, 4452 COMPOSITION I, II
Composition of new musical pieces written for any kind of instrument or ensemble. Interview with the instructor is required for admission. 3 credits per course

MUSI 4500 CONDUCTING I
Basic course in training the student in the principles and practice of conducting. Permission from the instructor of the course is required. 3 credits

MUSI 4510 CONDUCTING II: CHORAL
Use of advanced methods of choral conducting designed for prospective choir directors. Includes materials, repertoire and administration. Prerequisite: MUSI 4500. 2 credits

MUSI 4520 CONDUCTING II: INSTRUMENTAL
Use of advanced methods of instrumental conducting designed for prospective band and orchestra conductors. Includes materials, repertoire and administration. Prerequisite: MUSI 4500. 2 credits

MUSI 4900 RECITAL
Preparation for and performance at a public recital. Audition before a jury is required prior to the recital. 2 credits
Courses in Music Education (MUED)

MUED 4400 ELEMENTARY METHODS: THE TEACHING OF MUSIC
Theories of learning as applied to the teaching of music in the elementary school, lesson planning, experience in the use of the appropriate instruments to be used at this level, songs and demonstration classes. Preparation and evaluation of educational materials. Laboratory work is required. Prerequisites: EDUC 3013, 4011, MUSI 2412, 3301-3302, or 3321-3322, 4500 and Applied Music courses up to level 2002.

2 credits

MUED 4410 SECONDARY METHODS: THE TEACHING OF MUSIC
Exposition and discussion of the philosophy of teaching music at the secondary level, the methodology for the teaching of general music: vocal and instrumental; appreciation and theory. Demonstration classes illustrating this methodology. Preparation and evaluation of educational materials. Laboratory work is required. Prerequisites: EDUC 3013, 4011, MUSI 2412, 3301-3302, or 3321-3322, 4500 and Applied Music courses up to level 2002.

2 credits

MUED 4919 STUDENT TEACHING IN MUSIC: GENERAL-VOCAL
Teaching experience supervised by a university teacher, in the classroom or in other educative settings. Students perform the duties of a regular classroom teacher and show the competencies they have acquired through the academic program. Students must have completed 120 credit hours of which 75 must be in music courses. Students should apply four weeks before the end of the regular semester prior to the semester in which they expect to do their student teaching.

6 credits

MUED 4920 STUDENT TEACHING IN MUSIC: INSTRUMENTAL
Teaching experience in music, supervised by the instructor of the course, in the classroom or any other educational environment. Students perform the duties of a regular classroom teacher and show the competencies they have acquired through the academic program. Students must have completed 120 credit hours of which 75 must be in music courses. Students should apply four weeks before the end of the regular semester prior to the semester in which they expect to do their student teaching.

6 credits

Courses in Networks and Telecommunications (NTEL)

NTEL 1200 INTRODUCTION TO NETWORKS AND TELECOMMUNICATIONS
Basic concepts of the configuration of local and regional telecommunications networks will be studied. Aspects such as the standards, ISO-OSI model, protocols, Ethernet technology, the Internet and basic communications equipment will be discussed. Emphasis on application programs, servers, administrators and security controllers, among others. Requires 45 hours of lecture-lab and additional time in an open laboratory. Prerequisite: CMIS 2100.

3 credits
NTEL 2101 NETWORK PROTOCOLS
The concepts of protocol communication used in the networks will be established. Ways of installing, administering and correcting information system errors that have network communication protocols incorporated will be presented. Emphasis on the configuration of servers. Also the E-mail communication protocols will also be discussed. Requires 45 hours of lecture-lab and additional time in an open laboratory. Prerequisite: NTEL 1200.
3 credits

NTEL 2150 DESIGN OF TELECOMMUNICATIONS DISTRIBUTION
Discussion of design foundations of the distribution of structured wiring of data networks and telecommunications systems. Includes standards, regulations, the analysis of work areas, horizontal distribution, the backbone, telecommunications rooms, grounding and bonding, and electricity protection. Emphasis on the discussion of techniques to stop fires, tests, project administration, wiring in residences and radio networks. Requires forty-five (45) hours of lecture/lab, and additional hours in an Open Laboratory. Prerequisite: NTEL 1200.
3 credits

NTEL 2300 LINUX NETWORKS
General discussion of the Linux operating system. Includes the planning, installation, and administration of Linux. Management of utilities, the NFS file system, the information services of NIS network, the graphical interface of the user, networks configuration, the Open SSH, FTP, HTTPD and SMTP protocols, among others. Integration with other operating systems and Web services configuration. Requires forty-five (45) hours of lecture/lab and additional hours in an Open Laboratory. Prerequisite: NTEL 2101.
3 credits

NTEL 3110 INSTALLATION AND ADMINISTRATION OF NETWORK SYSTEMS
Servers of different platforms, their functions in local area networks (LAN), wide area networks (WAN) and their benefit in a client/server environment. Emphasis on the installation of network systems. The configuration and management of local networks will be discussed. Types of equipment, programs, topologies, security, licenses, protocols, client access and user accounts, and other topics will be discussed. The directory systems of the different platforms of network operating systems will be discussed. Requires 45 hours in a closed laboratory. Prerequisites: NTEL 2101, COMP 2120.
3 credits

NTEL 3230 INTRODUCTION TO JAVA PROGRAMMING
Emphasis on the development of applications created with the Java language will occur. Implementation of different versions of Java, integration of Web pages, databases and others. The relationship with C++ language and the new applications of this language will be discussed. The components Java for clients, servers and Internet applications will be discussed. Requires 45 hours of closed lecture-lab. Prerequisites: NTEL 2101, COMP 2120.
3 credits

NTEL 3310 E-MAIL SERVER
Emphasis on the installation and administration of an E-mail server. Discussion of topics on protocols, configuration of mailboxes, distribution lists, public directories, address
books directory replies, message transfers, transport collaboration and services. Includes activities in backup, security remote management and sent and received messages. Requires 45 hours of closed lecture-lab. Prerequisite: NTEL 3110.

3 credits

NTEL 3401 MINICOMPUTERS OPERATIONS
Basic concepts and the introduction to the operation of minicomputers systems will be studied. Includes topics on systems architecture, security, user interface, job management, message handling, printing functions, device configuration, backup, recovery, subsystems, database access, access to clients and determination of basic problems. Requires 45 hours of closed lecture-lab. Prerequisite: NTEL 2101.

3 credits

NTEL 3520 INTERNET PROGRAMMING AND ADMINISTRATION
The concepts necessary to install, form and administer an Internet server based on protocol HTTP will be studied. Emphasis on the FTP Server as repository for archives and programs. Emphasis on tools for the edition and publication of Web Pages. Internet programming languages and graphs and images design will be discussed. The browsers to be used will be established. Requires 45 hours of closed lecture-lab. Prerequisite: NTEL 3110.

3 credits

NTEL 3600 SQL DATABASE SERVER
The basic concepts of the SQL database platform, its architecture, and components will be studied. Aspects, such as the creation of databases, SQL transactions, data integrity, indices, queries and handling of transactions will be discussed. This tool will be focused on the administration and implementation of a SQL server with application to the Web. Requires 45 hours of closed lecture-lab. Prerequisite: NTEL 3110.

3 credits

NTEL 3770 WIRELESS NETWORKS

3 credits

NTEL 3971 SPECIAL TOPICS IN TELECOMMUNICATIONS
Discussion of current special topics in the field of data networks and telecommunications. Projects of investigation, analysis of cases, critique of articles and visits to computer centers with network infrastructure will be assigned. Prerequisites: NTEL 3750 and authorization of the Academic Director and the Dean of Academic Services.

3 credits

NTEL 4150 SECURITY IN NETWORKS
Analysis of the concepts and techniques for security in data networks. Includes the development and placement of security systems, human resources and the policies of physical safety. Emphasis on models of architecture, threats, attacks, radio networks, viruses, response to incidents, backups and recovery from disasters, risk management, and
governmental laws. Exploration of solutions such as digital certificates, security tokens, biometry, cryptography, education and audit, among others. Requires forty-five (45) hours of lecture/lab and additional hours in an Open Laboratory. Prerequisite: NTEL 3770.

3 credits

NTEL 4520 VOICE AND VIDEO NETWORKS
Analysis of concepts and techniques for the development of voice networks based on IP (VOIP) protocol and solutions for video communication through networks. Emphasis on the study of the initiation of session (SIP) protocol, networks telephony, voice and video electronic mail, the videoconference and implementation of quality service (QOS). Includes the commutation of multiple protocol labels (MPLS), and the transport real time protocol (RTP). Practice in the development of networks for video communication and virtual meetings. Requires forty-five (45) hours of lecture/lab and additional hours in an Open Laboratory. Prerequisite: NTEL 3110.

3 credits

NTEL 4610 STORAGE NETWORKS
Design of storage area networks (SAN). Discussion of planning, development and administration of storage solutions in a data network. Emphasis on the development of technologies such as the optical Fiber Channel architecture, arbitrary repetition technology, factory switch technology, storage security, backup and recovery from disasters. Requires forty-five (45) hours of lecture/lab and additional hours in an Open Laboratory. Prerequisite: NTEL 3110.

3 credits

NTEL 4750 NETWORK MANAGEMENT
Analysis of data network management. Discussion of the processes and activities for managing network systems from a managerial perspective. Development of techniques and use of programs for network management, detection of problems, monitoring of traffic in the network, the operator console, reports, statistics, the update of applications and network security. Investigation of SNMP and RMON protocols and use of different solutions for network management. Requires forty-five (45) hours of lecture/lab and additional hours in an Open Laboratory. Prerequisite: NTEL 4610.

3 credits

NTEL 4910 PRACTICUM IN TELECOMMUNICATIONS
Supervised work experience in the field of telecommunications or local data networks under the supervision of a faculty member and a practice center supervisor. Students are required to devote at least 100 hours of practice during the academic term to develop a project or assigned tasks. Requires 15 hours of lecture. Prerequisites: have passed 50 credits in the major and the authorization of the Academic Advisor.

3 credits

Courses in Nursing (NURS)

NURS 1120 BASIC PRINCIPLES AND CONCEPTS OF NURSING
Discussion of the outstanding aspects of the history of the profession over time and the contribution of several theorists in its development. Emphasis on the principles and concepts of the conceptual frame of the Program and on the standards for Nursing practice.
NURS 1121 FUNDAMENTALS OF NURSING
Discussion of the Nursing process as a tool for care of the adult by means of the use of the functional patterns of health. Integration of the basic principles and concepts of growth and development; the biophysiological concepts and principles of individuals and their immediate environment. Corequisites: NURS 1120, 1122, 1130.
3 credits

NURS 1122 PRACTICE OF FUNDAMENTALS OF NURSING
Application of the Nursing process in the care of adults with common dysfunctions in the functional health patterns that support physical operation. Beginning of the development of clinical skills to perform in the areas of competence as providers of care. Clinical laboratories, with selected experiences, in structured scenarios. Requires 90 hours of clinical lab. Corequisite: NURS 1121.
2 credits

NURS 1130 PHARMACOLOGICAL ASPECTS IN NURSING
Discussion of relevant aspects of the study of the pharmacology including the biochemical, research and legal aspects. Use of the principles and skills of posolgy. Application of the nursing process in medicine administration. Requires 30 hours of lecture and 45 hours of lab. Corequisite: NURS 1121.
3 credits

NURS 1221 FUNDAMENTALS OF PSYCHOSOCIAL CARE
Discussion of theoretical models, principles and concepts of psychosocial nursing. Description of psychosocial dysfunciones of the adult using the nursing process as a frame of reference. Includes neuroanatomy, neurophysiology, ethical-legal, research and communication concepts. Prerequisite: NURS 1121. Corequisite: NURS 1222.
3 credits

NURS 1222 PRACTICE OF PSYCHOSOCIAL CARE
Application of the nursing process, theories models, principles and concepts in psychosocial care of the adult. Practice of therapeutic communication skills in interventions. Requires 90 hours of lab. Prerequisites: NURS 1122, 1130. Corequisite: NURS 1221.
2 credits

NURS 1231 FUNDAMENTALS OF ADULT CARE I
Discussion of the acute and chronic dysfunctions of health related to functional health patterns: perception-management, nutritional-metabolic and elimination. Includes anatomical, psychopathological, microbiological, biochemical and environmental concepts that affect human operation. Integration of communication, administration, care, and research skills and the nursing process in the care of the client. Requires 30 additional hours in the integrated sciences tutorial lab. Prerequisites: NURS 1121, 1122, 1130. Corequisite: NURS 1232.
6 credits

NURS 1232 PRACTICE OF ADULT CARE I
Application of the nursing process in the care of adults with acute and chronic health dysfunctions integrating the skills of communication, administration, care and research.

NURS 2141 FUNDAMENTALS OF MATERNAL-NEONATAL CARE
Description of the evolution of maternal-neonatal nursing integrating the principles of the conceptual framework. Discussion of anatomical, biochemical, physiopsycological and pathological changes that affect the integral functioning of the client, before, during and after childbirth, including the normal new born during the early neonatal stage. Use of the nursing process in the study of the appropriate changes in the stages and health dysfunctions. Prerequisites: NURS 1221, 1231. Corequisites: NURS 2142, 2233.

3 credits

NURS 2142 PRACTICE IN MATERNAL-NEONATAL CARE
Application of the nursing process in the care of the client during the reproductive cycle including the normal newborn during the early neonatal stage. Requires 90 hours of lab in different scenarios. Prerequisites: NURS 1222, 1231, 1232. Corequisites: NURS 2141, 2233, 2234.

2 credits

NURS 2233 FUNDAMENTALS OF ADULT CARE II
Discussion of the acute and chronic health dysfunctions related to the functional health patterns: activity-exercise, cognitive-perceptual and sexual reproduction. Includes anatomical, physiopathological, microbiological, biochemical and environmental concepts that affect the functioning of adults. Integration of communication, administration, care, and research skills, and the nursing process in client care. Requires 30 additional hours in the integrated sciences tutorial lab. Prerequisite: NURS 1231. Corequisites: NURS 2141, 2142.

6 credits

NURS 2234 PRACTICE OF ADULT CARE II

2 credits

NURS 2351 FUNDAMENTALS OF PEDIATRIC CARE
Discussion of the essential aspects in client care from the late normal neonatal stages to adolescence. Analysis of the dysfunctions in the functional patterns of health by using the nursing process. Use of the physiopathological and environmental concepts and the conceptual framework of curriculum. Prerequisites: NURS 2141, 2142, 2233. Corequisite: NURS 2352.

3 credits
NURS 2352 PRACTICING PEDIATRIC CARE
Application of the nursing process in client care from the normal neonatal stages to adolescence. Emphasis on the management of dysfunctions affecting the functional health patterns using the concepts of curriculum as a frame of reference. Requires 90 hours of lab in clinical scenarios. Prerequisite: NURS 2234. Corequisite: NURS 2351. 2 credits

NURS 3110 DIMENSIONS OF PROFESSIONAL PRACTICE
Analysis of the competence areas: care provider and coordinator, and member of the discipline from the professional dimension. Includes the concepts: humanistic care, ethical-legal responsibility and the nursing process with emphasis on diagnostic and therapeutic reasoning; health education; leadership and management. Corequisites: NURS 2351, 2352 if these have not been taken previously, or have an Associate Degree in Nursing. 4 credits

NURS 3120 HEALTH ASSESSMENT
Application of knowledge and skills for a comprehensive assessment of the health of the client throughout the life cycle. Emphasis on the compilation and organization of data by means of the physical examination and diagnostic reasoning. Requires 30 hours of lecture and 60 hours of lab in different scenarios. Corequisites: NURS 3110, 3130. 4 credits

NURS 3125 NUTRITION IN PROMOTION
Principles and concepts related to nutrition. The impact nutrition has on the quality of life and promotion of people’s health throughout the life cycle, and maintenance and modification strategies. 2 credits

NURS 3130 INTRODUCTION TO THE NURSING RESEARCH PROCESS
Analysis of the research process. Discussion of articles on research applying the process of research critique. Assessment of the contribution of research to the professional practice. Corequisites: NURS 3110, 3120. 2 credits

NURS 3140 INTERVENTION IN PSYCHOSOCIAL TRANSITIONS
Analysis of the trends, theories and concepts that influence the practice of the psychosocial nursing professional. Review of professional nursing interventions that apply to the psychosocial care of individuals, families, groups and vulnerable populations or with persons with dysfunctions in functional health patterns. Integration of communication, ethical-legal, moral and spiritual principles and research findings. Corequisites: NURS 3190, 4911. 2 credits

NURS 3180 NURSING PROCESS WITH THE HIGH RISK NEWBORN
Study of the conditions presented by the high risk neonatal. Discussion of ethical, legal, and moral aspects, humanistic principles and those of the nursing profession that should be taken into consideration when intervening with this population. The student will be exposed to reading, interpreting, and identifying the dysrhythmias that the child can present in a Neonatal Intensive Care Unit (NICU). Emphasis on nursing interventions in the
different diagnosis, treatment, dosage, ventilation, mechanical and cardiovascular resuscitation tests.

3 credits

**NURS 3190 PROFESSIONAL INTERVENTION DURING THE LIFE CYCLE**
Analysis of the nursing process as a tool of the professional with emphasis on therapeutic and diagnostic reasoning for decision-making in professional interventions. Review of interventions at the prevention levels for handling human responses in the most common health-illness situations. Includes the ethical-legal concepts and research findings. Requires 30 hours of pediatric content and 30 hours of adult content. Prerequisites: NURS 3110, 3120, 3130. Corequisites: NURS 3140, 4911.

4 credits

**NURS 4170 FAMILY CARE**
Analysis of the theories and concepts related to the health of the family as client. Review of the nursing process at the level of prevention for care throughout the developmental stages of the family life cycle, including vulnerable situations. Integration of the ethical-legal, cultural and research aspects related to the integral health of the family. Prerequisites: NURS 3140, 3190. Corequisite: NURS 4912.

3 credits

**NURS 4190 PHYSIOPATHOLOGY IN ALTERED FUNCTIONAL PATTERNS**
In-depth study of the physiopathological processes that cause or are related to selected alterations in functional health patterns throughout the life cycle and their interrelation. In-depth study of factors contributing to functional alterations, including pathogenic effects produced in an individual’s interaction with the environment.

3 credits

**NURS 4230 DIVERSE TOPICS**
Basic knowledge of organization, integration and reinforcements of content related to care for the following clients: adults, infants, children and adolescents, pregnant women, family and community. Emphasis on mental health clients.

3 credits

**NURS 4240 ADMINISTRATION AND SUPERVISION OF NURSING SERVICES**
Interpretation of concepts related with management communication between the administrators, supervisors, and collaborators. An integration of the administration, leadership, and total quality concepts in clinical situations. Emphasis on the role of the nursing administrator during the organization of services, decision-making, and assignment of personnel.

3 credits

**NURS 4250 COMMUNITY CARE**
Analysis of the theories, models and concepts related to the health of the community as client. Emphasis on the principles and concepts of epidemiology, biostatistics and demography of public health. Discussion of the nursing process at the prevention level for care of the community, aggregates and vulnerable populations. Integration of related ethical-legal, cultural and research aspects. Prerequisites: NURS 4170, 4912. Corequisites: NURS 4913, 4980.

2 credits
NURS 4260 TRENDS AND CONTROVERSIAL ISSUES IN NURSING
Analysis of trends and controversial issues affecting the nursing practice. Emphasis on the leadership and management competencies that facilitate dealing with the changes in health care systems and in the nursing practice. Prerequisite: NURS 3110.
2 credits

NURS 4330 BASIC GERONTOLOGY
Physiological, social and emotional alterations in the elderly. Emphasis on promotion and maintenance of health. Applying care strategies in handling changes common to the elderly. Discussion of values and sociocultural stereotypes. Presentation of alternatives for improving health services for the elderly.
2 credits

NURS 4334 HUMAN SEXUALITY
The process of human sexuality throughout the life cycle; its importance, characteristics and implications. Discussion of values, stereotypes and sociocultural influences. Theoretical concepts on group counseling and help strategies.
2 credits

NURS 4911 INTEGRATED PRACTICE I
Application of the nursing process as a tool of the professional with emphasis on therapeutic and diagnostic reasoning for decision-making in professional interventions. Use of interventions at the prevention level for handling human responses in the most frequent health-illness situations. Emphasis on the integrated application of the principles and concepts of communication, health education, ethical-legal aspects, research, leadership and management. Requires 60 hours of clinical practice with the pediatric client and 60 hours with the adult client in diverse scenarios. Prerequisites: NURS 3110, 3120, 3130. Corequisites: NURS 3140, 3190.
4 credits

NURS 4912 INTEGRATED PRACTICE II
Application of the nursing process in family care with the family as client throughout the family life cycle. Integration of concepts, theories and knowledge of mental health in the assessment, diagnosis and handling of health and vulnerability situations of the family. Emphasis on the concepts of ethical-legal responsibility, humanistic care, health education, research findings, communication, leadership and management when performing in the areas of competency and at the prevention levels. Requires 90 hours of clinical practice. Prerequisites: NURS 3140, 4911. Corequisite: NURS 4170.
3 credits

NURS 4913 INTEGRATED PRACTICE III
Application of the nursing process in community care with the community as client. Integration of the concepts of public health, epidemiology and community nursing in the study of the determining aspects of health and in therapeutic and diagnostic reasoning of the community. Use of planning and coordination skills in the implementation of intervention strategies in the community. Emphasis on ethical-legal and leadership principles, and research findings when performing in the areas of competency at the
prevention level. Requires 90 hours of clinical practice. Prerequisites: NURS 3140 4912. Corequisites: NURS 4250, 4980.  
NURS 4980 INTEGRATED WORKSHOP  
Integration of knowledge, skills and attitudes in the selection of professional intervention strategies for the processes of problem solving and decision making practice in simulated situations in different scenarios. Use of the scenario categories for effective and safe care, maintenance and promotion of health, and of psychosocial and physiological integration as a frame of reference in intervention with clients. Requires 30 hours of seminar and 90 hours of lab for the corresponding term. Corequisite: NURS 4913.  
4 credits

Courses in Occupational Therapy Assistant (OCTH)

OCTH 1000 INTRODUCTION TO OCCUPATIONAL THERAPY  
Study of the history, philosophy and practice standards of occupational therapy with greater emphasis on its contemporary functions. Student is prepared to describe individual needs of self-care, productivity, leisure and the factors contributing to health. Includes discussion of ethical-legal elements in performing therapy functions and the related medical terminology.  
3 credits

OCTH 1010 ANATOMY AND APPLIED PHYSIOLOGY  
Study of the human body as a structural and functional unit. Emphasis on the interaction among body structures, their functions and their role and importance in the functional activities of the person. Discussion of patophysiologic processes associated with the central nervous system and the upper and lower extremities and the trunk, and their impact on significant human activities. Requires 45 hours of lecture and 45 hours of lab. Corequisites: OCTH 1000, 1020.  
4 credits

OCTH 1020 PRINCIPLES OF HUMAN INTERACTION  
Discussion of the principles of human relations and group dynamics. Emphasis on the therapeutic relation between the client and the occupational therapy assistant promoting the development and use of techniques for effective communication. Principles of holism, law, humanism and communication are integrated.  
2 credits

OCTH 1100 OCCUPATION THROUGHOUT THE LIFE CYCLE  
Study of developmental theories and the components of occupational performance throughout the life cycle. Emphasis on the functions and tasks expected in each stage of growth and development and the impact of a genetic defect or an acquired dysfunction during life. Principles of developmental psychology are integrated.  
4 credits

OCTH 1110 THERAPEUTIC MODALITIES I (GENERAL CRAFTS)  
Students are provided fundamental knowledge regarding the therapeutic purpose of the activities. Development of activities to maximize independence and occupation in any stage of the human life cycle. Design, application of techniques and creative use of
handicrafts and general crafts to be used by the occupational therapy assistant in the clinical scenario. Principles of safety and maintenance in work areas. Requires 30 hours of lecture and 30 hours of lab.  

3 credits

OCTH 1115 THERAPEUTIC MODALITIES II (CERAMIC AND OTHER MOLDABLE MATERIALS)
Cost analysis and use of a variety of means, activities and treatment techniques in the areas of sensory-motor, psychosocial and cognitive skills and in daily activities. Includes general crafts, weaving and ceramics and activity planning and implementation. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: CTH 1110, 2030.  

3 credits

OCTH 1120 PROCESSES IN OCCUPATIONAL THERAPY
Discussion of the adaptation processes of the individual with special needs to the environment and the inherent performance processes for an occupational therapy assistant. Basic concepts of daily living, safety, movement and walking are integrated. Emphasis on therapeutic analysis and purposeful activities throughout the life cycle. Evaluation of the usefulness of these activities, promotion and restoration of physical and mental health. Strategies are promoted that conserve energy, offer protection and make the correct use of corporal mechanics. Development of student skills in the use of assistive adjustable equipment. Prerequisites: CTH 1000, 1010, 1100.  

3 credits

OCTH 1130 OCCUPATIONAL THERAPY APPLIED TO PEDIATRICS
Occupational therapy and treatment procedures for pediatric clients. Study of developmental and perceptual motor skills, principles of self-care, assistance and training in the use of adjustable equipment. Study of pathophysiological processes and health conditions, either acquired or congenital, that require occupational therapy. Prerequisites: OCTH 1010, 1120, 1130.  

3 credits

OCTH 2030 OCCUPATIONAL THERAPY APPLIED TO PHYSICAL DYSFUNCTION
Study of pathophysiological processes and the clinical conditions most commonly referred for occupational therapy. Application of rehabilitation principles with emphasis on planning and documentation of occupational therapy directed to self-care, therapeutic exercises, home management, use of adaptable equipment, work and leisure activities. Study of principles of adaptation to the environment. Includes practice experience during class. Prerequisites: OCTH 1000, 1010, 1120.  

3 credits

OCTH 2040 THERAPEUTIC MODALITIES III (WOOD AND WEAVING)
Discussion of the factors that influence decisions when selecting the activity or occupation to be used for therapeutic treatment. Activities are analyzed comprehensively, considering the preparatory measures needed to carry out these activities or occupations. The role of the occupational therapy assistant in the intervention process, design, implementation and review of the intervention plan is emphasized. Use of activities with wood and textiles as therapeutic activities. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: OCTH 1110, 1115.  

3 credits
OCTH 2060 OCCUPATIONAL THERAPY APPLIED TO PSYCHOSOCIAL DYSFUNCTION
Discussion of principles of mental health and those mental disturbances that alter the functional role of individuals commonly referred for occupational therapy. Development and application of intervention strategies to specific psychosocial conditions. Corequisite: OCTH 2040. Prerequisites: CTH 1110, 1120, 1130, 2030. 3 credits

OCTH 2070 OCCUPATIONAL THERAPY APPLIED TO GERIATRICS
Study of pathophysiological processes related to the old age and of the clinical conditions commonly referred to occupational therapy for treatment. Review of the factors that affect the quality of life of the elderly. Application of rehabilitation principles in acute or chronic dysfunction. Study of principles of adaptation to the environment. Prerequisites: OCTH 1010, 1120, 1130. 3 credits

OCTH 2090 TECHNOLOGICAL ASSISTANCE
Understanding, development and practice of skills for assisting the individual to select, acquire and use available electronic equipment in the market, designed to maintain or to improve the functional capacity of people with sensorial, motor or cognitive limitations. Integration of criteria to determine the individuals’ progress in achieving greater participation and independence in their important functions and activities with technological assistance. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: CTH 1130. 3 credits

OCTH 2911 CLINICAL PRACTICE I
Supervised clinical experience in a structured scenario. Conduct of therapeutic modalities and applied interventions to physical and geriatric dysfunctions. Planning and development of individualized and group activities. Concepts of humanitarian attention, law, communication and legal-ethical responsibility are integrated. Requires 60 hours of clinical practice during the term. Prerequisites: CTH 2030, 2070. 1 credits

OCTH 2912 CLINICAL PRACTICE II
Development of basic competencies through supervised clinical experience with emphasis on direct participation in a scenario with pediatric patients/clients with physical dysfunction. Application of skills in the development of significant and purposeful activities. Planning together with the licensed occupational therapist, and development of individualized and group activities. Requires 240 hours of practice per term. Prerequisites: OCTH 1130, 2030. 3 credits

OCTH 2913 CLINICAL PRACTICE III
Development of basic competencies through supervised clinical experience. Emphasis on direct participation in a scenario with pediatric patients/clients and adults with psychosocial conditions. Application of skills in the development of significant and purposeful activities. Planning together with the licensed occupational therapist, and development of
individualized and group activities. Requires 180 hours of practice per term. Prerequisites: OCTH 1130, 2030, 2060, 2911. 3 credits

**OCTH 2914 CLINICAL PRACTICE IV**
Supervised practical experience in offering occupational therapy services in a clinical, educational or rehabilitation scenario and/or in agencies or institutions that offer occupational therapy services. Emphasis on direct participation with the adult and/or geriatric population. Application of problem solving skills and the development of significant and purposeful activities. Planning together with the licensed occupational therapist, and development of individualized and group activities. Concepts of clinical reasoning and activity analysis are integrated and demonstrated. Requires 240 hours of practice during the last term. Prerequisite: Have passed all major courses, except OCTH 2970, which will be taken concurrently. 3 credits

**OCTH 2970 INTEGRATION SEMINAR**
Critical analysis of situations and current trends in rehabilitation services. Discussion of cases and application of problem solving processes related to dealing with clients in occupational therapy. Prerequisite: ave passed all major courses. 2 credits

**Courses in Office Systems Administration (OMSY)**

**OMSY 1000 KEYBOARDING SKILLS**
Development of basic keyboard skills on a microcomputer. Emphasis on the correct use of alpha, numeric, symbols, and function keyboards. Techniques to achieve speed, accuracy, and proofreading. Productions of documents such as letters, memos, and simple reports. Requires 45 hours of instruction. 3 credits

**OMSY 1010 SPEED WRITING IN SPANISH**
Basic principles of a system of abbreviated writing in Spanish. Development of speed in taking dictation and the correct use of grammatical rules of transcription. Prerequisite: GEEN 1102. Requires 45 hours of instruction. 3 credits

**OMSY 1020 SPEED WRITING IN ENGLISH**
Reading, writing, and taking dictation using the alphabetic system of abbreviated writing. Fundamental principles of the theory of a system of abbreviated writing in English, a system designed for fast writing and reading. Development of transcription skills, and of taking dictation at optimal levels. Special attention will be given to the development of vocabulary, accuracy, proofreading, spelling, and other grammatical aspects. Requires 60 hours of instruction. Prerequisites: GEEN 1102,1202 or 2312. 4 credits

**OMSY 1101 INFORMATION PROCESSING SKILLS I**
Development of skills using the computer keyboard. Introduction to the basic functions of the operative system and of the word processing program in use. Development of basic skills for speed and accuracy and their application to the creation of documents, such as
letters, memos, and simple reports. Importance given to the basic techniques of proofreading. Requires 60 hours of instruction.

OMSY 1102 INFORMATION PROCESSING SKILLS II*
Development of basic skills for speed and accuracy and their application when processing business correspondence in the computer. Development of skills in the production of business documents, such as letters with special lines, manuscripts, tables, agendas, itineraries, envelopes, templates, and statistical forms of frequent use in the office. Requires 60 hours of instruction. Prerequisite: OMSY 1101.

OMSY 2000 PRODUCTION OF BUSINESS DOCUMENTS*
Application of advanced functions in word processing to the production of complex documents, such as reports with footnotes and endnotes, forms, proposals, documents produced in journalistic and parallel columns, table of contents, indexes, minutes, and labels, among others. Emphasis on the quality of documents, development of basic skills at optimum levels and proofreading. Prerequisite: OMSY 1102.

OMSY 2040 SPREADSHEETS IN OFFICE APPLICATIONS*
Application of skills in the management of electronic spreadsheets. Using the program’s tools for producing different documents and financial and statistical reports that are part of the duties of the office systems administrator. Evaluation of information for decision-making. Emphasis on the effective application of the electronic spreadsheet within the context of office systems. Prerequisite: OMSY 1000 or 1101.

OMSY 2060 MANAGEMENT OF DOCUMENTS AND DATABASES*
Discussion of the different systems of receiving, classifying, processing, control, filing, and disposition of documents. Emphasis on the theory and concepts related with manual, mechanical and automated systems of handling and locating documents in their administration. Application of skills in the use of a database program under the environment of Windows. Prerequisite: OMSY 1101.

OMSY 2100 EXPERIENCES IN THE OFFICE ENVIRONMENT
Discussion of cases and problems that the office system administration personnel face in modern society. Visits, observation, and analysis of the different processes in office environments. Requires a minimum of 20 hours of direct observation in a real office environment. Requires 30 hours of instruction. Prerequisite OMSY 1101.

OMSY 2230 INFORMATION PROCESSING IN OFFICES OF LEGAL AFFAIRS*
Discussion of terminology of a legal nature and of ethical aspects related to the processing of information in legal affairs offices. Analysis of procedures for preparing and processing documents used in courts and administrative agencies, Property Registry, Demographic Register and the Treasury Department, among others. Includes the creation of formats and the preparation of documents of a legal nature. Prerequisite: OMSY 2000.
OMSY 2240 INFORMATION PROCESSING IN OFFICES OF MEDICAL SERVICE *
Discussion of terminology of a legal nature and ethical aspects related to the processing of information in medical service offices. Analysis of the impact of state and federal laws that regulate health services in Puerto Rico. Practice of procedures to prepare and process documents that are used in health service offices. Prerequisite: OMSY 1102. 3 credits

OMSY 3000 MEDICAL SERVICES BILLING*
Study of the fundamental concepts of medical service billing. Basic applications for the processing of billing these services using a computer program. Requires 45 hours of instruction. Prerequisite: OMSY 2240. 3 credits

OMSY 3020 HUMAN RESOURCES IN THE ORGANIZATIONAL ENVIRONMENT
The importance of the human resource in an organizational environment. Emphasis on the adequate aspects of personality for working effectively in an office environment. Analysis of teamwork techniques, interpersonal relations, office ethics, communication channels, motivation, employment satisfaction, performance, professional development, and organizational culture. Requires 45 hours of instruction. 3 credits

OMSY 3030 BUSINESS COMMUNICATION WORKSHOP IN SPANISH*
Development of oral and written communication skills in Spanish. Writing and revision of business documents. Analysis of the basic elements of business communication. A computer will be used for writing and revising business documents in an open laboratory. Requires 45 hours of instruction. Prerequisites: GEEN 1102 or its equivalent, and OMSY 1102. 3 credits

OMSY 3040 BUSINESS COMMUNICATION WORKSHOP IN ENGLISH*
Development of oral and written communication skills in English. Emphasis on writing and revising business documents. Application of the language rules and simple oral practices. A computer will be used for the direct writing and revision of business documents in an open laboratory. Requires 45 hours of instruction. Prerequisites: GEEN 1102 or its equivalent and OMSY 1102. 3 credits

OMSY 3050 GRAPHIC ART DESIGN FOR OFFICES*
Art design using tools available for the computerized preparation of office publications, such as: letterheads, bulletins, announcements, invitations, agendas, programs, brochures, and reviews, among others. Emphasis on creativity and effective use of the resources. Requires 45 hours of instruction. Prerequisite: OMSY 2000. 3 credits

OMSY 3060 COMPUTER TRANSCRIPTION*
Practice in the direct production of documents and letters in the word processor. Utilization of dictating equipment and other means of transcribing documents in Spanish
and English. Development of grammatical skills. Analysis of diverse systems for management and control of disks and documents. Preparation of different formats of documents. Work will be done with a minimum of instructions. Requires 60 hours of instruction. Prerequisites: OMSY 2000, 3030, 3040.

4 credits

OMSY 3080 OFFICE SYSTEMS ADMINISTRATION
Evaluation of the impact of technology and global market on business. Discussion of administrative procedures and their application to office systems. Analysis of duties and responsibilities of the office personnel and the impact on productivity. Emphasis on concepts, such as effective administration of resources, self-business, mail management, decision-making, and quality management applied to processes. Prerequisite: OMSY 1102.

3 credits

OMSY 3500 INTERACTIVE BUSINESS COMMUNICATION IN ENGLISH*
Development of oral communication skills and the effective use of business vocabulary. Oral practice in simulations of office situations with the goal of improving pronunciation in the English language and reducing obstacles in communication. Technological resources to develop and reinforce oral communication skills. Requires 45 hours of instruction. Prerequisites: GEEN 1103 or its equivalent and OMSY 3040.

3 credits

OMSY 4010 INTEGRATION OF APPLICATION PROGRAMS IN OFFICE ADMINISTRATION*
Integration of the functions of word processing, graphic, art design, electronic spreadsheets, databases and calendars in the preparation of different documents in the office. Prerequisites: OMSY 2000, 2040, 2060, 3050.

3 credits

OMSY 4500 TELECOMMUNICATIONS IN THE OFFICE*
Theoretical and practical basis of telecommunications and their application in business. Development of the necessary basic skills for using tools of e-mail, Internet, electronic calendars, and videoconferencing, among others. Study of the ethical and safety principles when using these tools. Creation of an Internet web page. Requires 45 hours of instruction. Prerequisite: OMSY 2000.

3 credits

OMSY 4910 PROFESSIONAL PRACTICUM
Direct on the job training by carrying out the administrative support duties in selected offices in the external community or in the University. Requires 10 hours of lecture and 180 hours of practice. Prerequisites: Have passed all OMSY courses at the 1000, 2000 and 3000 levels and the course 4010. Corequisite: OMSY 4970.

3 credits

OMSY 4970 INTEGRATING SEMINAR
Integration of the knowledge, skills and required attitudes of all members of a work team in an office system. Emphasis on the transition from student to employee. Critical analysis, evaluation and recommendations in facing situations that occur in the work environment.
Includes the concepts of the virtual office, labor legislation, globalization and the skills for the preparation of trainings. Prerequisites: OMSY 3080, 4010. Corequisite: OMSY 4910.

* Courses OMSY with an asterisk require a special fee.

Courses in Optical Science Technology (OPST)

**OPST 1000 FUNDAMENTALS OF OPTICS**
Description of concepts related to spherical and cylindrical lenses. Discussion of the types of lenses, basic measurement of frames, curvature, transposition and thickness of lenses. Discussion of theoretical concepts on the operations of grinding, neutralizing, and finishing details of the lenses borders. Review of the final presentation of indicated lenses in cases of cataracts, trifocals, prismatic, and other special lenses. Description of the nature of light, propagation, rectilinear, refraction on a flat surface, spherical, aberrations, and physical characteristics of light, of lenses, frames; specifications and types of lenses.

3 credits

**OPST 1001 OPHTHALMIC MATERIALS I**
Introduction to the field of ophthalmic optics and the duties of an ophthalmic laboratory technician. History of lenses and their optical terminology, characteristics of a lens, metric system and light refraction. Study of graphic nomenclature and optical posters, basic use of the equipment to measure lenses and gauges, use of automatic and manual machinery. Standard alignment of frames for lenses, use of the lens meter and vertometer until the final production of simple vision lenses. Requires 30 hours of lecture and 30 hours of lab. Concurrent with PHYS 1013.

3 credits

**OPST 1002 OPHTHALMIC MATERIALS II**
Emphasis on calculations and formulas to calculate the thickness of lenses and the relation of the center to the thickness of the borders. Includes mounting lenses of higher potency and the importance of the position of lenses, the function of bifocal and multifocal lenses, as well as the appropriate handling of the equipment and related optical illusions. Practice of procedures of finishing details: neutralize, duplicate, trace, demarcate, and bevel simple vision lenses, bifocals, combination and mounting of lenses on a frame. Learning how to drill and mount lenses on a borderless frame, skills to use both hands and automatic equipment related to the operations of finishing details. Identification of frames and patterns for glasses, use of the oven to harden lenses. Repair of frames and interpretation of purchase orders for eyeglasses. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: OPST 1001.

4 credits

**OPST 1020 ANATOMY AND PHYSIOLOGY OF THE EYE**
Fundamental concepts of the eye structure and function, vision mechanism, visual field and keenness, subnormal reception and vision. Includes pathophysiological and pharmacological considerations. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: BIOL 1006.

3 credits
OPST 2000 LEGAL CONSIDERATIONS OF OPTICAL PRACTICE
Study and discussion of the ethical behavior code and ethical principles related to the respect for human dignity. Study of the laws that regulate the practice of the optician and those external regulations that are pertinent and apply to local jurisdiction. 2 credits

OPST 2001 CONTACT LENSES I
Discussion of the history of contact lenses and materials used. Integration of basic concepts of the anatomy and physiology of the cornea, keratic topography and its relation to the design of lenses. Description of the use of the keraticmeter and the slit lamp. Discussion of optical principles in the design of contact lenses. Discussion on types of lenses and their availability. Prerequisites: OPST 1000, 1020. 2 credits

OPST 2002 CONTACT LENSES II
Description of concepts regarding the relation of cornea-lens, adjustment of soft contact lens, indications and contraindications for their use. Discussion of methods for the adjustment of therapeutic and cosmetic lenses and principles of estimates and identification of signs and symptoms of Keratoconus. Demonstration of the use of the keraticmeter and the slit lamp. Discussion of the basic principles in the adjustment of rigid contact lenses and of permeable gas. Description and demonstration of refraction techniques. Prerequisite: OPST 2001. 2 credits

OPST 2003 CONTACT LENSES II LABORATORY
Practice in fundamental techniques in the use and adjustment of contact lenses. Discussion of value guides for the evaluation of clients who are candidates to use this type of lens. Use of the bio-microscope, keraticmeter, and radioscopy; strategy for client education on how to care for, clean, place and remove the lenses. Practice of procedures in the design, inspection and removal of lenses, and refraction techniques. Requires 30 hours in a skills lab. Corequisite: OPST 2002. 2 credits

OPST 2010 PRESCRIPTION DISPATCH I
Study of the principles of professional ethics and responsibilities in the practice of dispatching prescriptions. Calculation and elimination of vertical imbalance through various methods. Application of techniques for taking ocular and facial measurements for simple vision lenses, multifocals, and corrective lenses. Application of appropriate techniques for the adjustment of plastic and metal frames. Development of strategies to solve common problems of the practice, and necessary skills in the dispatch table. Requires 30 hours of lecture and 30 hours of lab. Prerequisite: OPST 1001. Corequisite: OPST 1002. 3 credits

OPST 2011 PRESCRIPTION DISPATCH II
Comprehensive integration of the operations of finishing details. Application of basic adjustment techniques, interpretation of complex prescriptions and the effects of changes in the position of the lenses. Adjustment of progressive lenses, of eyeglasses for occupational and vocational use, taking into considerations style and fashion. Application of techniques on the adjustment of metal and borderless frames and frame repair. Discussion on aspects
to consider for client education on how to use and care for lenses. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: OPST 1002, 2010.

3 credits

**OPST 2020 SUBNORMAL VISION**
Description of the etiology and manifestations of disorders altering the vision mechanism. Development of necessary skills for evaluating subnormal vision with emphasis on records and necessary examinations. Discussion of aids, strategies in the rehabilitation process for improving the visual function and assisting clients with subnormal vision to perform their daily activities. Prerequisite: OPST 1020.

3 credits

**OPST 2911 CLINICAL PRACTICE I**
Clinical experiences supervised by a licensed optician or optometrist, to provide for the integration and application of technical skills and knowledge acquired by students of optical sciences in previous courses. Demonstration of skills related to the operational aspects of the optical laboratory. Introduction to basic techniques related to issuing prescriptions. Students will apply ethical-legal principles when carrying out their role. Requires 120 hours of supervised clinical practice. Prerequisites: OPST 1002, 2000, 2010. Corequisites: OPST 2002, 2003, 2011.

2 credits

**OPST 2912 CLINICAL PRACTICE II**
Clinical experiences supervised by a licensed optician and/or optometrist, to provide for the integration and application of technical skills and knowledge acquired by students of optical sciences in previous courses. Includes the procedures of Clinical Practice I. Emphasis on skills related to the operational aspects of issuing prescriptions. Students will apply ethical-legal principles when carrying out their role. Requires 120 hours of supervised clinical practice. Prerequisite: have approved all previous major courses. Corequisite: ENDE 1100.

2 credits

**Courses in Pharmacy Technician (PHAR)**

**PHAR 1110 GENERAL CHEMISTRY FOR PHARMACY TECHNICIANS**
Theoretical and practical study of the fundamental principles of the structure and behavior of matter, with emphasis on the processes and substances of biological and pharmaceutical importance. In the laboratory there will be emphasis on the practice of analysis techniques. Requires 30 hours of lecture and 45 hours of lab.

3 credits

**PHAR 1120 HUMAN ANATOMY AND PHYSIOLOGY**
Fundamental concepts of biology with emphasis on the structure and functions of human systems. Prerequisites: Have passed the High School Biology course with a minimum grade of C and have passed a diagnostic test. Students without the above prerequisites must take BIOL 1003 – Basic Biological Concepts. Requires 30 hours of lecture and 30 hours of lab.

3 credits
PHAR 1150 THEORETICAL PHARMACY

3 credits

PHAR 1160 PHARMACOGNOSY
Study of drugs derived from natural products, their origin, extraction and purification methods, chemical composition, therapeutic use, and their effects on the organism. Study of drugs obtained through biosynthesis in pharmaceutical laboratories.

3 credits

PHAR 1171, 1172 APPLIED PHARMACOLOGY I, II
Study of drugs according to their classification. How medicine works in the human body, its toxicology, therapeutic aspects, indications, warnings, contraindications, and drug interaction. Discussion of common diseases of organs, the actions of drugs, as well as prevention, treatment and healing. PHAR 1171 is a prerequisite for PHAR 1172.

3 credits per course

PHAR 1180 POSOLOGY
Study of the aspects related to dosage and indications in the administration of a determined medicine. Includes calculation of adequate dosage, as well as the best form of administration. Aspects related to the types of presentation of medicines (tablets, capsules, liquids, emulsions, injectable, suppositories, and others).

3 credits

PHAR 2211, 2212 BUSINESS PHARMACY I, II
Study of practical aspects of the duties of the Pharmacy Technician related to the correct dispatch of medicines. Interpretation of formulas, selection of products, preparation of formulas, packaging, labeling, instructions for the adequate use of the medicine, possible interactions, storage, and disposition. Discussion of aspects related to generic drugs and registered trademarks. Each course requires 30 hours of lecture and 45 hours of lab. Prerequisites: PHAR 1150, presentation of a certificate of no criminal record, a health certificate, a negative drug test and evidence of vaccination against Hepatitis B. PHAR 2211 is a prerequisite for PHAR 2212.

3 credits per course

PHAR 2221, 2222 PRACTICAL PHARMACY I, II
Discussion on the different forms of dispatching drugs. Emphasis on their physical and chemical properties, preparation of formulas, preservation and storage of medicines. Discussion of aspects related to the bioavailability of drugs, routes of administration for the different forms of dosage. Each course requires 30 hours of lecture and 45 hours of lab. Prerequisite: PHAR 1150. PHAR 2221 is a prerequisite for PHAR 2222.

3 credits per course

PHAR 2240 PHARMACEUTICAL LEGISLATION
Study of state and federal laws and regulations that govern the pharmaceutical practice related to the production and distribution of pharmaceutical products and other products sold in commercial drug stores.

1 credit
PHAR 2245 COMPUTERS FOR PHARMACY TECHNICIANS
Study of the basic components of a computer system. Applications and use of computers for solving problems, capabilities, and limitations. Application of computers in pharmacy, programs used, and operation of these programs. Requires 15 hours of lecture and 30 hours of lab.

2 credits

PHAR 2911, 2912 SUPERVISED PRACTICE I, II
Integration of knowledge and skills acquired through an internship in a drug store and/or hospital. This practice will be supervised by a licensed pharmacist and it complies with all the specifications of the Board of Pharmacy in relation to the practice of trainees of Pharmacy Technician. Each course requires a total of 200 hours of practice. Students must meet the following requirements: have completed 20 credits in the major, have prior authorization of the program coordinator, present a certificate of no criminal record, a health certificate, a negative drug test and evidence of vaccination against Hepatitis B. PHAR 2911 is a prerequisite for PHAR 2912.

3 credits per course

Courses in Philosophy (PHIL)

The courses offered in philosophy aim to present the development of philosophy in Western civilization; to introduce the basic issues in the areas of metaphysics, epistemology, logic, ethics and aesthetics; and to encourage students to participate in philosophical thought by developing the ability to think clearly and precisely. No major is offered in philosophy.

PHIL 2013 TYPES AND PROBLEMS IN PHILOSOPHY
Values that arise from the human experience and the attempt to answer basic problems of knowledge, ethics and religion are examined through the different philosophies of life.

3 credits

PHIL 2354 MODERN LOGIC
Study of informal fallacies. Formal logic: the logic of propositions, including the symbolization of propositions and inferences; the truth-table method; and the logic of propositional functions.

3 credits

PHIL 3013 HISTORY OF WESTERN PHILOSOPHY: ANCIENT AND MEDIEVAL
Philosophical thinking from its beginnings in ancient Greece and Rome to the Medieval Age in the context of the social, economic and political forces of the periods.

3 credits

PHIL 3021 HISTORY OF WESTERN PHILOSOPHY
Philosophical thinking from the Renaissance to the philosophy of Immanuel Kant in the 18th century.

3 credits
PHIL 3022 NINETEENTH CENTURY PHILOSOPHY
Study of Comte (Logical Positivism), Nietzsche (the Will to Power), Marx (Dialectical Materialism), Kierkegaard (Existentialism) and other philosophers. 3 credits

PHIL 3044 CONTEMPORARY PHILOSOPHY
The creative evolution of Bergson, the pragmatism of James and Dewey, the philosophy of “Organism” of Whitehead and Russell, the existentialism of Heidegger, Sartre and Jaspers, and the methodology of logical empiricism. 3 credits

PHIL 3365 ETHICS
The development and nature of morality and ethical theories, and the application of ethical principles to present-day problems of personal and social morality. 3 credits

PHIL 3376 SOCIAL PHILOSOPHIES
After a brief historical background, emphasis is placed on various social philosophies. 3 credits

PHIL 4353 PHILOSOPHY OF RELIGION
Critical examination of such religious concepts as God and proof of the existence of God, of what is holy, the problem of evil, miracles, the immortality of the soul, and an examination of the tension between faith and reason. 3 credits

PHIL 4374 PHILOSOPHY OF SCIENCE
After a brief historical background, emphasis is placed on the assumptions of modern science and the meaning of generic concepts in science such as space, time, law, causality, and the content and values of scientific knowledge and their implications. 3 credits

PHIL 4385 PHILOSOPHY OF HISTORY
After a historical background, emphasis is placed on modern philosophies of history: Spengler, Toynbee, Schweitzer, Whitehead, Northrop and others. 3 credits

Courses in Physical Therapy (PHTH)

PHTH 1000 INTRODUCTION TO PHYSICAL THERAPY
Description of the historical development of the physical therapy profession. Discussion of physical therapy as a profession, the role and functions of the physical therapy assistant as well as the relation between the physical therapy assistant and the registered physical therapist; the interdisciplinary team within the system of health service providers. Explanation of the practice areas of the discipline, professional physical therapy organizations, standards, ethical-legal aspects related to the practice and the social responsibility of the physical therapy assistant. Corequisite: PHTH 1010. 3 credits
PHTH 1010 PRINCIPLES OF PATIENT CARE IN PHYSICAL THERAPY
Description of the basic principles of patient care in physical therapy. Knowledge and skills related to the control of infection, measurement of vital signs including weight and stature are discussed. Application of techniques related to corporal mechanics during the transfer and basic positioning of the patient and the use of the wheelchair. Use of basic fundamentals for the care of wounds, application of bandages and basic actions in an emergency situation. Corequisite: PHTH 1000.

3 credits

PHTH 1220 THERAPEUTIC MODALITIES IN PHYSICAL THERAPY
Study of the principles and practices of physical therapy when applying the following therapeutic modalities: application of heat and cold, massage, traction and intermittent compression, thermotherapy, hydrotherapy and light therapy. Requires 30 hours lecture and 90 hours of lab. Prerequisites: HTH 1000, 1010. Corequisite: BIOL 2152.

4 credits

PHTH 1221 PATHOLOGY OF PHYSICAL REHABILITATION I
Discussion of the pathophysiological process of diseases and dysfunctions commonly found in physical therapy practice in the geriatric and pediatric populations, and in those related to sports. Emphasis on the description of etiology, clinical manifestations and pattern of incapacity in pathological conditions related to the muscle-skeletal and neurological systems. Identification of the implications that diseases have for rehabilitation in physical therapy and the role of the physical therapy assistant. Prerequisites: PHTH 1000, 1010, BIOL 2151. Corequisite: PHTH 2152.

3 credits

PHTH 2050 EMOTIONAL DIMENSION OF PHYSICAL INCAPACITY
The psychological, sociological and emotional attitudes as well as the impact of these attitudes in the physical changes of the patient are examined. The role of emotional factors and physical restrictions in the corporal image and the sensorial perceptual process are examined. Prerequisites: PHTH 1220, 1221.

2 credits

PHTH 2051 PROFESSIONAL COMMUNICATION SKILLS IN PHYSICAL THERAPY
Development of skills in data collection, evaluation and documentation of verbal and written reports. Principles of communication between the patient and the physical therapy assistant, the assistant and the physical therapist, as well as with other members of the health team. Prerequisites: HTH 1000, 1010.

2 credits

PHTH 2131 PATHOLOGY OF PHYSICAL REHABILITATION II
Discussion of the pathophysiological process of diseases and dysfunctions of the cardiovascular and respiratory system commonly found in the practice of physical therapy. Emphasis on the description of etiology, clinical manifestations and pattern of incapacity in cardiopulmonary conditions. Identification of the implications that diseases have for cardiopulmonary rehabilitation and the role of the physical therapy assistant in direct patient care. Practice of specific skills related to data collection and interventions in
cardiopulmonary rehabilitation taking into account the indications and contraindications. Requires 30 hours of lecture and 45 hours of lab. Prerequisites: PHTH 1221, BIOL 2152.

3 credits

**PHTH 2141 PRINCIPLES OF ELECTRICAL STIMULATION**
Discussion of the basic principles and demonstration of specific procedures in the application of electrical stimulation. Description of electro mechanics, physiological effects, indications, contraindications, and precautions when applying this type of treatment. Practice of the necessary skills to apply techniques related to electrical stimulation. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: HTH 1220. Corequisite: PHTH 2911.

3 credits

**PHTH 2151 ORTHOPEDIC REHABILITATION**
Discussion of basic fundamentals for practice directed to the rehabilitation of orthopedic conditions. The study and practice of interventions related to measurement and tests of the muscular and esqueletal system are emphasized; as well as scope of movements, goniometry and muscular tests. Includes interventions related to orthopedic rehabilitation as training, therapeutic and postural exercises. Requires 30 hours lecture and 45 hours of lab. Prerequisites: PHTH 1221, 2131.

3 credits

**PHTH 2351 NEUROLOGICAL REHABILITATION**
Discussion of the basic foundations for the practice directed to the rehabilitation of neurological conditions. The study and practice of interventions related to the measurement and tests of the central and peripheral nervous system are emphasized. Includes interventions related to the neurological rehabilitation as functional training, use of prosthesis and orthotics, handling of patients with diverse neurological conditions including the pediatric and geriatric populations. Requires 30 hours lecture and 45 hours of lab.

3 credits

**PHTH 2911 INTERNSHIP IN PHYSICAL THERAPY I**
Supervised clinical experiences aimed to integrate the technical skills and knowledge acquired in previous courses; such as the requirement to perform the expected role of a physical therapy assistant. Application of the basic knowledge of patient care and therapeutic treatment by superficial heat, deep heat, cryotherapy, hydrotherapy, light therapy, traction, intermittent compression and therapeutic massage; as identified in the patient care plan and established by the physical therapist. Demonstration of skills in collection of data related to the interventions performed, effective communication and interaction skills during the student’s work in the clinical scenario. Practice under the supervision of the clinical instructor in one of the following scenarios: acute physical therapy care centers, geriatric centers or ambulatory clinics. Requires one hundred eighty (180) hours of practice. Prerequisites: HTH 1220, 1221, 2050, 2051.

3 credits

**PHTH 2912 INTERNSHIP IN PHYSICAL THERAPY II**
Supervised clinical experiences aimed to integrate the technical skills and knowledge acquired in previous courses; including the procedures of Internship I; such as the requirement to perform the expected roles of a physical therapy assistant. Emphasis on the
application of therapeutic procedures of electrical stimulation, respiratory exercises, and identified techniques of pulmonary hygiene in the patient care plan as established by the physical therapist. Demonstration of skills in collection of data with emphasis on those related to aerobic capacity and resistance; ventilation, breathing and circulation. Use of ethical and legal principles, communication and interaction skills during the student’s work in the clinical scenario. Practice under the supervision of the clinical instructor in one of the following scenarios: acute physical therapy care centers, geriatric and pediatric centers or ambulatory clinics, rehabilitation centers. Requires one hundred eighty (180) hours of practice. Prerequisites: HTH 2911, 2131, 2141.

3 credits

PHTH 2913 INTERNSHIP IN PHYSICAL THERAPY III
Supervised clinical experiences aimed to integrate the technical skills and knowledge acquired in previous courses; including the procedures of Internships I and II; such as the requirement to perform the expected roles of a physical therapy assistant. Emphasis on the application of skills related to functional training, therapeutic exercises and techniques for neurological and orthopedic rehabilitation, as identified in the patient care plan and established by the physical therapist. Demonstration of skills in the collection of data related to the interventions performed. Use of ethical and legal principles, communication and interaction skills during the student’s work in the clinical scenario. Practice under the supervision of the clinical instructor in one of the following scenarios: acute physical therapy care centers, geriatric and pediatric centers, ambulatory clinics, or rehabilitation centers. Requires one hundred eighty (180) hours of practice. Prerequisites: HTH 2912, 2151, 2351. Corequisite: PHTH 2990.

3 credits

PHTH 2990 INTEGRATION SEMINAR IN PHYSICAL THERAPY
Review of current situations and trends in the health care services that have an impact on physical therapy and the role of the physical therapy assistant. Description of the changes that the physical therapy assistant faces daily in the diverse clinical practice scenarios. Integration of ethical-legal principles and the results of research in the discussion of controversies related to the practice of the physical therapy assistant. Prerequisites: HTH 2911, 2912. Corequisite: PHTH 2913.

2 credits

Courses in Physics (PHYS)

The courses offered in physics are designed to help students in the areas of science, engineering and other disciplines understand the physical principles that have been the basis for the great technological achievements of our era. A major in physics is not offered.

PHYS 1013 GENERAL PHYSICS AND ITS APPLICATIONS
Fundamentals of the various divisions of physics. Designed for students not majoring in a science. Emphasis is placed on the application of physics to other sciences. Requires 45 hours of lecture and 45 hours of lab.

4 credits
PHYS 3001 GENERAL PHYSICS I
Logical and unified presentation of physics at the introductory level, emphasizing the basic ideas constituting its foundations: laws of motion and the conservation and interaction between particles and fields. Students are exposed to different experiences in the fields of mechanics and heat in the teaching-learning process. Emphasis on the integration and application of concepts throughout the experimentation. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: MATH 1500.

4 credits

PHYS 3002 GENERAL PHYSICS II
Continuation of the study of conservation laws, the interaction between particles and fields and the atomic description of matter. Students are exposed to different experiences in the areas of electromagnetism, waves and modern physics. Emphasis on the integration and application of concepts throughout the experimentation. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: PHYS 3001.

4 credits

PHYS 3311 PHYSICS FOR ENGINEERS I
Linear and planar motion. Newton’s laws. Work and energy; impulse, momentum. Rotational motion, simple harmonic motion; equilibrium of rigid particles and bodies. Requires 45 hours of lecture and 45 hours of lab. Prerequisite: MATH 2251.

4 credits

PHYS 3312 PHYSICS FOR ENGINEERS II
Coulomb’s law, electric forces, electric field and its potential; capacitance and dielectric materials. Ohm’s law, Kirchhoff’s laws, magnetic fields, electromagnetic induction, alternate current circuits and electromagnetic waves. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: PHYS 3311, MATH 2252.

4 credits

Courses in Political Science (POLS)

POLS 1011 INTRODUCTION TO POLITICAL SCIENCE
Introduction to basic concepts, institutions and processes of political science.

3 credits

POLS 1012 INTRODUCTION TO POLITICAL SCIENCE II
Introduction to values and ideologies and their application to modern political systems.

3 credits

POLS 2040 GOVERNMENT OF THE UNITED STATES
Influence of people, processes and the political culture on the structure and functions of the federal government; the dynamic forces of growth, technological development, wars and recessions and how these have altered the development of a pluralistic society.

3 credits
POLS 2088 THE GOVERNMENT OF THE COMMONWEALTH OF PUERTO RICO
Governmental institutions and political processes in the Commonwealth of Puerto Rico; emphasis on the power structure, role of political parties, interpersonal relationships, the status question and recent trends and events.  
3 credits

POLS 2100 POLITICAL ANALYSIS AND RESEARCH TECHNIQUES
Introduction to research design, investigation methods, strategies and tools to be used in field investigations in Political Science and to the formulation of theories. Emphasis on the application of the scientific method in the analysis of political data, the formulation of research problems and hypotheses and the basic techniques of statistical analysis for Social Sciences.  
3 credits

POLS 3020 ORGANIZATIONS IN HISTORICAL CONTEXTS
Comparative analysis of the organization of state bureaucracies from a structural perspective. Analysis of the interaction between kinship, class and elitist enclave systems and ideologies in the formation of state structures, particularly the political control of the quasi-official power structure through classic mobilization.  
3 credits

POLS 3050 ETHICS, RELIGION AND POLICY
Analysis of the impact of religion and ethics on the political development of society and the changes over time in the relations between religious practice and government.  
3 credits

POLS 3080 POLITICAL ECONOMICS
Review of the main theories of political economy, its structures and the relationship between the political and economic systems in industrialized countries as well as in developing countries. Current topics are discussed.  
3 credits

POLS 3100 COMPARATIVE GOVERNMENT AND POLITICS
Different political systems found in the world today; emphasis on recurrent patterns and elements of the political process.  
3 credits

POLS 3150 INTRODUCTION TO INTERNATIONAL RELATIONS
Basic study of international interactions in the modern world; international alliances and conflicts; some of the global challenges faced by the world today.  
3 credits

POLS 3170 INTERNATIONAL CONFLICTS
Analysis of the phenomenon of international conflict with emphasis on the principal theories regarding causes of wars, resolutions of conflicts, and strategies for maintaining peace. Review of the social, historical and biological perspectives of these theories and the result of research on peace in the last two decades.  
3 credits
POLS 3180 THE POLITICAL SCIENTIST AND COMPUTERS
Use of computers in political science. Includes the creation of databases, with emphasis on Internet and available commercial programs applicable to political science. 3 credits

POLS 3190 UNITED STATES FOREIGN POLICY
United States’ foreign policy from 1939 to the present; special attention to United States - Soviet relations; United States’ policy toward the Third World; how the government decision-making process operates in the field. 3 credits

POLS 3200 POLITICAL SOCIOLOGY
Analysis of the historical origin of political parties, their organization and their relation with the political system. Study of methods for analyzing how the social system affects political order. Review of the sociopolitical experiences of Puerto Rico, the United States and Latin America. Study of the social bases of the political, socialization and, participatory process and the relationship between the elite and the masses. Discussion of the impact of class, race, religion and gender in political practices and behavior, in the development and organization of political parties and their relation with the political system. 3 credits

POLS 3300 HUMAN RIGHTS
Analysis of the evolution of human rights at the international level and the legal instruments established to protect them. Evaluation of the impact and importance of human rights in the traditions of western and eastern countries. Review of the importance of human rights in the contemporary world. Discussion of the ideological and cultural perspectives, sources of violations, the role of the United Nations and national governments, the human rights of women and children and the influence of nongovernmental organizations in international protection of human rights. 3 credits

POLS 3401 CLASSIC POLITICAL THOUGHT
Ideas and theories of outstanding political philosophers from classical political thought to the French Revolution. 3 credits

POLS 3402 MODERN POLITICAL THOUGHT
Ideas and theories of outstanding political philosophers from the French Revolution to the present. 3 credits

POLS 3501 POLITICAL SYSTEMS OF LATIN AMERICA
Review of the patterns, institutions and process of modern government and politics in Latin America. 3 credits
POLS 3502 CONTEMPORARY POLITICAL PROBLEMS IN LATIN AMERICA
Political problems in light of recent developments in various countries of Latin America; emphasis on most recent research on political change.  
3 credits

POLS 3503 CARIBBEAN POLITICAL SYSTEMS
Analysis of governmental processes and the political practices of Caribbean countries, with special attention in the Hispanic Caribbean. Includes current problems.  
3 credits

POLS 3504 MIDDLE EAST POLITICS
Analysis of the political culture, the history and the economic and social dynamics of the Middle East with greater in-depth study given to in the countries of Egypt, Israel, Iraq, Iran and Turkey.  
3 credits

POLS 3700 WOMEN AND THEIR POLITICAL DEVELOPMENT
Analysis of worldwide policy from the perspective of gender. Discussion of the participation of women in politics, their participation in political institutions and the policies that affect women and their participation in the Puerto Rican and Latin American political process. Study of topics on the different interpretations of women’s concerns promoted by feminist and pro-family movements, the matter of gender as opposed to the economic and social policies of the contemporary world and the problems on political equality around the world.  
3 credits

POLS 3800 GOVERNMENT, ECOLOGY AND PUBLIC ENVIRONMENTAL POLICY
Integration of the study of politics, defined as the exercise of power, with ecology, defined as the impact of human activity on the environment. Analysis of the effects of the perceptions and responses of political actors on the insular and international environment.  
3 credits

POLS 4033 INTER-AMERICAN RELATIONS
Study of international relations in the American hemisphere and their impact on the new social, political and economic order in the region as opposed to globalization and regionalization, particularly in the new integration processes of Latin American and the Caribbean. Discussion of comparative and multidisciplinary perspectives on critical problems of the region such as development and modernization and political change.  
3 credits

POLS 4055 PUBLIC OPINION AND PROPAGANDA
Pressure groups, polls and other institutions affecting public opinion; emphasis on Western societies; international propaganda and political warfare.  
3 credits

POLS 4100 CONTEMPORARY WORLD POLITICS
Leaders, systems and theory in the operation of politics today from the cold war to the present.  
3 credits
POLS 4110 CONSTITUTIONAL LAW
Case study of the American Constitution; court decisions in regard to principles affecting
the individual, state and federal relationships.  
3 credits

POLS 4200 ANALYSIS OF POLITICAL NETWORKS
Review of theoretical and practical aspects in the application of the analysis of social
networks to the study of the collective political behavior. Discussion of the role played by
information networks, the exchange of resources and political support among the main
corporative actors (company and commercial associations, professional groups and labor
unions) in the design and implementation of public policy in the modern state. Particular
attention is given to networks as a distinguishing unit of sociopolitical analysis, their
structural properties, the consequences of different designs and the dynamics of network
formation.  
3 credits

POLS 4530 POLITICAL PSYCHOLOGY
Analysis of the principles, basic concepts, study methods and scientific research used by
political psychology. Review of the formative differences of a psychosocial behavioral
nature to light of the ideological factors that sustain each sociopolitical system such as:
democratic systems, socialist systems, totalitarian systems and colonial systems, among
others. Prerequisite: PSYC 1051.  
3 credits

POLS 4540 LATIN AMERICAN POLITICAL THOUGHT
Main contributions of Latin American thinkers to political philosophy in general and to
modern ideologies in particular.  
3 credits

POLS 4620 GOVERNMENT AND POLITICS IN DEVELOPING AREAS (A, B, C,
D, F, I)
Overview of government and politics in several developing areas (outside of Latin
America). Focus will be determined and announced by the Department each time the
course is offered.  
3 credits

POLS 4900 POLITICAL RESEARCH
Selection and elaboration of a research theme following an integrating point of view. Oral
and written presentation of a main monograph that shows the application of one or several
research techniques.  
3 credits

POLS 4955 INTERDEPARTMENTAL STUDIES
Selected problems in political development taught in conjunction with faculty of other
programs to afford an interdisciplinary approach; nature of the problems to be announced
by the cooperating programs each time the course is offered. Admission: consent of
instructors.  
3 credits
Courses in Popular Music (MUSI)

**MUSI 0501 PREPARATORY FLUTE I**
Study and development of basic skills for performance on the instrument: the correct manner to hold the flute, correct posture for playing the instrument, diaphragmatic breathing, sound production and elementary music reading. Prerequisite: placement by the entrance examination or by validation.

3 credits

**MUSI 0502 PREPARATORY FLUTE II**
Mastery of the basic skills for performing on the instrument in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0501 or placement in accordance with the entrance examination or by validation.

3 credits

**MUSI 0511 PREPARATORY PIANO I**
Study and development of basic skills for piano performance: performance of major scales of 2 octaves with both hands, both separately and simultaneously: correct performance of arpeggios, music reading at first sight and basic repertoire of the instrument. Prerequisite: placement by the entrance examination or by validation.

3 credits

**MUSI 0512 PREPARATORY PIANO II**
Mastery of the basic skills for performing on the piano in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0511 or placement in accordance with the entrance examination or by validation.

3 credits

**MUSI 0521 PREPARATORY PUERTO RICAN CUATRO I**
Introduction to the basic technique for the instrument: development of good posture and the correct manner to hold the plectrum. Elementary music reading and development of a simple repertoire for the cuatro. Prerequisite: placement by entrance examination or by validation.

3 credits

**MUSI 0522 PREPARATORY PUERTO RICAN CUATRO II**
Continuation of the previous course with a more in depth study of basic techniques and the repertoire for the instrument. Prerequisite: MUSI 0521 or placement in accordance with the entrance examination or by validation.

3 credits

**MUSI 0531 PREPARATORY MUSIC THEORY AND SIGHT SINGING I**
Preparatory course designed for students with talent but with little experience in music fundamentals. Emphasis on popular written music, auditory training and sight reading with the purpose of developing reading at first sight. Prerequisite: placement by entrance examination or by validation.

3 credits
MUSI 0532 PREPARATORY MUSIC THEORY AND SIGHT SINGING II
Mastery of the basic skills of Music Theory and sight reading in the field of popular music in preparation for entrance to the first year of studies in the field of Music Theory and sight reading. Prerequisite: MUSI 0531 or placement in accordance with the entrance examination or by validation.
3 credits

MUSI 0541 PREPARATORY SAXOPHONE I
Study and development of basic skills for performance on the instrument: the correct manner to hold the saxophone, correct posture for playing the instrument, correct breathing, sound production and elementary music reading. Prerequisite: placement by the entrance examination or by validation.
3 credits

MUSI 0542 PREPARATORY SAXOPHONE II
Mastery of the basic skills for performing on the instrument in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0541 or placement in accordance with the entrance examination or by validation.
3 credits

MUSI 0551 PREPARATORY TRUMPET I
Study and development of basic skills for performance on the instrument: the correct manner to hold the trumpet, correct posture for playing the instrument, diaphragmatic breathing, mouthpiece, production of sound and elementary music reading. Prerequisite: placement by the entrance examination or by validation.
3 credits

MUSI 0552 PREPARATORY TRUMPET II
Mastery of the basic skills for performing on the instrument in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0551 or placement in accordance with the entrance examination or by validation.
3 credits

MUSI 0571 PREPARATORY TROMBONE I
Study and development of basic skills for performance on the instrument: the correct manner to hold the trombone, correct posture for playing the instrument, diaphragmatic breathing, mouthpiece, production of sound and elementary music reading. Prerequisite: placement by the entrance examination or by validation.
3 credits

MUSI 0572 PREPARATORY TROMBONE II
Mastery of the basic skills for performing on the instrument in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0571 or placement in accordance with the entrance examination or by validation.
3 credits
MUSI 0581 PREPARATORY BASS I
Study and development of basic skills for performance on the bass: basic posture, independence of hands, tuning, sound production and music reading. Prerequisite: placement by the entrance examination or by validation. 
3 credits

MUSI 0582 PREPARATORY BASS II
Mastery of the basic skills for performing on the bass in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0581 or placement in accordance with the entrance examination or by validation. 
3 credits

MUSI 0591 PREPARATORY CONTEMPORARY GUITAR I
Study and development of basic skills for performance on the contemporary guitar (acoustic and electric): basic posture, relationship of the hands, production of sounds on the diapason (the position), tuning of strings and basic music reading. Prerequisite: placement by the entrance examination or by validation. 
3 credits

MUSI 0592 PREPARATORY CONTEMPORARY GUITAR II
Mastery of the basic skills for performing on the guitar (acoustic and electric) in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: MUSI 0591 or placement in accordance with the entrance examination or by validation. 
3 credits

MUSI 0601 PREPARATORY DRUMS I
Study and development of basic skills for performance on the instrument: correct form of sitting and of holding the drumsticks, independence of the hands and elementary music reading. Prerequisite: placement by the entrance examination or by validation. 
3 credits

MUSI 0602 PREPARATORY DRUMS II
Mastery of the basic skills for performing on the drums in preparation for entrance to the first year of studies with the musical instrument. Prerequisite: MUSI 0601 or placement in accordance with the entrance examination or by validation. 
3 credits

MUSI 0611 PREPARATORY PERCUSSION I
Study and conceptual and practical development of basic skills for performance on the Latin percussion: basic posture, flexibility and coordination for both hands and elementary music reading of rhythmic patterns. Prerequisite: placement by the entrance examination or by validation. 
3 credits

MUSI 0612 PREPARATORY PERCUSSION II
Mastery of the basic skills for performing on the Latin percussion in preparation for entrance to the first year of studies with the principal musical instrument. Prerequisite: MUSI 0611 or placement in accordance with the entrance examination or by validation. 
3 credits
MUSI 0641 PREPARATORY VOICE I
Designed for well-trained students who, by audition, have shown that they have a good voice and are trainable because of voice quality, rhythm and intonation. Study of basic skills for performance with the voice: care and correct use, posture, relaxation, breath control and sound production, diction and the interpretation and memorization of simple songs. Prerequisite: placement by entrance examination or by validation.
3 credits

MUSI 0642 PREPARATORY VOICE II
Mastery of the basic skills in vocal performance in preparation for entrance to the first year of studies with the principal instrument. Prerequisite: placement in accordance with the entrance examination or by validation.
3 credits

MUSI 1141 HISTORY OF MUSIC I
Survey study of the origins and historic development of European classical music to the present.
2 credits

MUSI 1142 HISTORY OF MUSIC II
Survey study of the origins and historic development of popular music (European and North and Latin American) that has had the most influence on contemporary music.
2 credits

MUSI 1321 INSTRUMENTAL ENSEMBLE I
Practice workshops in which all possible combinations of ensembles or musical groups in contemporary popular music are formed.
1 credit

MUSI 1322 INSTRUMENTAL ENSEMBLE II
Practice workshops in which all possible combinations of ensembles or musical groups in contemporary popular music are formed. Prerequisite: MUSI 1321 or equivalent.
1 credit

MUSI 1331 CHORAL ENSEMBLE I
Vocal practice workshops in which all possible combinations of choral ensembles in contemporary popular music are formed.
1 credit

MUSI 1332 CHORAL ENSEMBLE II
Vocal practice workshops in which all possible combinations of choral ensembles are formed. Prerequisite: MUSI 1331 or equivalent.
1 credit

MUSI 1501 FLUTE I
Course to prepare students to develop effectively in the popular music field. Study of techniques, sound projection, memorization and interpretation of musical pieces of medium difficulty, memorization and development of reading at first sight. Prerequisite: have passed a practice entrance examination or preparatory courses in the flute.
3 credits
MUSI 1502 FLUTE II
Continuation of the previous course with a more in-depth study of the techniques, sound production and repertoire of the instrument. Introduction to vibrato and double tonguing, memorization and interpretation of musical pieces of advanced difficulty and to reading at first sight. Prerequisite: MUSI 1501.
3 credits

MUSI 1511 PIANO I
Course to prepare students to develop effectively in the popular music field. Study of piano techniques, memorization and interpretation of musical pieces of medium difficulty and of reading at first sight. Prerequisite: MUSI 0512 or have passed an entrance examination at this level (by audition before a jury of professors) or by validation.
3 credits

MUSI 1512 PIANO II
Continuation of the previous course with a more in-depth study of the techniques, the repertoire of the instrument and of the development of reading at first sight. Prerequisite: MUSI 1511.
3 credits

MUSI 1521 PUERTO RICAN CUATRO I
More advanced study of techniques for the instrument, mastery of the plectrum non-adjacent strings and in the repertoire of the instrument. Prerequisite: MUSI 0522 have passed an entrance examination at this level or by validation.
3 credits

MUSI 1522 PUERTO RICAN CUATRO II
More advanced study of techniques for the instrument and an extension of its repertoire. Prerequisite: MUSI 1521 or have passed an entrance examination at this level or by validation.
3 credits

MUSI 1531 MUSIC THEORY AND SIGHT SINGING I
Detailed study of music theory and sight singing applied to popular music. Emphasis on auditory training of medium difficulty (up to two voices), and music reading at first sight including an introduction to the transport technique. Prerequisite: have passed a written and practical entrance placement examination or preparatory courses in the field of Music Theory and Sight Singing.
3 credits

MUSI 1532 MUSIC THEORY AND SIGHT SINGING II
Detailed study of music theory and sight singing applied to popular music. Emphasis on auditory training (up to four voices), and music reading at first sight including the perfecting of the transport technique. Prerequisite: MUSI 1531 or equivalent.
3 credits

MUSI 1541 SAXOPHONE I
Course to prepare students for effective development in their principal instrument in the popular music field. Study of techniques for the instrument, sound projection,
memorization and interpretation of pieces of medium difficulty and the development of reading at first sight. Prerequisites: MUSI 0542 or have passed the entrance examination for this level by audition or by validation.

3 credits

MUSI 1542 SAXOPHONE II
Continuation of the preparation for students’ effective development in the popular music field. A broader and more in-depth study of techniques for the instrument and sound production and projection. Introduction to vibrato, memorization and interpretation of musical pieces of medium and advanced difficulty and to reading at first sight. Prerequisites: MUSI 1541 or have passed the entrance examination for this level by audition or by validation.

3 credits

MUSI 1543 SAXOPHONE III
Course designed to prepare students for mastery of techniques for the instrument and of reading at first sight together with an introduction to improvisation. Advanced study of the technique for the instrument, the perfecting of reading at first sight, interpretation of an advanced repertoire and of techniques for improvisation. Prerequisite: MUSI 1542.

3 credits

MUSI 1544 SAXOPHONE IV
Advanced study of techniques for the instrument with an emphasis on improvisation and its repertoire. Preparation for the graduation concert. Prerequisites: MUSI 2543.

3 credits

MUSI 1551 TRUMPET I
Course to prepare for an effective development in the instrument in the popular music field. Study of techniques for the instrument, sound projection, memorization and interpretation of pieces of medium difficulty and the development of reading at first sight. Prerequisite: MUSI 0552 or have passed the entrance examination by audition or by validation.

3 credits

MUSI 1552 TRUMPET II
Continuation of the preparation for students’ effective development with their principal instrument in the popular music field. A broader study of techniques for the instrument, sound production and projection, introduction to vibrato, extension of the register, memorization and interpretation of musical pieces of medium and advanced difficulty and reading at first sight. Prerequisite: MUSI 1551.

3 credits

MUSI 1561 COMPLEMENTARY PIANO I
The basic principles governing performance on the piano and the musical interpretation of the instrument’s basic repertoire. Corequisite: MUSI 1531.

1 credit

MUSI 1562 COMPLEMENTARY PIANO II
Perfecting the basic principles governing performance on the piano and the musical interpretation of the instrument’s basic repertoire with an introduction to improvisation. Prerequisite: MUSI 1561.

1 credit
MUSI 1571 TROMBONE I
Course designed for achieving the effective development of students in their principal instrument in the popular music field. Study of techniques for the instrument, sound projection, memorization and interpretation of pieces of the medium difficulty and the development of reading at first sight. Prerequisite: MUSI 0572 or have passed the entrance examination for this level by audition or by validation.

3 credits

MUSI 1572 TROMBONE II
Continuation of preparation for the effective development of students in their principal instrument in the popular music field. A broader study of techniques for the instrument, sound production and projection, introduction to vibrato, extension of the register, memorization and interpretation of musical pieces of medium and advanced difficulty and reading at first sight. Prerequisites: MUSI 1571.

3 credits

MUSI 1581 BASS I
A more profound study of techniques for the instrument, musical calligraphy and the diapason. Prerequisite: MUSI 0582 or have passed an entrance examination for this level or by validation.

3 credits

MUSI 1582 BASS II
Study of more advanced styles of popular music such as salsa, funk, jazz, samba and fusion and the role of the bass in these styles. Perfecting the techniques for the instrument. Prerequisite: MUSI 1581 or have passed an entrance examination at this level or by validation.

3 credits

MUSI 1591 CONTEMPORARY GUITAR I
Study of techniques for the instrument, of diapason and the use of the pick; introduction to reading at first sight and to the technique of reading charts of popular music for the principal instrument. Prerequisite: MUSI 0592 or have passed an entrance examination at this level or by validation.

3 credits

MUSI 1592 CONTEMPORARY GUITAR II
A more profound study of techniques for the instrument, reading at first sight and the extension of the musical repertoire. Prerequisite: MUSI 1591 or have passed an entrance examination at this level or by validation.

3 credits

MUSI 1601 DRUMS I
This course is divided into three phases: reading at first sight, techniques for the instrument and study of simple styles of popular music. Workshops will be formed for group practice. Prerequisite: MUSI 0602 or have passed an entrance examination or by validation.

3 credits
MUSI 1602 DRUMS II
Study of the most advanced techniques for the instruments and styles such as salsa, merengue, funk, jazz and samba. Emphasis on reading more advanced rhythms. Workshops will be created for group practice. Prerequisite: MUSI 1601 or have passed an entrance examination or by validation.

3 credits

MUSI 1611 LATIN PERCUSSION I
This course is divided into three phases: reading at first sight, techniques for the instrument and study of simple styles of popular music. Workshops will be formed for group practice. Prerequisite: MUSI 0612 or have passed an entrance examination or by validation.

3 credits

MUSI 1612 LATIN PERCUSSION II
A more advanced study of techniques for the instrument and styles such as salsa, merengue, funk, jazz and samba. Emphasis on reading more advanced rhythms. Workshops will be created for group practice. Prerequisite: MUSI 1611 or have passed an entrance examination or by validation.

3 credits

MUSI 1641 VOICE I
Detailed study of posture, breath control, sound projection, diction and repertoire. Prerequisite MUSI 0642 or have passed an entrance examination or by validation.

3 credits

MUSI 1642 VOICE II
Continuation of a more in-depth development of knowledge already acquired regarding posture, breath control, sound projection, diction by means of an extensive literature. Prerequisite MUSI 1641 or have passed an entrance examination or by validation.

3 credits

MUSI 2323 INSTRUMENTAL ENSEMBLE III
Practice workshops in which all possible combinations of ensembles or musical groups in contemporary music are formed. Prerequisite: MUSI 1322 or equivalent.

1 credit

MUSI 2324 INSTRUMENTAL ENSEMBLE IV
Practice workshops in which all possible combinations of ensembles or musical groups in contemporary music are formed. Prerequisite: MUSI 2323 or equivalent.

1 credit

MUSI 2333 CHORAL ENSEMBLE III
Practice voice workshops in which all possible combinations of choral ensembles in contemporary music are formed. Prerequisite: MUSI 1331 or equivalent.

1 credit

MUSI 2334 CHORAL ENSEMBLE IV
Practice voice workshops in which all possible combinations of choral ensembles in contemporary music are formed. Prerequisite: MUSI 2333 or equivalent.

1 credit
MUSI 2503 FLUTE III
Course designed to prepare students to master techniques of their principal instrument and reading at first sight together with an introduction to improvisation, Advanced study of instrument techniques, perfecting reading at first sight, interpretation of an advanced repertoire and improvisation techniques. Prerequisite: MUSI 1502.
3 credits

MUSI 2504 FLUTE IV
Advanced study of instrument techniques with emphasis on improvisation and the repertoire. Preparation for the Graduation Concert. Prerequisite: MUSI 2503.
3 credits

MUSI 2513 PIANO III
Continuation of the previous course where the techniques, interpretation and repertoire of the principal instrument are developed to a higher level of difficulty. Prerequisite: MUSI 1512.
3 credits

MUSI 2514 PIANO IV
Advanced study of techniques and interpretation of the student’s principal instrument in preparation for the Graduation Concert. Prerequisite: MUSI 2513.
3 credits

MUSI 2523 PUERTO RICAN CUATRO III
Intermediate and advanced level study of techniques for the instrument with emphasis on improvisation and the repertoire. Prerequisite: MUSI 1522.
3 credits

MUSI 2524 PUERTO RICAN CUATRO IV
Advanced study of techniques for the instrument with emphasis on advanced improvisation and extension of the repertoire. Preparation for the Graduation Concert. Prerequisite: MUSI 2523.
3 credits

MUSI 2553 TRUMPET III
Course designed to prepare students to master techniques of the instrument and reading at first sight together with an introduction to improvisation, Advanced study of instrument techniques, perfecting reading at first sight, interpretation of an advanced repertoire and improvisation techniques. Prerequisite: MUSI 1552.
3 credits

MUSI 2554 TRUMPET IV
Continuation of the previous course where emphasis is given to preparation for the Graduation Concert. Advanced study of techniques for the instrument, sound production, reading at first sight, expansion of the register and the repertoire and improvisation. Prerequisite: MUSI 2553.
3 credits
MUSI 2573 TROMBONE III
Course designed to prepare students to master techniques for the instrument and reading at first sight, interpretation of advanced repertoire and improvisation techniques. Prerequisite: MUSI 1572.

3 credits

MUSI 2574 TROMBONE IV
Continuation of the previous course with preparation for the presentation of the Graduation Concert will be emphasized. Advanced study of techniques of the instrument, sound production and projection, reading at first sight, expansion of the register and the repertoire and improvisation. Prerequisite: MUSI 2573.

3 credits

MUSI 2583 BASS III
Introduction to improvisation and reading charts with melodies and basses written in different popular music styles and the transcription of solos of established musical literature. Prerequisite: MUSI 1582.

3 credits

MUSI 2584 BASS IV
A more in-depth study of techniques for the instrument, reading at first sight and advanced improvisation. Preparation for the Graduation Concert. Prerequisite: MUSI 2583.

3 credits

MUSI 2593 CONTEMPORARY GUITAR III
Intermediate to advanced study of techniques for the instrument with emphasis on improvisation and the repertoire of the instrument, especially in jazz. Prerequisite: MUSI 1592.

3 credits

MUSI 2594 CONTEMPORARY GUITAR IV
Advanced study of techniques for the instrument with emphasis on advanced improvisation and expansion of the characteristic repertoire. Preparation for the Graduation Concert. Prerequisite: MUSI 2593.

3 credits

MUSI 2603 DRUMS III
Emphasis on reading popular music styles that use 3/4, 5/4 and 7/4 time signatures. Introduction to improvisation. Prerequisite: MUSI 1602.

3 credits

MUSI 2604 DRUMS IV
The study of jazz, advanced improvisation and reading at first sight with changes in time signatures. Preparation for the Graduation Concert. Prerequisite: MUSI 2603.

3 credits
MUSI 2610 IMPROVISATION
Theoretical and practical study in the art of improvisation in traditional and contemporary popular music. Prerequisites: MUSI 1532 and the second course of the principal instrument.
1 credit

MUSI 2611 MELODIC AND RHYTHMIC INTERPRETATION
Theoretical and practical study of the correct interpretation and melodic phrasing of jazz (swing style), and of Caribbean music with its respective rhythms. Prerequisites: MUSI 1532 and the second course in the principal instrument.
2 credits

MUSI 2613 LATIN PERCUSSION III
Emphasis on reading musical styles that use 3/4, 5/4, and 7/4 time signatures. Introduction to improvisation. Prerequisite: MUSI 1612.
3 credits

MUSI 2614 LATIN PERCUSSION IV
Study of jazz, advanced improvisation and reading at first sight with changes in beat. Preparation for the Graduation Concert. Prerequisite: MUSI 2613.
3 credits

MUSI 2621 POPULAR HARMONY I
Study of the formation and joining of basic chords, their auditory identification, their analysis and use as accompaniment for popular melodies. Includes musical dictation of these popular music chords. Prerequisites: MUSI 1532 and 1562.
2 credits

MUSI 2622 POPULAR HARMONY II
Study of harmonic progressions containing non-diatonic chords and the expansion of chords. Includes musical dictation of these harmonic progressions and their extensions. Prerequisite: MUSI 2621.
2 credits

MUSI 2631 POPULAR HARMONY OF THE KEYBOARD I
Practical study of the basic aspects of popular harmony applied to the keyboard (formation and progression of chords, their auditory identification, their analysis), and their use as accompaniment for popular melodies. Corequisite: MUSI 2621.
1 credit

MUSI 2632 POPULAR HARMONY OF THE KEYBOARD II
Practical study of harmonic progressions containing non-diatonic chords and extensions of these chords applied to the keyboard. Corequisite: MUSI 2622.
1 credit

MUSI 2643 VOICE III
Development of agility, flexibility, extension of register, the importance of the dynamics and intonations through extensive literature. Emphasis on the interpretation and memorization of popular songs for the student’s register of voice with an introduction to
improvisation. Prerequisite: MUSI 1642 and have passed the entrance examination or by validation.

3 credits

MUSI 2644 VOICE III
Emphasis on more advanced vocal exercises and on style interpretations, state of mind, color and shades. Preparation for the Graduation Concert. Prerequisite: MUSI 2643.

3 credits

MUSI 2700 GRADUATION CONCERT
Preparation and performance of a concert in public. A practical examination before a jury of professors prior to the concert in public is required. Prerequisite: be a candidate for graduation.

1 credit

MUSI 3325 INSTRUMENTAL ENSEMBLE V
Practical workshops in which all possible combinations of musical ensembles or musical groups in contemporary popular music are formed. Prerequisites: MUSI 3324.

1 credit

MUSI 3326 INSTRUMENTAL ENSEMBLE VI
Practical workshops in which all possible combinations of ensembles or musical groups in popular contemporary music are formed. Prerequisite: MUSI 3325.

1 credit

MUSI 3335 CHORAL ENSEMBLE V
Practical vocal workshops in which all possible combinations of choral ensembles in contemporary popular music are formed. Prerequisite: MUSI 2334.

1 credit

MUSI 3336 CHORAL ENSEMBLE VI
Practical vocal workshops in which all possible combinations of choral ensembles in contemporary popular music art formed. Prerequisite: MUSI 3335.

1 credit

MUSI 3623 POPULAR HARMONY III
Study of the different techniques used to re-harmonize popular melodies and progressions. Emphasis on auditory training. Prerequisite: MUSI 2622.

2 credits

MUSI 3624 POPULAR HARMONY IV
Study of techniques to harmonize wind instruments of two, three and four voices and those of the modern harmony modal. Prerequisite: MUSI 3623.

2 credits

MUSI 3633 POPULAR KEYBOARD HARMONY III
Practical study or performance of different techniques utilized for re-harmonizing popular melodies and progressions. Prerequisite: MUSI 2632.

1 credit
MUSI 3634 POPULAR KEYBOARD HARMONY IV
Practical study of techniques to harmonize wind instruments to two, three and four voices and the performance of the modern modal harmony. Prerequisite: MUSI 3633.
1 credit

MUSI 3901 POPULAR COMPOSITION I
Introduction to the study of traditional techniques of musical composition and orchestration in the field of popular music. Prerequisite: have passed all second year musical courses in the field of popular music.
3 credits

MUSI 3902 POPULAR COMPOSITION II
Composition and orchestration of pieces of greater extension and complexity using both traditional and modern forms. Prerequisite: MUSI 3901.
3 credits

MUSI 4327 INSTRUMENTAL ENSEMBLE VII
Practical workshops in which all possible combination of ensembles or musical groups in contemporary popular music are formed. Prerequisite: MUSI 3326.
1 credit

MUSI 4328 INSTRUMENTAL ENSEMBLE VIII
Practical workshops in which all possible combination of ensembles or musical groups in contemporary popular music are formed. Prerequisites: MUSI 4327.
1 credit

MUSI 4337 CHORAL ENSEMBLE VII
Practical vocal workshops in which all possible combinations of choral ensembles in contemporary popular music are formed. Prerequisite: MUSI 3326.
1 credit

MUSI 4338 CHORAL ENSEMBLE VIII
Practical vocal workshops in which all possible combinations of choral ensembles in contemporary popular music are formed. Prerequisite: MUSI 4337.
1 credit

MUSI 4724 POPULAR MUSIC ARRANGEMENTS I
Introductory study of the harmonic function of chords and their relation to scales to achieve the adequate combination for the instrument and orchestration. Original arrangements of popular music students. Prerequisite: MUSI 3902.
2 credits

MUSI 4725 POPULAR MUSIC ARRANGEMENTS II
A more in-depth advanced study of the harmonic function of chords culminating with an adequate combination of instrumentation and orchestration. Prerequisite: MUSI 4734.
2 credits

MUSI 4734 RECORDING I (M.I.D.I. ROOM)
Introductory course of the electronic assembly of any type of musical combination, from a piano solo, trio or quartet to a symphonic orchestra. Prerequisite: MUSI 3902.
3 credits
MUSI 4735 RECORDING II (M.I.D.I. ROOM)
A musical recording in the studio applying advanced principles of programming and
synchronism technology. Prerequisite: MUSI 4734.

3 credits

MUSI 4800 GRADUATION CONCERT
Composition, arrangement and/or recording of all music that will be performed in public.
A practical examination before a jury of professors prior to the concert in public is
required. Prerequisite: be a candidate for graduation.

1 credit

Courses in Portuguese (PORT)

PORT 1001, 1002 ELEMENTARY PORTUGUESE
Essentials of Portuguese grammar with emphasis on the spoken language. Practice in
reading and understanding at the elementary level.

4 credits per course

PORT 2001, 2002 INTERMEDIATE PORTUGUESE
Review of grammar and study of Portuguese composition. Emphasis on the spoken
language. Practice in reading and understanding at the intermediate level. Prerequisite:
PORT 1002 or equivalent.

3 credits per course

Courses in Psychology (PSYC)

PSYC 1051 GENERAL PSYCHOLOGY I
The historical origins of psychology. Topics surveyed include research methods, basics of
psychology, human growth and development, personality, frustration and conflict,
psychotherapy and social psychology.

3 credits

PSYC 1052 GENERAL PSYCHOLOGY II
Basic principles and methods of psychology as a biological and behavioral science.
Learning, memory, thinking, perception, drug influence on behavior, and the psychological
bases of development, sensation, motivation, emotion and other aspects of behavior.

3 credits

PSYC 3001 STATISTICAL METHODS I
Statistical techniques and their practical application as used in the field of the behavioral
sciences. Special emphasis given to descriptive statistics. Prerequisite: GEMA 1000.

3 credits

PSYC 3002 STATISTICAL METHODS II
Statistical inference, probability and the statistical inference with independent and
correlated models. Requires 45 hours of lecture and 15 hours of lab. Prerequisite: PSYC
3001.

3 credits
PSYC 3100 LEARNING
Fundamental conditions and principles of learning resulting from scientific research. Classical and operant conditioning, and the origins of cognitive learning. Requires 45 hours of lecture and 15 hours of lab. Prerequisite: PSYC 1051.

3 credits

PSYC 3113 PHYSIOLOGICAL PSYCHOLOGY
Analysis of the relationship between behavioral and physiological processes, particularly the neurophysiological process. Theories and empirical findings in physiological psychology. Prerequisite: PSYC 1052.

3 credits

PSYC 3144 MOTIVATION AND EMOTION
Analysis of the theories and research related to the development of emotional reactions as well as the ways that these and other behavioral patterns are aroused and expressed in humans.

3 credits

PSYC 3215 EDUCATIONAL PSYCHOLOGY
Application of psychological principles to the teaching-learning situation.

3 credits

PSYC 3221 LIFE CYCLE I
Analysis of the cultural, physical, cognitive, social and emotional aspects of development from the pre-natal through the pre-adolescent period. Emphasis on the processes underlying the acquisition and development of behavior throughout the developmental periods; normative behavior for particular ages and developmental stages. Evaluation of selected theories, contemporary issues and practical applications.

3 credits

PSYC 3222 LIFE CYCLE II
Analysis of the cultural, physical, cognitive, social and emotional aspects of development from adolescence through senescence. Emphasis on the processes underlying the acquisition and development of behavior. Normative behavior for particular ages and developmental stages. Evaluation of selected theories, contemporary issues and practical applications.

3 credits

PSYC 3240 MENTAL RETARDATION
Comprehensive study of the biological, psychological and social background of mental retardation; its characteristics and causes.

3 credits

PSYC 3257 LEARNING, EMOTIONAL AND BEHAVIORAL PROBLEMS
Psychological experiences considered appropriate for individuals with sensory, physical, intellectual, social and psychological deviations. Study of psychoeducational procedures and available community resources.

3 credits
PSYC 3268 INTRODUCTION TO COUNSELING AND PSYCHOTHERAPY
Consideration of various psychotherapeutic approaches and processes in therapy. A critique and method including individual, group and family therapy. Consideration of the role of insight in producing changes in behavior, in establishing objectives of treatment and in the rationale for using behavior, in such specific psychotherapeutic techniques as interpretation and role playing.
3 credits

PSYC 3300 SOCIAL PSYCHOLOGY
Historical development of social psychology taking into account the socialization processes, social perception, attitudes, violence and aggression, among others, and their application to the reality of the social context. Prerequisite: PSYC 1051.
3 credits

PSYC 3313 INDUSTRIAL PSYCHOLOGY
Possible applications of psychology in business and industry, and in improving organizational effectiveness in general supervision, leadership, morale, personnel selection and training; human factors, engineering and consumer psychology.
3 credits

PSYC 3314 ENVIRONMENTAL PSYCHOLOGY
The theoretical and practical models of the relationship of physical factors (air, temperature, humidity, air pollution, light, noise stress, and others) on behavior. Analysis of social behavior and environment: personal space, territoriality, privacy, crowding physical space, urbanism, natural space and ecological behavior. Prerequisite: PSYC 1051.
3 credits

PSYC 4100 BEHAVIOR MODIFICATION
Theories, principles and issues of behavior modification. Systematic observations and analysis of behavioral modification cases. Requires 45 hours of lecture and 15 hours of practice. Prerequisite: PSYC 3100.
3 credits

PSYC 4103 COMMUNITY INTERVENTION
Theoretical foundations, methods and models of community psychology and human behavior from a group perspective. Exposure to practical experience to develop community intervention and evaluation skills, emphasizing preventive aspects of psychosocial problems. Prerequisite: PSYC 3300.
3 credits

PSYC 4113 CONTEMPORARY THEORIES
Development of psychology in recent times with emphasis on trends and issues in current psychological theory.
3 credits

PSYC 4200 PRINCIPLES OF PSYCHOLOGICAL TESTING
Principles and methods underlying the construction and evaluation of psychological tests. The process of psychological testing in a broad and dynamic context. The implications of
psychological testing taking into account the sociocultural context of the person being evaluated. Prerequisites: PSYC 1051, 3001. 3 credits

**PSYC 4210 COGNITIVE PSYCHOLOGY**
Theoretical and empirical foundations of cognitive psychology. Study of conceptualizations regarding memory, thought, language, intelligence and creativity. Prerequisite: PSYC 1051. 3 credits

**PSYC 4213 PSYCHOPATHOLOGY**
The psychology of deviant behavior. Analysis of problems of the various forms of behavior disorders. Varieties of disordered experiences and conduct; their contribution to an understanding of more effective personal and social adjustment. Specific disorders include neurosis and psychosis as well as psychosomatic and conduct disturbances. 3 credits

**PSYC 4234 PSYCHOLOGY OF PERSONALITY**
Different approaches to the study of personality from a historic perspective. Analysis of the role assigned to personality as an object of study and treatment. Prerequisite: PSYC 1051. 3 credits

**PSYC 4300 GROUP PROCESSES**
Theory and practical experience pertaining to small group behavior. Small group work to produce an awareness of group forces and pressures, and to develop insight into personal relationships. 3 credits

**PSYC 4313 ORGANIZATIONAL PSYCHOLOGY**
Organizational behavior. The role of individuals in the organizational environment. Application of experience in the field of organizational behavior. Prerequisite: PSYC 1051. 3 credits

**PSYC 4324 MANAGERIAL EFFECTIVENESS**
Fundamental causes of effective organization for a greater understanding by the administrator and his colleagues. The psychology of work and organization focuses attention on the following fields: social perception of human productivity, morale, adaptation and the attainment of general objectives. 3 credits

**PSYC 4520 CRISIS INTERVENTION**
Discussion and application of models and techniques for intervention in crisis. Exposure to simulated practical experience in which psychotherapeutic methods are used. Prerequisite: PSYC 1051. 3 credits
PSYC 4530 POLITICAL PSYCHOLOGY
Basic principles, concepts and methods of scientific study and research used by political psychology. The formative psychosocial and behavioral differences in view of ideological factors sustaining sociopolitical systems: democratic systems, socialistic systems, totalitarian systems and colonial systems, among others. Prerequisite: PSYC 1051.

PSYC 4600 EXPERIMENTAL PSYCHOLOGY
Exposure to the scientific method in the study of behavior. The rationale and methodology in the interpretation of data and design of experiments, as well as the application of research principles to theory and practice. Requires 45 hours of lecture and 30 hours of lab. Prerequisite: PSYC 3002.

PSYC 4910 INTERNSHIP IN APPLIED PERSONALITY
Supervised field work in settings where psychologists are usually employed such as mental health facilities, schools, correctional agencies, etc. Students will devote 120 hours to the agency. Reports and meetings with the faculty supervisor are arranged throughout the internship to monitor and facilitate growth. Enrollment by permission of instructor and departmental chairperson.

Courses in Psychosocial Human Services (HUSE)

HUSE 2020 CONTEMPORARY PUERTO RICAN FAMILY
Current problems affecting the Puerto Rican family and in particular the family’s ability to understand the multi-disciplinary effects these have. Emphasis on violence, maltreatment, controlled substance abuse, delinquency, and others. Students will be offered a basic overview of the family system and the intervention techniques to be used with dysfunctional families at the primary level.

HUSE 3010 VIOLENCE AND FAMILY MISTREATMENT

HUSE 3035 CHILDHOOD AND ADOLESCENCE EMOTIONAL, COGNITIVE AND BEHAVIORAL PROBLEMS
Analysis of the characteristics that define cognitive, emotional, and behavioral problems during childhood and adolescence, as well as the most appropriate techniques for their identification, prevention and intervention.
HUSE 3110 LEGAL BASIS FOR ADDICTION
Review of the legal component using the criminal and civil framework of the laws at local and federal levels for the control of use and abuse of drugs and alcohol. Analysis of the classifications of offender and the use of informants and undercover agents. Study of the procedures in the detention, prosecution and processing of the offender. Exploration of halfway houses with respect to the criminal process.

3 credits

HUSE 3120 PREVENTIVE MODELS IN DRUG AND ALCOHOL USE
Multidimensional course on preventive models for drug and alcohol use which integrates all community resources to promote the maximum development of its individuals and thus prevent at risk and undesirable behavior. (Emphasis on prevention). Prerequisite: PSYC 3268.

3 credits

HUSE 3130 INTERVENTION MODELS WITH ADDICTIVE BEHAVIOR
Properties and characteristics of addictive substance such as alcohol, narcotics, sedatives, stimulants, hallucinogens and cannabis that induce tolerance, physical and psychological dependency and cause the withdrawal syndrome when they are used during prolonged periods of time. In addition, techniques and biopsychosocial intervention models for the treatment and rehabilitation of the individual. Prerequisite: PSYC 3268.

3 credits

HUSE 3200 CLINIC INTERVIEW
Study of the procedures, skills and attitudes to follow in the clinical interview, its use and application in different contexts of the behavioral sciences.

3 credits

HUSE 3220 FAMILY CONFLICTS INTERVENTION
Analysis of family conflicts intervention theories. Emphasis on the effective handling of crisis situations in the home. Diverse techniques of intervention with crisis situations are modeled.

3 credits

HUSE 4010 ETHICAL, TECHNICAL AND LEGAL CONCEPTS IN OFFERING HUMAN SERVICES
Study of ethical regulations in the treatment of human beings. Discussion of universal ethical principles in social sciences with its corresponding technical and legal questions.

3 credits

HUSE 4020 PSYCHOTHERAPEUTIC TREATMENT TECHNIQUES FOR CHILDHOOD AND ADOLESCENTS DYNSFUNCTIONAL BEHAVIOR
Development of the practical skills to help children and adolescents with dysfunctional behavior. Techniques of behavioral modification, and psychotherapy that apply to the context and reality of contemporary Puerto Rican in childhood and adolescence. Prerequisite: PSYC 3268.

3 credits
HUSE 4030 FUNDAMENTALS OF NEUROPSYCHOLOGY
Analysis of the relationship between human behavior in the neuropsychological processes. Emphasis on the study of the central nervous system and its effect on human behavior at different cycles in life. Includes the analysis of neurological and glandular dysfunctions and their effect on maladjusted behavior in light of recent research. Prerequisite: PSYC 1052.

3 credits

HUSE 4910 INTERNSHIP IN DYSFUNCTIONAL FAMILIES
Experience of a practical nature in a dysfunctional family scenario (child abuse, domestic violence and maladjusted adolescents). Students are expected to integrate and implement theoretical fundamentals acquired through their academic training. In addition, students are expected to attain a level of self-conscience in relation to the physical, psychic and social demands of their role as officers in this work scenario. A minimum of 100 hours, supervised by internship personnel and personnel from the study center, is required. Prerequisite: Have passed 30 credits (18 major credits and 12 specialization credits).

3 credits

HUSE 4913 INTERNSHIPS IN DRUG AND ALCOHOL PREVENTION
Experience of a practical nature in a drug and alcohol scenario (Prevention and/or Intervention Center with addicted persons). Students are expected to integrate and implement theoretical fundamentals acquired through their academic training. In addition, students are expected to attain a level of self-conscience in relation to the physical, psychic and social demands of their role as officers in this work scenario. A minimum of 100 hours, supervised by internship personnel and personnel from the study center, is required. Prerequisite: Have passed 30 credits (18 major credits and 12 specialization credits).

3 credits

HUSE 4974 SEMINAR IN POSITIVE LIFE STYLES
Analysis of topics related to dysfunctional conduct: rehabilitation, prevention, alternatives and viable solutions to the new and emergent life styles of the twenty-first century. Prerequisite: Have passed 24 credits in 3000 and 4000 level major courses and 12 credits from specialization courses.

3 credits

Courses in Public Administration (PUAD)

PUAD 3300 GOVERNMENT ACCOUNTING
Principles and procedures applicable to governmental accounting: fund reporting, budget relations and interfund relationships will be emphasized.

3 credits

PUAD 3510 PUBLIC BUDGET PLANNING
Role of the modern budget in determining policies regulating government operations, intergovernmental relations, and the government’s relation to private economy. Emphasis on unit costs, work programs and budgetary analyses.

3 credits
Courses in Radiological Science (RASC)

RASC 4000 RESEARCH IN RADIOLOGICAL SCIENCES
Analysis of the fundamentals of research methodology. Discussion and presentation of research studies in the radiological and health sciences fields and their application to professional practice.  
3 credits

RASC 4030 PROFESSIONAL SEMINAR
Critical analysis of present trends in the field of diagnostic images. Includes the discussion and presentation of exceptional cases found in the practice of the profession.  
3 credits

Courses in Radiological Technology (RATE)

RATE 1100 RADIATION PROTECTION
1 credit

RATE 1110 PATIENT CARE
Management and care of patients’ physical needs in radiological processes. Ethical and legal aspects, personal care, management of body fluids and allergic reactions in radiological facilities. Requires 15 hours of lecture and 30 hours of lab. Prerequisite: Be admitted to the radiological technology program. Corequisites: RATE 1000, 1010.  
2 credits

RATE 1125 INTRODUCTION TO RADIOLOGICAL TECHNOLOGY
Basic aspects of radiological technology. Evolution of radiology. Laws governing the exercise of the profession. Medical terminology related to radiology. Duties and responsibilities of the future professional. Application of professional ethics. Development of positive attitudes towards patients, teamwork and the interaction with other people and professionals who comprise the interdisciplinary health team. Prerequisite: Be admitted to the Radiological Technology Program. Corequisites: RATE 1100, 1110, BIOL 1003.  
2 credits

RATE 1221 RADIOGRAPHIC PROCEDURES AND EVALUATION I
Study and evaluation of radiographic procedures and techniques applied to the thorax, abdomen, upper extremities and pectoral girdle. Evaluation and critique of x-rays taken. Development of attitudes of respect, responsibility and confidentiality in the classroom as well as in clinical scene. Practical demonstrations will be used to facilitate the understanding of course contents. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: RATE 1100, 1110, 1125, BIOL 1003. Corequisites: RATE 1230, 2911, BIOL 2151.  
2 credits
RATE 1230 PRINCIPLES OF RADIOGRAPHIC EXPOSITION AND PROCESSING
Essential concepts such as the production and of X-rays, formation and the revealing of radiographic images and the handling and use of different radiographic equipment. Discussion of factors that influence the exposition and quality of radiographic images. Practical demonstrations for a better understanding of course content. Requires 30 hours of lecture and 30 hours of lab. Prerequisites: RATE 1110, 1010, 1125. Corequisites: RATE 1221, 2911, BIOL 2151.
3 credits

RATE 2080 CONTRAST MEDIA
Study of the basic concepts of pharmacology. Theory and practice of the administration of the contrast agents and/or intravenous medicines. Emphasis on the proper care of the patient during the procedures that require the use of these agents. Prerequisite: RATE 2912. Corequisite: RATE 2210, 2222, 2231, 2913.
1 credit

RATE 2210 CRITIQUE AND RADIOGRAPHIC QUALITY CONTROL
Evaluation of radiographic systems to ensure quality in radiological services. Components related to radiographic quality in radiographic equipment, fluoroscopes processing, screens, illuminators, and others. Description of the regulations applied by regulatory agencies. Evaluation of radiographic quality by means of sessions of radiographic critique. Prerequisite: RATE 2912. Corequisites: RATE 2080, 2222, 2231, 2913, BIOL 2152.
3 credits

RATE 2222 RADIOGRAPHIC EVALUATIONS AND PROCEDURES II
Study and evaluation of radiographic procedures and techniques of the skeleton system, such as the lower extremities, the pelvic girdle, the spine and the thoracic box. Includes routine and special positions as well as the safe handling of patients with spinal trauma. Critical evaluation of x-rays taken. Development of attitudes of respect, responsibility and confidentiality. Practical demonstrations will be used to facilitate the understanding of course contents. Requires 15 hours of lecture and 45 hours of lab. Prerequisite: RATE 2912. Corequisites: RATE 2080, 2210, 2231, 2913.
2 credits

RATE 2223 RADIOGRAPHIC PROCEDURES AND EVALUATIONS III
Study of the positions, techniques, indications and contraindications of radiographic studies by using contrasts. Evaluation of radiographic quality, as well as the preparation of patients and allergic reactions. Includes basic positions for cranial and facial radiography. Practical demonstrations will be used to facilitate understanding of the course content. Requires 15 hours of lecture and 45 hours of lab. Prerequisites: RATE 2080, 2210, 2222, 2231, 2913. Corequisites: RATE 2232, 2240, 2250, 2917.
2 credits

RATE 2231 RADIOLOGICAL PHYSICS I
The basic principles of physics applicable to radiation science. The concepts of: physical measures, movement, force and energy, structure of matter and the atom, mechanical waves and sound, electromagnetic radiation and interaction with matter are developed.
Prerequisites: RATE 2912, GEMA 1200. Corequisites: RATE 2080, 2210, 2222, 2913, BIOL 2152.

3 credits

RATE 2232 RADIOLOGICAL PHYSICS II
The basic principles of electricity and magnetism applicable to x-rays generation. The basic laws of: electricity and magnetism, generation of currents and electromagnetic fields, electronic circuits and semi conducting elements, cathode ray tubes, x-rays generation and characteristic of radiation are developed. Prerequisites: RATE 2080, 2210, 2222, 2231, 2913. Corequisites: RATE 2223, 2240, 2250, 2917.

3 credits

RATE 2240 RADIOGRAPHIC PATHOLOGY AND MEDICAL TERMINOLOGY
Development of responsibility and professionalism in the student by means of the acquisition of knowledge and understanding of pathological conditions and associated terminology. Transition from the role of student to that of a radiological technology professional as a critical and indispensable member of the health team. Prerequisites: RATE 2080, 2210, 2222, 2231, 2913. Corequisites: RATE 2223, 2232, 2250, 2917.

3 credits

RATE 2250 SECTIONAL ANATOMY
Study of anatomical structures according to their location, function and relation with other structures. Location and identification in axial, sagittal, coronal and oblique planes using sectional corpse photographs. Comparison of photographs with images of magnetic resonance, ultrasound and computerized tomography on the same planes and at a same level. Emphasis on the particular appearance of each anatomical structure as these are represented in the images of the different diagnosis modalities. Prerequisites: RATE 2080, 2210, 2222, 2231, 2913, BIOL 2152. Corequisites: RATE 2223, 2232, 2240, 2917.

2 credits

RATE 2260 RADIOBIOLOGY
Biological effects, description of the mechanisms and the short and long term effects of ionized radiation. The relationship between sensitivity and specialization of cells and the speed at which they divide. Prerequisites: RATE 2223, 2232, 2240, 2250, 2917. Corequisites: RATE 2270, 2918.

2 credits

RATE 2270 DIAGNOSTIC IMAGE MODALITIES AND EQUIPMENT
Introduction to new modalities of diagnosis by means of different forms of images produced by equipment such as ultrasound, computerized tomography, and magnetic resonance. In addition, topics of special radiographic images will be studied, especially those in which mammography and angiography are included. Comparative images of the different modalities will be presented. Prerequisites: RATE 2223, 2232, 2240, 2250, 2917. Corequisites: RATE 2260, 2918.

2 credits

RATE 2911 CLINICAL PRACTICE I
Knowledge of the current situation of health care. Basic and routine aspects of a radiology department. Observation of the steps to follow for taking x-rays, from the patients’ arrival to their leaving. This includes patient registration, reading and interpretation of the
radiographic request, patient orientation, execution of the radiographic procedure and development of the film. Modalities within a radiology department: Computerized Tomography (CT Scan), Magnetic Resonance (MRI), Ultrasound (U/S), Mammography, etc. 180 hours of supervised clinical observation in the radiology department of an affiliated health institution. Prerequisites: RATE, 1110, 1100, 1125. Corequisites: RATE 1221, 1230, BIOL 2151. 2 credits

RATE 2912 CLINICAL PRACTICE II
Supervised clinical experiences directed to the integration of the cognitive, affective and psychomotor aspects of radiological technology students. Collaboration and participation in the work undertaken daily in their work environment, and in the application of values and positive attitudes which allow them to develop independence and confidentiality with the purpose of providing excellent treatment to the people with whom they interact. 180 hours of supervised clinical practice in an affiliated health institution. Prerequisites: RATE 1221, 1230, 2911, BIOL 2151. Offered only in summer. 3 credits

RATE 2913 CLINICAL PRACTICE III
Supervised clinical experiences directed to the integration of the cognitive, affective and psychomotor aspects of radiological technology students. Collaboration and participation in the execution of radiological procedures in the area of the thorax, upper abdomen, extremities and pectoral girdle. Application of values and positive attitudes that permit the development of independence and confidentiality in their work area with the purpose of providing excellent treatment to the people with whom they interact. 270 hours of supervised clinical practice in an affiliated health institution. Prerequisite: RATE 2912. Corequisites: RATE 2080, 2210, 2222, 2231, BIOL 2152. 3 credits

RATE 2917 CLINICAL PRACTICE IV
Supervised clinical experiences directed to the integration of the cognitive, affective and psychomotor aspects of radiological technology students. Collaboration and participation in the execution of radiological procedures in the area of the lower extremities, pelvic girdle, spine and thoracic box. Application of the values and positive attitudes that permit the development of independence and confidentiality in their work area with the purpose of providing an excellent treatment to the people with whom they interact. 360 hours of supervised clinical practice in an affiliated health institution. Prerequisites: RATE 2080, 2210, 2222, 2231, 2913. Corequisites: RATE 2223, 2232, 2240, 2250. 4 credits

RATE 2918 CLINICAL PRACTICE V
Supervised clinical experiences directed to the integration of the cognitive, affective and psychomotor aspects of radiological technology students. Collaboration and participation in the execution of radiological procedures of the skull and studies that entail the application of contrast media. Application of the values and positive attitudes that permit the development of independence and confidentiality in their work area with the purpose of providing an excellent treatment to the people with whom they interact. 360 hours of supervised clinical practice in an affiliated health institution. Prerequisites: RATE 2223, 2232, 2240, 2250, 2917. Corequisites: RATE 2260, 2270. 4 credits
RATE 3050 MAMMOGRAPHIC QUALITY CONTROL
Application of knowledge related to the recent regulations of the Mammography Quality Standards Act (MQSA) for the interpretation of the norm to be used for image quality control and its procedures. Emphasis on the consideration of the components related to radiographic quality in mammography equipment, screens and developing equipment and the check tests of quality that (MQSA) establishes.

3 credits

RATE 3060 CREATION OF RADIOGRAPHIC IMAGES IN COMPUTER
Analysis of the nomenclature used to identify the methods of obtaining digital images. Application of digital x-rays procedures to visualize an image in a monitor.

1 credit

RATE 3070 BREAST ANATOMY AND PATHOLOGY
Analysis of the anatomy, physiology and pathology of the breast in relation to radiographic studies. Includes the etiology and development of breast diseases. Discussion of screening guides recommended by the American College of Radiologists and the American Society of Cancer. Prerequisite: RATE 2240.

2 credits

RATE 3080 RADIOGRAPHIC PROCEDURES AND EVALUATION OF THE BREAST
Evaluation of the procedures and radiographic techniques applied to the breast. Includes examination of x-rays taken in the mammography equipment. Emphasis on the skills of managing radiographic quality, modalities analysis of the breast and special studies, such as ultrasound and magnetic resonance. Prerequisites: RATE 3050, 3070.

3 credits

RATE 3090 FUNDAMENTALS OF ANGIOGRAPHY
Analysis of the basic aspects of angiography. Includes the internal part of the blood vessels requiring angiographies for their diagnosis and treatment. Emphasis on studies of cardiovascular angiography and adjacent organs. Prerequisite: RATE 3060.

3 credits

RATE 4910 CLINICAL PRACTICE IN MAMMOGRAPHY
Supervised practical experiences aimed to integrate knowledge, skills and attitudes. Application of procedures related to the study of the breast. Clinical experiences in different structured scenarios in affiliated and certified health institutions. Requires two hundred (200) hours of clinical practice. Prerequisites: ATE 3050, RATE 3070.

4 credits

RATE 4911 CLINICAL PRACTICE IN ANGIOGRAPHY
Supervised practical experiences aimed to integrate knowledge, skills and attitudes. Application of procedures related to the study of the interior of blood vessels and the vascular diseases requiring angiographies for his diagnosis and treatment. Clinical experiences in different structured scenarios in affiliated and certified health institutions. Requires two hundred (200) hours of clinical practice. Prerequisites: RATE 3060, 3090.

4 credits
Courses in Religion (RELI)

RELI 2013 LIVING RELIGIONS
Analysis of the current principal religions of the world, their historical development, beliefs, practices and influence on the contemporary world. Prerequisite: GECF 1010. 3 credits

RELI 2023 BIBLICAL ARCHAEOLOGY AND GEOGRAPHY
Comparative study between the secular and religious perspective of the biblical world: emphasis on the geography, archaeology, culture and history of biblical events. 3 credits

RELI 3013 THE OLD TESTAMENT
Study of the history, literature and religion of the Old Testament. Emphasis on the religion of ancient Israel, its institutions and prophets. Prerequisite: GECF 1010. 3 credits

RELI 3024 THE NEW TESTAMENT
Historical and literary study of the Gospels and of the birth of the Church in the apostolic age. Prerequisite: GECF 1010. 3 credits

RELI 3026 HISTORY OF ISRAEL
Study and analysis of the political, cultural and religious factors from the origins of history of Israel to the New Testament period in the context of Middle East history and its respective geographical circumstances. Prerequisite: GECF 1010. 3 credits

RELI 3034 SPIRITUALITY
Study and analysis of spiritual thought of different mystics from different Christian traditions. Presentation and praxis of diverse models that encourage spiritual growth through prayer, worship, contemplation and introspection. Prerequisite: GECF 1010. 3 credits

RELI 3065 CHRISTIAN ETHICS IN AN ECUMENICAL CONTEXT
History of Christian ethical thinking in an ecumenical context. Prerequisite: GECF 1010. 3 credits

RELI 3220 PRINCIPLES OF CHURCH GROWTH
Analysis of the typical elements and characteristics necessary for the growth and development of communities of faith. Application of the Total Quality Management philosophy as an instrument to make the church effective. Review of a local church in light of the learned principles. Prerequisite: GECF 1010. 3 credits

RELI 3326 HISTORY OF CHRISTIANITY
Events that have shaped Christianity; the heritage of contemporary Christianity. Prerequisite: GECF 1010. 3 credits
RELI 3337 RELIGION IN LATIN AMERICA
The influence of religion in relation to political, economic, social and educational concerns in Latin America. Prerequisite: GECF 1010. 3 credits

RELI 4100 CHRISTIAN EDUCATION
Synoptic study of the development of Christian education within the community of faith. Emphasis on the philosophy, objectives, history, organization and general characteristics of Christian education. Prerequisite: GECF 1010. 3 credits

RELI 4300 CHRISTIAN EDUCATION CURRICULUM
The principles, concepts and available resources for developing a curriculum by levels within the educational program of the church. Prerequisite: GECF 1010. 3 credits

RELI 4353 PHILOSOPHY OF RELIGION
Critical examination of such religious concepts as God and proof of the existence of God, that which is holy, the problem of evil, miracles, the immortality of the soul, and an examination of the tension between faith and reason. Prerequisite: GECF 1010. 3 credits

RELI 4910 INTERNSHIP IN RELIGION
This course is designed to give students the opportunity to apply what they have learned to the internship experience. Students will be placed in a scenario where they will perform an internship in religion with a minimum of 75 hours. Prerequisite: be in the second year of study in the case of the Associate Degree in the fourth the year of study in the case of the Bachelor's Degree. 3 credits

Courses in Reserve Officers Corps: Military Science (MISC)

The following courses are offered by the Department of Military Science or Aerospace Studies of the University of Puerto Rico in Rio Piedras or Mayagüez (see the norms that apply to these courses in this catalog, “General Information” concerning Reserve Officers Training Corps).

MISC 3111 FOUNDATIONS OF OFFICERSHIP
Introduces students to issues and competencies that are central to a commissioned officer's responsibilities. Establishes a framework for understanding officership, leadership, and army values followed and "life skills" such as physical fitness and time management. 2 credits

MISC 3112 BASIC LEADERSHIP
Establishes foundation of basic leadership fundamentals such, as problem solving, communications, briefings and effective writing, goal setting, techniques for improving listening and speaking skills and introduction to counseling. 2 credits
MISC 3121 INDIVIDUAL LEADERSHIP STUDIES
Students identify successful leadership characteristics through observation of others and self through experiential learning exercises. Students record observed traits (good and bad) in a dimensional leadership journal and discuss observations in small group settings.

2 credits

MISC 3122 LEADERSHIP AND TEAMWORK
Study examines how to build successful teams, various methods for influencing action, effective communication in setting and achieving goals, the importance of timing the decision, creativity in the problem solving process, and obtaining team buy-in through immediate feedback.

2 credits

MISC 3141, 3142 ENGLISH FOR TODAY'S ARMY I, II (BASIC LEVEL)
This course is designed for those students who have demonstrated a limited proficiency in the English language in the English Comprehension Level Test provided by the Defense Language Institute, English Language Center at Lackland Air Base, San Antonio, Texas. Emphasis on pronunciation, reading comprehension, vocabulary and a general review of grammar.

1 credit per course

MISC 3143, 3144 ENGLISH FOR TODAY'S ARMY I, II (INTERMEDIATE LEVEL)
This course is designed for those students who have demonstrated a limited proficiency in the English language in the English Comprehension Level Test provided by the Defense Language Institute, English Language Center at Lackland Air Base, San Antonio, Texas. Emphasis on pronunciation, reading comprehension, vocabulary and a general review of grammar.

1 credit per course

MISC 3151, 3152 MILITARY BRIEFING I, II
Courses designed for third year Military Science students who have demonstrated certain ability or dexterity in the English language as measured by the English Comprehension Level Test (ECLT), the official Department of Defense English language proficiency test. Practice in military briefings, with special emphasis on formal and informal outlines, and the correct use of military visual aids. Leadership evaluation, including an acculturation seminar. Each course requires 30 hours of lecture, seminars or practical exercises. To be taken only as electives.

2 credits per course

MISC 4111 LEADERSHIP AND PROBLEM SOLVING
This course is designed to enable a student with no prior military or cadet experience to quickly acquire essential cadet knowledge and develop skills necessary for integration into the cadet battalion and to show successful performance of key cadet tasks. Cadets are first introduced to principles of physical fitness and a health lifestyle so they may effectively work to improve or maintain their physical fitness from the beginning of the term. Next, cadets are introduced to the Leader Development Program that will be used to evaluate their leadership performance and provide them development for the rest of their years as cadets. To help prepare cadets for their responsibilities in teaching and participating in
Military Sciences and Leadership Labs, cadets are taught how to plan and conduct individual and small unit training as well as basic tactical principles.

**MISC 4112 LEADERSHIP AND ETHICS**
Course designed to continue the development of cadets as leaders by presenting instruction in the three foundational areas on interpersonal communication, values and ethics, and leadership. The course opens with an introduction and overview of the summer training opportunities at the National Advanced Camp (NALC) and other available training programs. Next, cadets address the topic of interpersonal communication and Officership.

**MISC 4121 LEADERSHIP AND MANAGEMENT**
This course enables cadets to make informed career decisions as they prepare their accession documents. It also concentrates on Army operations and training management, communication and leadership skills and supports the beginning of the final transition from cadet to lieutenant.

**MISC 4122 OFFICERSHIP**
This course focuses on four areas: first, the course gives cadets a basic foundation in military law; next, skills and information on leadership and military science are pulled together in a series of case studies where cadets apply what they have learned from earlier courses; third, cadets are given a series of hands-on-practice sessions to assist them with their transition to officers; and last, the Senior Leadership Project offers cadets a culmination of the ROTC learning experience in the form of a semester-long activity whereby cadets can integrate, apply and demonstrate their knowledge and mastery of military leadership.

**MISC 4141 MILITARY WRITING I**
Courses designed for military students who wish to improve their military writing skills in English. Emphasis on military writing styles and formats. Topics include military memorandums, autobiographies, military history analysis, and a military ethics paper. Each course requires 30 hours of lecture, seminars, case studies, or practical exercises. To be taken only as electives.

**Courses in Reserve Officers Corps: Aerospace Studies (AEST)**

**AEST 3001, 3002 THE AIR FORCE TODAY**
The Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general-purpose forces and aerospace support forces. Requires 15 hours of lecture and 37.5 hours of lab.

**AEST 3011, 3012 DEVELOPMENT OF AIR POWER**
Air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and nonmilitary operations in support of national objectives; and a
look at the evolution of air power concepts and doctrine. Requires 15 hours of lecture and 37.5 hours of lab.

AEST 3995, 3996 SPECIAL PROBLEMS IN AEROSPACE STUDIES
Study, research or work on a special problem selected jointly by the student and the professor. A written report is required. 1-3 credits per course

AEST 4001, 4002 LEADERSHIP AND MANAGEMENT
Leadership and management fundamentals. Instruction in communicative skills and military ethics. Case studies are used to examine Air Force leadership and management situations. Requires 45 hours of lecture and 37.5 hours of lab. Prerequisite: Permission of the Department Director. 4 credits per course

AEST 4011, 4012 NATIONAL SECURITY FORCES IN CONTEMPORARY AMERICAN SOCIETY
Policy of national security in the United States with an examination of its formation, organization and implementation; the context of national security, strategies, general conflicts and civic-military interaction. The concepts of military professionalism and the military judicial system are also examined. The course is designed to provide students with the necessary knowledge of national security policy to adequately discharge their duty in today’s Air Force. Requires 45 hours of lecture and 37.5 hours of lab. Prerequisite: Permission of the Department Director. 4 credits per course

Courses in Russian (RUSS)

RUSS 1001, 1002 ELEMENTARY RUSSIAN
Essentials of Russian grammar with emphasis on the spoken language. 4 credits per course

Courses in Small Business Administration (SBAD)

SBAD 2110 INTRODUCTION TO SMALL BUSINESS ADMINISTRATION
Administration and organization in relation to types of businesses, location and physical plant. Application of marketing, finance, accounting concepts, and government laws applying to the administration of small businesses. 3 credits

SBAD 2210 RELATIONS WITH THE SMALL BUSINESS CONSUMER
Psychological and socio-cultural factors affecting the relations between clients and the development of a small business. Analysis of the relations between clients and the search of alternatives to satisfy their needs, and the influences that they may have in the decision-making process of the organization. Prerequisites: MKTG 1210, SBAD 2110. 3 credits
SBAD 3220 PROMOTION AND SELLING THROUGH INTERNET
Design, development and implementation of promotional and sales material through the Internet. Search for information to help the management of small business in the decision-making process. Strategies and methods, which include the image of the business, target market, and consumer buying behavior. Analysis and selection of segmentation methods, planning design and promotional plan. Prerequisites: MKTG 1210, SBAD 2110, GEIC 1000.
3 credits

SBAD 3330 HUMAN RESOURCES ADMINISTRATION IN SMALL BUSINESSES
Techniques and Methodologies in the management of employees in small businesses. Includes roles of management and leadership styles, as well as interpersonal relations. Emphasis on techniques for planning, recruitment, selection, placement, training, and management of specific employee problems, with main emphasis on communication and motivation of employees. Includes orientation and training on benefits, as well as their assessment. Prerequisite: BADM 2250.
3 credits

SBAD 3335 FEDERAL AND PUERTO RICAN LAWS FOR SMALL BUSINESS ADMINISTRATION
Basic Principles of laws and regulations applicable to small business administration. It includes the civil code of Puerto Rico, commercial code, annotated laws of Puerto Rico, federal laws, and regulations of the Small Business Administration agency. Prerequisite: SBAD 2110.
3 credits

SBAD 3430 TAX LAW FOR SMALL BUSINESS ADMINISTRATION
Integrated study of both theoretical and practical aspects of the administration of small businesses. Includes the tax system of Puerto Rico and its application to small businesses, tax obligations imposed by state and federal laws on small businesses and the municipal registration law. Prerequisite: ACCT 1151.
3 credits

SBAD 3900 FINANCE AND CASH ADMINISTRATION FOR SMALL BUSINESSES
Strategies for planning and analyzing the financial needs of the small business owner. Planning for cash flow, financial needs, financing, and preparation of loan documentation. Planning a company by applying financial knowledge and establishing cost control. Sales and revenue forecasts, control of operational expenses, inventory control, available short-term and long-term financing. Prerequisites: FINA 3100, ACCT 1152.
3 credits

SBAD 4110 SMALL BUSINESS OPERATION
Systemic analysis and the development of a “daily” individual plan for problems found in the operations of small businesses. Includes the development of an individual operational business plan, financial plan, buying, production register, maintenance, shipping, administration of business, requirements of insurance and administrative risk. Research of problems related to inventory control and business expansion. Prerequisites: SBAD 2110, BADM 2250.
3 credits
SBAD 4211 PRACTICAL PLAN DEVELOPMENT FOR SMALL BUSINESS ADMINISTRATION
Design, implementation and development of a practical business plan for a small business. Study of internal and external variables that influence the creation of the plan. Prerequisite: BADM 2250. 3 credits

SBAD 4220 ETHICS IN SMALL BUSINESS ADMINISTRATION
Integrated study of ethical concepts that are involved in the world of small business administration. Includes concepts on ethical relativism, utilitarianism, justice, fairness, moral rights, as well as the moral and ethical responsibility of small businesses. Study of the code of professional ethics applied to exchange secrets, computer rights, as well as the employees’ right to privacy and cultural diversity. Prerequisite: SBAD 2110. 3 credits

SBAD 4910 PROFESSIONAL PRACTICE IN SMALL BUSINESS ADMINISTRATION
Application of the skills acquired through the study program. Requires the completion of 90 hours of supervised practice in a small business. Prerequisites: SBAD 3221, 3330, 3331, 3430. 3 credits

Courses in Social Work (SOWO)

SOWO 2503 INTRODUCTION TO SOCIAL WORK
Study of the historical development of the social work profession: principles, values, knowledge, sanctions and social policy and self-understanding skills. 3 credits

SOWO 2514 SOCIAL POLICIES AND SERVICES
Relationship between social problems, public policy, organized programs and services given. Prerequisite: SOWO 2503. 3 credits

SOWO 3413 SOCIAL SERVICES AND THE AGED
Aging process; identification of factors that influence the aging process; interrelationships between those factors and the evaluation of the aged; basic principles of social work as applied to the aged; tendencies and institutions providing service to the aged. Prerequisite: SOWO 2503. 3 credits

SOWO 3461 HUMANS AND THEIR SOCIAL ENVIRONMENT I
Human development and behavior through the general systems theory. Review of environmental forces; their implications for individuals, the analysis of society, culture, community, social organization and small groups as human systems; implications for social work. Prerequisite: SOWO 2503. 3 credits
SOWO 3462 HUMANS AND THEIR SOCIAL ENVIRONMENT II
Family and individuals as systems; examination of various theories of behavior and human development; their implications for assessment and intervention in social work. Prerequisite: SOWO 3461.
3 credits

SOWO 3504 INTRODUCTION TO AGENCY ADMINISTRATION AND SUPERVISION
Basic principles, processes and practices in the administration and supervision of agencies. Prerequisite: Permission from the Chairperson of the Department of Social Work.
3 credits

SOWO 3545 SOCIAL PLANNING AND ACTION
Processes of planning; social planning; technical and interpersonal skills necessary for formulation, implementation and evaluation of social plans; responsibilities of social workers as citizens and professionals and their public obligations related to social problems and needs. Prerequisites: SOWO 2503, 2514.
3 credits

SOWO 3566 WOMEN IN SOCIETY
Interdisciplinary studies to develop student knowledge of and sensitivity to the history, education, employment, sociology and psychology of women. Emphasis on sex roles, stereotyping and recent legislation regarding women’s rights in family, education and employment.
3 credits

SOWO 3801 COMMUNICATION AND INTERVIEW PROCESS
Analyses of conceptual frames, such as: symbolic interactions and the roles theory applied to human diversity. Prerequisites: SOWO 2514, 3462.
3 credits

SOWO 3802 REPORT WRITING
Study of the concepts related to the writing of case histories used in different social welfare agencies and programs. Analysis of social files for individuals, groups and communities. Discussion of ethical and legal aspects of file management. Prerequisite: SOWO 3801.
3 credits

SOWO 3807 FUNDAMENTALS OF COMMUNICATION AND INTERVIEWING
Introduction to the techniques and basic interpersonal skills in the process of giving help, emphasis on communication and the conscious use of self; interviewing and group leadership skills. Prerequisite: Permission from the Chairperson of the Department of Social Work.
3 credits

SOWO 3828 SOCIAL AND COMMUNITY GROUPS GENERALIST SOCIAL WORK
Study of the theoretical frameworks of the operation and needs of small community groups and organizations that make up the community. Emphasis on understanding the human-environmental relationship within groups and communities. Prerequisites: SOWO 2514, 3461.
3 credits
SOWO 3849 CHILD AND FAMILY WELFARE SERVICES
Problems in parent-child relationships and difficulties in the social functioning of children and adolescents. Introduction to the nature, processes, practice and policies relative to welfare services for children and families; includes support services such as service agencies for the family and mental health clinics; supplementary services such as housekeepers; substitute services such as foster homes, adoption agencies and others.
3 credits

SOWO 4873 SOCIAL SCIENTIFIC RESEARCH METHODOLOGY
Processes and techniques utilized by the social scientist to formulate and verify descriptions of social phenomena. Use of research and statistical methods; application of principles of research in the social sciences. Research design, sampling, models, instruments for data collection, tabulation and analyses; interpretation and application of findings. Prerequisite: PSYC 3001.
4 credits

SOWO 4911 PRACTICE EXPERIENCES IN GENERALIST SOCIAL WORK I
Integration of knowledge and development of skills for beginning professional practice in social work. Includes a practice seminar consisting of three hours weekly. In addition, this course requires a minimum of 200 hours of practice during the semester, with the supervision of a specialist. This course may not be substituted with work experience. Prerequisites: SOWO 3802, 4931.
4 credits

SOWO 4912 PRACTICE EXPERIENCES IN GENERALIST SOCIAL WORK II
Application of the knowledge, skills and principles of professional ethics of the generalist social worker in a community agency in more complex intervention situations. Includes a practice seminar consisting of three hours weekly. In addition, a minimum of 200 hours of practice under the supervision of a specialist in the area is required. This course may not be substituted with work experience. Prerequisite: SOWO 4911.
4 credits

SOWO 4931 PRACTICE METHODS IN GENERALIST SOCIAL WORK I
Study of the intervention methods, techniques and skills used by the generalist social work practitioner. Emphasis on the individual and family client systems. Prerequisites: SOWO 3462, 3801.
3 credits

SOWO 4932 PRACTICE METHODS IN GENERALIST SOCIAL WORK II
Study of small groups, communities and organizations as client systems. Application of intervention method from the generalist social worker perspective. Prerequisites: SOWO 3828, 4931. Corequisite: SOWO 4911.
3 credits

Courses in Sociology (SOCI)

SOCI 2030 INTRODUCTION TO SOCIOLOGY
Fundamental principles and facts concerning society.
3 credits
SOCI 2080 THE PUERTO RICAN CRIMINAL JUSTICE SYSTEM
Discussion of the criminal Justice System with emphasis on its components: community, legislative bodies, police, investigation and prosecution, courts and penal institutions.
3 credits

SOCI 3020 SOCIAL STRUCTURES AND SOCIAL CHANGE
Social institutions and structures including the family, religion, education, politics and the economy; their manifestation in norms and regulations, prohibition, social groups, status and stratification; social change; individual adjustment to change; collective behavior and social movements.
3 credits

SOCI 3404 SOCIOLOGICAL THEORIES
Systematic study of classical theories, emphasis on A. Comte, K. Marx, E. Durkheim, G. Simmel, M. Weber, W. Pareto, G.H. Mead and R. Mannheim; modern and contemporary theories such as Sociology in Action, Symbolic Interaction and various functionalist theories.
3 credits

SOCI 3485 THE FAMILY
The family as a fundamental social institution; its influence on personality development.
3 credits

SOCI 3513 RURAL SOCIETY IN TRANSITION
Changes which are affecting rural life, and programs for the development of rural society.
3 credits

SOCI 3530 URBAN SOCIETY
Study of metropolitan areas; their social structures, recent changes, problems, institutions and potentials.
3 credits

SOCI 3634 GROWTH AREAS
Analysis of the social problems in Latin America, Asia and Africa.
3 credits

SOCI 3645 DEMOGRAPHY
Introduction to the sociological analysis of the human population in qualitative, quantitative and statistical terms; emphasis on the processes of demographic changes in Puerto Rico.
3 credits

SOCI 3753 SOCIAL PROBLEMS OF PUERTO RICO
Contradictions and anomalies in social functions in contemporary Puerto Rican society; their definition and genesis; their magnitude and mechanisms being used to solve problems.
3 credits
SOCI 3837 REHABILITATION OF DELINQUENTS
Analysis of the diverse systems to rehabilitate delinquents and their use in correctional and social institutions. 3 credits

SOCI 4210 MINORITY PROBLEMS
Study of contemporary ethics groups; their prejudices, tensions, etc.

SOCI 4220 GENDER, SOCIETY AND CULTURE
Interdisciplinary study of various fields of knowledge from the perspective of the social construction of gender. The principle manifestations and representations of gender are analyzed in areas such as science, technology, education, religion, literature and the arts. Analysis of the integration of gender in the social discourse on sexuality, race, ethnic groups, old age and identity. 3 credits

SOCI 4495 CRIMINOLOGY AND JUVENILE DELINQUENCY
Sociological aspects of social deviants: studies in prevention. Field trips. 3 credits

SOCI 4694 HISTORY OF SOCIAL THOUGHT
Evolution of social thought from the dawn of history with emphasis on the 19th and 20th centuries in Europe, Asia and the Americas. 3 credits

SOCI 4817 HISTORY OF SOCIAL WELFARE
Review of programs and institutions designed to ameliorate the social ills from earliest times to the present; present-day methods in social work; U.S. Social Security program. Prerequisites: SOCI 3485 and senior class status. 3 credits

Courses in Spanish (SPAN)

SPAN 2451, 2452 SPANISH COMPOSITION AND LITERATURE FOR NON-NATIVE SPEAKERS
Through the reading and discussion of selected materials, students are helped to acquire a command of the Spanish language. Emphasis on oral expression and written composition with special stress on syntax. Enrollment limited to twenty students per section. 3 credits per course

SPAN 2510 INTRODUCTION TO TEXT ANALYSIS
Basic techniques in text analysis: theme and plot identification, points of view, styles and prosody. Introduction to literary genres through practice in the analysis of representative works. Prerequisite: GESP 1102. 3 credits
SPAN 2540 ADVANCED GRAMMAR
Systematic study of the phonetics and morphosyntax of the Spanish language. Emphasis on theoretical explanations and practice exercises. 3 credits

SPAN 3000 LINGUISTICS
Introduction to the synchronic and diachronic study of language in its phonological, lexical, and morphosyntactical aspects. 3 credits

SPAN 3011 SPANISH LINGUISTICS I
Formative and evolutionary process of the Spanish language from its beginnings to the present: phonology and lexicology. 3 credits

SPAN 3012 SPANISH LINGUISTICS II
Formative and evolutionary process of the Spanish language from its beginnings to the present: morphology and syntax. Prerequisite: SPAN 3011. 3 credits

SPAN 3015 ORAL COMMUNICATION
Acquisition and practice of the necessary skills for oral expression through the discussion of different topics and the development of ability in oral comprehension. Presentation and preparation of argumentative and expository speeches. Prerequisite: GESP 2203 with a minimum grade of C. 3 credits

SPAN 3020 WRITING WORKSHOP
Writing expository and argumentative texts. Emphasis on formal expression. Prerequisite: GESP 2203 with a minimum grade of C. 3 credits

SPAN 3021 SPANISH LITERATURE I
Introduction to the study of representative works and authors of Spanish literature from its beginnings to the Golden Age. 3 credits

SPAN 3022 SPANISH LITERATURE II
Introduction to the study of representative works and authors of Spanish literature from the eighteenth century to the present. 3 credits

SPAN 3025 WRITING OF PROFESSIONAL DOCUMENTS
Development of professional writing skills. Emphasis on research techniques, resumes, reports, and lectures. Computer use in writing. Prerequisite: GESP 2203 with a minimum grade of C. 3 credits
SPAN 3071 SPANISH-AMERICAN LITERATURE I
Introduction to the study of representative works and authors of Spanish-American literature from the pre-Columbian period to Modernism. 3 credits

SPAN 3072 SPANISH-AMERICAN LITERATURE II
Introduction to the study of representative works and authors of Spanish-American literature from postmodernism to the present. 3 credits

SPAN 3211 PUERTO RICAN LITERATURE I
Introduction to the study of representative works and authors of Puerto Rican literature from chronicles to naturalism. 3 credits

SPAN 3212 PUERTO RICAN LITERATURE II
Introduction to the study of representative works and authors of Puerto Rican literature from modernism to the present. 3 credits

SPAN 4015 TRANSLATION WORKSHOP
Development of the basic skills for translation from English to Spanish. Use of translated texts to improve communication in Spanish. Prerequisite: GESP 2203 with a minimum grade of C. 3 credits

SPAN 4110 LITERATURE OF THE GOLDEN AGE: COMEDY AND POETRY
Representative works and authors of comedy and poetry during the Golden Age in their historical-cultural context. 3 credits

SPAN 4120 LITERATURE OF THE GOLDEN AGE: CERVANTES AND THE NOVEL
Study of the works of Cervantes and of Picaresque literature through their most representative works. 3 credits

SPAN 4123 COMEDY IN THE GOLDEN AGE
Analysis of the principal works of representative authors such as Lope de Vega, Calderón, Tirso de Molina and Alarcón. 3 credits

SPAN 4170 SPANISH-AMERICAN LITERATURE OF THE NINETEENTH CENTURY
Historical-cultural background of the most representative literary movements of the nineteenth century in Spanish America: romanticism, realism-naturalism and modernism. Analysis of representative works of each movement. 3 credits
SPAN 4175 SPANISH-AMERICAN LITERATURE OF THE TWENTIETH CENTURY: NARRATIVE AND DRAMA
The narrative and the Spanish theater of the twentieth century. Analysis of representative works of the different literary trends.
3 credits

SPAN 4185 SPANISH-AMERICAN DIALECTOLOGY
Contemporary trends in Spanish-American dialectology: phonology, morphosyntax, lexicon and the influence of other languages.
3 credits

SPAN 4196 THE LANGUAGE OF PUERTO RICO
Study of the Spanish spoken in Puerto Rico: phonology, morphosyntax, lexicon and the influence of English and other languages.
3 credits

SPAN 4200 SPANISH LITERATURE OF THE NINETEENTH CENTURY
Historical-cultural background of the literary movements of the nineteenth century in Spain: romanticism, realism-naturalism. Analysis of representative works of each movement.
3 credits

SPAN 4210 SPANISH LITERATURE OF THE TWENTIETH CENTURY
Representative works and authors of the different literary trends from the Generation of ’98 to the present.
3 credits

SPAN 4275 SPANISH-AMERICAN LITERATURE OF THE TWENTIETH CENTURY: POETRY AND ESSAY
Poetry and essays of Spanish America in the twentieth century. Analysis of representative works of the different literary trends.
3 credits

SPAN 4300 PUERTO-RICAN LITERATURE OF THE NINETEENTH CENTURY
Historical-cultural background of the literary movements of the nineteenth century in Puerto Rico. Analysis of representative works and authors of each movement.
3 credits

SPAN 4350 PUERTO RICAN LITERATURE OF THE TWENTIETH CENTURY: NARRATIVE AND DRAMA
Puerto Rican narrative and theater of the twentieth century. Analysis of representative works of the different literary trends.
3 credits

SPAN 4375 PUERTO RICAN LITERATURE OF THE TWENTIETH CENTURY: POETRY AND ESSAY
Poetry and essays of Puerto Rico in the twentieth century. Analysis of representative works of the different literary trends.
3 credits
Courses in Sports and Recreational Facilities Management (SRIM)

SRIM 1020 FOUNDATIONS OF SPORTS AND RECREATION
Study of the philosophical, historical and social foundations of sports and recreation. Emphasis on the contribution of sports and recreation to the individual and society. 3 credits

SRIM 2300 INTRODUCTION TO SPORTS MARKETING
Introductory study of the total system of integrated marketing and its application to the sports industry. Study of the variables controlled by the company, product, price, promotion and distribution. In addition, consumer behavior, information systems, segmentation, selection of market goals, and the external and internal factors that affect marketing decisions will be studied. Prerequisite: BADM 2250. 3 credits

SRIM 3020 GOVERNMENT ADMINISTRATION OF SPORTS ORGANIZATIONS
Study of governments of sport organizations such as: International Olympic Committee, Olympic Committee of Puerto Rico, Interinstitutional Athletic League (LAI), Department of Recreation and Sports, and Federations. Analysis of the economic structure, source of income, corporative status, services, responsibilities of governing boards, and objectives and goals of these organizations. Study of related cases by means of simulated situations and their relevance to sport facilities and programs. 3 credits

SRIM 3030 DEVELOPMENT OF PROGRAMMING OF SPORT AND RECREATIONAL CENTERS
Development of programming and philosophy of a sports center (goals, objectives, programming, evaluation, needs studies and others) taking into consideration all related aspects. Prerequisite: SRIM 1020. 3 credits

SRIM 3040 LEGAL ASPECTS IN RECREATION AND SPORTS
Review of the legal component, using the criminal and civil frame of laws at the state and federal levels. Aspects related to existing jurisprudence, the sports industry, negligence, risk administration, hiring, relief of responsibilities and others. Analysis, interpretation and relation of existing jurisprudence to sports. Study of legal procedures, governmental agencies in charge, and procedures used today by the different organizations in charge of sports, recreation and playgrounds. Prerequisite: SRIM 3020. 3 credits

SRIM 3060 SPORT AND RECREATIONAL FACILITIES MANAGEMENT
Study and analysis of public and private sports and recreational facilities management and their infrastructure. Emphasis on employees itineraries and on the maintenance of aquatic parks, sport coliseums, baseball stadiums, golf courses, public beaches, and other similar facilities. Areas will be explored such as: architecture, design and study of landscape designs. Prerequisites: SRIM 3030, BADM 2250. 3 credits
SRIM 4010 EVALUATION AND RESEARCH IN SPORTS AND RECREATIONAL FACILITIES MANAGEMENT
Study, interpretation and application of evaluation, measurement and assessment concepts and their application in sports administration. Analysis, design and application of evaluation techniques and instruments, and theoretical tests and practices. Prerequisite: SRIM 3060. 3 credits

SRIM 4910 INTERNSHIP IN SPORTS AND RECREATIONAL FACILITIES MANAGEMENT
Supervised practical experiences in the field of sports and recreational administration. Students are required to devote a minimum of 120 hours during the academic term to complete the assigned work. Prerequisite: Have passed at least 24 credits in the major at the 3000 and 4000 levels, including SRIM 3020, 3030, 3040 and 3060. 3 credits

SRIM 4970 SEMINAR IN SPORTS AND RECREATIONAL FACILITIES MANAGEMENT
Integration of knowledge acquired in the specialty courses by means of analysis of contemporary problems of sports administration. Situations occurring in sports administration will be critically studied and analyzed by applying skills, knowledge and procedures acquired in the courses. Prerequisite: Have passed 24 credits in the major at the 3000 and 4000 levels, including SRIM 3020, 3030, 3040 and 3060. 3 credits

Courses in Telecommunications Technology (TCOM)

TCOM 1511 FUNDAMENTALS OF TELEPHONY
Basic and essential concepts in Telephony with an emphasis on channels of communication, types of signals, modes and means of transmission, and signaling. In outside plants, design, economies, planning, service transfer and other concepts such as cable cutting are included. The analysis of the central office switching system includes the hierarchy of offices, process of the calls, number of lines, the main frame cables, configuration, main lines and trunk-signaling systems. 3 credits

TCOM 1512 FUNDAMENTALS OF TELECOMMUNICATIONS
Basic concepts and essential elements in modern telecommunications that include network systems, data communication, telephone networks, cellular communication systems, satellites, land communication stations and other new technologies. Prerequisite: TCOM 1511. 3 credits

TCOM 2523 INTRODUCTION TO EXTERNAL PLANTS
Study of basic fundamentals and concepts of external plant networks. Composition of external plant elements including: ables, joints and design considerations. Prerequisites: TCOM 1512, MATH 1500. 3 credits
TCOM 2533 TELEPHONIC TRANSMISSION
Detailed concepts of transmission systems, analogous and digital signals, ways and parameters of transmission, voice data and video transmission, wireless transmission, instruments and testing methods. Prerequisites: COMP 2120, CSIR 1130.

3 credits

TCOM 2542 DATA COMMUNICATION
Application of fundamental and essential elements of electronic networks of data communication and systems integration. Requires 45 hours of lecture and 45 hours of lab. Prerequisites: TCOM 2533, CSIR 1210.

4 credits

TCOM 2544 COMMUTATION SYSTEMS
Study of the foundations of commutation systems. Types and configurations of commutators. Basic composition, operation and processes associated with commutators. Processing techniques in commutation equipment. Prerequisite: TCOM 2533.

4 credits

TCOM 2910 PRACTICUM
Application of the knowledge and skills acquired by means of the development and presentation of a project in the telecommunications field under the supervision of a faculty member. Requires that the student devote at least 80 hours to the practice. Prerequisites: TCOM 2533 and the approval of the Department Director.

3 credits
The University publishes its General Catalog in both English and Spanish. In the interest of economy, the following list of faculty is presented only in Spanish. The accompanying glossary of Spanish and English equivalencies for disciplines and for administrative and academic titles and related terms will help those readers of English who are not familiar with these terms in Spanish.

**Academic Ranks and Titles**

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<th>SPANISH</th>
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<tr>
<td>Catedrático (a)</td>
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<td>Catedrático (a) Asociado (a)</td>
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<td>Catedrático (a) Visitante</td>
<td>Visiting Professor</td>
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**Administrative Titles**

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<td>Asuntos Académicos</td>
<td>Academic Affairs</td>
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<td>Decano (a)</td>
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**Disciplinas**

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Ciencias Ambientales       Environmental Science
Ciencias de Aviación       Airway Science
Ciencias Bibliotecarias   Library Sciences
Ciencias Políticas         Political Science
Ciencias Secretariales    Secretarial Science
Ciencias de Computadoras  Computer Science
Ciencias Militares         Military Science
Comunicación               Communication
Contabilidad                Accounting
Desarrollo Empresarial      Entrepreneurial Development
Diseño Organizacional de Calidad  Quality Organizational Design
Economía                    Economics
Educación Comercial         Business Education
Educación de Maestros       Teacher Education
Educación Especial          Special Education
Educación Física            Physical Education
Electrónica                 Electronics
Enfermería                  Nursing
Español                     Spanish
Estudios Aeroespaciales     Aerospace Studies
Filosofía                   Philosophy
Finanzas                    Finance
Física                      Physics
Francés                     French
Geografía                   Geography
Gerencia                    Management
Gerontología                Gerontology
Historia                    History
Inglés                      English
Ingeniería                  Engineering
Italiano                    Italian
Justicia Criminal           Criminal Justice
Latín                       Latin
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Matemáticas                 Mathematics
Mercadeo                    Marketing
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Portugués                   Portuguese
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Química                     Chemistry
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Religión                    Religion
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