CHARTING YOUR ACADEMIC COURSE

2017-2018 GUIDEBOOK FOR UNDERGRADUATE STUDENTS
# Academic Calendar 2017 - 2018

**Fall Semester 2017**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>New faculty orientation</td>
<td>Aug 21-22</td>
</tr>
<tr>
<td>Faculty meetings</td>
<td>Aug 23</td>
</tr>
<tr>
<td>New students arrive</td>
<td>Aug 24</td>
</tr>
<tr>
<td>Fall welcome week</td>
<td>Aug 24-27</td>
</tr>
<tr>
<td>Regular class schedule begins</td>
<td>Aug 28</td>
</tr>
<tr>
<td>Labor Day, University closed*</td>
<td>Sep 4</td>
</tr>
<tr>
<td>Fall break begins, 4:00 p.m.</td>
<td>Oct 13</td>
</tr>
<tr>
<td>Classes resume, 8:00 a.m.</td>
<td>Oct 18</td>
</tr>
<tr>
<td>Thanksgiving break begins, 8:00 a.m.</td>
<td>Nov 22</td>
</tr>
<tr>
<td>Classes resume, 8:00 a.m.</td>
<td>Nov 27</td>
</tr>
<tr>
<td>Last day of classes</td>
<td>Dec 8</td>
</tr>
<tr>
<td>Final exams</td>
<td>Dec 11-15</td>
</tr>
<tr>
<td>Graduate Commencement</td>
<td>Dec 15</td>
</tr>
<tr>
<td>Undergraduate Commencement</td>
<td>Dec 16</td>
</tr>
</tbody>
</table>

*The fall semester has one less Monday day/evening class--made up at the discretion of faculty.*

**Winter Term 2017**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session opens</td>
<td>Dec 18</td>
</tr>
<tr>
<td>Session ends</td>
<td>Jan 19</td>
</tr>
</tbody>
</table>

**Spring Semester 2018**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLK Day, University Closed</td>
<td>Jan 15</td>
</tr>
<tr>
<td>New students arrive</td>
<td>Jan 19</td>
</tr>
<tr>
<td>New student orientation</td>
<td>Jan 19-21</td>
</tr>
<tr>
<td>Regular class schedule begins</td>
<td>Jan 22</td>
</tr>
<tr>
<td>Spring break begins, 4:00 p.m.</td>
<td>Mar 9</td>
</tr>
<tr>
<td>Classes resume, 8:00 a.m.</td>
<td>Mar 19</td>
</tr>
<tr>
<td>Last day of classes</td>
<td>May 4</td>
</tr>
<tr>
<td>Final exams</td>
<td>May 7-11</td>
</tr>
<tr>
<td>Graduate Commencement</td>
<td>May 11</td>
</tr>
<tr>
<td>Undergraduate Commencement</td>
<td>May 12</td>
</tr>
</tbody>
</table>

**Summer Term A 2018**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session opens</td>
<td>May 21</td>
</tr>
<tr>
<td>Memorial Day, University Closed</td>
<td>May 28</td>
</tr>
<tr>
<td>Special make-up for Memorial Day</td>
<td>Jun 2</td>
</tr>
<tr>
<td>Session ends</td>
<td>Jun 29</td>
</tr>
</tbody>
</table>

**Summer Term B 2018**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session opens</td>
<td>Jul 2</td>
</tr>
<tr>
<td>July 4th, University Closed</td>
<td>Jul 4</td>
</tr>
<tr>
<td>Special make-up for July 4th</td>
<td>Jul 7</td>
</tr>
<tr>
<td>Session ends</td>
<td>Aug 10</td>
</tr>
</tbody>
</table>
Greetings, and Welcome to an Exciting New Year at SU!

A special welcome to you, if this is your first semester, we are happy to have you aboard!

Charting Your Academic Course: A Guidebook for Undergraduate Students is a great resource for you and your academic advisor, and will be especially useful to help you prepare for your meetings with your advisor. This guidebook is for you to keep and use!

In these pages, you will find answers to many of the questions you may have about academic programs and a myriad other topics such as:

- Important university policy information (page 11)
- General Education requirements (page 39)
- Explanations of placement testing and modern language requirements (page 19)
- Information about programs such as Study Abroad and the Honors Program (page 23)
- Requirements for declaring all majors offered here at SHIP (pages 33-35)
- Details of all programs of study, including registration tips, and prerequisites (49)

We wish you a very happy and successful year, and know that you will find Charting Your Academic Course: A Guidebook for Undergraduate Students informative and helpful!

Sincerely,

Denise S. Yarwood, Associate Dean, The Elnetta G. Jones School of Academic Programs & Services, and Office for Exploratory Studies
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"The only person who is educated is the one who has learned how to learn and change.”  Carl Rogers
Academic Policies and Procedures

Developmental Courses
Developmental courses do not meet the general education program requirements. They are considered additive credits and do not count toward graduation. The following courses are considered developmental:

- Developmental Mathematics (MAT 050)
- College Reading & Study Skills (RDG 050)

For more information on Placement Testing and Developmental Courses, please see "Understanding Placement Testing", p.19.

First Day Attendance
Failure to attend the initial class session may result in a student being dropped from the course. If you are unable to attend the first class session of a course in which you plan to remain enrolled, you must give notice of the intended absence to the instructor, department secretary, or academic dean's office of that course. Failure to provide such notification may result in your name being removed from the roster and your place in that class being given to another. If you do not attend the first day of class, you cannot assume, however, that you have been dropped from this class. It is your responsibility to verify your enrollment status by checking your schedule on the Student Information System. Exploratory students should contact their dean's office (Horton Hall 112, x1395).

Transfer Courses
If you want a course taken at another school to count towards your degree at Shippensburg University, you must obtain permission from the dean of your college before taking the course. Transfer course credit cannot be guaranteed for students who fail to communicate their intentions to their dean prior to taking the course.

Withdrawal from a Class
First-year students cannot adjust their schedules except through their dean's office. The schedule adjustment period (at the beginning of the semester) lasts for approximately five (5) days. During this time, a student can withdraw from a course and there will be no record of this course on his/her transcript. Students may withdraw from a class through the tenth week of the semester by initiating a request through their academic dean. In this case, a “W” grade will appear on the transcript. However, withdrawals after the tenth week will result in an “F” grade recorded on the transcript. You should check with your advisor and the Financial Aid Office before withdrawing from a course. It is your responsibility to officially withdraw from any class into which you have been scheduled whether or not you have ever attended the class.

Minimum Academic Standards
You are expected to maintain satisfactory academic standing, which requires a cumulative QPA of 2.0 (“C”) or better in your total program of courses and a minimum of 2.0 (“C”) in the coursework of your major area of specialization. You cannot declare or change majors without at least a 2.0. To avoid dismissal, first-year students should maintain a minimum QPA of 2.0 or above.

Repeating Classes
Students who have “D” or “F” grades and who are on academic probation should repeat the courses with “F” grades as soon as possible. This is the fastest way for students to get off academic probation. Although the initial grade will continue to appear on the transcript, it will no longer be calculated into the grade point average. Per university policy, a “D” or “F” grade earned at Shippensburg University may not be made up or replaced by credits earned at another institution.

Shippensburg University policy allows a student to repeat (and replace) six grades with a newer grade; however, after this option is used six times, any subsequent repeats will include both grades in the grade point average. Always check with Financial Aid, a coach, or advisor before repeating a course.

How many courses do students take in the first year?
It is advisable that most first-year students take five courses (15 credits) each semester of their first year. There are times, however, when a student may be encouraged to take four courses (12 credits). Reduced loads may be desirable for students who participate in one or more sports, students on academic probation, students who have learning difficulties, or students who work. Students can schedule a maximum of 18 credits without incurring additional fees.

When do I register for classes?
Most students register for classes at Orientation. For the first semester, students take general education courses necessary for graduation. After the first semester, students continue to register for their own classes via their student portal, once they have consulted with their academic advisors.
Frequently Asked Questions
Quick Answers to Common Questions

What happens if I take only three courses (9 credits)?
A student who carries fewer than 12 credits is a part-time student. This part-time status could reduce the student's financial aid package because financial aid awards are based on an “assumed” full-time enrollment—12 or more credits. In addition, a student must pass 24 credits from one September to the next, attaining a grade point average of no less than 1.7 for first-year students and a 2.0 for sophomores and upperclassmen. The NCAA also follows these guidelines.

What happens if I become ill and cannot complete the semester’s coursework?
Students may request a medical withdrawal from the university with a “W” grade in their coursework, or they may request an “I” grade (incomplete). This request is made through the dean's office and is possible if 1) the student was enrolled in the university for the majority of the semester; and 2) the documentation of the medical condition warrants a medical withdrawal.

Is class attendance mandatory?
It depends. Students must understand the attendance policy of each of their instructors, every semester. Some professors don't take attendance and others deduct points for missed classes. Professors will often present material in class that won’t be found in textbooks, and it's up to the student to obtain that information. There is a very high correlation between class attendance and academic success.

What if I am late for class?
Sometimes circumstances will prevent a student from attending class on time. But being habitually late to class is both rude and inconsiderate. In addition, some professors deduct points for lateness. Good students come to class on time and well prepared.

What grade point average will place me on academic probation?
To remain in good academic standing, a student must maintain a minimum cumulative grade point average of 2.0 (“C”).

Can I take courses at another university to improve their grade point average?
See Visiting Student Program (11-13 Catalog, pg 25) No. Only credits, not grades, will be accepted from other institutions. Also, only courses in which a “C” grade or higher was earned will transfer. Approval for transfer credit should be obtained from the academic dean's office prior to enrolling for the course.

If I earn a “D” or an “F” grade in a course at Shippensburg University, can I repeat it at another university?
“D” and “F” grades earned at Shippensburg must be repeated at Shippensburg.

Should I always repeat courses when I have earned “D” or “F” grades?
Not always. It depends on the student’s major. However, it is strongly recommended that students who want to improve their grade point average should repeat the course as soon as possible. Shippensburg University's policy allows a student to repeat (and replace) six grades with the newer grade; however, after this option is used six times, any subsequent repeats will include both grades in the grade point average. Check with Financial Aid or your advisor before repeating courses.

Will I receive any recognition for outstanding academic performance?
Yes. A dean’s list is published at the end of each semester to recognize students who earn at least a 3.5 or better. In addition, students who consistently perform at the highest levels are given special recognition at the end of each academic year.

How much time should I devote to study?
It is important for first-year students to learn early in their collegiate career that efficient time budgeting requires painstaking systematic planning. The resulting time schedule must be both realistic and practical; that is, it must be sufficiently flexible to handle changing requirements and be adequately balanced between academic work and recreation. Studies show that college students who are taking five (5) courses should study at least 30 hours a week outside of the classroom in order to be academically successful.

Where should I go for academic advice?
Every student is assigned to an academic advisor either by the department of the student’s major. If you an Exploratory Studies student, you will be assigned an advisor from the Advising Center for Exploratory Students in the Office for Exploratory Studies. Students who do not know their assigned advisor should contact the appropriate department or the Office of Exploratory Studies, or should access their myShip portal.
Answers to Questions (continued)

When are Exploratory Studies students required to declare a major?
Exploratory Studies students must declare a major early in the third semester of their collegiate career. This will allow you to schedule courses in your major for the second semester of their sophomore year.

What steps must I follow to declare a major?
Declaring a major is a simple process. You should follow these steps:

1. Make sure you are in good academic standing. In all cases, students need a minimum cumulative GPA of at least a 2.0.
2. Talk to your advisor about your plans.
3. Verify requirements for the major in the Guidebook for Advising Undergraduate Students.
4. If the selected major is among the list of high demand majors (Biology, Comm./Journalism, Psychology, and Teacher Education), students must apply to the department within the first three weeks of each semester. These majors have higher GPA standards. Some departments conduct pre-screenings. They may also require completion of certain courses before students will be considered and accepted as majors.

Please note, although these majors only accept students within the first three weeks of every semester, eligible students may declare other majors any time during the semester (except during registration). If you meet the major requirements, you should complete the online form at ship.edu/registrar. Click submit, then print the form and take it to the department Chair and new college dean for their signatures. Once signatures have been obtained, the form will be sent to the Registrar’s Office for processing.

What are minors?
An academic minor is a structured group of courses that can enhance your educational experience. It usually consists of 18-26 credits from one or more disciplines outside the student’s major. It is possible to have more than one minor, but only six credits from one minor may count toward the fulfillment of another. Shippensburg University offers over 30 different minors. Students should consult the catalog for details and consult with their advisor about declaring a minor.

Who is eligible for the Satisfactory/Unsatisfactory option?
Students who have completed thirty (30) or more credit hours with a minimum overall grade point average of 2.5 may schedule one course (three or four credits) per semester outside of the major or minor field of study under the Satisfactory/Unsatisfactory option. The maximum number of credits a student may schedule under the option is ten (10) credits. To apply for this option, an original copy of the student’s class schedule must be presented to the Registrar’s Office within the first two weeks of the semester.

Must I take a foreign language?
It depends. Only students who expect to graduate with a B.A. (Bachelor of Arts) degree need to complete three credits of a foreign language at the intermediate level (103 level). B.S. (Bachelor of Science), B.S.B.A. (Bachelor of Science in Business Administration), B.S.Ed. (Bachelor of Science in Education), and B.S.W. (Bachelor of Social Work) students do not need to take a foreign language.

Students who have completed three years of a single language in high school have satisfied the language requirement. You may take a foreign language course to fulfill a Category B Humanities requirement for general education.
UNDERSTANDING PLACEMENT TESTING

Q. How do I know if I need to take placement testing?

A. Placement Testing is based on your SAT scores:

Reading:
Depending on your SAT score, you may be required to complete a developmental reading course (RDG 050) your first semester.

Q. Can I test out of remediation?

A. You may have the opportunity to take the Townsend Press College Preparatory Reading Test, depending on your SAT score.

• A TP Reading Test score of 80 or above, is passing, and you will not be required to take Developmental Reading (RDG 050).
• A TP Reading Test score of below 79 will require placement into RDG 050
• You will automatically be placed into RDG 050 if you do not choose to complete the Townsend Press College Preparatory Reading Test.

You are encouraged to complete remedial courses prior to arriving at Shippensburg University; otherwise:

• You must take RDG 050 in your first semester at Ship.
• Your first semester schedule will be restricted to 12 credits total (including RDG 050).
• The developmental course will not count towards the credits required for graduation.
• You are not permitted to take HIS 105 or 106 until RDG 050 is successfully completed.

Math:
Depending on your SAT score, you may be required to take the Accuplacer Math Placement Test.

You may automatically place into Level 4 Math, depending on your SAT score. Students in STEM, Business, and Mid-Education Majors are encouraged to complete the Optional Math Testing to advance their level.

You may automatically place into Level 6 math, depending on your SAT score.

Q. So what Math Course Should I Take?

A. You should always check with your advisor before scheduling math courses, but the table, below, provides a guide.

<table>
<thead>
<tr>
<th>Result</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>• Developmental Math - MAT 050</td>
</tr>
<tr>
<td></td>
<td>• Remediate prior to arrival at Shippensburg University.</td>
</tr>
<tr>
<td></td>
<td>• Tutoring and Waiver Exam Option available</td>
</tr>
<tr>
<td></td>
<td>• You will have the opportunity to bypass MAT 050 by taking and passing the final exam on the first day of class.</td>
</tr>
<tr>
<td></td>
<td>• The developmental course will not count towards the credits required for graduation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calculus-Based Majors</th>
<th>All Other Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2</td>
<td>MAT 050</td>
</tr>
<tr>
<td>Level 3</td>
<td>MAT 140A – College Algebra (4 credits)</td>
</tr>
<tr>
<td>Level 4</td>
<td>MAT 140B – College Algebra (3 credits)</td>
</tr>
<tr>
<td>Level 5</td>
<td>Science majors: MAT 175 Pre-Calculus</td>
</tr>
<tr>
<td></td>
<td>Business majors: MAT 181 Applied Calculus</td>
</tr>
<tr>
<td></td>
<td>Check with your advisor to see if your major requires any further math courses.</td>
</tr>
<tr>
<td>Level 6</td>
<td>Eligible to take MAT 211 Calculus I</td>
</tr>
<tr>
<td></td>
<td>Check with your advisor to see if your major requires any further math courses.</td>
</tr>
</tbody>
</table>

NOTE TO ADVISORS: If the Student’s Math Placement Math Level is 0, the student MUST complete math placement testing.
English:

Depending on your SAT score, you may be required to write a placement test essay on D2L.

<table>
<thead>
<tr>
<th>Result</th>
<th>Course</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>ENG 113</td>
<td>Introduction to Academic Writing</td>
</tr>
<tr>
<td>Level 3</td>
<td>ENG 114</td>
<td>Writing Intensive First-Year Seminar</td>
</tr>
<tr>
<td>Level 4</td>
<td>ENG 115</td>
<td>Advanced Placement Writing</td>
</tr>
</tbody>
</table>

Transfer Students:

Q. I am a transfer student. Do I need to complete placement testing?

A. You will be contacted by the Placement Testing Office if testing is required; however, as a guide, you will need to take placement tests in math and English under the following conditions:

- SAT scores
- Your SAT scores are older than 2 years.
- You are not transferring in a math and/or English course.
- You did not successfully pass a math or English developmental course.
- You do not have a math or English course “pending” or in “process”.

For further inquiries please visit: www.ship.edu/testing
# MATH PLACEMENT LEVELS

<table>
<thead>
<tr>
<th>Placement Level</th>
<th>STEM majors</th>
<th>Business majors</th>
<th>Other majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MAT050¹ Developmental Math</td>
<td>MAT050¹ Developmental Math</td>
<td>MAT050¹ Developmental Math</td>
</tr>
<tr>
<td>2</td>
<td>MAT140A² College Algebra</td>
<td>MAT140A² College Algebra</td>
<td>MAT105 Math for Liberal Studies or MAT107 Math Models Applied to Money</td>
</tr>
<tr>
<td>3</td>
<td>MAT140B College Algebra</td>
<td>MAT140B College Algebra</td>
<td>MAT175 Precalculus or MAT110 Fundamentals I or MAT117 Applied Statistics</td>
</tr>
<tr>
<td>4</td>
<td>MAT175 Precalculus</td>
<td>MAT181 Applied Calculus</td>
<td>+ other Math courses as required</td>
</tr>
<tr>
<td>5</td>
<td>MAT211 Calculus I</td>
<td>+ other Math courses as required</td>
<td>+ other Math courses as required</td>
</tr>
<tr>
<td>6</td>
<td>+ other Math courses as required</td>
<td>+ other Math courses as required</td>
<td>+ other Math courses as required</td>
</tr>
</tbody>
</table>

**Notes:**

1. MAT050 credits count towards full-time status and GPA but not towards graduation.
2. MAT140A is a slower-paced (4-credit) version of MAT140B. Students who pass MAT050 must take MAT140A, not MAT140B. Students should only take one of MAT140A and MAT140B, not both.
3. A “STEM major” is any major that requires MAT211 Calculus I. These include Applied Physics, Biology, Chemistry, Computer Engineering, Computer Science, Electrical Engineering, Geoenvironmental Studies, Mathematics, Physics, Software Engineering. Elementary/Middle Level Education and Economics majors with a mathematics concentration are also in this category.
4. MAT110 Fundamentals of Mathematics I is only available to Education majors.
5. Quantitatively-minded students in majors that require MAT117 Applied Statistics and who place at level 5 or higher may be encouraged to consider MAT217 Statistics I instead.
6. Economics majors (non-Mathematics concentration) are also in this category.
Modern Language Requirements for B.A. Degree Programs

Shippensburg University believes all students who major in a B.A. (Bachelor of Arts) degree should have some "Novice" foreign language background. This requirement can be satisfied by completing a language class at the 103 (intermediate) level or by completing three years of any one foreign language in high school.

Students who major in B.S.B.A. (business) degree programs, B.S.Ed. (education) degree programs, B.S. (Bachelor of Science) degree program, or B.S.W. (Social Work) degree programs are not required to complete the foreign language competency. Students are encouraged to use the following guidelines when considering study in a foreign language: Students with three or more years of a language, who want to take the same language as a General Education Category B course, will be placed at the 202/204 level, according to their number of high school years in one language.

Free Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Students may also meet this requirement through AP testing or CLEP testing, or the university placement test combined with the department oral test.

Students who major in B.S.B.A. (Business) degree programs, B.S.Ed. (Education) degree programs, B.S. (Bachelor of Science) degree programs or B.S.W. (Bachelor of Social Work) degree programs are not required to complete the foreign language requirement.

Students are encouraged to use the following guidelines when considering study in a foreign language:

**LANGUAGE PLACEMENT**

Students with no previous knowledge of a foreign language must begin with the introductory level (101) and complete three courses in that language.

Students with one year of a language should be advised to take the 102 level of that language.

Students with two years of a language should be advised to take the 103 level of that language.

The Modern Languages Department has a placement plan designed for students who already have some knowledge of Spanish, French, or German and want to take upper-level courses or to receive credit by examination for certain courses. Please contact the department chair for placement in these courses.

A placement table for all languages is provided below:

<table>
<thead>
<tr>
<th>Years of Same Language Taken in High School</th>
<th>Appropriate College Level (All Languages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>101</td>
</tr>
<tr>
<td>1</td>
<td>102</td>
</tr>
<tr>
<td>2</td>
<td>103</td>
</tr>
<tr>
<td>3 or more</td>
<td>BA Requirement satisfied or 200/204 as Category B Course</td>
</tr>
</tbody>
</table>

If you have questions, please contact the Chair of the Modern Language Department at (717) 477-1635.
Study Abroad at Shippensburg University

By Mary S. Burnett
Director of International Programs
Student Life Center - Cedia Union Building 221
(717) 477-1279

Study Abroad at Shippensburg University: Plan Now to Study Abroad

One of the advantages of attending Shippensburg University is the ease with which you can study abroad. New friends and experiences await you in Australia, Costa Rica, England, France, Ireland, Spain, New Zealand, and elsewhere across the world.

Why plan now to study abroad? Some advance planning is necessary in terms of courses you take here and courses you reserve for studying abroad. General Education courses work really well abroad. A very good reason to study in Denmark, The Netherlands, Mexico, Korea or wherever is so that you can take courses unique to that region. Many courses in your major may be taken abroad as well. Language students find it is essential for them to study their language in the native region.

What are the requirements? You need a minimum 2.5 GPA, although many institutions have requirements beyond this. SU also requires students to earn 30 SU credits before going abroad and to be in good standing at the university. All schools and programs require that you complete one year of college before going abroad. You can apply after your first semester, but you must finish one year here before you can travel abroad.

When do students study abroad? Study abroad used to mean one semester during your junior year of college. Today, students can choose a timeframe that works with their college career. Semester-long programs are most popular, but some students select an academic year (actually 8 months or so) because they find one semester is not enough. Spending two semesters abroad enables you to reap all the benefits of the program. It also gives you more time to travel and to make friends. For those unable to spend a semester or a year abroad, summer programs are also available. These programs can last for 3, 6 or even 9 weeks.

How much will it cost? The cost of studying abroad varies depending upon location. There are also exchange programs for particular majors, where you pay tuition here and study elsewhere. Special scholarships are available for those who qualify, and nearly all financial aid can be applied to studying abroad. It is open to all majors, credit transfer is guaranteed in advance, and it will not delay your graduation if you plan accordingly.

How do I get started? Please call 477-1279 or stop by the International Programs Office in the Cedia Union Buiding, Room 221 and schedule an appointment. Information is also online at www.ship.edu/international.

Think in terms of when, where, your budget, and your GPA. We will find programs and courses suitable to your needs. In this ever-changing, interdependent world, there is a growing need for future teachers, employees, and leaders to understand other peoples, languages, and cultures. Check out the challenge and adventure of studying abroad.
The University Honors Program

The University Honors Program involves students of all majors and at all class levels. To earn the University Honors Program designation with their degree, students complete at least 36 Honors credits, maintain a 3.25 QPA overall and in their Honors courses, and fulfill the program's participation requirement. The program's credit requirements may be prorated for students who enter the Honors Program after the first semester of their freshmen year. The 36 Honors credits are distributed as follows:

1. Eight Honors courses in General Education, 24 credits: Honors students are required to complete HON 106: Honors Writing Intensive First-Year Seminar (unless they have earned AP or transfer credit for the course) and at least 7 other Honors General Education courses. The Honors Program offers approximately 6-8 Honors courses in General Education each semester, representing a cross-section of the General Education requirements. Most Honors courses correspond to regularly offered General Education courses. For example, HON 122: Honors World History I is equivalent to HIS 105: Historical Foundation of Global Cultures. Some Honors courses may not correspond to regularly offered General Education courses, yet they can fill General Education requirements. Students usually complete most of their Honors courses in General Education during their freshman and sophomore years.

2. Three 300-level Honors seminars, 9 credits: Students may begin taking Honors seminars during their sophomore year. Honors seminars offerings include:
   a. Interdisciplinary seminars: These seminars focus on interdisciplinary explorations of specific topics, and they emphasize interdisciplinary analysis and problem-solving.
   b. Core seminars: Some core courses for business and education majors are regularly offered as Honors seminars, including EEC 273: Introduction to Exceptionalities and MGT 447: Business and Society.

   Undergraduate research beyond the capstone project may be substituted for one or more Honors seminars.

3. One Honors capstone project, 3 credits: The University Honors Program's capstone project is a major independent research, creative, or service-learning project. Students usually complete the Honors capstone project and present the results of their project at the University Honors Symposium during their senior year. To mark their progress, students submit Honors capstone project forms, which are available on the Honors Program website at http://www.ship.edu/honors. Options for completing the capstone include:
   a. HON 396: University Honors Colloquium: The University Honors Colloquium explores a theme, and students undertake a research and/or service-learning project on the theme.
   b. Independent research, creative, or service learning project: Students register for research or independent study credit and undertake a research, creative, or service-learning project under the direction of a faculty mentor.
   c. Internship with a related research project: Students register for internship credit, and their faculty supervisor oversees their research project.
   d. Student teaching experience with a related research project: Students register for student teaching credit, and their faculty supervisor oversees their research project.

For more information about the University Honors Program, please visit our website, www.ship.edu/honors, or contact the Director of the Honors Program, Dr. Kim Klein, at kmklei@ship.edu or 477-1604.
Turning Academic Probation into Success

Many faculty who work with students on academic probation find that those who are later dismissed for poor academic performance have often made some common mistakes. If you find yourself on academic probation, you will be less likely to face dismissal, and more likely to increase your GPA, by engaging in the following proactive behaviors:

**Withdraw from courses within the appropriate timeframe.**
Students cannot withdraw from courses past the established deadline. Except for medical emergencies, the last day to drop a course with a “W” occurs during the tenth week of the semester. The deadline is always advertised widely on campus each semester through the deans’ and department offices, as well as on the SHIP website. If absolutely necessary, consider withdrawing from a course only within the established period, and only after discussing your intention with your professor and academic advisor.

**Go to class!**
Some students cut classes frequently because they think they have things to do that are more important than going to class. But the more you cut class, the more threatening you will find class becomes. It’s a self-defeating cycle that results in poor grades and often, academic dismissal. Good students rarely miss class and, if you are on academic probation, you cannot afford to miss any class time.

**Follow the advice of your advisor - not a friend.**
Friends may have good intentions, but they sometimes misadvise their peers about courses that are easy and appropriate for some, but difficult and inappropriate for others. Thus, you should place only limited faith in course selections suggested by friends. Your academic advisor or a departmental faculty member is a far better resource.

**Seek academic or personal help early in the semester.**
Some students try to succeed on their own and seek help only when the situation becomes particularly grim. This is not the time to be self-reliant; instead, please know there is help available on campus. Using supportive services is expected and encouraged as part of the total academic experience.

**Consider your course load.**
Students on academic probation sometimes benefit from taking fewer credits. After discussing with your advisor, consider taking just 12 credits in your first semester on academic probation. So you stay on track for graduation within four years, remember you can make up the missed credits during winter or summer terms.

**Repeat courses in which you earn “F” grades.**
Students tend to think they can put off repeating “F” grade courses until the summer session. Unfortunately, if your grades are poor in the second semester, the opportunity to register for summer classes may not be available. Your best course of action is to repeat “F” grade courses as soon as possible. Remember you may only repeat these at SHIP.

**Speak to a Librarian.**
Students taking courses that require research for projects, papers, or speeches often believe they know how to find the information they need. What you may not realize is that your professors’ expectations may be higher than you have been used to, prior to college. In addition to providing library instruction sessions in a wide range of courses, librarians are available at various times throughout the week for one-on-one consultations that will help you build on the skills you need to be successful at college-level research. Asking for help at the beginning of an assignment can save you time that might be required in redoing assignments and help you earn a better grade!

Department Internship Coordinators

Experiential learning is one of the education cornerstones at Shippensburg University. Students are strongly encouraged and, in some programs, required to gain practical work experience directly related to their major. In addition to student teaching internships, practicums, field experiences, and internships are offered by all three colleges. Even though the administration and coordination of experiential learning is decentralized across the university, the requirements and expectations of both students and employers remain fairly consistent.

Students gain professional experience directly related to their major by working part-time or full-time during the fall, spring, or summer semesters. Students earn credit based upon the number of hours worked; they are supervised by both a faculty advisor and an employer. Common components of internship programs across campus include: faculty approval of the internship position; faculty site visit or contact with both employer and student during the internship; and definition of educational goals in written agreements between faculty, employers, and students. Students are expected to complete various academic assignments related to their experience. Evaluations by both students and employers also help determine whether educational goals were met. For more information, please contact the relevant department and see http://www.ship.edu/intern/index.html.

**Art & Design**
Prof. William G. Whiteley, HAC 304, 1162

**Biology**
Biotech./Pre-Forensic Sciences: Dr. Todd Hurd, FSC 144/154, 1751
Health Professions: Dr. David Long, FSC 154, 1433

**College of Business**
Mr. Justin English, GRH 317, 1351

**Chemistry**
Education: Dr. Thomas Frielle, FSC 307, 1573

**Communication/Journalism**
Prof. Stephanie Witmer, RLH 126, 1525

**Computer Science**
Dr. Carol Wellington, MCT 182, 1424

**English**
Dr. Carla Kungl, DHC 007/WRI 210, 1716/1529

**Exercise Science**
Dr. Russell Robinson, HG 107A, 1155

**Geography/Earth Science**
Dr. Joseph Zume, SRH 114, 1548
Dr. Claire Jantz, SRH 116, 1399

**History/Philosophy**
Dr. Allen Dieterich-Ward, DHC 217, 1192

**Human Communication Studies**
Dr. Sharnine Herbert, DHC 313, 1272

**Mathematics**
Dr. Kim Presser, MCT 274, 1431

**Modern Languages (French/Spanish)**
Dr. Agnes Ragone, RLH 120, 1559
Education: Dr. José Ricardo, RLH 111, 1120

**Music/Theatre Arts**
See department, PAC, 1638

**Physics**
Dr. Michael Cohen, FSC, 1570

**Political Science**
Dr. Amanda Olejarski, GRH 415, 1715

**Psychology**
Dr. Kim Weikel, FSC 115, 1482

**Social Work**
Dr. Liz Fisher, SPH 337, 1365

**Sociology/Anthropology**
Dr. Chad Kimmel, GRH 431, 1706
Adding a minor to your program of study is an excellent way to broaden your background and increase your employability. The following minors are offered at Shippensburg University. Consult your academic advisor, the department, or the web at [www.ship.edu/academics/programs/ugrad.html](http://www.ship.edu/academics/programs/ugrad.html) for more details. You can also refer to the college catalog for the courses that constitute the minor.

<table>
<thead>
<tr>
<th>MINOR</th>
<th>CREDITS</th>
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<tr>
<td>Anthropology</td>
<td>18 credits</td>
<td>Sociology Dept., GRH 428</td>
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<td>Art and Design</td>
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<td>Coaching</td>
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<td>Disability Studies</td>
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<td>Dr. Alison Carey, GRH 436</td>
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<td>Dr. Brendan Finucane., DHC 127</td>
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<td>English</td>
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<tr>
<td>Ethnic Studies</td>
<td>18 credits</td>
<td>Dr. Ana Morana, RLH 115</td>
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<td>French</td>
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<td>Gerontology</td>
<td>18 credits</td>
<td>Dr. Dana Bergel-Bourassa, SPH 325</td>
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<td>Dr. Jonathon Skaff, CUB 221B, DHC 215</td>
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<td>Mathematics</td>
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<td>Psychology</td>
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<td>Public Administration</td>
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<td>Sociology</td>
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<td>Spanish</td>
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<td>Technical/Professional</td>
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<td>Communications</td>
<td>18 credits</td>
<td>Dr. Carla Kungl, DHC 007</td>
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<tr>
<td>Theater</td>
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<tr>
<td>Women's and Gender Studies</td>
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</table>
Academic Planning for Career Success

**FIRST YEAR**

- Do well academically—the higher your GPA, the more choices you’ll have.
- Consider college your first job—and as preparation for life.
- Take at least three self-assessments to discover your values, skills, and goals.
- Evaluate and discuss what you discover about yourself with your advisor, counselor, mentor, or faculty member.
- Explore and use the resources available on campus (including human resources).
- Use the GenEd courses to determine your likes and dislikes.
- Start a portfolio of your best work.
- Attend a university open house.
- Begin to develop/improve your leadership/organizational skills through moderate involvement in constructive extracurricular activities (2nd semester).
- Adopt a mentor.
- Begin a career file. Keep a file of all interesting careers you read or hear about.
- Cultivate skills that will enable you to adapt to change.
- Analytical/critical thinking
  - verbal and oral communication
  - computer proficiency
  - leadership
  - teamwork (organizational skills)
- Know and understand your academic options.
- Become familiar with Internet resources.
- Refine possible majors into two or three options.
- Talk to alumni who work in fields that interest you about their undergraduate and career experiences.

**SECOND YEAR**

- Do well academically.
- Continue to explore academics, the world of work—and yourself.
- If you haven’t already done so, choose your major!
- Explore career alternatives within your major.
- Cultivate key campus career contacts and network among them.
- Develop a tentative resume; as time passes, refine it.
- Track trends in the World of Work.
- Develop those adaptable skills (see first-year).
- Obtain a quality internship over the summer.
- Consider foreign study for a summer/semester.
- Obtain relevant employment, if possible.
Academic Planning (continued)

JUNIOR YEAR

___ Do well academically.
___ Visit the Career Development Center periodically to check for relevant workshops, job fairs, and on-campus recruiting visits, etc.
___ Attend a workshop on the practice of interviewing.
___ Continue to research the workplace. Consult with as many experts as you can.
___ Refine your leadership/organizational skills in campus activities.
___ Refine your resume and portfolio.
___ Explore different internship opportunities.
___ Investigate graduate school.
___ Keep contact with key campus professionals (advisor, mentor, career personnel).
___ Consider foreign study for a semester.
___ Do public service work.
___ Attend job fairs for experience and knowledge.
___ Join at least one professional association to make appropriate contacts.
___ Narrow your career search.
___ Talk to recent graduates/alumni about their experiences in areas of interest to you.

SENIOR YEAR

___ Do well academically.
___ Perfect/complete your resume and cover letter(s). Have them quality-controlled and critiqued by the Career Development Center staff.
___ Update your portfolio.
___ Perform mock interviews.
___ Research prospective employers before interviewing. Prepare appropriate questions.
___ Schedule on-campus interviews.
___ Attend and interview at career fairs.
___ Evaluate each interview after completion. What did you learn? What did you do well? What could you do better next time?
___ Use computer job search resources.
___ Read at least two trade publications in your field of interest.
___ Complete applications for graduate school (if applicable).

"An education isn’t how much you have committed to memory, or even how much you know. It’s being able to differentiate between what you know and what you don’t.”  Anatole France
<table>
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<th>Requirements for Declaring or Changing a Major</th>
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<td><strong>Major</strong></td>
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<td>Education (K-12)</td>
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<td>Human Environmental Studies</td>
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<td>Land Use</td>
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<td>Geography/Secondary Education B.S.Ed. (Social Studies)</td>
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<td>History B.A. with American, European, or Middle East/Asia Concentrations</td>
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<td>Major</td>
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<td>History Secondary Education B.S.Ed. (Social Studies)</td>
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<td>2.5 60 credits and over</td>
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<td>Spanish B.A.</td>
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<td>Pre-K – 4/ Pre-K – 8 Special Education Dual Certification</td>
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</table>
“We are what we repeatedly do. Excellence, then, is not an act but a habit.”  Aristotle
Undergraduate Programs at Ship

Degree framework for undergraduate students:
All degrees awarded by Shippensburg University must be structured to fit the following framework:

- The completion of a minimum of 120 credit hours in the selected curriculum. Students required to complete developmental courses should note that developmental coursework is additive to the 120 credit minimum.
- The completion of all general education courses and the course sequence requirements in the selected curriculum.
- An overall grade point average of at least a 2.0 (“C”) in the total program of courses.
- A cumulative grade point average of at least a 2.0 (“C”) in the major.
- In the case of teacher education students, a satisfactory history of development in student teaching.
- The completion of all final coursework.

Overview: The General Education Program

What is the General Education Program?
The General Education Program at Shippensburg University comprises forty-eight of the credit hours required for graduation.

- All students at the university are required to complete the program.
- The program includes a series of special courses consisting of three parts:
  - Part 1: Required Skills and Competencies (15 credits)
  - Part 2: Categories of Knowledge (33 credits)
  - Part 3: Library Skills (completed in College Level Writing course)
  - Diversity requirement

Why have a General Education Program at Shippensburg University?
At the core of the curriculum lies the principle that a good education has two distinct purposes. The first of these is to acquire a set of competencies and a grounding in the arts and sciences which promote real intellectual growth in college and ample cultural awareness in the years beyond. The second purpose is to prepare students for a rewarding and socially beneficial vocation by exploring subjects not necessarily available within the confines of a prescribed major.

The program allows students to make personal choices. It also enables the students to satisfy native curiosity, to explore unfamiliar territory, and to cultivate sensitivity toward their environment and an awareness of their personal strengths and weaknesses.
The General Education Program

48 Credits

Part I: Required Skills and Competencies (15 Credits)

_____ Historical Foundations of Global Cultures [students may need to take Reading and Study Skills (RDG050) first]

_____ Thinking Historically in a Global Age

_____ Intro to Human Communication

_____ Writing Intensive First Year Seminar/Advanced Placement Writing [student may need to take Intro to Academic Writing (ENG 113) first]

_____ College-Level Mathematics [students may need to take Developmental Math (MAT 050) and/or an additional prerequisite]

Part II: Categories of Knowledge

Category A—Logic and Numbers for Rational Thinking (1 course – 3 credits)

Category B—Linguistic, Literary, Artistic, & Cultural Traditions (3 courses – 9 credits)

Category C—Biological & Physical Sciences (3 courses – 9 credits)

Category D—Political, Economic, and Geographic Sciences (2 courses – 6 credits)

Category E—Social and Behavioral Sciences (2 courses – 6 credits)

Part III: Additional Requirements

1. Students are required to take one diversity course to graduate. You can meet this requirement by taking a course that double counts as a diversity course and a general education, major, or free elective course.

2. The university is now offering Special Topics in General Education courses as part of the overall General Education Program. Check with your academic advisor to see how these courses may apply to your particular program of study.
The General Education Program
Part II - Categories of Knowledge

Category A: Logic and Numbers for Rational Thinking
(One Course - 3 Credit Hours)

Computer Science
CSC103 Overview of Computer Science
CSC180 Microcomputer Basic

Philosophy
PHL101 Introduction to Philosophy
PHL102 Critical Thinking
PHL103 Introduction to Philosophy of the Mind
PHL105 Introduction to Ethics

Special Topics in General Education, Category A (xxx190)

Mathematics
MAT105 Mathematics for Liberal Studies
MAT107 Mathematical Models Applied to Money
MAT110 Fundamentals of Mathematics I
MAT117 Applied Statistics
MAT140 A/B College Algebra (4/3 credits)
MAT175 Pre-Calculus
MAT181 Applied Calculus I
MAT211 Calculus I

Category B: Linguistic, Literary, Artistic, and Cultural Traditions
(3 Courses - 9 Credit Hours)

Literature (ONE course from this group)
ENG250 Introduction to Literature
ENG243 The Art of the Film
ENG248 Introduction to Culturally Diverse Lit. of the United States

FRN330 Masterpieces of French Literature
FRN331 Masterpieces of Francophone Literature

Humanities (Select TWO courses from different disciplines)*
ART101 Art Appreciation
ART231 Art History I
ART232 Art History II
ART233 Art History III
ART274 Introduction to Cultural Studio
ART339 History of American Art
FRN101 Beginning French I
FRN102 Beginning French II
FRN103 Intermediate French
FRN150 French Civilization
FRN202 Intermediate French Conversation through the Media
FRN204 Ideas & Cultures from the French-speaking World
FRN320 Commercial French I

GER101 Beginning German I
GER102 Beginning German II
GER103 Intermediate German
GER150 German Civilization and Culture
GER203 Intermediate German Conversation
GER204 Contemporary German Culture
GER215 Commercial German

IAP111 Intro to Interdisciplinary Arts

MUS121 Introduction to Music
MUS227 Opera and Music Theatre
MUS261 World Music
MUS 129 American Popular Music

SOC370 Sociology of the Arts

SPN101 Beginning Spanish I
SPN102 Beginning Spanish II
SPN103 Intermediate Spanish
SPN150 Spanish Civilization and Culture
SPN202 Intern. Spanish Conversation and Grammar Review
SPN204 Ideas & Cultures from the Spanish-speaking World
SPN330 Spanish for Professions

THE121 Introduction to Theater

Special Topics in General Education, Category B (xxx190)

*Other language courses as offered may be taken in this category.

All students completing a Bachelor of Arts (B.A.) program will be required to attain a Novice level of proficiency in a foreign language. Novice proficiency may be satisfied by the completion of three years of a foreign language in high school, three credits of intermediate level college coursework in a foreign language, an appropriate AP or CLEP score, or satisfactory completion of an intermediate-level proficiency examination.
Category C: Biological & Physical Sciences
(3 Courses - 9 Credit Hours)

Select ONE course from THREE of the following five disciplines (3 courses for 9 credits)

- ANT121 Physical Anthropology
- BIO100 Basic Biology
- BIO142 Introduction to Ecology
- BIO145 Environmental Biology
- BIO150 Human Biology
- BIO161 Principles of Biology: Cell Structure & Function
- BIO162 Principles of Biology: Organismal Diversity
- BIO208 Field Biology
- ESS108 Conservation of Natural Resources
- ESS110 Introduction to Geology
- ESS111 Introduction to the Atmosphere
- ESS210 Physical Geology
- PHY108 Astronomy
- PHY110 Physics for Society
- PHY115 Physical Science: A Laboratory Approach
- PHY121 Introduction to Physics I
- PHY122 Introduction to Physics II
- PHY205 Intermediate Physics I
- CHM103 Chemistry: A Cultural Approach
  
  Appropriate only for non-science majors. It discusses some basic ideas of chemistry in a non-mathematical way and shows how chemistry is involved in our lives.

- CHM105 Chemistry: An Observational Approach
  
  Is designed for non-science majors who want a laboratory experience. It requires a minimum amount of mathematical reasoning, for example, in determining mass relationships from chemical formulas and equations.

- CHM121 Chemical Bonding
  
  First chemistry course for a well prepared science major.
  
  (Prerequisites: MAT 175 or MAT 117 (either may be taken concurrently with CHM 121) or math placement at Level 5 and one year of high school chemistry.)

*NOTE: Students majoring in the biological or physical sciences are permitted to count one course from their major department toward satisfying this requirement. Natural science courses which carry one of the above courses as a prerequisite and required science courses for elementary education majors may also be counted toward this requirement.

Category D: Political, Economic, and Geographic Sciences
(2 Courses - 6 - 7 Credit Hours)

Select TWO - Each course must be from a different discipline.

- ECO101 Principles of Macroeconomics
- ECO102 Principles of Microeconomics
- ECO113 Principles of Economics
- GEO101 World Geography
- GEO103 Geography of the United States and Canada
- ECO110 Principles of Macroeconomics
- PLS100 U.S. Government and Politics
- PLS141 World Politics
- Special Topics in General Education, Category D (xxx190)

Category E: Social and Behavioral Sciences
(2 Courses - 6 Credit Hours)

Select TWO - Each course must be from a different discipline.

- ANT111 Cultural Anthropology
- DS 101 Introduction to Disability Studies
- ETH 100 Introduction to Ethnic Studies
- ETH 101 Introduction to African American Studies
- ETH 102 Introduction to Latino Studies
- Special Topics in General Education, Category E (xxx190)
- GEO 140 Cultural Geography
- PSY 101 General Psychology
- SOC 101 Introduction to Sociology
- WST 100 Introduction to Women's Studies
- HCS 125 Survey of Communication Studies
Student Record of General Education Courses

Name: ____________________________________________ SU ID# __________________________ Test Scores: Math _____ Reading _____ English _____

Directions: List all General Education courses completed. Total of 48 credits.

Developmental Courses (Do NOT count toward graduation)
___ Basic Writing  ___ Developmental Reading & Study Skills
___ Developmental Math

I Required Skills & Competencies ( 15 credits)
___ Writing Competency/Advanced Placement Writing  Grade ___
___ History 105  Grade ___
___ History 106 Grade ___
___ Human Communication Studies  Grade ___
___ Math Competency _____________________ Grade ___

II Categories of Knowledge A through E (33 credits)

Category A: Logic & Numbers for Rational Thinking (3 credits)

NOTE: Cannot be the math course selected under Required Skills

Course ________________________________________ Grade ___

Category B: Linguistic, Literary, Artistic & Cultural Traditions (9 credits)

Literature Course ________________________________ Grade ___
Course ________________________________________ Grade ___
Course ________________________________________ Grade ___

Category C: Biological and Physical Sciences (9 credits)

Must be from different disciplines

Course ________________________________________ Grade ___
Course ________________________________________ Grade ___
Course ________________________________________ Grade ___

Category D: Political, Economic & Geographic Sciences (6 credits) Must be from different disciplines

Course ________________________________________ Grade ___
Course ________________________________________ Grade ___

Category E: Social & Behavioral Sciences (6 credits) Must be from different disciplines

Course ________________________________________ Grade ___
Course ________________________________________ Grade ___

Diversity Course: __________________________________ Grade ___

(May double count as a General Education course)

Free Electives
Course ________________________________________ Grade ___
Course ________________________________________ Grade ___
Course ________________________________________ Grade ___
Course ________________________________________ Grade ___
Diversity Courses at Shippensburg University

All Shippensburg University students must complete at least one diversity course to graduate. Several of these courses fulfill General Education or major requirements as well. The following courses currently satisfy the diversity requirement:

ART 101\(^1\)  Art Appreciation (Art)
CRJ 452  Race, Ethnicity, and Crime (Criminal Justice)
ECH 460  Family, School, & Community Partnerships in Early Childhood Educ. (Teacher Ed.)
EEC 273  Introduction to Exceptionality (Teacher Ed.)
ENG 248\(^2\)  Introduction to Culturally Diverse Literature of the U.S. (English)
ETH 100  Introduction to Ethnic Studies (Ethnic Studies)
GEO 103\(^3\)  Geography of the U.S. & Canada (Geography/Earth Science)
GEO 140\(^4\)  Cultural Geography (Geography/Earth Science)
HIS 201  US History (History)
HIS 342  Immigration & Ethnicity (History)
SWK 265  Understanding Human Diversity for Social Work Practice (Social Work)
MGT 447  Business & Society (Management & Marketing)
SOC 101\(^4\)  Introduction to Sociology: Society & Diversity (Sociology/Anthropology)
WST 100\(^4\)  Introduction to Women's Studies (Women and Gender Studies)

See your advisor if you have questions on how you can best meet this requirement.

1. May fulfill a Category B Humanities requirement.
2. May fulfill a Category B Literature requirement.
3. May fulfill a Category D requirement.
4. May fulfill a Category E requirement.
Tips for Students

Choosing & Using General Education Coursework

The General Education Program helps you explore many different areas of study. But how do you decide which classes you should take? There are many ways. For example, look for a class that

- Is in a subject you have studied before, and you know you will like.
- You know nothing about or is in a discipline with which you are unfamiliar.
- Helps you develop one of your strengths.
- Helps you work on one of your weaknesses.
- Teaches you about cultures (history, political science, art, music, theater, literature, modern languages, women and gender studies, geography).
- Teaches you about social problems (women and gender studies, geography, sociology).
- Is an introductory course for a major you are considering.
- Helps you understand yourself (sociology, psychology, biology, philosophy).
- Helps you understand the physical world around you (geology, biology, geography, chemistry, physics, mathematics).
- Helps you lead a healthier life (biology, sociology, psychology).
- Examines the major institutions of our society (economics, philosophy, political science, public administration, sociology).
- Examines technology and how it works (computer science, chemistry, physics).
- Improves your communication skills (English, human communication, modern languages).
- Teaches you to solve problems (mathematics, philosophy, chemistry).
- Develops your skills in research, organization and critical thinking.

The above suggestions are examples. Your college education will encompass many different disciplines and will help you to make connections between those disciplines. Use this list as a stimulus, and consult your advisor for more information.

Adapted from 1993 Passport to Your Future: New Student Guidebook, p. 13. Wichita State University. Wichita, Kansas
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College of Arts & Sciences

Police Brutality, Privilege, and U.S. Racial Relations

Kendall Johnson, Biology Major
Advisor: Dr. Sharon Harrow

Changing the Conversation

We develop our understanding of minorities not only through interpersonal experiences but also through cultural practices and information handed down to us by outside sources.

- White privilege does not deny people access to conversations about race.
- All people can use their individual perspectives to advocate for dialogue and improved race relations.
- Try to understand white privilege. Own your privilege as a way to understand the role it plays in how you understand race.

Active dialogue will undoubtedly lead to improved race relations. It's time to pull together, using all of our voices to improve race relations. By uncovering the ignorance that exists within each of us, racism will lose its momentum as a force that shapes and harms our nation's history.

Average neighborhood poverty by race/ethnicity and household income in metropolitan regions, 2005-2009

- White non-Hispanic
- Black non-Hispanic
- Hispanic
- Asian

In November 911 called
Later informed "probably terrorist"
The incident was criminal. O.K. gun, was emotional.
Furthermore, couldn't be handled...
College of Arts & Sciences

B.A.

Art and Design
  Graphics
  Education K-12 Certification
Communications/Journalism:
  Electronic Media
  Print Media
  Public Relations
Economics
English #
  Writing
French #
History #
  Public History
Human communication Studies
Interdisciplinary Arts Program
International Studies
Political Science
Psychology
Sociology
Spanish #

#  B.A. also available with secondary education certification

All students completing a Bachelor of Arts (B.A.) program will be required to attain a Novice level of proficiency in a foreign language. Novice proficiency may be satisfied by the completion of three years of a foreign language in high school, three credits of intermediate level college coursework in a foreign language, or satisfactory completion of an intermediate-level proficiency examination.

B.S.Ed.

Earth & Space Science
Geography*
History*
Mathematics
Physics

*  Social Studies

B.S.

Applied Physics (Pre-Engineering)
Biology: ## *
  Biotechnology/PreForensic Science
  Clinical Sciences
  Ecology and Environment
  Health Professions
Chemistry: ##
  Biochemistry
  Forensic Science
  Pre-Pharmacy
Computer Engineering
Computer Science:
  Computer Graphics
  Embedded Programming
  Software Engineering
Electrical Engineering
Geoenvironmental Studies
Geography:
  Geographic Information Systems
  Human Environmental Studies
  Land Use
Mathematics
  Applied
  Secondary Certification
  Statistics
Physics
Public Administration
Software Engineering
Sustainability

*  Includes Health Sciences –
  Pre-Med, Pre-Dental, etc.

##  B.S. also available with secondary education certification
ART – B.A. ##

I. Required Skills and Competencies 15 cr

- EN 114 Writing Intensive First Year Seminar OR
  EN 115 Advanced Placement Writing (3 cr)
  Student may need to take EN 113 Intro to Academic Writing first, based on test results.
- HCS 100 Intro to Human Communication (3 cr)
- Mathematical Competency-Recommended
  Any math listed in Category A of the General Education Program
- HIS 105 Historical Foundations of Global Cultures (3 cr) AND
- HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr

A: Logic/Numbers for Rational Thinking (3 cr)

B: Literary, Artistic & Cultural Traditions (9 cr)

C: Biological & Physical Sciences (9 cr)

D: Political, Economic & Geographic Science (6 cr)

E: Social & Behavioral Science (6 cr)

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Foundation Courses 12 cr

To be completed during the first year
- ART 101 Art Appreciation (3 cr) **
- ART 110 Basic Drawing (3 cr)
- ART 215 Color & Two-Dimensional Design (3 cr) 
- ART 218 Three Dimensional Design (3 cr) 

Additional Required Courses 12 cr

- ART 210 Drawing II (3 cr) 
- ART 232 Art History II (3 cr) 
- ART 233 Art History III (3 cr) 
- ART 385 Sr. Art Seminar (3 cr) 

Art Unrestricted Electives 15 cr

Students must choose five courses from below, four must be at the 300 level or higher.

- ART 211 Figure Drawing (3 cr) 
- ART 217 Computer Design I [Page Composition] (3 cr) 
- ART 231 Art History I (3 cr) 
- ART 300, 301, 302, 303, 304, 305 Independent Studio (3 cr) 
- ART 306 Computer Design II [Illustration] (3 cr) 
- ART 319 Computer Design III (3 cr) [Photomaniuplation & Painting] 
- ART 321 Watercolor I (3 cr) 
- ART 322 Watercolor II (3 cr) 
- ART 326 Painting I (3 cr) 
- ART 327 Painting II (3 cr) 
- ART 337 Printmaking I (3 cr) 

- ART 339 History of American Art (3 cr) 
- ART 340 Ceramics (3 cr) 
- ART 341 Advanced Ceramics (3 cr) 
- ART 370 Sculpture (3 cr) 
- ART 395 Internship in Art (3 cr) 
- ART 399 Independent Study (3 cr) 
- ART 425 Computer Design IV [Multimedia] (3 cr) 
- ART 430 Computer Design V [Web Design] (3 cr) 
- ART 435 Computer Design VI [Portfolio Design] (3 cr)

Also Required:
- Portfolio Review
- Yearly Student Art Exhibit
- Senior Exhibit

** May also count as part of Category B in General Education.

## B.A. students must satisfy the Novice level competency in a foreign language.

This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

Free Electives 33 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

YEAR 1 ART 101 Art Appreciation
- ART 110 Basic Drawing
- ART 210 Drawing II
- ART 215 Color/2-Dimensional Design
- ART 218 Three-Dimensional Design
- ART 232 Art History II

F= Fall only class
S= Spring only class

Double majors such as art/communication increase career options.

Art minor is available 21 credits.

See the department chair for more information.
ART EDUCATION CERTIFICATION (K-12) – B.A. ##

General Education Requirements

I. Required Skills and Competencies 15 cr

___ ENG 114 Writing Intensive First Year Seminar OR
ENG 115 Advanced Placement Writing (3 cr)
Student may need to take ENG 113 Intro to Academic Writing first, based on test results.
___ HCS 100 Intro to Human Communication (3 cr)
___ Mathematical Competency-Recommended
MAT 105 Math for Liberal Studies
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr

A: Logic/Numbers for Rational Thinking (3 cr)
___ MAT 117 Applied Statistics (3 cr)
*Any college level math course can be substituted

B: Literary, Artistic & Cultural Traditions (9 cr)
___ ART 232 Art History II (3 cr) **
***

C: Biological & Physical Sciences (9 cr)
___ ESS 108 Conservation of Natural Resources OR
BIO 145 Environmental Biology
___

D: Political, Economic & Geographic Science (6 cr)
___ GEO 103 Geography of US and Canada
___

E: Social & Behavioral Science (6 cr)
___ PSY 101 General Psychology (3 cr)
___

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Visual Art Major Foundation (Core Courses) 36 cr

___ ART 101 Art Appreciation (3 cr)**
___ ART 110 Basic Drawing (3 cr)
___ ART 210 Drawing II (3 cr) *
___ ART 215 Color & Two-Dimensional Design (3 cr) *
___ ART 218 Three Dimensional Design (3 cr) *
___ ART 222 Art History II (3 cr) ** *
___ ART 233 Art History III (3 cr) *
___ ART 385 Senior Art Seminar (3 cr)
___ ART 217 Computer Design I (3 cr) Page Composition
___ ART 326 Painting I (3 cr) *
___ ART 340 Ceramics (3 cr)
___ ART 370 Sculpture (3 cr) *

Art Education Courses 36 cr

Student Teaching ......................................................... 15 cr
___ ART 356 Social Structures of Aesthetics (3cr) **
___ ART 400 Contemporary Methods in Art Education (3cr)
___ EEC 423 Effect Instruction Strat. Child w/Exceptionalities (3cr)
___ EEC 485 Assess. Children w/Exceptionalities for Curricular Decision Making (3cr)
___ TCH 207 Org. & Psych. Foundations in Secondary Education (3 cr)
___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
___ RDG 413 Teaching Reading to English Language Learners (3cr)

** May also count as part of Category B in General Education.

# B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

PAPA examinations

*** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

Students that were not accepted into the University as Art Education majors must apply for professional standing through the Art Department, where a Change of Major is required.

Also Required:
___ Portfolio Review
___ Yearly Student Art Exhibit
___ Senior Exhibit

Free Electives 3 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

YEAR 1

ART 101 Art Appreciation
ART 110 Basic Drawing offered all year round
ART 201 Drawing II *
ART 215 Color & Two-Dimensional Design *
ART 218 Three-Dimensional Design *
ART 222 Art History II ** *
ART 233 Art History III *
ART 385 Senior Art Seminar (3 cr)
ART 217 Computer Design I (3 cr) Page Composition
ART 326 Painting I (3 cr) *
ART 340 Ceramics (3 cr)
ART 370 Sculpture (3 cr) *

See the department Chair for more information.
BIOLOGY – B.S.

General Education Requirements
I. Required Skills and Competencies 16 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
   ___ ENG 115 Advanced Placement Writing (3 cr)  
   ___ May need ENG 113 Intro to Academic Writing first, based on test results
   ___ HCS 100 Intro to Human Communication (3 cr)  
   ___ Mathematical Competency-Required
   ___ MAT 211 Calculus I – if necessary, student may need MAT 175 Pre-Calculus first
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)  
   ___ MAT 117 Applied Statistics
   B: Literary, Artistic & Cultural Traditions (9 cr)  
   C: Biological & Physical Sciences (10 cr)
   ___ PHY 121 Introductory Physics
   ___ CHM 121 Chemical Bonding
   ___ BIO 161 Principles of Biology: Cell Structure & Function **
   D: Political, Economic & Geographic Science (6 cr )  
   E: Social & Behavioral Science (6 cr)  

III. Library Skills Complete via College/Advanced Writing course

Biology Requirements 37 cr

CORE COURSES** 12 cr
   ___ BIO 161 Principles of Biology: Cell Structure & Function (4 cr) *
   ___ BIO 162 Principles of Biology: Organismal Diversity (4 cr) **
   ___ BIO 260 Genetics (4 cr)
   ___ BIO 499 Capstone Seminar in Biology (1 cr)
**Students must earn at least a 2.0 average in BIO 115 & 116 before upper level Biology electives may be taken. See the catalog for remediation procedure.

Ecology/Evolution elective 3 cr
   ___ BIO 242 Ecology (3 cr) OR
   ___ BIO 430 Principles of Evolution (3 cr)

Physiology elective 4 cr
   ___ BIO 354 Animal Physiology (4 cr) OR
   ___ BIO 350 Human Physiology (4 cr)

Organismal elective 3 cr
   ___ BIO 230 Botany (3 cr) OR
   ___ BIO 317 Parasitology (3 cr) OR
   ___ BIO 462 Invertebrate Zoology (3 cr) OR
   ___ BIO 463 Vertebrate Zoology (3 cr)

Cellular elective 3/4 cr
   ___ BIO 220 Microbiology (4 cr) OR
   ___ BIO 385 Cell Biology (3 cr)

Additional Biology electives 16 cr
   ___ BIO
   ___ BIO
   ___ BIO
   ___ BIO
   ___ BIO

Math Requirements 8 cr
   ___ MAT 211 Calculus I (4 cr) *
   ___ MAT A Statistics course (4 cr) * See Category A

Physics Requirements 8 cr
   ___ PHY 121 Introductory Physics I* AND
   ___ PHY 123 Introductory Physics I lab (4 cr)
   ___ PHY 122 Introductory Physics II AND
   ___ PHY 125 Introductory Physics II lab (4 cr)

Chemistry Requirements 16 cr
   ___ CHM 121 Chemical Bonding” AND
   ___ CHM 125 Lab IB (4 cr)
   ___ CHM 122 Chemical Dynamics AND
   ___ CHM 126 Lab IIB (4 cr)
   ___ CHM 221 Organic Chemistry I AND
   ___ CHM 225 Lab IIIB (4 cr)
   ___ CHM 222 Organic Chemistry II AND
   ___ CHM 226 Lab IVB (4 cr)
   ___ OR
   ___ CHM 227 Introduction to Biochemistry (4 cr)

Free Electives 14 cr

*Major requirement double counts as General Education credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.5

Admission to this major is competitive. Students must have earned at least 15 credits and have grades of "C" or better in BIO 161/BIO 162 AND one of the following CHM 121: Chemical Bonding, MAT 175: Pre-Calc OR MAT 211: Calculus I.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in the freshman year.

Semester I  BIO 161 Principles of Biology: Cell Structure & Function and/or
           Chemical Bonding and lab

Semester II  BIO 162 Principles of Biology: Organismal Diversity and/or
            Chemical Dynamics and lab

Students lacking strong chemistry/math backgrounds should consider taking CHM 105: Chemistry: An Observational Approach

Physics is normally taken in the junior year.

Biology minor is available (19 credits).
BIOLOGY-BIOTECHNOLOGY CONCENTRATION – B.S.

General Education Requirements
I. Required Skills and Competencies 16 cr
   __ ENG 114 Writing Intensive First Year Seminar OR
      ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 115 Intro to Academic Writing first, based on test results
   __ HCS 100 Intro to Human Communication (3 cr)
   __ Mathematical Competency-Required
      MAT 211 Calculus I — if necessary, student may need
      MAT 175 Pre-Calculus first
   __ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   __ HIS 106 Thinking Historically in a Global Age (3 cr)
II. Categories of Knowledge 35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
      __ MAT 117 Applied Statistics
   B: Literary, Artistic & Cultural Traditions (9 cr)
      __ ______________________________
      __ ______________________________
   C: Biological & Physical Sciences (10 cr)
      __ PHY 121 Introductory Physics
      __ CHM121 Chemical Bonding
      __ BIO 161 Principles of Biology: Cell Structure & Function **
   D: Political, Economic & Geographic Science (6 cr)
      __ ______________________________
   E: Social & Behavioral Science (6 cr)
      __ PSY 101 Introduction to Psychology [required for Forensic Sci]
      __ ______________________________
III. Library Skills Complete via College/Advanced Writing course

Biology Requirements 37 cr
CORE COURSES 34 cr
   __ BIO 161 Principles of Biology: Cell Structure & Function (4 cr) *
   __ BIO 162 Principles of Biology: Organismal Diversity (4 cr) **
   __ BIO 230 Botany (3 cr)
   __ BIO 260 Genetics (4 cr)
   __ BIO 385 Cell Biology (3 cr)
   __ BIO 418 Molecular Biology (3 cr)
   __ BIO 461 Techniques in Biotechnology (3 cr)
   __ BIO 499 Capstone Seminar in Biology (1 cr)
Physiology elective 3-4 cr
   __ BIO 350 Human Physiology (4 cr) OR
   __ BIO 351 Animal Physiology (4 cr)
Experiential Requirement
   __ BIO 397 Intro. to Research (3 cr) OR Research/Internship
   __ BIO 391 Internship (3 cr) **Students must be forensic based
      **Student must earn at least a 2.0 average in Bio 161 & 162 before upper level Biology electives may be taken. See the catalog for remediation procedure.
Additional Biology electives 10 cr
   __ BIO
   __ BIO

Math Requirements 7-8 cr
   __ MAT 211 Calculus I (4 cr) *
   __ MAT A Statistics course (4 cr) * See Category A

Physics Requirements 8 cr
   __ PHY 121 Introductory Physics I* (3 cr) AND
   __ PHY 123 Introductory Physics I lab (1 cr)
   __ PHY 122 Introductory Physics II and (3 cr) AND
   __ PHY 125 Introductory Physics II lab (1 cr)

Chemistry Requirements 22-23 cr
   __ CHM 121 Chemical Bonding* AND
   __ CHM 125 Lab IB (4 cr)
   __ CHM 122 Chemical Dynamics AND
   __ CHM 126 Lab IIIB (4 cr)
   __ CHM 221 Organic Chemistry I AND
   __ CHM 225 Lab IIIB (4 cr)
   __ CHM 222 Organic Chemistry II AND
   __ CHM 226 Lab IVB (4 cr)
   __ CHM 301 Biochemistry I (3 cr)
   __ CHM 371 Analytical Chemistry (4 cr) OR
   __ CHM 420 Biochemistry II (3 cr)

Free Electives 7-8 cr

Criminal Justice Requirements
Total Graduation Requirements 120 cr
GPA Needed to Declare: 2.5

Admission to this major is competitive. Students must have earned at least 15 credits and have grades of “C” or better in BIO 161/BIO 162 AND one of the following CHM 121: Chemical Bonding, MAT 175: Pre-Calc OR MAT 211: Calculus I.

Pre-Forensic Science Track

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in the freshman year.
Semester I
BIO 161 Principles of Biology: Cell Structure & Function and/or
CHM 121 & CHM 125 Chemical Bonding and lab
Semester II
BIO 162 Principles of Biology: Organismal Diversity and/or
CHM 122 & CHM 126 Chemical Dynamics and lab

Students lacking strong chemistry/math backgrounds should consider taking CHM 105: Chemistry: An Observational Approach

Physics is normally taken in the junior year.

Biology minor is available 19 credits.

**Internships are available Fall, Spring, and Summer in the Cumberland County Forensic Laboratory.
# BIOLOGY – CLINICAL SCIENCES CONCENTRATION – B.S.

Includes: Medical Technology, Cyto-Technology, Histo-Technology, and Respiratory Therapy

## General Education Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Skills and Competencies</td>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr) May need ENG 113 Intro to Academic Writing first, based on test results HCS 100 Intro to Human Communication (3 cr)</td>
<td>16 cr</td>
</tr>
<tr>
<td>Mathematical Competency-Required</td>
<td>MAT 211 Calculus I — if necessary, student may need MAT 175 Pre-Calculus first</td>
<td></td>
</tr>
<tr>
<td>Historical Foundations of Global Cultures</td>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Social &amp; Behavioral Science</td>
<td>6 cr</td>
<td></td>
</tr>
<tr>
<td>Literary, Artistic &amp; Cultural Traditions</td>
<td>9 cr</td>
<td></td>
</tr>
<tr>
<td>Logic/Numbers for Rational Thinking</td>
<td>MAT 117 Applied Statistics</td>
<td>4 cr</td>
</tr>
<tr>
<td>Physical, Economic &amp; Geographic Science</td>
<td></td>
<td>6 cr</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td></td>
<td>3 cr</td>
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<tr>
<td>Fine Arts</td>
<td></td>
<td>3 cr</td>
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<tr>
<td>Interdisciplinary Studies</td>
<td></td>
<td>3 cr</td>
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<tr>
<td>Physical Education</td>
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<td>2 cr</td>
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<tr>
<td>Total Graduation Requirements</td>
<td></td>
<td>120 cr</td>
</tr>
</tbody>
</table>

## Physics Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 121 Introductory Physics I (3 cr)* AND PHY 123 Introductory Physics I lab (1 cr)</td>
<td>8 cr</td>
</tr>
<tr>
<td>PHY 122 Introductory Physics II (3 cr) AND PHY 124 Introductory Physics II lab (1 cr)</td>
<td></td>
</tr>
</tbody>
</table>

## Biology Major Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE COURSES**</td>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function (4 cr) BIO 162 Principles of Biology: Organismal Diversity (4 cr) BIO 220 Microbiology (4 cr) BIO 260 Genetics (4 cr) BIO 350 Human Physiology (4 cr) BIO 385 Cell Biology (3 cr) BIO 300 Careers in the Health Professions (1 cr)</td>
<td>15 cr</td>
</tr>
<tr>
<td>Additional Biology electives</td>
<td>BIO (3 cr) BIO (4 cr)</td>
<td>7 cr</td>
</tr>
<tr>
<td>Chemistry Requirements</td>
<td>CHM 121 Chemical Bonding* AND CHM 125 Lab I(B (4 cr) CHM 122 Chemical Dynamics AND CHM 126 Lab IIB (4 cr) CHM 221 Organic Chemistry I AND CHM 225 Lab IIIB (4 cr) CHM 227 Introduction to Biochemistry (4 cr)</td>
<td>18-21 cr</td>
</tr>
<tr>
<td>**Students must earn at least a 2.0 average in Bio 161/162 before upper level Biology electives may be taken. See the catalog for remediation procedure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math Requirements</td>
<td>MAT 211 Calculus (4 cr)</td>
<td>4 cr</td>
</tr>
<tr>
<td>**Students must earn at least a 2.0 average in Bio 161/162 before upper level Biology electives may be taken. See the catalog for remediation procedure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics Requirements</td>
<td>PHY 121 Introductory Physics I (3 cr)* AND PHY 123 Introductory Physics I lab (1 cr)</td>
<td>8 cr</td>
</tr>
<tr>
<td>PHY 122 Introductory Physics II (3 cr) AND PHY 124 Introductory Physics II lab (1 cr)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Admission

Admission to this major is competitive. Students must have earned at least 15 credits and have grades of “C” or better in BIO 161/BIO 162 AND one of the following CHM 121: Chemical Bonding, MAT 175: Pre-Cal OR MAT 211: Calculus I.

A GPA of at least 2.8 is required to remain in the Health Sciences track.

## HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in the freshman year.

Semester I: BIO 161 Principles of Biology: Cell Structure & Function and/or CHM 121 & CHM 125 Chemical Bonding and lab

Semester II: BIO 162 Principles of Biology: Organismal Diversity and/or CHM 122 & CHM 126 Chemical Dynamics and lab

Students lacking strong chemistry/math backgrounds should consider taking CHM 105: Chemistry: An Observational Approach

Physics is normally taken in the junior year.
BIOLOGY – ECOLOGY AND ENVIRONMENTAL CONCENTRATION – B.S.

General Education Requirements

I. Required Skills and Competencies 16 cr
   __ ENG 114 Writing Intensive First Year Seminar OR
   ENG 115 Advanced Placement Writing (3 cr)
   May need ENG Intro to Academic Writing first, based on test results
   __ HCS 100 Intro to Human Communication (3 cr)
   __ Mathematical Competency-Required
      MAT 211 Calculus I —if necessary, student may need
      MAT 175 Pre-Calculus first
   __ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
      HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
      __ MAT 117 Applied Statistics
   __ __ __ __ __ __ __ __ __ __
   __ __ __ __ __ __ __ __ __ __
   __ __ __ __ __ __ __ __ __ __
   __ __ __ __ __ __ __ __ __ __
   __ __ __ __ __ __ __ __ __ __
   B: Literary, Artistic & Cultural Traditions (9 cr)
      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
      C: Biological & Physical Sciences (10 cr)
      __ PHY 121 Introductory Physics
      __ CHM 121 Chemical Bonding
      __ BIO 161 Principles of Biology: Cell Structure & Function **
      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
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      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
      D: Political, Economic & Geographic Science (6 cr)
      __ ECO 101 Principles of Macroeconomics [recommended]
      __ __ __ __ __ __ __ __ __ __
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      __ __ __ __ __ __ __ __ __ __
      E: Social & Behavioral Science (6 cr)
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      __ __ __ __ __ __ __ __ __ __
      __ __ __ __ __ __ __ __ __ __
      III. Library Skills Complete via College/Advanced Writing course

Biology Requirements 38 cr

CORE COURSES** 18 cr
   __ BIO 161 Principles of Biology: Cell Structure & Function (4 cr) *
   __ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   __ BIO 230 Botany (3 cr)
   __ BIO 242 Ecology (3 cr)
   __ BIO 260 Genetics (4 cr)
   __ BIO 499 Capstone Seminar in Biology (1 cr)
   **Students must earn at least a 2.0 average in BIO 161 & 162 before upper level Biology electives may be taken. See the catalog for remediation procedure.

Cellular elective  Select 1 course: 3 cr
   __ BIO 220 Microbiology (4 cr) OR
   __ BIO 385 Cell Biology (3 cr)

Physiology elective  Select 1 course: 3-4 cr
   __ BIO 351 Animal Physiology (3 cr)
   __ BIO 350 Human Physiology (4 cr)

Ecology and Conservation electives  Select any 3 courses: 9 cr
   __ BIO 362 Invertebrate Zoology (3 cr)
   __ BIO 363 Vertebrate Zoology (3 cr)
   __ BIO 406 Mammalogy (3 cr)
   __ BIO 412 Ichthyology (3 cr)
   __ BIO 417 Herpetology (3 cr)
   __ BIO 419 Ornithology (3 cr)
   __ BIO 430 Principles of Evolution (3 cr)
   __ BIO 442 Aquatic Ecology (3 cr)
   __ BIO 444 Conservation Biology (3 cr)
   __ BIO 448 Field Botany & Plant Taxonomy (3 cr)

Experiential elective  Select 1 course: 3 cr
   __ BIO 396-398 Research (3 cr)
   __ BIO 391-392 Internship (3 cr)

Additional Biology electives with advisement 4 cr
   __ BIO ____________________________ (3 cr)
   __ BIO ____________________________ 1 or 2 cr

Math Requirements 8 cr
   __ MAT 211 Calculus I (4 cr) *
   __ MAT A Statistics course (4 cr) * See Category A

Physics Requirements 8 cr
   __ PHY 121 Introductory Physics I and
   __ PHY 123 Introductory Physics I Lab (4 cr)
   __ PHY 122 Introductory Physics II and
   __ PHY 124 Introductory Physics II Lab (4 cr)

Chemistry Requirements 16-20 cr
   __ CHM 121 Chemical Bonding* and
   __ CHM 125 Lab IB (4 cr)
   __ CHM 122 Chemical Dynamics and
   __ CHM 126 Lab IIB (6 cr)
   __ CHM 221 Organic Chemistry I and
   __ CHM 225 Lab III B (4 cr)
   __ CHM 222 Organic Chemistry II and
   __ CHM 226 Lab IV B (6 cr)
   OR
   __ CHM227 Introduction to Biochemistry (4 cr)

Geography-Earth Science Requirement 3 cr
   Choose one from the following:
   __ ESS 110 Introduction to Geology (3 cr)
   __ ESS 210 Physical Geology (3 cr)
   __ GEO 202 Introduction to GIS (3 cr)
   __ GEO 224 Soils (3 cr)
   __ GEO 226 Hydrology (3 cr)

Free Electives 11 cr
   __ __ __ __ __ __ __ __ __ __
   __ __ __ __ __ __ __ __ __ __
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   __ __ __ __ __ __ __ __ __ __

*Major requirement double counts as General Education credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.5

Admission to this major is competitive. Students must have earned at least 15 credits and have grades of "C" or better in BIO 161/BIO 162 AND one of the following: CHM 121: Chemical Bonding, MAT 175: Pre-CalC OR MAT 211: Calculus I.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in the freshman year.

Semester I  BIO 161 Principles of Biology: Cell Structure & Function

Semester II  BIO 162 Principles of Biology: Organismal Diversity

Year II  BIO 242 Ecology
        CHM 121 & CHM 125 Chemical Bonding and lab
BIOLOGY – HEALTH PROFESSIONS CONCENTRATION – B.S.

Includes: Pre-Chiropractic, Pre-Medicine, Pre-Dentistry, Pre-Veterinary, Pre-Optometry, Pre-Podiatry, Pre-Physical Therapy and Pre-Pharmacy

General Education Requirements
I. Required Skills and Competencies 16 cr
   - ENG 114 Writing Intensive First Year Seminar OR
   - ENG 115 Advanced Placement Writing (3 cr)
     May need ENG 113 Intro to Academic Writing first, based on test results
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency-Required
     MAT 211 Calculus I —if necessary, student may need
     MAT 175 Pre-Calculus first
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
      - MAT 117 Applied Statistics
   B: Literary, Artistic & Cultural Traditions (9 cr)
   C: Biological & Physical Sciences (10 cr)
      - PHY 121 Introductory Physics
      - CHM 121 Chemical Bonding
      - BIO 161 Principles of Biology: Cell Structure & Function
   D: Political, Economic & Geographic Science (6 cr)
   E: Social & Behavioral Science (6 cr)
      #
   F: Historical Foundations of Global Cultures (3 cr)
      AND
   #
   G: Thinking Historically in a Global Age (3 cr)
   #
   III. Library Skills Complete via College/Advanced Writing course

Breadth Biology electives 12-13 cr
   Select 1 course:
   - BIO ____________________________ (3 cr)
   - BIO ____________________________ (3 cr)
   - BIO ____________________________ (3 cr)
   - BIO ____________________________ (3 cr)
   - BIO 300 Careers in the Health Professions (1 cr) recommended

Math Requirements 8 cr
   - MAT 211 Calculus (4 cr) *
   - MAT A Statistics course 4 cr * See Category A

Physics Requirements 8 cr
   - PHY 121 Introductory Physics I (3 cr)* AND
   - PHY 123 Introductory Physics I lab (1 cr)
   - PHY 122 Introductory Physics II (3 cr) AND
   - PHY 124 Introductory Physics II lab (1 cr)

Chemistry Requirements 13-16 cr
   - CHM 121 Chemical Bonding* AND
   - CHM 125 Lab IB (4 cr)
   - CHM 122 Chemical Dynamics AND
   - CHM 126 Lab IIB (4 cr)
   - CHM 211 Organic Chemistry I AND
   - CHM 225 Lab IIB (4 cr)
   - CHM 227 Introduction to Biochemistry (4 cr)
   - CHM 222 Organic Chemistry II (instead of CHM 227) AND
   - CHM 226 Lab IVB (4 cr) AND
   - CHM 301 Biochemistry (3 cr) [in place of CHM 227]

Free Electives 3-7 cr
   Refer to the Undergraduate Catalog to determine the courses that can be counted under each section.

*Major requirement double counts as General Education credits
# - PSY 101 General Psychology is required for all pre-Chiropractic students.

Human Anatomy & Human Physiology are required of all pre-Physical Therapy, pre-Physician Assistant, and pre-Occupational Therapy students.

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.8

Admission to this major is competitive. Students must have earned at least 15 credits and have grades of “C” or better in BIO 161/BIO 162 AND one of the following CHM 121: Chemical Bonding, MAT 175: Pre-Calc OR MAT 211: Calculus I.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in the freshman year.

Year I  BIO 161 Principles of Biology: Cell Structure & Function

Year II  CHM 121 & CHM 125 Chemical Bonding and lab

Students lacking strong chemistry/math backgrounds should consider taking CHM 105: Chemistry: An Observational Approach during their first year.

Physics is normally taken in the senior year. A Biology minor is available 19 crs.
BIOLOGY – SECONDARY EDUCATION CERTIFICATION – B.S.

General Education Requirements

I. Required Skills and Competencies
   16 cr
   __ ENG 114 Writing Intensive First Year Seminar OR
   ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 113 Intro to Academic Writing first, based on
   test results.
   __ HCS 100 Intro to Human Communication (3 cr)
   __ Mathematical Competency-Required
   MAT 211 Calculus I —if necessary, student may need
   MAT 175 Pre-Calculus first
   __ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   __ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge
    35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
      __ MAT 117 Applied Statistics
   B: Literary, Artistic & Cultural Traditions (9 cr)
   C: Biological & Physical Sciences (10 cr)
      __ PHY 121 Introductory Physics
      __ CHM121 Chemical Bonding
      __ BIO 161 Principles of Biology: Cell Structure & Function
   D: Political, Economic & Geographic Science (6 cr)
   E: Social & Behavioral Science (6 cr)
      __ PSY 101 General Psychology

One course which emphasizes intergroup education must be included in
the Categories of Knowledge. See the Biology Dept. for details.

III. Library Skills Complete via College/Advanced Writing course

Biology Requirements:
   38 cr
Core Courses
   15 cr
   __ BIO 161 Principles of Biology: Cell Structure & Function (4 cr)
   __ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   __ BIO 208 Field Biology (3 cr)
   __ BIO 242 Ecology (3 cr)
   __ BIO 260 Genetics (4 cr)
   __ BIO 385 Cell Biology (3 cr)
   __ BIO 499 Capstone Seminar in Biology (1 cr)

   **Students must earn at least a 2.0 average in Bio 161 & 162 before
   upper level Biology electives may be taken.

Physiology elective
   Select 1 course:
   4 cr
   __ BIO 350 Human Physiology (4 cr) OR
   __ BIO 351 Animal Physiology (4 cr)

Biology Electives
   10 cr
   __ BIO
   __ BIO
   __ BIO
   __ BIO

Math Requirements:
   8 cr
   __ MAT 211 Calculus I (4 cr) *
   __ MAT 117 Applied Statistics (4 cr) *

Physics Requirements
   4 cr
   __ PHY 121 Introductory Physics I* (3 cr) AND
   __ PHY 123 Introductory Physics I lab (1 cr)
   __ PHY 122 Introductory Physics II** (3 cr) AND
   __ PHY 125 Introductory Physics II lab ** (1 cr)
   ** Optional, but strongly recommended

Chemistry Requirements
   12 cr
   __ CHM 121 Chemical Bonding* & CHM 125 Lab IB (4 cr)
   __ CHM 122 Chemical Dynamics & CHM 126 Lab IIIB (4 cr)
   __ CHM 221 Organic Chemistry I & CHM 225 Lab IIIB (4 cr)
   __ CHM 227 Introduction to Biochemistry (4 cr) recommended

Professional Education Requirements
   33 cr
   __ TCH 207 Organ. & Psych. Foundations is Secondary Education (3 cr)
   __ EEC 273 Introduction to Exceptionality** (3 cr)
   __ EDU 440 Teaching Science In Secondary Schools (3 cr) **
   __ EDU 441 Curriculum & Evaluation in the Secondary Science
      Classroom (3 cr) **
   __ EEC 423 Effective Instructional Strategies (3 cr)
   __ EEC 483 Assessing Students for Curricular Decision Making (3 cr)
   __ RDG 413 Reading ELL (3 cr)
   __ EDU 495 Student Teaching & Professional Practicum (12 cr) **
   *Major requirement fulfills General Education credits

Total Graduation Requirements
   120+ cr

GPA Needed to Declare: 3.0

Admission to this major is competitive. Students must have earned at
least 15 credits and have grades of "C" or better in BIO 161/BIO 162 AND
one of the following CHM 121: Chemical Bonding, MAT 175: Pre-Calc OR
MAT 211: Calculus I.

HELPFUL HINTS FOR ADVISING:

Semester I
   BIO 161 Principles of Biology: Cell Structure & Function
   and/or
   CHM 121 Chemical Bonding (and lab)
Semester II
   BIO 162 Principles of Biology: Organismal Diversity
   and/or
   CHM 122 Chemical Dynamics (and lab)
Semester III
   BIO 208 Field Biology and/or
   BIO 260 Genetics

Students lacking strong chemistry/math backgrounds should consider
taking CHM 105: Chemistry: An Observational Approach. Physics is
normally taken in the junior year.

Environmental Education Certificate is available may teach any subject
matter labeled as environmental education for grades K-12. Requires
24 credits — See the department for details.

** All education majors must pass the first level of the PAPA assessments in
reading, math, and writing between 48 and 60 credits of coursework. These
basic skills tests must be passed before students are permitted to take any 300
level or above education course.
## CHEMISTRY – B.S.

### General Education Requirements

<table>
<thead>
<tr>
<th>Required Skills and Competencies</th>
<th>16 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>May need ENG Intro to Academic Writing first, based on test results</td>
<td></td>
</tr>
<tr>
<td>2. HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td>3. Mathematical Competency-Required MAT 211 Calculus I —if necessary, student may need MAT 175 Pre-Calculus first</td>
<td>MAT 211 Calculus I —if necessary, student may need MAT 175 Pre-Calculus first</td>
</tr>
<tr>
<td>4. HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
</tr>
</tbody>
</table>

### Categories of Knowledge

| A: Logic/Numbers for Rational Thinking (4 cr) |  |
| MAT 212 Calculus II |       |
| B: Literary, Artistic & Cultural Traditions (9 cr) |       |
| C: Biological & Physical Sciences (10 cr) |       |
| BIO 161 Principles of Biology: Cell Structure & Function |       |
| CHM 121 Chemical Bonding |       |
| PHY 205 Intermediate Physics I |       |
| D: Political, Economic & Geographic Science (6 cr) |       |
| E: Social & Behavioral Science (6 cr) |       |

### Library Skills Complete via College/Advanced Writing course

### Chemistry Requirements

<table>
<thead>
<tr>
<th>CHEMISTRY Requirements</th>
<th>50 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CHEM 110 The Chemistry Experience (1 cr)</td>
<td></td>
</tr>
<tr>
<td>2. CHEM 121 Chemical Bonding (3 cr) *</td>
<td></td>
</tr>
<tr>
<td>(Prerequisites: MAT 175 or MAT 117 (either may be taken concurrently with CHEM 121) or math placement at Level 5 and one year of high school chemistry or CHEM 105 with a grade of C or better.)</td>
<td></td>
</tr>
<tr>
<td>3. CHEM 123 Lab IA (1 cr)</td>
<td></td>
</tr>
<tr>
<td>4. CHEM 122 Chemical Dynamics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>(Prereq: Grade of C or better in CHEM 121)</td>
<td></td>
</tr>
<tr>
<td>5. CHEM 124 Lab IIA (3 cr)</td>
<td></td>
</tr>
<tr>
<td>6. CHEM 221 Modern Organic Chemistry I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>7. CHEM 223 Lab IIIA (1 cr)</td>
<td></td>
</tr>
<tr>
<td>8. CHEM 222 Modern Organic Chemistry II (3 cr)</td>
<td></td>
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<tr>
<td>9. CHEM 224 Lab IVA (3 cr)</td>
<td></td>
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<tr>
<td>10. CHEM 301 Biochemistry I (3 cr)</td>
<td></td>
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<tr>
<td>11. CHEM 312 Chemistry Seminar (1 cr)</td>
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<tr>
<td>12. CHEM 324 Advanced Organic Lab (1 cr)</td>
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<tr>
<td>13. CHEM 363 Physical Chemistry I (4 cr)</td>
<td></td>
</tr>
<tr>
<td>14. CHEM 364 Physical Chemistry II (4 cr)</td>
<td></td>
</tr>
<tr>
<td>15. CHEM 371 Analytical Chemistry (4 cr)</td>
<td></td>
</tr>
<tr>
<td>16. CHEM 381 Intermediate Inorganic Chemistry (3 cr)</td>
<td></td>
</tr>
<tr>
<td>17. CHEM 420 Biochemistry II (3 cr) OR</td>
<td>CHEM 420 Biochemistry II (3 cr) OR</td>
</tr>
<tr>
<td>18. CHEM 490 Special Topics (3 cr)</td>
<td>CHEM 490 Special Topics (3 cr)</td>
</tr>
<tr>
<td>19. CHEM 481 Advanced Inorganic Chemistry (4 cr)</td>
<td>CHEM 481 Advanced Inorganic Chemistry (4 cr)</td>
</tr>
<tr>
<td>20. CHEM 497 Introduction to Research (semester I) (1 cr)</td>
<td>CHEM 497 Introduction to Research (semester I) (1 cr)</td>
</tr>
<tr>
<td>21. CHEM 498 Introduction to Research (semester II) (1 cr)</td>
<td>CHEM 498 Introduction to Research (semester II) (1 cr)</td>
</tr>
</tbody>
</table>

### Physics Requirements

<table>
<thead>
<tr>
<th>Physics Requirements</th>
<th>8 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PHY 205 Intermediate Physics I (3 cr) * AND PHY 123 Physics I Lab (1 cr)</td>
<td>PHY 205 Intermediate Physics I (3 cr) * AND PHY 123 Physics I Lab (1 cr)</td>
</tr>
<tr>
<td>2. PHY 206 Intermediate Physics II (3 cr) AND PHY 125 Physics II Lab (1 cr)</td>
<td>PHY 206 Intermediate Physics II (3 cr) AND PHY 125 Physics II Lab (1 cr)</td>
</tr>
</tbody>
</table>

### Computer Science Requirements

<table>
<thead>
<tr>
<th>Computer Science Requirements</th>
<th>4 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CSC 110 Computer Science I (3 cr) AND CSC 106 Computer Science I Lab (1 cr)</td>
<td>CSC 110 Computer Science I (3 cr) AND CSC 106 Computer Science I Lab (1 cr)</td>
</tr>
</tbody>
</table>

### Free Electives

<table>
<thead>
<tr>
<th>Free Electives</th>
<th>13 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Major requirement double counts as General Education Credits</td>
<td>*Major requirement double counts as General Education Credits</td>
</tr>
</tbody>
</table>

### GPA Needed to Declare:

2.0

### GPA Needed to Declare:

2.0

### HELPFUL HINTS FOR ADVISING:

| Semester I | CHM 121 Chemical Bonding & CHM 123 Lab IA MAT 211 Calculus I |
| Semester II | CHM 122 Chemical Dynamics & CHM 124 Lab IIA MAT 212 Calculus II BIO 161 Principles of Biology: Cell Structure & Function |
| Semester III | PHY 205 Intermediate Physics I & PHY 123 Lab I CHM 221 Modern Organic Chem I & CHM 223 Lab IIIA |
| Semester IV | PHY 206 Intermediate Physics II & PHY 125 Lab II CHM 222 Mod Organic Chem II & CHM 224 Lab IVA |

Chemistry minor is available 23-27 credits.

Biochemistry minor is available 24-28 credits; see department.

American Chemical Society Certification available. See Department Chair for details.

All chemistry majors will take a comprehensive examination in their junior year at a time and place designated by the department. Satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.
# CHEMISTRY – BIOCHEMISTRY CONCENTRATION – B.S.

## General Education Requirements

### I. Required Skills and Competencies  
16 cr

- ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)  
May need ENG 113 Intro to Academic Writing first, based on test results  
- HCS 100 Intro to Human Communication (3 cr)  
- Mathematical Competency-Required  
  MAT 211 Calculus I —if necessary, student may need MAT 175 Pre-Calculus first  
- HIS 105 Historical Foundations of Global Cultures (3 cr) AND  
- HIS 106 Thinking Historically in a Global Age (3 cr)  

### II. Categories of Knowledge  
35 cr

#### A: Logic/Numbers for Rational Thinking  
(4 cr)

- MAT 212 Calculus II  

#### B: Literary, Artistic & Cultural Traditions  
(9 cr)

- ______________________________  
- ______________________________  
- ______________________________  

#### C: Biological & Physical Sciences  
(10 cr)

- CHM 121 Chemical Bonding *  
- PHY 205 Intermediate Physics I *  
- BIO 161 Principles of Biology: Cell Structure & Function  

#### D: Political, Economic & Geographic Science  
(6 cr)

- ______________________________  
- ______________________________  

#### E: Social & Behavioral Science  
(6 cr)

- ______________________________  
- ______________________________  

### III. Library Skills Complete via College/Advanced Writing course  

## Chemistry Requirements  
46 cr

- CHM 110 The Chemistry Experience (1 cr)  
- CHM 121 Chemical Bonding (3 cr) *  
  (Prerequisites: MAT 175 or MAT 117 (either may be taken concurrently with CHM 121) or math placement at Level 5 and one year of high school chemistry or CHM 105 with a grade of C or better.)  
- CHM 123 Lab IA (1 cr)  
- CHM 122 Chemical Dynamics (3 cr)  
  (Prereq: Grade of C or better in CHM 121)  
- CHM 221 Modern Organic Chemistry I (3 cr)  
- CHM 223 Lab IIA (1 cr)  
- CHM 222 Modern Organic Chemistry II (3 cr)  
- CHM 224 Lab IVA (3 cr)  
- CHM 301 Biochemistry I (3 cr)  
- CHM 312 Chemistry Seminar (1 cr)  
- CHM 324 Advanced Organic Lab (1 cr)  
- CHM 363 Physical Chemistry I (4 cr)  
- CHM 364 Physical Chemistry II (4 cr)  
- CHM 371 Analytical Chemistry (4 cr)  
- CHM 381 Intermediate Inorganic Chemistry (3 cr)  
- CHM 420 Biochemistry II (3 cr)  
- CHM 421 Biochemistry Lab (1 cr)  
- CHM 496 Introduction to Research III (1 cr)  

## Physics Requirements  
8 cr

- PHY 205 Intermediate Physics I (3 cr) * AND  
- PHY 123 Physics I Lab (1 cr)  
- PHY 206 Intermediate Physics II (3 cr) AND  
- PHY 125 Physics II Lab (1 cr)  

## Biology Requirements  
10 cr

- BIO 260 Genetics (4 cr)  
- BIO 385 Cell Biology (3 cr)  
- BIO 461 Techniques in Biotechnology (3 cr)  

## Restricted Electives (choose one)  
3-4 cr

- CHM 481 Advanced Inorganic Chemistry (4 cr)  
- BIO 220 Microbiology (4 cr)  
- BIO 408 Virology (3 cr)  
- BIO 409 Immunology (3 cr)  
- BIO 418 Molecular Biology (3 cr)  

## Free Electives  
3-4 cr

Recommended Electives:

- CSC 110 Computer Science I (3 cr) AND  
- CSC 106 Computer Science I Lab (1 cr)  
- CHM 490 Special Topics (3 cr)  

To graduate with American Chemical Society certification students must complete 2 additional credits in research (CHM 497/498).

*Major requirement fulfills General Education Credits

### Total Graduation Requirements  
120 cr

GPA Needed to Declare: 2.0

## HELPFUL HINTS FOR ADVISING:

Semester I  
CHM121 Chemical Bonding and CHM 123 Lab IA  
MAT 211 Calculus I  

Semester II  
CHM122 Chemical Dynamics and CHM 124 Lab IIA  
MAT 212 Calculus II  
BIO 161 Principles of Biology: Cell Structure & Function  

Semester III  
PHY 205 Intermediate Physics I & PHY 123 Lab I  
CHM221 Modern Organic Chem I & CHM 223 Lab IIA  
BIO 260 Genetics  

Semester IV  
PHY 206 Intermediate Physics II & PHY 125 Lab II  
CHM222 Mod Organic Chem II  
MAT 212 Calculus II  

Second semester juniors are required to take a comprehensive examination a graduation requirement.
CHEMISTRY – FORENSICS CONCENTRATION – B.S.

General Education Requirements

I. Required Skills and Competencies 16 cr
   - ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
     - May need ENG 113 Intro to Academic Writing first, based on test results
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency-Required
     - MAT 211 Calculus I — if necessary, student may need to take MAT 175 Pre-Calculus first
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Literary, Artistic & Cultural Traditions (9 cr)
     - MAT 212 Calculus II
   B: Logic/Numbers for Rational Thinking (4 cr)
     - MAT 211 Calculus II
   C: Biological & Physical Sciences (10 cr)
     - CHM121 Chemical Bonding *
     - PHY 205 Intermediate Physics I *
     - BIO 161 Principles of Biology: Cell Structure & Function I *
   D: Political, Economic & Geographic Science (6 cr)
   E: Social & Behavioral Science (6 cr)
   F: Natural Environment (6 cr)
   III. Library Skills Complete via College/Advanced Writing course

Chemistry Requirements 43-44 cr

   - CHM 110 The Chemistry Experience (1 cr)
   - CHM 121 Chemical Bonding (3 cr) *
     - Prerequisites: MAT 175 or MAT 117 (either may be taken concurrently with CHM 121) or math placement at Level 5 and one year of high school chemistry or CHM 105 with a grade of C or better.)
   - CHM 123 Lab I (1 cr)
   - CHM 122 Chemical Dynamics (3 cr)
     - Prereq: Grade of C or better in CHM 121)
   - CHM 124 Lab II (3 cr)
   - CHM 221 Modern Organic Chemistry I (3 cr)
   - CHM 223 Lab IIIA (1 cr)
   - CHM 222 Modern Organic Chemistry II (3 cr)
   - CHM 224 Lab IVA (3 cr)
   - CHM 301 Biochemistry I (3 cr)
   - CHM 324 Advanced Organic Lab (1 cr)
   - CHM 363 Physical Chemistry I (4 cr)
   - CHM 364 Physical Chemistry II (4 cr)
   - CHM 371 Analytical Chemistry (4 cr)
   - CHM 381 Intermediate Inorganic Chemistry (3 cr)
   - CHM 4xx Level Chemistry Elective (3-4 cr)

Physics Requirements 8 cr

   - PHY 205 Intermediate Physics I (3 cr) * AND
   - PHY 123 Physics I Lab (1 cr)
   - PHY 206 Intermediate Physics II (3 cr) AND
   - PHY 125 Physics II Lab (1 cr)

Biology Requirements 4 cr

   - BIO 260 Genetics (4 cr)

Criminal Justice Requirements 12 cr

   - CRJ 100 Intro. to Criminal Justice (3 cr)
   - CRJ 211 Criminal Law and Procedures (3 cr)
   - CRJ 336 Intro to Forensic Science (3 cr)
   - CRJ 456 Forensic Science: Evidence Analysis (3 cr)

Free Electives 9 cr

Recommended courses include:

   - BIO 418 Molecular Biology (3 cr)
   - BIO 461 Techniques in Biotechnology (3 cr)
   - CRJ 321 Criminal Investigation (3 cr)

*Major requirement fulfills General Education Credits

Total Graduation Requirements 21 cr

***************************************************************************

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Semester I  CHM 121 Chemical Bonding & CHM 123 Lab IA
           MAT 211 Calculus I

Semester II  CHM 122 Chemical Dynamics & CHM 124 Lab IIA
             MAT 212 Calculus II
             BIO 161 Principles of Biology: Cell Structure & Function I

Semester III  PHY 205 Intermediate Physics I & PHY 123 Lab I
               CHM 221 Modern Organic Chem I & Chem 223 Lab IIIA
               BIO 260 Genetics

Semester IV  PHY 206 Intermediate Physics II & PHY 125 Lab II
              CHM 222 Mod Organic Chem II & Chem 224 Lab IVA
              BIO 220 Microbiology

American Chemical Society Certification available. See Department Chair for details.

All chemistry majors will take a comprehensive examination in their junior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Internships are available Fall, Spring, and Summer in the Carlisle Forensic Laboratory.
CHEMISTRY – PRE-PHARMACY CONCENTRATION – B.S.

General Education Requirements
I. Required Skills and Competencies 16 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
   ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 113 Intro to Academic Writing first, based on test results
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency-Required
   MAT 211 Calculus I —if necessary, student may need to take
   MAT 175 Pre-Calculus first
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
A: Logic/Numbers for Rational Thinking (4 cr)
   ___ MAT 212 Calculus II
B: Literary, Artistic & Cultural Traditions (9 cr)
   ___
   ___
   ___
C: Biological & Physical Sciences (10 cr)
   ___ CHM 121 Chemical Bonding
   ___ PHY 205 Intermediate Physics I
   ___ BIO 161 Principles of Biology: Cell Structure & Function *
D: Political, Economic & Geographic Science (6 cr)
   ___
   ___
E: Social & Behavioral Science (6 cr)
   ___
   ___

III. Library Skills Completed via College/Advanced Writing course

Chemistry Requirements 43-44 cr
   ___ CHM 110 The Chemistry Experience (1 cr)
   ___ CHM 121 Chemical Bonding (3 cr) *
   (Prerequisites: MAT 175 or MAT 117 (either may be taken
   concurrently with CHM 121) or math placement at Level 5 and one year
   of high school chemistry or CHM 105 with a grade of C or better.)
   ___ CHM 123 Lab IA (1 cr)
   ___ CHM 122 Chemical Dynamics (3 cr)
   (Prereq: Grade of C or better in CHM 121)
   ___ CHM 124 Lab IIA (3 cr)
   ___ CHM 221 Modern Organic Chemistry I (3 cr)
   ___ CHM 223 Lab IIA (1 cr)
   ___ CHM 222 Modern Organic Chemistry II (3 cr)
   ___ CHM 224 Lab IVA (3 cr)
   ___ CHM 301 Biochemistry I (3 cr)
   ___ CHM 324 Advanced Organic Lab (1 cr)
   ___ CHM 363 Physical Chemistry I (4 cr)
   ___ CHM 364 Physical Chemistry II (4 cr)
   ___ CHM 371 Analytical Chemistry (4 cr)
   ___ CHM 381 Intermediate Inorganic Chemistry (3 cr)
   ___ CHM 4xx Level Chemistry Elective (3-4 cr)

Physics Requirements 8 cr
   ___ PHY 205 Intermediate Physics I (3 cr) * AND
   ___ PHY 123 Physics I Lab (1 cr)
   ___ PHY 206 Intermediate Physics II (3 cr) AND
   ___ PHY 125 Physics II Lab (1 cr)

Math Requirement 4 cr
   ___ MAT 117 Applied Statistics

Biology Requirements 12 cr
   ___ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   ___ BIO 220 Microbiology (4 cr)
   Choose one:
   ___ BIO 350 Human Physiology (4 cr) OR
   ___ BIO 371 Human Anatomy (4 cr)

Free Electives 8 cr
   *Major requirement double counts as General Education Credits

Min. Total Graduation Requirements 120 cr
********************************************************************************

GP A Needed to Declare: 2.8 **
** All students are expected to have a minimum GPA of 2.8 by the end of the
sophomore year. Some pre-professional programs will require a considerably
higher GPA to be competitive for admission to a professional school.

HELPFUL HINTS FOR ADVISING:

Semester I  CHM 121 Chemical Bonding and Lab IA
          MAT 211 Calculus I

Semester II  CHM 122 Chemical Dynamics and Lab IIA
            MAT 212 Calculus II
            BIO 161 Principles of Biology: Cell Structure & Function *

Semester III  PHY 205 Intermediate Physics I & PHY 123 Lab I
             CHM 221 Modern Organic Chem I & Chem 223 Lab IIIA
             BIO 260 Genetics

Semester IV  PHY 206 Intermediate Physics II & PHY 125 Lab II
             CHM 222 Mod Organic Chem II & Chem 224 Lab IVA
             BIO 220 Microbiology

All chemistry majors will take a comprehensive examination in their junior
year at a time and place designated by the department. A satisfactory
performance in all areas of this examination is a requirement for
departmental recommendation and ACS certification.
# CHEMISTRY – MEDICAL SCIENCES CONCENTRATION – B.S.

## General Education Requirements

### I. Required Skills and Competencies

- **16 cr**
  - EN 114 Writing Intensive First Year Seminar OR
  - EN 115 Advanced Placement Writing (3 cr)

  May need ENG 113 Intro to Academic Writing first, based on test results.

- Mathematical Competency-Required
  - MAT 211 Calculus I —if necessary, student may need to take MAT 175 Pre-Calculus first

- **3 cr**
  - HIS 105 Historical Foundations of Global Cultures
  - HIS 106 Thinking Historically in a Global Age

## Categories of Knowledge

### A: Logic/Numbers for Rational Thinking (4 cr)

- MAT 212 Calculus II

### B: Literary, Artistic & Cultural Traditions (9 cr)

### C: Biological & Physical Sciences (10 cr)

- CHM 121 Chemical Bonding
- PHY 205 Intermediate Physics I *
- BIO 161 Principles of Biology: Cell Structure & Function

### D: Political, Economic & Geographic Science (6 cr)

### E: Social & Behavioral Science (6 cr)

- Introduction to Sociology
- General Psychology

### III. Library Skills Completed via College/Advanced Writing course

## Chemistry Requirements

- **43-44 cr**
  - CHM 110 The Chemistry Experience (1 cr)
  - CHM 121 Chemical Bonding (3 cr) *
    (Prerequisites: MAT 175 or MAT 117 (either may be taken concurrently with CHM 121) or math placement at Level 5 and one year of high school chemistry or CHM 105 with a grade of C or better.)
  - CHM 123 Lab IA (1 cr)
  - CHM 122 Chemical Dynamics (3 cr)
    (Pre: Grade of C or better in CHM 121)
  - CHM 124 Lab IIA (3 cr)
  - CHM 221 Modern Organic Chemistry I (3 cr)
  - CHM 223 Lab IIA (1 cr)
  - CHM 222 Modern Organic Chemistry II (3 cr)
  - CHM 224 Lab IVA (3 cr)
  - CHM 301 Biochemistry I (3 cr)
  - CHM 312 Chemistry Seminar (1 cr)
  - CHM 363 Physical Chemistry I (4 cr)
  - CHM 381 Intermediate Inorganic Chemistry (3 cr)
  - CHM 420 Biochemistry II (3 cr)
  - CHM 496/497 Introduction to Research III (2 cr)

## Additional Biology Requirements

- **15 cr**
  - BIO 162 Principles of Biology: Organismal Diversity (4 cr)
  - BIO 260 Genetics (4 cr)
  - BIO 350 Human Physiology (4 cr) OR
  - BIO 351 Animal Physiology (4 cr)
  - BIO 385 Cell Biology (3 cr)

## Physics Major Requirements

- **8 cr total**
  - PHY 205 Intermediate Physics I * (3 cr)
  - PHY 123 Physics I Laboratory (1 cr)
  - PHY 206 Intermediate Physics II (3 cr)
  - PHY 125 Physics II Laboratory (1 cr)

## Restricted Elective

(Choose 1 or 2 with advisement)

- CHM 364 Physical Chemistry II (4 cr)
- CHM 371 Analytical Chemistry (4 cr)
- CHM 421 Biochemistry Lab (1 cr)
- BIO 220 Microbiology (4 cr)
- BIO 408 Virology (3 cr)
- BIO 418 Molecular Biology (3 cr)
- BIO 461 Techniques in Biotechnology (3 cr)
- BIO 375 Histology (3 cr)

## Free Electives

Recommended free electives include:

- CHM 324 Advanced Organic Chemistry Laboratory (1 cr)
- CHM 481 Advanced Inorganic Chemistry (4 cr)
- CHM 490 Special Topics (3 cr)
- SOC 369 Medical Sociology
- BIO 409 Immunology (3 cr)
- CSC 110 Computer Science (4 cr)

* Major requirement double counts as General Education Credits

## Min Total Graduation Requirements

- **120 cr**
- Cognate Course hours **58 cr**

**GP Needed to Declare**

3.2

Students in this major must maintain a GPA of 3.2 or higher.

Students that choose this concentration are not eligible for American Chemical Society Certification.
CHEMISTRY – SECONDARY EDUCATION CERTIFICATION – B.S.

General Education Requirements

I. Required Skills and Competencies 16 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
   ___ ENG 115 Advanced Placement Writing (3 cr)
May need ENG 113 Intro to Academic Writing first, based on test results
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency-Required
       MAT 211 Calculus I —if necessary, student may need to take
       MAT 175 Pre-Calculus first
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
       ___ MAT 212 Calculus II
   B: Literary, Artistic & Cultural Traditions (9 cr)
       ___ ______________________________
       ___ ______________________________
       ___ ______________________________
       ___ ______________________________
   C: Biological & Physical Sciences (10 cr)
       ___ CHM 121 Chemical Bonding *
       ___ PHY 205 Intermediate Physics I *
       ___ BIO 161 Principles of Biology: Cell Structure & Function *
   D: Political, Economic & Geographic Science (6 cr)
       ___ ______________________________
       ___ ______________________________
   E: Social & Behavioral Science (6 cr)
       ___ PSY 101 General Psychology
       ___ ______________________________

III. Library Skills Complete via College/Advanced Writing course

Chemistry Requirements 39 cr
   ___ CHM 110 The Chemistry Experience (1 cr)
   ___ CHM 121 Chemical Bonding (3 cr) *
       (Prerequisites: MAT 175 or MAT 117 (either may be taken concurrently with CHM 121) or math placement at Level 5 and one year of high school chemistry or CHM 105 with a grade of C or better.)
   ___ CHM 123 Lab IA (1 cr)
   ___ CHM 122 Chemical Dynamics (3 cr)
       (Prereq: Grade of C or better in CHM 121)
   ___ CHM 124 Lab IIIA (3 cr)
   ___ CHM 221 Modern Organic Chemistry I (3 cr)
   ___ CHM 223 Lab IIIA (1 cr)
   ___ CHM 222 Modern Organic Chemistry II (3 cr)
   ___ CHM 224 Lab IVA (3 cr)
   ___ CHM 301 Biochemistry I (3 cr)
   ___ CHM 363 Physical Chemistry I (4 cr)
   ___ CHM 364 Physical Chemistry II (4 cr)
   ___ CHM 371 Analytical Chemistry (4 cr)
   ___ CHM 381 Intermediate Inorganic Chemistry (3 cr)

Physics Requirements 8 cr
   ___ PHY 205 Intermediate Physics I (3 cr) * AND
   ___ PHY 123 Physics I Lab (1 cr)
   ___ PHY 206 Intermediate Physics II (3 cr) AND
   ___ PHY 125 Physics II Lab (1 cr)

Professional Education Requirements 33 cr
   ___ TCH 207 Org & Psych. Foundations of Secondary Education (3 cr)

The following must be taken concurrently:
   ___ EDU 440 Teaching Science In Secondary Schools (3 cr)**
   ___ EDU 441 Curriculum & Evaluation in the Secondary Science Classroom (3 cr)**
   ___ EEC 273 Introduction to Exceptionality** (3 cr)
   ___ EEC 423 Effective Instructional Strategies (3 cr)
   ___ EEC 483 Assessing Students for Curricular Decision Making (3 cr)
   ___ RDG 413 Teaching Reading ELL (3 cr)

*Major requirement double counts as General Education Credits

Total Graduation Requirements 125 cr

GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

Semester I  CHM 121 Chemical Bonding and CHM 123 Lab IA
           MAT 212 Calculus I
Semester II CHM 122 Chemical Dynamics and CHM 124 Lab IIA
           MAT 212 Calculus II
           PSY 101 General Psychology
Semester III PHY 205 Intermediate Physics I & PHY 123 Lab I
            CHM 221 Modern Organic Chem I & Chem 223 Lab IIIA
            BIO 161 Principles of Biology: Cell Structure & Function *
Semester IV  PHY 206 Intermediate Physics II & PHY 125 Lab II
            CHM 222 Mod Organic Chem II & Chem 224 Lab IVA

American Chemical Society Certification available.
See Department Chair for details.

** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

All chemistry majors will take a comprehensive examination in their junior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.
Communications/Journalism – B.A. #

Electronic Media, Print Media, & Public Relations Professional Emphases

General Education Requirements

I. Required Skills and Competencies 16 cr
   - ENG 114 Writing Intensive First Year Seminar OR
   - ENG 115 Advanced Placement Writing (3 cr)
     May need ENG 113 Intro to Academic Writing first, based on test results.
   - HIS 100 Intro to Human Communication (3 cr)
   - MAT 117 Applied Statistics (3 cr)
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
   -
   B: Literary, Artistic & Cultural Traditions (9 cr) ##
   -
   C: Biological & Physical Sciences (9 cr)
   -
   D: Political, Economic & Geographic Science (6 cr)
   -
   E: Social & Behavioral Science (6 cr)
   -

   ## B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

III. Library Skills Completed via College/Advanced Writing course

IV. Communications/Journalism Major

   NOTE: Students take 42 credits to complete the major.

   Communications/Journalism Core 15 cr
   Students must complete the following core courses with "C" grades or better before taking any other Comm/Journ course:
   - COM 111 Introduction to Mass Communication (3 cr)
   - COM 112 Media Writing (3 cr)
   - COM 245 Diversity & the Media (3 cr)
   - COM 345 Communication Law and Ethics (3 cr) Jr./Sr. standing
   - COM 355 Comm/Journ. Professional Practicum (3 cr) Jr. standing
     (prereq. COM 201 & 241, or 285 & 293, or 224 & 284)

   Professional Emphasis 12 credits in one of the following areas: 12 cr

   Electronic Media
   - COM 224 Electronic Media Writing (3 cr)
   - COM 284 Electronic Media Basic Production (3 cr)
   - COM 424 Electronic Media Producing & Performance (3 cr)
     (Prereq: COM 284 & COM 224)
   - COM 484 Electronic Media Programming & Management (3 cr)

   Print and Online Media
   - COM 285 News Writing & Reporting (3 cr)
   - COM 293 Editing (3 cr)
   - COM 375 Public Affairs Reporting (3 cr) (Prereq: COM 285)
   - COM 478 Digital Journalism (3 cr)
     (Prereq: COM 285; 393; 355) (Spr only)

   Total Graduation Requirements 120 cr

   GPA Needed to Declare: 2.3

   Helpful Hints for Advising:

   Semester I
   - COM 111 Introduction to Mass Communication
   - COM 112 Media Writing

   As part of the COM 112: Media Writing course, a grammar/style proficiency exam is given to all students. This exam must be passed with a score of 70 or better to pass the course and stay in the major/minor. Students are permitted to take the exam no more than two times. COM 112 must be taken at SU.

   Only current majors or minors may schedule Comm/Journ courses without departmental permission.

   Above average writing skills are needed in this major and students are highly encouraged to take courses that will enhance these skills.

   A professional internship is strongly recommended. One to three internship credits may be scheduled by qualified juniors or seniors who meet the department standards and who have obtained written approval from the department internship coordinator. Each internship credit is equivalent to 40 hours of work on-site.

   Only 12 credits of transfer credit may be counted as part of the major.

   A Comm/Journ minor is available 18 cr. NOTE: This department does not permit any transfer courses to be counted in the minor.
COMPUTER ENGINEERING – B.S.

**General Education Requirements**

I. Required Skills and Competencies 16 cr

- ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
- May need ENG 113 Intro to Academic Writing first, based on test results
- HCS 100 Intro to Human Communication (3 cr)
- MAT 211 Calculus I (4 cr)
  If necessary, student may need MAT 175 Pre-Calculus first.
- HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr

A: Language/Numbers for Rational Thinking (3 cr)
  - Fulfilled by major
B: Literary, Artistic & Cultural Traditions (9 cr)
  - ______________________________
  - ______________________________
  - ______________________________
C: Biological & Physical Sciences (10 cr)
  - PHY 205 Intermediate Physics
  - ______________________________
  - ______________________________
D: Political, Economic & Geographic Science (6 cr)
  - ______________________________
  - ______________________________
E: Social & Behavioral Science (6 cr)
  - ______________________________
  - ______________________________

III. Library Skills: Complete via College/Advanced Writing

Software Engineering Major Core Requirements (all concentrations) 42 cr

- ENGR 100 Engineering Seminar I (1 cr)
- ENGR 110 Modeling (3 cr)
- ENGR 120 Programming for Engineers (3 cr)
- ENGR 200 Engineering Seminar II (1 cr)
- ENGR 300 Engineering Seminar III (1 cr)
- ENGR 510 Statistical Process Control (3 cr)
- CMPE 322 Microcontrollers and Interfaces (4 cr)
- CMPE 410 Real-Time and Mobile Development (4 cr)
- CMPE 420 Digital and Reconfigurable Computing (4 cr)
- CMPE 499 Engineering Design and Development (2 cr)
- CMPE Elective (4 cr)*

Other Courses 27 cr

- MAT 212 Calculus II (4 cr)
- MAT 213 Calculus III (4 cr)
- MAT 225 Discrete Mathematics (4 cr)
- MAT 322 Differential Equations (3 cr)
- MAT 375 Prob & Stat for Engineers (4 cr)
- PHY 206 Intermediate Physics II (3 cr)
- PHY 125 Physics II Lab (1 cr)
- PHY 335 Electronics (4 cr)
- Engineering Elective (4 cr)*
- Engineering Elective (4 cr)*

*Engineering Elective is any Computer Engineering, Electrical Engineering, or Software Engineering course at the 300-level or above. One elective can be an approved CS or PHY course. Check with advisor or bulletin board for frequency of required courses.

Total Graduation Requirements 120 cr

GP A Needed to Declare: 2.0

To declare this major, a student must be at a minimum math placement level of 6.

Students should be advised that this program is academically challenging. Significant effort outside of class, self-discipline, and commitment to completing tasks will be crucial for student success.

Students pursuing this major should be very strong academically, have strong math, logic, and reasoning skills; and a background in science.

HELPFUL HINTS FOR ADVISING:

**Semester I**

ENGR 110 Modeling (3 cr)
ENGR 100 Engineering Seminar I (1 cr)
MAT 211 Calculus I (4 cr)
PHY 205/123 Intermediate Physics I (4 cr)
One General Education course (3 cr)

**Semester II**

ENGR 210 Programming for Engineers (4 cr)
MAT 212 Calculus II (4 cr)
One General Education Course (3 cr)
Applications Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 350 Intro to Computer Graphics</td>
<td>4 cr</td>
</tr>
<tr>
<td>CSC 403 Machine Learning</td>
<td></td>
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<tr>
<td>CSC 410 Theoretical Foundations of Computer Science</td>
<td></td>
</tr>
<tr>
<td>CSC 431 Computer Networks</td>
<td>4 cr</td>
</tr>
<tr>
<td>CSC 462 Artificial Intelligence</td>
<td></td>
</tr>
</tbody>
</table>

Computer Graphics Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 350 Intro to Computer Graphics</td>
<td>4 cr</td>
</tr>
<tr>
<td>CSC 361 Video Game Programming</td>
<td>4 cr</td>
</tr>
<tr>
<td>CSC 451 Computer Graphics Algorithms</td>
<td></td>
</tr>
<tr>
<td>( ) Computer Science or Engineering Elective **</td>
<td>4 cr</td>
</tr>
</tbody>
</table>

Any one of the following:

- ART 217 Computer Design I (3 cr)
- GEO 202 GIS I (3 cr)
- GEO 339 Remote Sensing (3 cr)

### HELPFUL HINTS FOR ADVISING:

Semester I

- CSC 110 Computer Science I (3 cr)
- CSC 107 Computer Science I Lab for majors (1 cr)
- MAT 211 Calculus I (4 cr)****
- Two Gen Ed courses (6 cr)

Semester II

- CSC 111 Computer Science II (4 cr)
- MAT 225 Discrete Mathematics (4 cr)****
- Two General Education Classes (6 cr)

**** Depending on math placement.

**** Students not qualified to take Calculus I may be required to first complete MAT 175 Pre-Calculus

A Computer Science minor is available 20-21 cr.
EARTH-SPACE & GENERAL SCIENCE – SECONDARY EDUCATION CERTIFICATION – B.S.Ed.

With Environmental Education Certification Option

General Education Requirements

I. Required Skills and Competencies 15 cr
   - ENG 114 Writing Intensive First Year Seminar OR
   - ENG 115 Advanced Placement Writing (3 cr)
     Student may require ENG 113 Intro to Academic Writing first, based on test results.
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency — See math courses listed
     under math/computer science requirements OR
   - MAT 140 College Algebra
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
     - MAT 117 Applied Statistics
   B: Literary, Artistic & Cultural Traditions (9 cr)
   C: Biological & Physical Sciences (9 cr)
     Note course options under CHM, PHY, BIO
   D: Political, Economic & Geographic Science (6 cr)
   E: Social & Behavioral Science (6 cr)
     - PSY 101 General Psychology

III. Library Skills  Complete via College/Advanced writing course

Required Earth Science Courses 15 cr
   - ESS 210 Physical Geology (3 cr)
   - ESS 212 Historical Geology (3 cr)
   - ESS 220 Oceanography (3 cr)
   - PHY 108 Astronomy (3 cr)
   - ESS 355 Meteorology (3 cr)

Earth Science Electives  Select 4 courses: 12 cr
   - ESS 108 Conservation of Natural Resources (3 cr)
   - ESS 214 Geology of National Parks (3 cr)
   - ESS 306 Geomorphology (3 cr)
   - ESS 404 Applied Meteorology & Climatology (3 cr)
   - ESS 442 Environmental Geology (3 cr)
   - GEO 202 GIS I (3 cr)
   - GEO 203 Climatology (3 cr)
   - GEO 224 Soils (3 cr)
   - GEO 226 Hydrology (3 cr)
   - GEO 339 Remote Sensing (3 cr)
   - GEO 352 Cartography (3 cr)
   - GEO 363 GIS II (3 cr)
   - GEO 397 Introduction to Research (3 cr)
   - GEO 420 Geographic Information Systems (3 cr)
   - GEO 440 Field Techniques (3 cr)
   - GEO 444 Environmental Land Use Planning (3 cr)

Allied Sciences 34+ cr

Biology (9 credits by advisement)
   - BIO 161 Principles of Biology: Cell Structure & Function (4 cr)
   - BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   - BIO 145 Environmental Biology (3 cr)
   - BIO 242 Ecology * (3 cr) (prereq. BIO 162 and Soph standing)
   - BIO 248 Field Biology * (3 cr) (prereq. BIO 162)
   - BIO 311 Ornithology (3 cr) (prereq. BIO 161 and 162)
   - BIO 448 Field Botany & Plant Taxonomy * (3 cr) (prereq. BIO 162)

Chemistry (8 cr)
   - CHM 121 Chemical Bonding (3 cr)
   - CHM 125 Lab IB (1 cr)
   - CHM 122 Chemical Dynamics (3 cr)
   - CHM 126 Lab IIB (1 cr)

Physics (11 cr)
   - PHY 108 Astronomy (3 cr)
   - PHY 121 Introductory Physics I (3 cr)
   - PHY 123 Lab (1 cr)
   - PHY 122 Introductory Physics II (3 cr)
   - PHY 125 Lab (1 cr)

Math (8+ credits by advisement)
   - MAT 117 Applied Statistics (4 cr)
   - MAT 211 Calculus I (4 cr) (prereq MAT 175 or Math Placement Level 6)
   - MAT 212 Calculus II (4 cr)

Professional Education Requirements 34 cr
   - TCH 207 Org. & Psych. Foundations of Secondary Education (3 cr)
   - EEC 273 Intro to Exceptionality: Understanding Diverse Learners (3 cr)
   - EEC 423 Effective Instructional Strategies for Children with Exceptionalities (3 cr)
   - EEC 483 Assessing Students for Curricular Decision Making (3 cr)
   - EDU 440 Teaching Science In Secondary School (4 cr)
   - EDU 441 Curriculum & Evaluation/Secondary Science Classroom I (3 cr)
   - RDG 413 Teaching Reading to English Language Learners (3 cr)
   - EDU 495 Student Teaching & Professional Practicum (12 cr)

Recommended: General Science Certification - 39 Credits
In order to complete a General Science Certification, students must take one of the following in addition to their Earth-Space program:
   - CSC 103 Overview to Computer Science, or
   - CSC 180 Microcomputer Basic, or
   - EDU 420 Microcomputers in the Classroom

Optional: Environmental Education Certification - 24 Credits
Courses listed in major with an * fulfill requirements
   Required (3 credits)
      - EDU 410 Environmental Education Practicum (3 cr)
   Core (12 Credits)
      - BIO 142 Intro to Ecology or 242 Ecology (3 cr)
      - BIO 208 Field Bio or 210 Field Zoo or 448 Field Bot. & Plant Tax. (3 cr)
      - ESS 210 Physical Geology or 111 Intro to Atmosphere (3 cr)
      - BIO 145 Environment Bio or ESS 108 Conservation of Natural Resources (3 cr)

Related Electives (9 Credits)
Select 9 credits from various offerings listed in the handbook.
*Major Requirement Double Counts as General Education Credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

Semester I
   - ESS 210 Physical Geology
   - Second Core Course
   - Biology 162
ECONOMICS – B.S.

Business, Data Science, Math, Political Science, Public Administration, Social Science Concentrations

General Education Requirements

I. Required Skills and Competencies 15-16 cr

- ENG 114 Writing Intensive First Year Seminar OR
- ENG 115 Advanced Placement Writing (3 cr)

May need ENG 113 Intro to Academic Writing first, based on test results.

- HCS 100 Intro to Human Communication (3 cr)
- Mathematical Competency-Required
  - MAT 140A (4 cr) or MAT 140B (3 cr) College Algebra OR
  - MAT 175 Pre-Calculus (3 cr)

- HIS 105 Historical Foundations of Global Cultures (3 cr) AND
- HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr

A: Logic/Numbers for Rational Thinking (3-4 cr)

Strongly Recommended:

- MAT 181 Applied Calculus If MAT 140 taken OR
  - MAT 211 Calculus I If MAT 175 taken

B: Literary, Artistic & Cultural Traditions (9 cr)

- Lit. Course

C: Biological & Physical Sciences (9 cr)

D: Political, Economic & Geographic Science (6 cr)

- ECO 101 Principles of Macroeconomics

E: Social & Behavioral Science (6 cr)

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Economics Requirements 27 cr

- ECO 101 Principles of Macroeconomics (3 cr) and
- ECO 102 Principles of Microeconomics (3 cr)**
- ECO 270 Intermediate Macroeconomic Theory (3 cr)
- ECO 280 Managerial Economics (3 cr)

Five (5) Economics Electives at the 300 level:

- ECO (3 cr)
- ECO (3 cr)
- ECO (3 cr)
- ECO (3 cr)
- ECO (3 cr)

Mathematics Requirement 6-8 cr

- MAT 140A (4 cr) or MAT 140B (3 cr) College Algebra * OR
  - MAT 175 Pre-Calculus (3 cr)
- MAT 181 Applied Calculus (3 cr) OR
  - MAT 211 Calculus I (4 cr)

Statistics Requirement 4 cr

- MAT 117 Applied Statistics (3 cr) * OR
  - MAT 217 Statistics I (4 cr) [for math concentration] OR
  - SCM 200 Statistical Applications for Business [for business
    conc] Pre-req is MIS 142

Concentration Requirements 18-24 cr

The Economics major includes a concentration in an applied area. Pre-approved concentrations include: Business, Mathematics, Political Science, Public Administration, and Social Science.

Data Science Concentration 19-20 cr

- CSC 104 Programming with Python or (3-4 cr)
- CSC 110 Computer Science I or
  - MIS 240 Intro. to Programming Concepts
- MAT 217 Statistics I (4 cr)
- MAT 317 Statistics II (3 cr)
- MAT 219 Data Science I (3 cr)
- MAT 319 Data Science II (3 cr)
- ECO 333 Research and Analysis in Economics (3 cr)

Mathematics Concentration 21-22 cr

- MAT 211 Calculus I (4 cr)
- MAT 212 Calculus II (4 cr)
- MAT 313 Statistics I (4 cr)

Three additional math courses from among the following:

- MAT 213 Calculus III
- MAT 225 Discrete Mathematics
- MAT 318 Elementary Linear Algebra
- MAT 322 Differential Equations
- MAT 413 Statistics II

Other math courses at the 200-level or above may be substituted, with advisement. At least one of the above courses must be at the 300-level.

Political Science Concentration 18 cr

- PLS 100 U.S. Government and Politics (3 cr)
- PLS 201 Introduction to Political Science (3 cr)
- PLS 300 Advanced U.S. Gov’t: Institutions and Public Policy (3 cr)
- PLS 301 Political Science Research Methods OR
  - PLS 302 Public Policy Analysis (3 cr)
- PLS 303 Political Science (3 cr) [300 level]
- PLS 304 **

Public Administration Concentration 18 cr

- PLS 100 U.S. Government and Politics (3 cr)
- PLS 271 Introduction to Public Administration (3 cr)
- PLS 300 Advanced U.S. Gov’t: Institutions and Public Policy (3 cr)
- PLS 371 Public Management (3 cr) OR
  - PLS 373 Public Financial Administration (3 cr)
- PLS 374 Public Service Ethics (3 cr)

Plus one of the following:

- PLS 231 State & Local Government (3 cr)
- PLS 371 Public Management (3 cr)
- PLS 372 Public Personnel Administration (3 cr)
- PLS 374 Public Service Ethics (3 cr)

Social Science Concentration 18 cr

- PLS 100 U.S. Government and Politics (3 cr) *
- PLS 271 Introduction to Public Administration (3 cr)
- PLS 300 Advanced U.S. Gov’t: Institutions and Public Policy (3 cr)
- PLS 371 Public Management (3 cr) OR
  - PLS 373 Public Financial Administration (3 cr)
- PLS 374 Public Service Ethics (3 cr)

Two (2) courses from Geography, History, or Psychology

- **

** Major requirement can fulfill General Education credits

** Students taking ECO 113: Principles of Economics (4 cr) should not take ECO 101 or 102. Only six hours of Principles credits will count toward the 27 required hours in the major.

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Semester I

- MAT 140 College Algebra
  - ECO 101 Macroeconomics or
  - ECO 102 Microeconomics

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ELECTRICAL ENGINEERING – B.S.

General Education Requirements

I. Required Skills and Competencies 16 cr
   ___  ENG 114 Writing Intensive First Year Seminar OR
       ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 113 Intro to Academic Writing first, based on test results
   ___  HCS 100 Intro to Human Communication (3 cr)
   ___  College Level Math. Satisfied by MAT 211Calculus I * (4 cr)
   If necessary, student may need MAT 175 Pre-Calculus first.
   ___  HIS 105 Historical Foundations of Global Cultures (3 cr)
   AND
   ___  HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Language/Numbers for Rational Thinking (3 cr)
      Fulfilled by major
   B: Literary, Artistic & Cultural Traditions (9 cr)
      ______________________________
      ______________________________
      ______________________________
   C: Biological & Physical Sciences (10 cr)
      PHY 205/123 Physics I 1* (4 cr)
      ______________________________
      ______________________________
   D: Political, Economic & Geographic Science (6 cr)
      ______________________________
      ______________________________
   E: Social & Behavioral Science (6 cr)
      ______________________________
      ______________________________

III. Library Skills: Complete via College/Advanced Writing

Software Engineering Major Core Requirements (all concentrations) 42 cr
   ___  ENGR 100 Engineering Seminar I (1 cr)
   ___  ENGR 10 Modeling (3 cr)
   ___  ENGR 120 Programming for Engineers (3 cr)
   ___  ENGR 200 Engineering Seminar II (1 cr)
   ___  ENGR 300 Engineering Seminar III (1 cr)
   ___  ENGR 310 Statistical Process Control (3 cr)
   ___  CMPE 220 Computer Organization (4 cr)
   ___  CMPE 322 Miconrollers & Interfaces (4 cr)
   ___  CMPE 420 Digital and REconfigurable (4 cr)
   ___  CMPE 499 Engineering Development (4 cr)
   ___  ELEC 210 Signals and Systems (4 cr)
   ___  ELEC 300 Foundations of Electronics (4 cr)

Other Courses 27 cr
   ___  MAT 212 Calculus II (4 cr)
   ___  MAT 213 Calculus III (4 cr)
   ___  MAT 225 Discrete Mathematics (4 cr)
   ___  MAT 322 Differential Equations (3 cr)
   ___  MAT 375 Prob & State for Engineers (4 cr)
   ___  PHY 206/125 Intermediate Physics II (4 cr)
   ___  PHY 355 Electronics (4 cr)
   ___  ELEC 360 Communications (4 cr)
   ___  Engineering Elective (4 cr)**

Free Electives 0 cr
   ** Engineering Elective is any CMPE/EE/SWE course at the 300-level or above. One elective can be an approved CS or PHY course.
   Check with advisor or bulletin board for frequency of required courses.

Total Graduation Requirements 120 cr

GP Needed to Declare 2.0

HELPFUL HINTS FOR ADVISING:

Semester I
   ENGR 110 Modeling (3 cr)
   ELEC 100 Engineering Seminar I (1 cr)
   MAT 211 Calculus I (4 cr)
   PHY 205/123 Intermediate Physics I (4 cr)
   General Education (3 cr)

Semester II
   ENGR 210 Programming for Engineers (4 cr)
   MAT 212 Calculus II (4 cr)
   PHY 205/123 Intermediate Physics II (4 cr)
   General Education (3 cr)

* Credits may be applied to Math/Physics Requirements and General Education Credit Requirements (Category C, Categories of Knowledge).
ENGLISH – B.A. – Literary Studies Track ##

General Education Requirements 48 cr

I. Required Skills and Competencies 15 cr
   ___ ENG 114 Writing Intensive First Year Seminar (3 cr) OR
   ___ ENG 115 Advanced Placement Writing (3 cr)
   ___ Must need ENG 113 Intro to Academic Writing first, based on test results
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ MAT XXX any college-level math course
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
    A: Logic/Numbers for Rational Thinking (3 cr)
    ___
    B: Literary, Artistic & Cultural Traditions (9 cr)
    ___
    C: Biological & Physical Sciences (9 cr)
    ___
    D: Political, Economic & Geographic Science (6 cr)
    ___
    E: Social & Behavioral Science (6 cr)
    ___

## B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 3, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

III. Library Skills: Complete via College/Advanced Writing course.

English Major Requirements 42 cr

Required (9 cr)
   ___ ENG 130 Literary Studies for the English Major & Minor (3 cr)
   ___ ENG 213 Writing and Research about Literature (3 cr)
   ___ ENG 460 Senior Seminar

Required Surveys (9 cr)
   Must take one of the following:
   ___ ENG 233 American Literature I
   ___ ENG 236 British Literature

   Must take one of the following:
   ___ ENG 234 American Literature II
   ___ ENG 237 British Literature II

   Must take one of the following:
   ___ ENG 239 Postcolonial Literature
   ___ ENG 240 Global Literature

Advanced Studies in Literature (24 cr)*

Writing (at least one course)
   ___ ENG 224 Introduction to Creative Writing
   ___ ENG 229 Advanced Composition
   ___ ENG 238 Technical/Professional Writing I
   ___ ENG 307 Poetry Writing
   ___ ENG 308 Fiction Writing
   ___ ENG 323 Reviewing the Arts for Publication
   ___ ENG 335 Creative Nonfiction
   ___ ENG 341 Teaching Writing in the Secondary Schools
   ___ ENG 420 Special Topics in Writing
   ___ ENG 427 Advanced Poetry Workshop
   ___ ENG 428 Advanced Fiction Workshop
   ___ ENG 435 Advanced Creative Nonfiction
   ___ ENG 438 Technical/Professional Writing II

Genres (at least one course)
   ___ ENG 304 Literary Criticism
   ___ ENG 333 Cultural Studies
   ___ ENG 336 Language, Learning, & Literacy
   ___ ENG 342 Mythology
   ___ ENG 360 Popular Genres
   ___ ENG 367 Studies in Drama
   ___ ENG 368 Studies in Fiction
   ___ ENG 369 Studies in Poetry
   ___ ENG 373 Studies in Creative Nonfiction
   ___ ENG 440 Special Topics in Genre

History and Movements (at least one course)
   ___ ENG 318 English Renaissance Lit.
   ___ ENG 330 Shakespeare
   ___ ENG 337 Romanticism
   ___ ENG 344 Studies in Single Author
   ___ ENG 349 Victorian Literature
   ___ ENG 363 Modernism
   ___ ENG 364 Postmodernism
   ___ ENG 366 History & Structure of the English Language
   ___ ENG 376 Medieval Literature
   ___ ENG 377 The Long 18th Century
   ___ ENG 380 19th-Century Literature
   ___ ENG 383 Literature after 1900
   ___ ENG 435 Special Topics in Literary History & Movements

Identities (at least one course)
   ___ ENG 345 Women’s Literature
   ___ ENG 358 Ethnic Literature
   ___ ENG 359 Native American Literature
   ___ ENG 362 Disability in Literature
   ___ ENG 370 Queer Studies
   ___ ENG 375 African-American Literature
   ___ ENG 385 Studies in Postcolonial Literature
   ___ ENG 385 Studies in Postcolonial Literature
   ___ ENG 445 Special Topics in Identities

* NOTE: Students must take four additional courses in Advanced Studies in Literature to reach the 24 credit hours required in Advanced Studies in Literature.

Free Electives* 30 cr

* NOTE: This category could be filled with courses in a Minor program and/or courses in the English Major.

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Take ENG 130 and ENG 213, Literary Studies for the English Major & Minor, and Writing and Research about Literature, before taking upper level courses.

NOTE: ENG 130 is only offered in the fall.

Semester II: ENG 213 and may take one additional 200-level course.

NOTE: ENG 213 is only offered in the spring.

300-level courses should NOT be taken in the first 2 semesters.

A literature course taken to satisfy the Gen. Ed. Category B requirement does NOT double count for the English major or the English minor.

An English minor is available — 18 credits.
## ENGLISH – WRITING EMPHASIS – B.A. ##

### General Education Requirements 48 cr

#### I. Required Skills and Competencies 15 cr
   - ENG 114 (Writing Intensive First Year Seminar (3 cr) OR
   - ENG 115 Advanced Placement Writing (3 cr)
   - May need ENG 113 Intro. to Academic Writing first, based on test results
   - HCS 100 Intro to Human Communication (3 cr)
   - MAT 105 Math for Liberal Studies (recommended)
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

#### II. Categories of Knowledge 34 cr
   - **A: Logic/Numbers for Rational Thinking (4 cr**)
     - _________________
   - **B: Literary, Artistic & Cultural Traditions (9 cr**)
     - _________________
     - _________________
   - **C: Biological & Physical Sciences (9 cr**)
     - _________________
     - _________________
   - **D: Political, Economic & Geographic Science (6 cr**)
     - _________________
   - **E: Social & Behavioral Science (6 cr**)
     - _________________

# B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

#### III. Library Skills: Complete via College/Advanced Writing course

### English Major Requirements 42 cr

#### CORE COURSES all required 21 cr
   - Required (9 cr)
     - ENG 130 Literary Studies for the English Major & Minor (3 cr)
     - ENG 213 Writing and Research about Literature (3cr)
     - ENG 460 Senior Seminar
   - Required Surveys (9 cr)
     - Must take one of the following:
       - ENG 233 American Literature I
       - ENG 236 British Literature I
     - Must take one of the following:
       - ENG 234 American Literature II
       - ENG 237 British Literature II
     - Must take one of the following:
       - ENG 239 Postcolonial Literature
       - ENG 240 Global Literature

#### Writing (12 cr)
   - ENG 224 Introduction to Creative Writing
   - ENG 229 Advanced Composition
   - ENG 238 Technical/Professional Writing I
   - ENG 307 Poetry Writing
   - ENG 308 Fiction Writing
   - ENG 323 Reviewing the Arts for Publication
   - ENG 335 Creative Nonfiction
   - ENG 341 Teaching Writing in teh Secondary Schools
   - ENG 420 Special Topics in Writing
   - ENG 427 Advanced Poetry Workshop
   - ENG 428 Advanced Fiction Workshop
   - ENG 435 Advanced Creative Nonfiction
   - ENG 438 Technical/Professional Writing II

### Advanced Studies in Literature (12 hrs)

#### Genres (at least one course)
   - ENG 304 Literary Criticism
   - ENG 333 Cultural Studies
   - ENG 336 Language, Learning, & Literacy
   - ENG 342 Mythology
   - ENG 360 Popular Genres
   - ENG 367 Studies in Drama
   - ENG 368 Studies in Fiction
   - ENG 369 Studies in Poetry
   - ENG 373 Studies in Creative Nonfiction
   - ENG 440 Special Topics in Genre

#### History and Movements (at least one course)
   - ENG 318 English Renaissance Lit.
   - ENG 330 Shakespeare
   - ENG 337 Romanticism
   - ENG 344 Studies in Single Author
   - ENG 349 Victorian Literature
   - ENG 363 Modernism
   - ENG 364 Postmodernism
   - ENG 366 History & Structure of the English Language
   - ENG 376 Medieval Literature
   - ENG 377 The Long 18th Century
   - ENG 380 19th-Century Literature
   - ENG 383 Literature after 1990
   - ENG 435 Special Topics in Literary History & Movements

#### Identities (at least one course)
   - ENG 345 Women’s Literature
   - ENG 358 Ethnic Literature
   - ENG 359 Native American Literature
   - ENG 362 Disability in Literature
   - ENG 370 Queer Studies
   - ENG 375 African-American Literature
   - ENG 385 Studies in Postcolonial Literature
   - ENG 385 Studies in Postcolonial Literature
   - ENG 445 Special Topics in Identities

* **NOTE:** Students must take one additional course in Advanced Studies in Literature to reach the 12 credit hours required in Advanced Writing.

### Minor or Free Electives 30 cr

* **NOTE:** This category could be filled with courses in a Minor program and/or courses in the English Major.

### Total Graduation Requirements 120 cr

### GPA Needed to Declare: 2.0

### HELPFUL HINTS FOR ADVISING:

Take ENG 130 and ENG 213, Literary Studies for the English Major & Minor, and Writing and Research about Literature, before taking upper level courses.

**NOTE:** ENG 130 is only offered in the fall.

Semester II: ENG 213 and may take one additional 200-level course.

**NOTE:** ENG 213 is only offered in the spring.

300-level courses should NOT be taken in the first 2 semesters.

A literature course taken to satisfy the Gen. Ed. Category B requirement does NOT double count for the English major or the English minor.

An English minor is available — 18 credits.
ENGLISH – SECONDARY EDUCATION CERTIFICATION – B.A.##

General Education Requirements

I. Required Skills and Competencies 15-16 cr

___ ENG 114 Writing Intensive First Year Seminar (3 cr) OR
___ ENG 115 Advanced Placement Writing (3 cr)

- May need ENG 113 Intro to Academic Writing first, based on test results

___ HCS 100 Intro to Human Communication (3 cr)
___ MAT 117 Applied Statistics [recommended]
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr

A. Logic/Numbers for Rational Thinking (3 cr)
___ MAT 105 Math for Liberal Studies [recommended]

B. Literary, Artistic & Cultural Traditions (9 cr)
___ General Education Requirements

C. Biological & Physical Sciences (9 cr)
___ EEC 101 General Biology (3 cr)
___ EEC 273 Principles of Earth Science (3 cr)
___ EEC 274 Principles of Biological Science (3 cr)
___ EEC 371 Principles of Physical Science (3 cr)

D. Political, Economic & Geographic Science (6 cr)
___ HIST 105 Historically in a Global Age (3 cr)
___ HIST 106 Thinking Historically in a Global Age (3 cr)

E: Social & Behavioral Science (6 cr)
___ PSY 101 General Psychology (3 cr)

## B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

III. Library Skills: Complete via College/Advanced Writing course.

Professional Certification Requirements 33 cr

___ TCH 207 Org/Psych Foundations of Sec. Ed. (3 cr)
___ TCH 290 Introduction to ELA Education (3 cr)
___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
___ EEC 423 Effective Instructional Strategies for Children w/Exceptionalities PK-8 (3 cr)
___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
___ RDG 413 Teaching Reading to English Language Learners (3 cr)
___ EDU 422 Teaching English II (3 cr)
___ EDU 495 Student Teaching (12 cr)

NOTE: Students need to apply for "Professional Standing" the semester before Methods in order to be admitted to the course. Students must not schedule ANY classes BEFORE noon the semester they take Methods in order to keep their mornings free. See www.ship.edu/english/certindex for all the requirements for receiving certification, PAPA testing, GPA, observation hours, student teaching, etc.

TK 20 is a required computer program for the English certification and can be bought at the university store. Purchase should be made before scheduling Methods course.

English Major Requirements 39 cr

A. Required (15 cr)
___ ENG 130 Literary Studies for the English Major and Minor (3 cr)
___ ENG 213 Writing and Research About Literature (3 cr)
___ ENG 366 History and Structure of English (3 cr)
___ ENG 460 Senior Seminar (3 cr)
___ ENG 426 Teaching Adolescent Literature (Prereq: EDU 290) (3 cr)

B. Required Surveys (9 cr)

Must take one of the following:
___ ENG 233 American Literature I (3 cr)
___ ENG 236 British Literature I (3 cr)

Must take one of the following:
___ ENG 234 American Literature II (3 cr)
___ ENG 237 British Literature II (3 cr)

C. Advanced Studies in Literature (At least one course) * 15 cr

___ ENG 224 Introduction to Creative Writing (3 cr)
___ ENG 293 Advanced Composition (3 cr)
___ ENG 238 Technical/Professional Writing I (3 cr)
___ ENG 307 Poetry Writing (3 cr)
___ ENG 308 Fiction Writing (3 cr)
___ ENG 323 Reviewing the Arts for Publication (3 cr)
___ ENG 335 Creative Nonfiction (3 cr)
___ ENG 341 Teaching Writing in the Secondary Schools (3 cr)
___ ENG 420 Special Topics in Writing (3 cr)
___ ENG 427 Advanced Poetry Workshop (3 cr)
___ ENG 428 Advanced Fiction Workshop (3 cr)
___ ENG 435 Advanced Creative Nonfiction (3 cr)
___ ENG 438 Technical/Professional Writing II (3 cr)

Genres (at least one course)

___ ENG 304 Literary Criticism (3 cr)
___ ENG 333 Cultural Studies (3 cr)
___ ENG 336 Language, Learning, & Literacy (3 cr)
___ ENG 342 Mythology (3 cr)
___ ENG 360 Popular Genres (3 cr)
___ ENG 367 Studies in Drama (3 cr)
___ ENG 368 Studies in Fiction (3 cr)
___ ENG 369 Studies in Poetry (3 cr)
___ ENG 373 Studies in Creative Nonfiction (3 cr)
___ ENG 440 Special Topics in Genre (3 cr)

History and Movements (at least one course)

___ ENG 318 English Renaissance Lit. (3 cr)
___ ENG 330 Shakespeare (3 cr)
___ ENG 337 Romanticism (3 cr)
___ ENG 344 Studies in Single Author (3 cr)
___ ENG 349 Victorian Literature (3 cr)
___ ENG 363 Modernism (3 cr)
___ ENG 364 Postmodernism (3 cr)
___ ENG 366 History & Structure of the English Language (3 cr)
___ ENG 376 Medieval Literature (3 cr)
___ ENG 377 The Long 18th Century (3 cr)
___ ENG 380 19th-Century Literature (3 cr)
___ ENG 383 Literature after 1900 (3 cr)
___ ENG 435 Special topics in Literary History & Movements (3 cr)

Identities (at least one course)

___ ENG 345 Women's Literature (3 cr)
___ ENG 358 Ethnic Literature (3 cr)
___ ENG 359 Native American Literature (3 cr)
___ ENG 362 Disability in Literature (3 cr)
___ ENG 370 Queer Studies (3 cr)
___ ENG 375 African-American Literature (3 cr)
___ ENG 385 Studies in Postcolonial Literature (3 cr)
___ ENG 445 Special Topics in Identities (3 cr)

*NOTE: Students must take one additional course to reach the 15 credit hours required in IIC.##
ENGLISH – SECONDARY EDUCATION CERTIFICATION – B.A.##

(continued)

Total Graduation Requirements 120 cr

GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

Take ENG 130 and ENG 213, Literary Studies for the English Major & Minor, and Writing and Research about Literature, before taking upper level courses.

NOTE: ENG 130 is only offered in the fall.

Semester II: ENG 213 and may take one additional 200-level course.

NOTE: ENG 213 is only offered in the spring.

300-level courses should NOT be taken in the first 2 semesters.

A literature course taken to satisfy the Gen. Ed. Category B requirement does NOT double count for the English major or the English minor.

An English minor is available — 18 credits.
**FRENCH & FRENCH SECONDARY EDUCATION CERT. – B.A.**

**General Education Requirements**

<table>
<thead>
<tr>
<th>Required Skills and Competencies</th>
<th>15 cr</th>
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<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
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<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
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<tr>
<td>HCS 100 Intro. to Human Communication (3 cr)</td>
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<tr>
<td>Mathematical Competency-any math listed under Category &quot;A&quot;</td>
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<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) <strong>AND</strong> HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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**II. Categories of Knowledge**

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<tr>
<th>A: Logic/Numbers for Rational Thinking (3 cr)</th>
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<tr>
<th>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</th>
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<th>C: Biological &amp; Physical Sciences (9 cr)</th>
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<th>D: Political, Economic &amp; Geographic Science (6 cr)</th>
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<th>E: Social &amp; Behavioral Science (6 cr)</th>
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**III. Library Skills Completed via College or Advanced Writing**

**French Major Requirements**

<table>
<thead>
<tr>
<th>30 cr</th>
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<tbody>
<tr>
<td>FRN 202 Intern. French Conversation through the Media (3 cr)</td>
</tr>
<tr>
<td>FRN 204 Ideas &amp; Cultures from the French-Speaking World (3 cr)</td>
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<tr>
<td>FRN 211 Intermediate Grammar (3 cr)</td>
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<td>FRN 300 Advanced French Conversation (3 cr)</td>
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<td>FRN 308 Diction and Compréhension (3 cr)</td>
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<td>FRN 309 French Grammar (3 cr)</td>
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<td>FRN 316 Composition and Stylistics (3 cr)</td>
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<td>FRN 330 Masterpieces of French Literature (3 cr)</td>
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<td>FRN 331 Masterpieces of Francophone Literature (3 cr)</td>
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<td>FRN 340 Genres Littéraires (3 cr)</td>
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**French Electives (Choose any 2)**

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<th>6 cr</th>
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<tbody>
<tr>
<td>FRN 320 French for the Professions (3 cr)</td>
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<tr>
<td>FRN 380 Aspects de la civilization francaise/francophone (3 cr)</td>
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<tr>
<td>FRN 395 French Cultural Studies Immersion (3 cr)</td>
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<td>FRN 400 Seminar (3 cr)</td>
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<td>FRN 411 Theory &amp; Practice of Translation (3 cr)</td>
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<td>FRN 490 Special Topics (3 cr)</td>
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**Free Electives**

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**Total Graduation Requirements**

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<th>120 cr</th>
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<tbody>
<tr>
<td>GPA Needed to Declare: 3.0</td>
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</table>

**HELPFUL HINTS FOR ADVISING:**

**Year I** Any introductory language courses necessary.

Students planning to teach French will find it to their advantage to work for dual certification in two modern languages, a modern language and English, or a modern language and another field. To achieve dual certification, a student must have the approval of both departments involved, follow an approved course of studies in the specialty areas, take the appropriate methods course, and complete student teaching in both fields. See the Modern Languages Department for details.

All French Secondary Education Certification B. A student must pass the ACTFL Oral Proficiency Interview prior to graduation and reach an advanced low level minimum.

*** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

A French minor is available 18 credits.
**GEOENVIRONMENTAL STUDIES – B.S.**

### General Education Requirement

**I. Required Skills and Competencies**

- **General Education Requirement**
  - May need ENG 115 Intro to Academic Writing first, based on test results
  - HCS 100 Intro to Human Communication (3 cr)
  - Mathematical Competency-Schedule highest level possible
  - HIS 105 Historical Foundations of Global Cultures (3 cr) **AND**
  - HIS 106 Thinking Historically in a Global Age (3 cr)

**II. Categories of Knowledge**

- **A: Logic/Numbers for Rational Thinking** (3 cr)
  - Philosophy: Intro to Analytical Reasoning
  - Philosophy: Intro to Quantitative Reasoning
  - Philosophy: Intro to Theoretical Reasoning

**B: Literary, Artistic & Cultural Traditions** (9 cr)

- Literature: American-English
- Literature: American-Multiethnic
- Literature: American-Native American
- Literature: Asian
- Literature: German
- Literature: Italian
- Literature: Latin American
- Literature: Russian
- Literature: Spanish
- Literature: World

**C: Biological & Physical Sciences** (9 cr)

- Geology Requirement:
  - ESS 201 Physical Geology (3 cr)
  - ESS 355 Meterology
  - ESS 111 taken, select ESS 212, GEO 306, or ESS 214
  - CHM 121 General Chemistry I (3 cr)
  - CHM 122 General Chemistry II (3 cr)

**D: Political, Economic & Geographic Science** (6 cr)

**E: Social & Behavioral Science** (6 cr)

### III. Library Skills Complete via writing course

- **Required GeoEnvironmental Studies Courses** (15 cr)
  - ESS 210 Physical Geology (3 cr)
  - ESS 350 Meteorology
  - ESS 111 taken, select ESS 212, GEO 306, or ESS 214
  - GEO 224 Soils must be after ESS 210 or ESS 110 (3 cr)
  - GEO 226 Hydrology (3 cr)
  - GEO 391 Geography Seminar (3 cr)

**Geography Electives** Select 2 courses: (6 cr)

- GEO 230 Economic Geography (3 cr)
- GEO 244 Land Use (3 cr)
- GEO 305 Geography of Europe (3 cr)
- GEO 308 Geography of Latin America (3 cr)
- GEO 310 Transportation Geography (3 cr)
- GEO 313 Geography of S. and S.E. Asia (3 cr)
- GEO 317 Geography of East Asia (3 cr)
- GEO 320 Historical Geography (3 cr)
- GEO 321 Urban Geography (3 cr)
- GEO 415 Regional Geographic Studies (3 cr)
- GEO 450 Geog. – Geology Field Studies (3 cr)

**GeoEnvironmental Complex System Electives** Select 3 courses: (9 cr)

- ESS 404 Applied Meteorology and Climatology (3 cr)
- GEO 143 Mineral & Rock Resources (3 cr)
- GEO 224 Soil Science (3 cr)
- GEO 301 Biogeography (3 cr)
- GEO 306 Geomorphology (3 cr)
- GEO 402 Medical Geography (3 cr)
- GEO 404 Groundwater and Hydro-Geology (3 cr)
- GEO 444 Environmental Land Use Planning (3 cr)
- GEO 450 Geog. – Geology Field Studies (3 cr)
- GEO 464 Water Resources Management (3 cr) (GEO 226 is pre-req)

- GEO 490 Selected Topics By advisement (3 cr)

**Technique Course Electives** Select 2 courses: (6 cr)

- GEO 202 GIS I (3 cr)
- GEO 339 Remote Sensing (3 cr)
- GEO 352 Cartography (3 cr)
- GEO 363 GIS II (3 cr)
- GEO 420 GIS III (3 cr)
- GEO 425 Image Processing (3 cr)
- GEO 440 Field Techniques (3 cr)
- GEO 441 Quantitative Methods (3 cr)
- GEO 450 Geog. – Geology Field Studies (3 cr)
- GEO 463 Applied Geophysical Imaging (3 cr)
- GEO 490 Selected Topics (3 cr)

GeoEnvironmental Electives (3 cr)

Any 200–400 level courses listed above and not taken may be counted as an elective or select 1 course:

- GEO 463 Applied Geophysical Imaging (3 cr)
- GEO 490 Selected Topics (3 cr)
- Marine Science Consortium Courses (3 cr)

### GeoEnvironmental Field Experience

- Internship Junior Status: 60 cr - 2.0 Required (3 cr)

**Biology Requirement** at least one 200-level or higher 9 or 10 cr

- BIO 162 Principles of Biology: Organismal Diversity **
- BIO 145 Environmental Biology (3 cr)
- BIO 210 Field Zoology (3 cr)
- BIO 242 Ecology (3 cr)
- BIO 446 Field Botany & Plant Taxonomy (3 cr) **

**Math Requirement** Select 1 course:

- MAT 117 Applied Statistics (4 cr)
- MAT 114 Intro to Business Computer Systems (3 cr)
- MAT 180 Microcomputer Basic (3 cr)

- MAT 111 Applied Statistics (4 cr)
- MAT 140 (A or B) College Algebra (3 cr)
- MAT 170 Pre-Calculus (4 cr)
- MAT 211 Calculus I (4 cr)
- MAT 212 Calculus II (4 cr)

**Chemistry and/or Physics Requirement** (7 - 9 cr)

Choose 2 courses Include lab where appropriate

- CHM 105 Chemistry: Observational Approach (3 cr) [recommended]
- CHM 121 Chemical Bonding (3 cr)
- CHM 125 Lab IB (1 cr)
- CHM 122 Chemical Dynamics (3 cr)
- CHM 126 Lab IIIB (3 cr)
- PHY 121 Physics I and PHY 125 Physics I lab (4 cr) [recommended]

**Computer Science Requirement** Select 1 course:

- CSC 101 Overview of Computer Science (3 cr)
- CSC 180 Microcomputer Basic (3 cr)

**Math Requirement** Select 1 course:

- MAT 117 Applied Statistics (4 cr)
- MAT 116 College Algebra (3 cr)
- MAT 175 Pre-Calculus (4 cr)
- MAT 211 Calculus I (4 cr)
- MAT 212 Calculus II (4 cr)

**Geographic Information Systems GIS Letter of Completion (optional)** 12 cr Required:

- GEO 202 GIS I (3 cr)
- GEO 363 GIS II (3 cr)

Select any two courses:

- GEO 339 Remote Sensing (3 cr)
- GEO 352 Cartography (3 cr)
- GEO 420 GIS III (3 cr)
- GEO 425 Image Processing (3 cr)
- GEO 440 Field Techniques (3 cr)
- GEO 441 Quantitative Methods (3 cr)
- GEO 463 Applied Geophysical Imaging (3 cr)

**Total Graduation Requirements** 120 cr

GPA Needed to Declare: 2.0

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**HELPFUL HINTS FOR ADVISING**

Year I: Hydrology; Physical Geology, Biology 162; World Geography or Geography U.S. and Canada.

Gen Eds should be completed as soon as possible.
GEOGRAPHY – GEOGRAPHIC INFORMATION SYSTEMS (GIS) TRACK – /B.S.

General Education Requirements
I. Required Skills and Competencies 15 cr
   - ENG 114 Writing First Year Seminar OR
   - ENG 115 Advanced Placement Writing (3 cr)
     May need ENG 113 Intro to Academic Writing, based on test results
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency—See math requirements under allied courses in major
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
     - CSC 104 Python Programming (3 cr)
   B: Literary, Artistic & Cultural Traditions (9 cr)
   C: Biological & Physical Sciences (9 cr)
   D: Political, Economic & Geographic Science (6 cr)
   E: Social & Behavioral Science (6 cr)

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Required Geography Courses 15 cr
   - GEO 105 Physical Geography (3 cr)
   - GEO 202 GIS I (3 cr)
   - GEO 230 Economic Geography (3 cr)
   - GEO 244 Land Use (3 cr) OR
   - GEO 322 Urban Geography (3 cr)
   - GEO 391 Geography Seminar (3 cr)

Geographic Information Systems GIS Track 18 cr
   - GEO 339 Remote Sensing (3 cr)
   - GEO 352 Cartography (3 cr)
   - GEO 363 GIS II (3 cr)
   - GEO 420 GIS III (3 cr)

Select 2 courses: 9 cr
   - GEO 339 Remote Sensing (3 cr)
   - GEO 425 Image Processing (3 cr)
   - GEO 440 Field Techniques (3 cr)
   - GEO 441 Quantitative Methods (3 cr)
   - GEO 463 Applied Geophysical Imaging (3 cr)
   - GEO or ESS 400 Level Elective (3 cr)

Geography Internship
   - Internship Junior Status, 60 cr - 2.0 Required 3 cr

GIS Content Electives
Select 1 course:
   - * GEO 244 Land Use (3 cr)
   - GEO 310 Transport Geography (3 cr)
   - * GEO 322 Urban Geography (3 cr)
   * If not taken in core

Allied Sciences 27 + credits
Social Sciences [6+ credits]
   Select two:
   - PHL 332 Ethical Issues and Computer Technology (3 cr)
   - PLS 231 State and Local Government (3 cr)
   - PLS 271 Introduction to Public Administration (3 cr)
   - PLS 331 City Politics and Administration (3 cr)
   - PLS 431 Pennsylvania Local Government (3 cr)
   - SOC 220 Social Stratification (3 cr)
   - SOC 346 City and Community (3 cr)
   - SOC 363 Population Problems (3 cr)

Art/Computer Science/Information Management Systems [9+ credits]
   Select three:
   - ART 217 Computer Design I (3 cr)
   - CSC 104 Python Programming (3 cr)
   - CSC 110 Computer Science I (3 cr) + CSC 106 Lab (1 cr)
   - CSC 111 Computer Science II (4 cr)
   - CSC ___ (by advisement) (3 cr)
   - MIS 142 Business Computer Systems (3 cr)
   - MIS 240 Introduction to Programming Concepts (3 cr)
   - MIS 300 Info Tech and Business Operations (3 cr)
   - MIS 355 Database Applications (3 cr)

Math [6+ credits]
   Select two:
   - MAT 140A College Algebra (4 cr) (REQUIRED)
   - MAT 140B College Algebra (3 cr)
   - MAT 175 Precalculus (3 cr)
   - MAT 211 Calculus I (4)
   - MAT 225 Discrete Mathematics (4 cr)

Technical Writing [3 cr]
   - ENG 238 Technical/Professional Writing

GENERAL EDUCATION ELECTIVES:
Recommended background courses:
   - GEO 101 World Geography (3 cr)
   - GEO 103 Geography of the U.S. and Canada (3 cr)
   - GEO 140 Cultural Geography (3 cr)

Free Electives 25+ cr
*Major Requirement Fulfills General Education Credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Semester I
   GEO 101 World Geography or GEO 103 Geography of U.S. & Canada GEO 105 Physical Geography

Semester II
   Core Course

General Education courses should be completed as soon as possible.
# GEOGRAPHY – HUMAN ENVIRONMENTAL STUDIES TRACK – /B.S.

## General Education Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
<td>16 cr</td>
</tr>
<tr>
<td>__ ENG 114 Writing First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ May need ENG 113 Intro to Academic Writing first, based on test results</td>
<td></td>
</tr>
<tr>
<td>__ HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ Mathematical Competency-See math under allied courses</td>
<td></td>
</tr>
<tr>
<td>__ HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ Required Geography Courses</td>
<td></td>
</tr>
<tr>
<td>__ Writing course</td>
<td></td>
</tr>
<tr>
<td>__ III. Categories of Knowledge</td>
<td>33 cr</td>
</tr>
<tr>
<td>__ A: Logic/Numbers for Rational Thinking (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>__ C: Biological &amp; Physical Sciences (9 cr)</td>
<td></td>
</tr>
<tr>
<td>__ D: Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>__ E: Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>__ III. Library Skills Completed as part of the College Writing or Advanced Writing course</td>
<td></td>
</tr>
<tr>
<td>__ Required Geography Courses</td>
<td>15 cr</td>
</tr>
<tr>
<td>__ GEO 105 Physical Geography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 202 GIS I (3 cr)</td>
<td></td>
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<tr>
<td>__ GEO 230 Economic Geography (3 cr)</td>
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<tr>
<td>__ GEO 244 Land Use OR GEO 322 Urban Geography (if not in core) (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 391 Geography Seminar (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ Human-Environment Track</td>
<td>18 cr</td>
</tr>
<tr>
<td>__ Required: GEO 140 Cultural Geography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ Human-Geography Courses Select 2 courses:</td>
<td></td>
</tr>
<tr>
<td>__ GEO 244 Land Use (if not in core)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 310 Transportation Geography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 320 Historical Geography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 322 Urban Geography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ Environmental Courses Select 1 course:</td>
<td></td>
</tr>
<tr>
<td>__ GEO 301 Introduction to Biogeography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 402 Medical Geography (3 cr)</td>
<td></td>
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<tr>
<td>__ GEO 404 Hydrogeology (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ ESS 404 Applied Meteorology/Climatology (3 cr)</td>
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<tr>
<td>__ ESS 442 Environmental Geology (3 cr)</td>
<td></td>
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<tr>
<td>__ GEO 444 Environmental Land Use Planning (3 cr)</td>
<td></td>
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<tr>
<td>__ GEO 446 Water Resource Management (3 cr) (Prereq: GEO 226)</td>
<td></td>
</tr>
<tr>
<td>__ Regional Courses Select 1 course:</td>
<td></td>
</tr>
<tr>
<td>__ GEO 305 Geography of Europe (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 308 Geography of Latin America (3 cr)</td>
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<tr>
<td>__ GEO 313 Geography of S. and S.E. Asia (3 cr)</td>
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<tr>
<td>__ GEO 316 Geography of Africa (3 cr)</td>
<td></td>
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<tr>
<td>__ GEO 317 Geography of East Asia (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 415 Regional Geographic Studies (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 450 Geography-Geology Field Study (3 cr)</td>
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</tbody>
</table>

## Technique Course Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Select 1 course:</td>
<td></td>
</tr>
<tr>
<td>__ GEO 339 Remote Sensing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 352 Cartography (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 363 GIS II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 420 GIS III (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 425 Image Processing (3 cr)</td>
<td></td>
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<tr>
<td>__ GEO 440 Field Techniques (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 441 Quantitative Methods (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ GEO 463 Applied Geophysical Imagining (3 cr)</td>
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</tr>
</tbody>
</table>

## Allied Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Mathematics</td>
<td>Select one:</td>
</tr>
<tr>
<td>__ MAT 117 Applied Statistics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>__ MAT 175 Pre-Calculus (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>Select one:</td>
</tr>
<tr>
<td>__ PLS 231 State and Local Government (3 cr) (Pre-req: PLS 100)</td>
<td></td>
</tr>
<tr>
<td>__ PLS 341 International Law and Organization (3 cr) (Pre-req: PLS 141)</td>
<td></td>
</tr>
<tr>
<td>Select one: (each course has pre-requisites)</td>
<td></td>
</tr>
<tr>
<td>__ ECO 321 International Economics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ ECO 325 Globalization (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ ECO 340 Intro. to Regional Economics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ ECO 355 Environmental Economics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Select one: (each course has pre-requisites)</td>
<td></td>
</tr>
<tr>
<td>__ ANT 211 Comparative Cultures (3 cr)</td>
<td></td>
</tr>
<tr>
<td>__ ANT 220 Anthropology for International Studies (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Geography Internship</td>
<td></td>
</tr>
<tr>
<td>__ GEO 360 Internship Junior Status, 60 cr - 2.0 Required</td>
<td>3 cr</td>
</tr>
<tr>
<td>Free Electives</td>
<td>25+ cr</td>
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</tbody>
</table>

*Major Requirement Fulfills General Education Credits

## Total Graduation Requirements

120 cr

GPA Needed to Declare: 2.0

## HELPFUL HINTS FOR ADVISING:

### Semester I
- GEO 101 World Geography or GEO 103 Geography of U.S. & Canada
- GEO 140 Cultural Geography

### Semester II
- Core Course
GEOGRAPHY – LAND USE TRACK – B.S.

General Education Requirements
I. Required Skills and Competencies 16 cr
___ ENG 114 Writing Intensive First Year Seminar OR
   ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 113 Intro to Academic Writing first, based on
test results
___ HCS 100 Intro to Human Communication (3 cr)
___ Math Competency-Required
   MAT 117 Applied Statistics (4 cr)
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
A: Logic/Numbers for Rational Thinking (3 cr)

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions</td>
<td>(9 cr)</td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences</td>
<td>(9 cr)</td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science</td>
<td>(6 cr)</td>
<td></td>
</tr>
</tbody>
</table>
   - PLS 100 U.S. Government and Politics
   - PLS 141 World Politics
| E: Social & Behavioral Science | (6 cr) | |

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Required Geography Courses 15 cr
___ GEO 105 Physical Geography (3 cr)
___ GEO 202 GIS I (3 cr)
___ GEO 230 Economic Geography (3 cr)
___ GEO 322 Urban Geography (3 cr) OR
   GEO 244 Land Use (3 cr)
___ GEO 391 Geography Seminar (3 cr)

Land Use Track 18 cr
___ GEO 444 Environmental Land Use Planning (3 cr) AND
   Select five of the following:
   - ESS 214 Geology of National Parks (3 cr)
   - ESS 413 Mineral & Rock Resources (3 cr)
   - ESS 442 Environmental Geology (3 cr)
   - GEO 244 Land Use (3 cr)
   - GEO 310 Transportation Geography (3 cr)
   - GEO 320 Historical Geography (3 cr)
   - GEO 322 Urban Geography (3 cr)
   - GEO 339 Remote Sensing (3 cr)

Geography Internship
___ Internship Junior Status, 60 cr - 2.0 Required 3 cr

Applied Courses

Computer Science/Math Requirement 7 – 8 cr
Select Course:
___ MAT 117 Applied Statistics (4 cr)

Research Methods Requirement 3 cr
___ PSY 105 Research Design & Statistics (3 cr) OR
   GEO 441 Quantitative Methods (3 cr)

General Education Electives
For Background-Recommend the following:
___ GEO 101 World Geography (3 cr)
___ GEO 103 Geography of the U.S. and Canada (3 cr)
___ GEO 140 Cultural Geography (3 cr)

Geographic Information Systems GIS Letter of Completion (optional) 12 cr Required:
___ GEO 202 GIS I (3 cr)
___ GEO 363 GIS II (3 cr)

Select any 2 courses:
___ GEO 339 Remote Sensing (3 cr)
___ GEO 352 Cartography (3 cr)
___ GEO 420 GIS III (3 cr)
___ GEO 425 Image Processing (3 cr)
___ GEO 440 Field Techniques (3 cr)
___ GEO 441 Quantitative Methods (3 cr)
___ GEO 463 Applied Geophysical Imaging (3 cr)

Helpful Hints for Advising:

Semester I
GEO 101 World Geography OR
   GEO 103 Geography of U.S. & Canada
   GEO 105 Physical Geography

Semester II
Core Course
   Political Science

General Education courses should be completed as soon as possible.
GEOGRAPHY – SECONDARY EDUCATION CERTIFICATION – B.S.Ed.

Social Studies

General Education Requirements

I. Required Skills and Competencies 16 cr
   __ ENG 114 Writing Intensive First Year Seminar OR
   __ ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 113 Intro to Academic Writing first, based on test results
   __ HCS 100 Intro to Human Communication (3 cr)
   __ Mathematical Competency-Required
   __ MAT 117 Applied Statistics (4 cr)
   __ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   __ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
      __ Any math course under Category A. Must be a different course than that used for Required Skills
   B: Literary, Artistic & Cultural Traditions (9 cr)
      __ __________________________
      __ __________________________
      __ __________________________
   C: Biological & Physical Sciences (9 cr)
      __ ESS 108 Conservation of Natural Resources OR
      __ BIO 145 Environmental Biology
      __ __________________________
      __ __________________________
   D: Political, Economic & Geographic Science (6 cr)
      __ ECO 101 Principles of Macroeconomics
      __ GEO 101 World Geography
   E: Social & Behavioral Science (6 cr)
      __ PSY 101 General Psychology
      __ GEO 140 Cultural Geography

III. Library Skills Completed as writing course

Geography Requirement 12 cr
   __ GEO 101 World Geography (3 cr)*
   __ ESS 110 Introduction to Geology (3 cr)* OR
   __ ESS 111 Introduction to Atmosphere (3 cr)*
   __ GEO 140 Cultural Geography (3 cr)*
   __ GEO 230 Economic Geography (3 cr)**

Electives in Geography 12 cr
   __ GEO Geo: Regional Course:
   __ GEO Geo: Regional Course:
   __ GEO Geo: Regional Course:
   __ GEO Geo: Regional Course:
   __ GEO Geo: Topical Course:
   __ GEO Geo: Topical Course:

Choose electives in areas of specialization which may either serve a future teaching purpose or establish a basis for future graduate study.

Economics Requirements 6 cr
   __ ECO 101 Principles of Macroeconomics (3 cr) *
   __ ECO 102 Principles of Microeconomics (3 cr)

History Requirements 9 cr
   __ HIS 105 Historical Foundations of Global Cultures (3 cr) *
   __ HIS 106 Thinking Historically in a Global Age (3 cr) *
   __ HIS 202 Recent History of the United States (3 cr)

Mathematics Requirement 4 cr
   __ MAT 117 Applied Statistics (4 cr)

Political Science Requirement 9 cr
   __ PLS 100 U.S. Government and Politics (3 cr)
   __ PLS 495 Student Teaching & Professional Practicum (12 cr)**
   __ ____________
   __ ____________
   __ ____________
   __ ____________

Professional Education Requirements 33 cr
   __ TCH 207 Org. & Psych. Foundations of Secondary Education (3 cr)
   __ EDU 413 Teaching of Social Studies I (3 cr)***
   __ EDU 414 Teaching of Social Studies II (3 cr)***
   __ EDU 495 Student Teaching & Professional Practicum (12 cr)***
   __ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)***
   __ EEC 423 Effective Instructional Strategies for Children with Exceptionalities (3 cr)
   __ EEC 483 Assessing Students for Curricular Decision Making (3 cr)
   __ RDG 413 Teaching Reading to English Language Learners (3 cr)***

Cognate Field 6 cr
   Two 200 level or above courses from History, Political Science, or Economics.
   History is recommended for best PAPA exam results.

Geographic Information Systems GIS Letter of Completion 12 cr
   ____________________________________________________________________________
   Optional but recommended
   Required:
   __ GEO 202 GIS I (3 cr)
   __ GEO 363 GIS II (3 cr)
   Select any two courses:
   __ GEO 339 Remote Sensing (3 cr)
   __ GEO 352 Cartography (3 cr)
   __ GEO 420 GIS III (3 cr)
   __ GEO 425 Image Processing (3 cr)
   __ GEO 440 Field Techniques (3 cr)
   __ GEO 441 Quantitative Methods (3 cr)
   __ GEO 463 Applied Geophysical Imaging (3 cr)

A field experience is required—see your advisor

*Major requirement double counts as General Education Credits

**Double counts as both a Geography and Economics Requirement

Total Graduation Requirements 120 cr

GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

Year 1 GEO101 World Geography
   ESS 111 Intro to Atmosphere OR
   ECO 101 Principles of Macroeconomics (3 cr) *
   ECO 102 Principles of Microeconomics (3 cr)
   HIS 105 Historical Foundations of Global Cultures (3 cr) *
   HIS 106 Thinking Historically in a Global Age (3 cr) *
   HIS 202 Recent History of the United States (3 cr)

Economics should not be taken until the sophomore year.

*** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

Program is under revision. Contact the department of Geography/Earth Science for additional information.
HISTORY – B.A.
With American, European, or Middle East/Asian History Concentration

General Education Requirements

I. Required Skills and Competencies 15 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
   ___ ENG 115 Advanced Placement Writing (3 cr)
      May need ENG 113 Intro to Academic Writing first, based on
      test results
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency-Any math listed under
      Category "A" in the Gen Ed Program
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge (Including diversity requirement) 33 cr
   A. Logic/Numbers for Rational Thinking (3 cr)
      ______________________________
   B. Literary, Artistic & Cultural Traditions (9 cr)
      ______________________________
      ______________________________##
      ______________________________
   C. Biological & Physical Sciences (9 cr)
      ______________________________
      ______________________________
      ______________________________
   D. Political, Economic & Geographic Science (6 cr)
      ______________________________
      ______________________________
      ______________________________
   E. Social & Behavioral Science (6 cr)
      ______________________________
      ______________________________
      ______________________________

III. Library Skills Completed as part of the College Writing or Advanced
     Writing course

History Requirements 18 cr
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) *
   ___ HIS 106 Thinking Historically in a Global Age (3 cr) *
   ___ HIS 201 Early History of the United States (3 cr)
   ___ HIS 202 Recent History of the United States (3 cr)
   ___ HIS 203 Theory and Practice of History (3 cr)
   ___ HIS 397 Seminar in Comparative History (3 cr)

Restricted History Electives: 300 level or above 12 cr
   ___ HIS American History Course (3 cr)
   ___ HIS European History Course (3 cr)
   ___ HIS Africa/Asia/Latin America Course (3 cr)
   ___ HIS Africa/Asia/Latin America Course (3 cr)

History Concentration: 12 cr
Select from: U.S., Europe, Middle East/Asia
   History Electives: 300 level or above in the field of concentration
   ___ HIS_______________________ (3 cr)
   ___ HIS_______________________ (3 cr)
   ___ HIS_______________________ (3 cr)

Free Electives 36 cr
Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0
Helpful Hints for Advising:
Year 1
   HIS 105 Historical Foundations of Global Cultures
   HIS 106 Thinking Historically in a Global Age
**HISTORY – B.A. ##**

**Public History Concentration**

### General Education Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Minimum Credits</th>
</tr>
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<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
<td>15 cr</td>
</tr>
<tr>
<td>II. Categories of Knowledge (Including diversity requirement)</td>
<td>33 cr</td>
</tr>
<tr>
<td>III. Library Skills Completed as part of the College Writing or Advanced Writing course</td>
<td></td>
</tr>
</tbody>
</table>
HISTORY-SECONDARY EDUCATION CERTIFICATION – B.S.Ed.

Social Studies

General Education Requirements

I. Required Skills and Competencies 15 cr

- ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
  - May need ENG 113, Intro to Academic Writing first, based on test results
- HCS 100 Intro to Human Communication (3 cr)
- Mathematical Competency
  - Any math listed under Category “A” of the Gen Ed Program
- HIS 105 Historical Foundations of Global Cultures (3 cr) AND
- HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr

A: Logic/Numbers for Rational Thinking (3-4 cr)
- MAT 117 Applied Statistics

B: Literary, Artistic & Cultural Traditions (9 cr)
- ENG 248 or 250 Literature Requirement

C: Biological & Physical Sciences (9 cr)
- ________________________________
- ________________________________

D: Political, Economic & Geographic Science (6 cr)
- GEO 101 World Geography
- ECO 101 Principles of Macroeconomics

E: Social & Behavioral Science (6 cr)
- PSY 101 General Psychology
- SOC 101 Introduction to Sociology

III. Library Skills Completed as part of the College Writing or Advanced Writing course

History Requirements Includes HIS 105 and 106 12 cr

- HIS 201 Early History of the United States (3 cr)
- HIS 202 Recent History of the United States (3 cr)

Restricted Electives: 300 level or above 12 cr

- HIS American History (3 cr)
- HIS European History (3 cr)
- HIS African/Asia/Latin American History (3 cr)
- HIS African/Asia/Latin American History (3 cr)

History Electives: 300 level or above 6 cr

- HIS ______________________________ (3 cr)
- HIS ______________________________ (3 cr)

Social Studies Certification Requirements 15 cr

- GEO 103 Geography of the U.S. & Canada (3 cr)*
- PLS 100 U.S. Government and Politics (3 cr)*
- PLS Elective (3 cr) [PLS 141, or a 200/300 level course]
- Social Science Elective (3 cr) +
- Social Science Elective (3 cr) +

+ ANT 111, ECO 102, INT 200, or any 200/300 GEO course, any 200/300 level PLS course or any PHL course.

Professional Education Requirements 30 cr

- TCH 207 Org. & Psych. Foundations of Secondary Education (3 cr)
- RDG 413: Teaching Reading to English Language Learners (3 cr)
- EEC 423: Effective Instructional Strategies for Children w/ Exceptionalities PK-8 (3 cr)
- EEC 483: Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
- EDU 412 Teaching of Social Studies I (3 cr)**
- EDU 413 Teaching of Social Studies II (3 cr)**
- EDU 495 Student Teaching & Professional Practicum (12cr)**
- EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)**

Required: 50 Level I hours Field Experience – see BSED advisor

*Major requirement fulfills General Education credits

Total Graduation Requirements 121 cr

GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

Year I

- HIS 105 Historical Foundations of Global Cultures
- HIS 106 Thinking Historically in a Global Age

- GEO 101 World Geography or GEO 103 Geography of U.S. & Canada

Do not begin economics courses until the sophomore year.

- All ANT, ECO, GEO, INT, PLS, PHL courses must be passed with a grade of C or above.

Portfolio Requirement: For assessment and career development purposes, all history majors are required to assemble and submit a portfolio documenting their academic growth and their major accomplishments.

** All education majors should take the PAPA assessments within the first year at the university, but the assessment must be completed and passed by the time the student has earned 60 credits.

Exploratory Students interested in this program are advised to contact the History/Philosophy Department Chair as soon as possible.
**HUMAN COMMUNICATION STUDIES – B.A.**

### General Education Requirements

**I. Required Skills and Competencies** 15 cr
- ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
  - May need ENG 113 Intro to Academic Writing first, based on test results.
- HCS 100 Intro to Human Communication (3 cr)
- Mathematical Competency—Any math listed under Category A of the General Education Program.

**Note:** MAT 117 is recommended (3 cr)
- HIS 105 Historical Foundations of Global Cultures (3 cr) AND
- HIS 106 Thinking Historically in a Global Age (3 cr)

**II. Categories of Knowledge** 33 cr

#### A: Logic/Numbers for Rational Thinking (3 cr)

#### B: Literary, Artistic & Cultural Traditions (9 cr)

#### C: Biological & Physical Sciences (9 cr)

#### D: Political, Economic & Geographic Science (6 cr)

#### E: Social & Behavioral Science (6 cr)
- HCS 125 Survey of Human Communication Studies (prereq for HCS 200)

**III. Library Skills Completed as part of the College Writing or Advanced Writing course**

**Required Human Communication Courses** 24 cr
- HCS 200 Human Communication Theory (3 cr) (pre-req HCS 125)
- HCS 210 Public Speaking (3 cr) (pre-req HCS 200)
- HCS 360 Research Methods in Communication (3 cr) (pre-req HCS 200/jr status)
- HCS 370 Rhetorical Criticism (3 cr) (pre-req HCS 200/jr status)
- HCS 400 Senior Seminar (3 cr) (pre-req HCS 360; HCS 370/jr status)

**Concentrations:** 21 Credits - A minimum of one course in each area, plus nine additional credits. Internships credits are recommended, but not required, to fulfill a portion of these requirements.

#### Rhetoric & Symbolism
- HCS 325 Rhetoric of African-American Struggle and Progress (3 cr)
- HCS 352 Argumentation & Debate (3 cr) (Pre-req HCS 200: C or better)
- HCS 356 Persuasion (3 cr) (Pre-req HCS 200: C or better)
- HCS 365 Language and Meaning (3 cr) (Pre-req HCS 200)
- HCS 345 Environmental Communication (3 cr)
- HCS 363 Political Rhetoric (3 cr) (Pre-req HCS 200: C or better)
- HCS 375 Selected Topics in Rhetoric & Symbolism
  * (Pre-req HCS 200: C or better)

#### Organizational Communication
- HCS 230 Small Group Communication (3 cr)
  * (Pre-req HCS 200: C or better)
- HCS 260 Computer Mediated Communication (3 cr) *
- HCS 350 Theories of Organizational Communication (3 cr)
- HCS 351 Selected Topics in Organizational Communication (3 cr) *
  * (Pre-req HCS 200)
- HCS 372 Communication for Training and Instruction (3 cr)
  * (Pre-req HCS 200: C or better)
- HCS 381 Professional Communication & Multi Media (3 cr)
  * (Pre-reqs HCS 210, HCS 350)

#### Cultural Perspectives
- HCS 270 Intergroup/Intercultural Communication (3 cr)
- HCS 310 African-American Communication (3 cr)
- HCS 315 Asian-American Communication (3 cr)
- HCS 330 Selected Topics in Cultural Perspectives (3 cr) *
  * (Pre-req HCS 270)
- HCS 335 Pop Culture and Gender Construction (3 cr)
- HCS 340 Gender and Communication (3 cr)
- HCS 410 Feminist Perspective on Communication Theory & Research (3 cr)

#### Interpersonal Communication
- HCS 220 Nonverbal Communication (3 cr) (Pre-req HCS 200: C or better)
- HCS 225 Communication and Sport (3 cr) *
- HCS 250 Interpersonal Communication (3 cr) (pre-req HCS 200: C or better)
- HCS 265 Interviewing (3 cr) (pre-req HCS 200: C or better)
- HCS 333 Communicating Identity (3 cr)
- HCS 349 Selected Topics in Interpersonal Communication (3 cr) *
  * (pre-req HCS 250; C or better)
- HCS 385 Resolving Conflict through Communication (3 cr)
  * (pre-req HCS 200: C or better)
- HCS 430 Advanced Interpersonal Communication (3 cr) *
  * (pre-reqs HCS 250: C or better; HCS 360)

#### Internships
- HCS 391 Internship I (3 cr)
- HCS 392 Internship II (3 cr)
- HCS 393 Internship III (3 cr)

* May be offered online.

**Free Electives** 33 cr

**Total Graduation Requirements** 120 cr

GPA Needed to Declare: 2.0

Helpful Hints for Advising:

Year 1
- HCS 100 Intro to Human Communication
- HCS 125 Survey of Human Communication Studies
  * (pre-req for HCS 200)

Each student must select at least four courses at or above the 300 level.

Human Communication Studies Minor is available 18 cr.
INTERDISCIPLINARY ARTS PROGRAM – B.A. ##

General Education Requirements

I. Required Skills and Competencies 15 cr
  ___ ENG 114 Writing Intensive First Year Seminar  OR
  ___ ENG 115 Advanced Placement Writing (3 cr)
      May need ENG 113 Intro to Academic Writing first, based on
      test results
  ___ HCS 100 Intro to Human Communication (3 cr)
  ___ Mathematical Competency-Any math listed under Category "A" in
      the Gen Ed Program
  ___ HIS 105 Historical Foundations of Global Cultures (3 cr)  AND
  ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr

A: Logic/Numbers for Rational Thinking (3 cr)

B: Literary, Artistic & Cultural Traditions (9 cr) ##
  ___ IAP  111 Introduction to Interdisciplinary Arts
  Select ONE Literature course:
  ___ ENG 243 OR ENG 248 OR ENG 250
  Select ONE course from the list below:
  ___ ART 101 Art Appreciation OR
     ART 274 Intro. to Cultural Studio OR
     MUS 121 Intro to Music OR
     THE 121 Intro to Theatre

C: Biological & Physical Sciences (9 cr)

D: Political, Economic & Geographic Science (6 cr)

E: Social & Behavioral Science (6 cr)

III. Library Skills Completed as part of writing course

IAP Major Requirements: 48 cr

Foundation Courses:
  ___ IAP 111 Introduction to Interdisciplinary Arts (3 cr)
One of the following:
  ___ ENG 243 or ENG 248 or ENG 250 (3 cr)
Three of the following:
  ___ ART 101 Art Appreciation or ART 274 Intro. to Cultural Studio (3cr)
  ___ COM111 Introduction to Mass Communications (3 cr)
  ___ MUS 121 Intro to Music (3 cr)
  ___ THE 121 Intro. to Theatre (3 cr)

Nine of the above credits can double count as Cat. B Gen. Ed. courses.

Curriculum Tracks

Primary Concentration * 18 cr
  ___ _______________________3 cr
  ___ _______________________3 cr
  ___ _______________________3 cr
  ___ _______________________3 cr
  ___ _______________________3 cr
  ___ _______________________3 cr

Secondary Concentration 1 * 12 cr
  ___ _______________________3 cr
  ___ _______________________3 cr
  ___ _______________________3 cr

Secondary Concentration * 12 cr
  ___ _______________________3 cr
  ___ _______________________3 cr
  ___ _______________________3 cr

NOTE: Courses above must include at least one selection from each
of the 4 categories of the IAP curriculum track:
A. History and Culture  C. Arts Praxis
B. Theory and Criticism  D. Professional Skills

A list of the courses that satisfy this requirement is available to majors, and on
request by students interested in the major.

* For appropriate advice on concentration and course selection, it is
  recommended that students seek an appointment with the program director.

Senior Capstone 6 cr
  ___ IAP 449 Interdisciplinary Arts Senior Thesis
  ___ IAP 451 Interdisciplinary Arts Showcase or
  ___ IAP 452 Interdisciplinary Arts Internship and/or
  ___ IAP 453 Interdisciplinary Arts Internship 2

Free Electives 24 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Year 1 or 2  IAP 111 Intro to Interdisciplinary Arts
              Two Category B courses

## B.A. students must satisfy the Novice level competency in a foreign
language. This is accomplished via 3 years of the same language in high
school, an AP score of at least 3, or the completion of a 103 level course.
Three credits of a foreign language may count under category B.
General Education Requirements

I. Required Skills and Competencies 16 cr
___ ENG 114 Writing Intensive First Year Seminar OR
___ ENG 115 Advanced Placement Writing (3 cr)
May need ENG 113 Intro to Academic Writing first, based on test results.
___ HCS 100 Intro to Human Communication (3 cr)
___ Mathematical Competency- Any math listed under Category A of the General Education Program.
NOTE: MAT 117 Applied Statistics required for Global Business Concentration (3 cr)
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
A: Logic/Numbers for Rational Thinking (3 cr)

B: Literary, Artistic & Cultural Traditions (9 cr)
___
___
___

C: Biological & Physical Sciences (9 cr)
___
___
___

D: Political, Economic & Geographic Science (6 cr)
___ GEO 101 World Geography
___ PLS 141 World Politics

For Global Business Concentration: GEO 101 or PLS 141 and ECO 101, 102, or 113

E: Social & Behavioral Science (6 cr)
___ ANT 111 Cultural Anthropology or
___ GEO 140 Cultural Geography

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Required International Studies Courses 6 cr
___ INT 200 Introduction to International Studies (3 cr)
___ INT 300 International Studies Seminar (3 cr)

Global Perspectives Concentration 12 cr
Six credits must be at 300-level or higher. Courses from two or more disciplines.
___
___
___

Area Studies Concentration 12 cr
Six credits must be at 300-level or higher. Courses from two or more disciplines.
___
___
___

Foreign Language or Free Electives (Based on language requirements) 9-18 cr
___ ___________________________3 cr
___ ___________________________3 cr
___ ___________________________3 cr
___ ___________________________3 cr
___ ___________________________3 cr

Study Abroad/Internship 3 cr min

Free Electives 24 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

Helpful Hints for Advising:
Year 1 General Education
Modern Language
MAT 117 Applied Statistics

Year 2 INT 200 Introduction to International Studies
Begin planning for study abroad or internship

# B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.
MATHEMATICS – B.S.
Statistics, Applied Mathematics Concentrations and Secondary Education Certification; also "No Concentration” option

General Education Requirements
I. Required Skills and Competencies 15 cr
   - ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
   - May need ENG 113 Intro to Academic Writing first, based on test results
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency MAT 225 Discrete Math
   - Student may need to take Pre-Calculus first
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
      - MAT 211 Calculus I
   B: Literary, Artistic & Cultural Traditions (9 cr)
   - Literary
   - Artistic
   - Cultural
   C: Biological & Physical Sciences (9 cr)
      - Environmental Science (Sec. Ed.req.; see depart. for list)
   D: Political, Economic & Geographic Science (6 cr)
   - Political
   - Economic
   - Geographic
   E: Social & Behavioral Science (6 cr)
      - Social
      - Behavioral

III. Library Skills Complete via College/Writing course

Mathematics and Computer Science Requirements 32-33 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 185 First Year Seminar in Mathematics</td>
<td></td>
</tr>
<tr>
<td>MAT 211 Calculus I (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 212 Calculus II (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 213 Calculus III (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 225 Discrete Mathematics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 217 Statistics I (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 318 Elementary Linear Algebra (3 cr)</td>
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<tr>
<td>MAT 320 Introduction to Abstract Algebra (3 cr)</td>
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<tr>
<td>MAT 430 Complex Analysis (3 cr) OR MAT 441 Real Analysis (3 cr)</td>
<td></td>
</tr>
<tr>
<td>CSC 180 Microcomputer Basic (3 cr) OR CSC 104 Python Programming (3 cr)</td>
<td>OR</td>
</tr>
<tr>
<td>CSC 110 Computer Science I (3 cr) WITH CSC 106 Computer Science I Lab (1 cr)</td>
<td></td>
</tr>
</tbody>
</table>

Concentration Requirements 29-45 cr

Students are encouraged to choose one of the following concentrations: Statistics, Applied Math, & Secondary Education Certification. It is also possible to obtain the degree without a concentration.

NOTE: For each option, "Allied electives” can be 300 level or above ACC, BIO, CHM, CSC, ECO, ESS, MAT, or PHY.

Statistics Concentration* 29 cr minimum

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 317 Statistics II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 476 Probability (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 486 Mathematical Statistics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 300/400 Math Level Elective (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 300/400 Math Level Elective (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

B.S. in Mathematics without Concentration* 24 cr minimum

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 300/400 Level Math Elective (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 300/400 Level Math Elective (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 400 Level Math Elective (3 cr)</td>
<td></td>
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<tr>
<td>MAT 400 Level Math Elective (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

**Allied electives (3 courses) 9 cr minimum or minor

NOTE: For each option, "Allied electives” can be 300 level or above education course.

Recommended Course Load: 16 credits

GPA Needed to Declare: 2.0

Total Graduation Requirements 120 cr

Professional Sequence:
- TCH 207 Org. & Psych. Found. in Secondary Education (3 cr)
- EEC 273 Introduction to Exceptionalities (3 cr)**
- EEC 423 Effective Instructional Strategies (3 cr)
- EEC 483 Assessing Students for Curricular Decision Making (3 cr)
- RDG 413 Teaching Reading to English Language Learners (3 cr)
- EDU 371 Technology in the Mathematics Classroom (3 cr)
- EDU 434 Teaching of Math. in the Secondary School I (3 cr)
- EDU 435 Teaching of Math. in the Secondary School II (3 cr)
- EDU 495 Student Teaching & Professional Practicum (12cr)

* May replace Allied Electives by a minor in any discipline.

** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

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General Education Requirements

I. Required Skills and Competencies 16 cr

___ ENG 114 Writing Intensive First Year Seminar OR
    ENG 115 Advanced Placement Writing (3 cr)
    May need ENG 113 Intro to Academic Writing first, based on test results.
___ HCS 100 Intro to Human Communication (3 cr)
___ Mathematical Competency-Required
    MAT 211 Calculus I —if necessary, student may need
    MAT 175 Pre-Calculus first
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 36 cr

A: Logic/Numbers for Rational Thinking (4 cr)
    ___ MAT 212 Calculus II
B: Literary, Artistic & Cultural Traditions (9 cr)
    ___ ______________________________
    ___ ______________________________
    ___ ______________________________
C: Biological & Physical Sciences (11 cr)
    ___ CHM121 Chemical Bonding
    ___ PHY 221 Fundamentals Physics I
    ___ ______________________________
D: Political, Economic & Geographic Science (6 cr)**
    ___ ECO 101 Principles of Macroeconomics or
    ___ ECO 102 Principles of Microeconomics
    ___ ______________________________
E: Social & Behavioral Science (6 cr)**
    ___ ______________________________
    ___ ______________________________

**Must include a sequence in one discipline, either CAT D or E

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Physics’ Core Requirements 32 cr

___ PHY 107 Freshman Seminar Physics I (2 cr)
___ PHY 221 Fundamentals of Physics I (5 cr)
___ PHY 222 Fundamentals of Physics II (5 cr)
___ PHY 301 Math and Numerical Techniques (4 cr)
___ PHY 311 Quantum I (4 cr)
___ PHY 321 Electricity and Magnetism I (4 cr)
___ PHY 331 Mechanics I (4 cr)
___ PHY 341 Classical and Statistical Thermo (4 cr)

Mathematics/Computer Science Requirements 22 cr

___ MAT 211 Calculus I (4 cr) *
___ MAT 212 Calculus II (4 cr) *
___ MAT 213 Calculus III (4 cr)
___ MAT 318 Elementary Linear Algebra (3 cr)
___ MAT 322 Differential Equations (3 cr)
___ CSC 110 Computer Science I (3 cr)
___ CSC 106 Computer Science I lab (1 cr)

Chemistry Requirements 8 cr

___ CHM 121 Chemical Bonding (3 cr) *
___ CHM 125 Lab IB (1 cr)
___ CHM 122 Chemical Dynamics (3 cr)
___ CHM 126 Lab II B (1 cr)

Economics Requirement* 3 cr

___ ECO 101 Principles of Macroeconomics* or
___ ECO 102 Principles of Microeconomics*

*Major requirement double counts as General Education Credits

**A sequence of courses in one discipline is required by engineering programs at other institutions per the 3-2 agreement with Shippensburg.

Total Credits Required From Shippensburg 98 cr

****************************************************************************
GPA Needed to Declare: 2.5
The student must maintain a 3.0 GPA to be assured of entry into an engineering school.

HELPFUL HINTS FOR ADVISING:

Semester I
MAT 211 Calculus I
PHY 107 Physics First Year Seminar
Three Gen Ed Courses

Semester II
MAT 212 Calculus II
PHY 221 Fundamentals of Physics I*
Three Gen Ed Courses

*Students are recommended to complete 1 semester of calculus before starting the physics sequence.

Chemistry should be taken in the junior year. Exceptional students may take it earlier.

Chemical Engineering requires one year of Organic Chemistry.

A nanotechnology certificate is available. See the department for more information.
**PHYSICS – B.S.**

**Advanced Physics, Computational Physics, General Physics, Nanotechnology**

### General Education Requirements

**I. Required Skills and Competencies**

- ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
- May need ENG 113 Intro to Academic Writing first, based on test results.
- HCS 100 Intro to Human Communication (3 cr)
- Mathematical Competency-Required
- MAT 211 Calculus I —if necessary, student may need to take MAT 175 Pre-Calculus first
- HIS 105 Historical Foundations of Global Cultures (3 cr) **AND**
- HIS 106 Thinking Historically in a Global Age (3 cr)

**II. Categories of Knowledge**

- **A: Logic/Numbers for Rational Thinking (4 cr)**
  - MAT 212 Calculus II

- **B: Literary, Artistic & Cultural Traditions (9 cr)**
  - __________
  - __________
  - __________

- **C: Biological & Physical Sciences (11 cr)**
  - CHM 126 Lab IIB (1 cr)
  - PHY 411 Quantum II (3 cr)
  - PHY 421 Electricity and Magnetism II (3 cr)
  - PHY 431 Mechanics II (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 397 Research Project (3 cr)

### Mathematics/Computer Science Requirements

- **19 cr**
  - MAT 318 Elementary Linear Algebra (3 cr)
  - MAT 410 Numerical Analysis (3 cr)
  - CSC 111 Computer Science II (4 cr)
  - CMPE 322 Embedded Systems (4 cr)
  - CMPE 220 Computer Organization OR
  - CSC 371 Data Management Systems (4 cr)
  - PHY 471 Computational Physics (4 cr)
  - PHY 4xx Level Physics Class
  - PHY 4xx Level Physics Class
  - PHY 397 Research Project (3 cr) or PHY395 Internship (3 cr)

### Chemistry Requirements

- **4 cr**
  - CHM 121 Chemical Bonding (3 cr) **AND**
  - CHM 125 Lab IIB (1 cr)

### Concentration Requirements

- **28-31 cr**
  - CHM 122 Chemical Dynamics (3 cr)
  - CHM 126 Lab IIB (1 cr)
  - PHY 411 Quantum II (3 cr)
  - PHY 421 Electricity and Magnetism II (3 cr)
  - PHY 431 Mechanics II (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)

### Advanced Physics Track Requirements

- **30cr**
  - CHM 122 Chemical Dynamics (3 cr)
  - CHM 126 Lab IIB (1 cr)
  - PHY 411 Quantum II (3 cr)
  - PHY 421 Electricity and Magnetism II (3 cr)
  - PHY 431 Mechanics II (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 397 Research Project (3 cr)

### Computational Physics Track Requirements

- **31 cr**
  - CHM 122 Chemical Dynamics (3 cr)
  - CHM 126 Lab IIB (1 cr)
  - PHY 411 Quantum II (3 cr)
  - PHY 421 Electricity and Magnetism II (3 cr)
  - PHY 431 Mechanics II (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)
  - PHY 4xx Level Physics Class (3 cr)

### General Physics Track Requirements

- **36 cr**
  - ENG 144 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)
  - May need ENG 113 Intro to Academic Writing first, based on test results.
  - HCS 100 Intro to Human Communication (3 cr)
  - Mathematical Competency-Required
  - MAT 211 Calculus I —if necessary, student may need to take MAT 175 Pre-Calculus first
  - HIS 105 Historical Foundations of Global Cultures (3 cr) **AND**
  - HIS 106 Thinking Historically in a Global Age (3 cr)

### Physics Core Requirements

- **32 cr**
  - PHY 107 Freshman Seminar Physics I (2 cr)
  - PHY 221 Fundamentals of Physics I (5 cr)
  - PHY 222 Fundamentals of Physics II (5 cr)
  - PHY 301 Math and Numerical Techniques (4 cr)
  - PHY 311 Quantum I (4 cr)
  - PHY 321 Electricity and Magnetism I (4 cr)
  - PHY 331 Mechanics I (4 cr)
  - PHY 341 Classical and Statistical Thermo (4 cr)

### Nanotechnology Certificate:

**Free Electives**

- **12 cr**
  - PHY 325 Semiconductor Devices (4 cr)
  - HY 397 Research Project (3 cr)
  - PHY 395 Internship (3 cr)

### Total Graduation Requirements

- **120 cr**

GPA Needed to Declare: 2.0

### Nanotechnology Certificate:

**Nanotechnology Certificate: 8 cr**

- ** replace free electives with the following:**
  - PHY 311 Quantum I (4 cr)
  - PHY 325 Semiconductor Devices (4 cr)
  - PHY 450 Quantum Materials (4 cr)

### The Nanotechnology courses are taught as a one-semester block at the Penn State Nanotechnology Laboratory.

Total Graduation Requirements

GPA Needed to Declare: 2.0

### Recommended Sequence of Courses:

#### Semester I

- MAT 211 Calculus I
- PHY 107 Physics First Year Seminar
- Three Gen Ed Courses

#### Semester II

- MAT 212 Calculus II
- PHY 221 Fundamentals of Physics I

*Students are recommended to complete 1 semester of Calculus before starting the intermediate physics sequence.*

Chemistry should be taken in the junior year except for exceptional students and they may take it earlier.

Computer Science I should be taken early in the program.

Physics minor is available 26 cr.
PHYSICS – B.S.Ed.

General Education Requirements
I. Required Skills and Competencies 16 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
      ENG 115 Advanced Placement Writing (3 cr)
      May need ENG 113 Intro to Academic Writing first, based on test results.
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency-Required
      MAT 211 Calculus I — if necessary, student may need to take MAT 175 Pre-Calculus first
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
      HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
   A: Logic/Numbers for Rational Thinking (4 cr)
      ___ MAT 212 Calculus II
   B: Literary, Artistic & Cultural Traditions (9 cr)
      __ ______________________________
      __ ______________________________
      __ ______________________________
   C: Biological & Physical Sciences (10 cr)
      ___ CHM 121 Chemical Bonding
      ___ ESS 110 Intro to Geology OR
         ESS 210 Physical Geology
      ___ BIO 162 Principles of Biology: Organismal Diversity
   D: Political, Economic & Geographic Science (6 cr)
      __ ______________________________
      __ ______________________________
   E: Social & Behavioral Science (6 cr)
      __ ______________________________
      __ ______________________________

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Physics Core Requirements 32 cr
   ___ PHY 107 Freshman Seminar Physics I (2 cr)
   ___ PHY 221 Fundamentals of Physics I (5 cr)
   ___ PHY 222 Fundamentals of Physics II (5 cr)
   ___ PHY 301 Math and Numerical Techniques (4 cr)
   ___ PHY 311 Quantum I (4 cr)
   ___ PHY 321 Electricity and Magnetism I (4 cr)
   ___ PHY 331 Mechanics I (4 cr)
   ___ PHY 341 Classical and Statistical Thermo (4 cr)

Physics Requirements 3 cr
   ___ PHY 4xx Physics Elective (3 cr)

Mathematics Requirements 19 cr
   ___ MAT 211 Calculus I (4 cr)*
   ___ MAT 212 Calculus II (4 cr)*
   ___ MAT 213 Calculus III (4 cr)
   ___ MAT 322 Differential Equations (3 cr)
   ___ CSC 110 Computer Science I (3 cr)
   ___ CSC 106 Computer Science I (1 cr)

Chemistry Requirements 4 cr
   ___ CHM 121 Chemical Bonding (3 cr) *
   ___ CHM 125 Lab IB (1 cr)

Professional Education Requirements 33 cr
   ___ TCH 207 Org. & Psych. Foundations of Secondary Education (3 cr)
   ___ EDU 440 Teaching Science In Secondary School (3 cr)
   ___ EDU 441 Curriculum & Evaluation/Secondary Science Classroom I (3 cr)
   ___ EDU 495 Student Teaching & Professional Practicum (12 cr)
   ___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   ___ EEC 423 Effective Instructional Strategies for Children w/ Exceptionalities PK-8 (3 cr)
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
   ___ RDG 413 Teaching Reading to English Language Learners (3 cr)

*Major requirement fulfills General Education Credits

Total Graduation Requirements 134 cr

GP A Needed to Declare: 3.0

Recommended Sequence of Courses:

Semester I   MAT 211 Calculus I
            PHY 107 Physics First Year Seminar*
            Three Gen Ed Courses

*Students are recommended to complete 1 semester of calculus before starting the intermediate physics sequence.

Chemistry should be taken in the junior year exceptional students may take it earlier.
## Political Science - B.A.##

### General Education Requirements

<table>
<thead>
<tr>
<th>Section</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
<td>16 cr</td>
</tr>
<tr>
<td>- ENG 114 Writing Intensive First Year Seminar OR</td>
<td></td>
</tr>
<tr>
<td>- ENG 115 Advanced Placement Writing (3 cr)</td>
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</tr>
<tr>
<td>- May need ENG 113 Intro to Academic Writing first, based on test</td>
<td></td>
</tr>
<tr>
<td>- HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- Mathematical Competency-Required</td>
<td></td>
</tr>
<tr>
<td>- MAT 117 Applied Statistics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>- HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
<td></td>
</tr>
<tr>
<td>- HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
<tr>
<td>II. Categories of Knowledge</td>
<td>33 cr</td>
</tr>
<tr>
<td>- A: Logic/Numbers for Rational Thinking (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>- (Literature Req)</td>
<td>#</td>
</tr>
<tr>
<td>- C: Biological &amp; Physical Sciences (9 cr)</td>
<td></td>
</tr>
<tr>
<td>- D: Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>- ECO 101 Principles of Macroeconomics OR</td>
<td></td>
</tr>
<tr>
<td>- ECO 102 Principles of Microeconomics OR</td>
<td></td>
</tr>
<tr>
<td>- ECO 113 Principles of Economics</td>
<td></td>
</tr>
<tr>
<td>- GEO 101 World Geography* OR</td>
<td></td>
</tr>
<tr>
<td>- GEO 103 Geography of U.S. and Canada</td>
<td></td>
</tr>
<tr>
<td>- E: Social &amp; Behavioral Science (6 cr)</td>
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<tr>
<td>- SOC 101 Introduction to Sociology</td>
<td></td>
</tr>
<tr>
<td>II. Library Skills Completed via College/Advanced Writing course</td>
<td></td>
</tr>
<tr>
<td>Political Science Core Requirements</td>
<td>18 cr</td>
</tr>
<tr>
<td>- Students must earn a grade of “C” or better in each core course</td>
<td></td>
</tr>
<tr>
<td>- PLS 100 U.S. Government and Politics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- PLS 141 World Politics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- PLS 201 Foundations of Political Science: Concepts and Critical Analysis (3 cr)</td>
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</tr>
<tr>
<td>- PLS 202 Applications in Public Affairs (3 cr)</td>
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<tr>
<td>- PLS 300 Adv. U.S. Gov’t: Institutions and Public Policy (3 cr)</td>
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<tr>
<td>- PLS 301 Political Science Research Methods (3 cr)</td>
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<tr>
<td>- PLS 399 Senior Seminar (3 cr)</td>
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<tr>
<td>Political Science - International Track</td>
<td>39 cr</td>
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<tr>
<td>International Track Required Courses</td>
<td>24 cr</td>
</tr>
<tr>
<td>- PLS 100 U.S. Government and Politics (3 cr)</td>
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</tr>
<tr>
<td>- PLS 141 World Politics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- PLS 201 Foundations of Political Science: Concepts and Critical Analysis (3 cr)</td>
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<tr>
<td>- PLS 202 Applications in Public Affairs (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- PLS 251 Introduction to Comparative Politics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- PLS 301 Political Science Research Methods (3 cr)</td>
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</tr>
<tr>
<td>- PLS 341 International Law and Organization (3 cr)</td>
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<tr>
<td>- PLS 399 Senior Seminar (3 cr)</td>
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</tr>
</tbody>
</table>

### Department Electives (Political Science)

- Any Political Science courses(s)                                       | 0-3 cr  |
|   - PLS XXX _____________________ (3 cr)                               |         |
|   - PLS XXX _____________________ (3 cr)                               |         |
|   - PLS XXX _____________________ (3 cr)                               |         |

### International Track Electives

- 12 cr

(NOTE: These courses are also used to satisfy the Applied Competencies)

- PLS 252 Costa Rica: Politics, Economy and Society (3 cr)               |         |
- PLS 307 Applied Research in Political Science (3 cr)                  |         |
- PLS 342 American Foreign Policy (3 cr)                                |         |
- PLS 343 Global Economic and Political Conflict (3 cr)                 |         |
- PLS 347 Applied Diplomacy (3 cr)                                      |         |
- PLS 348 Applied Diplomacy (3 cr)                                      |         |
- PLS 351 European Politics (3 cr)                                      |         |
- PLS 356 Politics of Developing Regions (3 cr)                         |         |
- PLS 357 Comparative Revolutions (3 cr)                                |         |
- PLS 358 European Political Economy and Security (3 cr)                |         |
- PLS 359 European Political Integration and Identity (3 cr)            |         |
- PLS 394 Special Topics in International Politics (3 cr)               |         |

Any Study Abroad course in any discipline

* Students on International Track should take GEO 101, World Geography

A student may count a maximum of six internship credits toward the major.

Additional internship credit hours can be used as credits applied toward graduation.

### Allied Fields

- 12 cr

Students are required to obtain a minor, certificate, or select a 12 credit hour concentration in another department.

### Foreign Language

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) Level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing. Three credits of a foreign language may count under Category B.

### In addition to the required core, students must take courses in four applied competency areas.

- 9-15 cr

(Course selected from Applied Competencies (see p. 91 for list of courses))

### Notes:

- Students must earn a grade of “C” or better in each core course.
- May need ENG 113 Intro to Academic Writing first, based on test results.
- Three credits of a foreign language may count through AP or CLEP testing. Three credits of a foreign language may count.
- Students may also meet this requirement in high school.
- Three years of any one language class at the 103 (intermediate) Level or three years of any one foreign language in high school.
- Any Political Science courses(s)
- Critical Analysis (3 cr)
- Political Science Research Methods (3 cr)
- Senior Seminar (3 cr)
- Political Science - International Track Required Courses
- International Track Electives
- Allied Fields
- Foreign Language
- In addition to the required core, students must take courses in four applied competency areas.

### Courses selected from Applied Competencies

- 9-15 cr

(see p. 91 for list of courses)
In addition to the required core, students must take courses in four applied competency areas. To meet this requirement students need 9-15 credits, depending on whether a course counts for more than one applied competency.

**Applied Competency: Oral Communication**  
3 cr
- PLS 252 Costa Rica: Politics, Economy and Society (3 cr)
- PLS 311 The Legislative Process (3 cr)
- PLS 313 The Judicial Process (3 cr)
- PLS 324 Women in American Politics (3 cr)
- PLS 347 Applied Diplomacy (3 cr)
- PLS 348 Applied Diplomacy (3 cr)
- PLS 357 Comparative Revolutions (3 cr)
- PLS 361 Political Theory from Ancient Times through the 19th Century (3)
- PLS 373 Public Financial Administration (3 cr)

**Applied Competency: Written Communication**  
3 cr
- PLS 231 State and Local Government (3 cr)
- PLS 307 Applied Research in Political Science (3 cr)
- PLS 312 The American Presidency (3 cr)
- PLS 321 Public Opinion and Political Media (3 cr)
- PLS 322 Interest Groups in American Society (3 cr)
- PLS 324 Women in American Politics (3 cr)
- PLS 325 African American Politics (3 cr)
- PLS 341 International Law and Organization (3 cr)
- PLS 351 European Politics (3 cr)
- PLS 356 Politics of Developing Regions (3 cr)
- PLS 363 American Political Thought (3 cr)
- PLS 365 Constitutional Law: The Federal System (3 cr)
- PLS 366 Constitutional Law: First Amendment Freedom (3 cr)
- PLS 367 Constitutional Law: Criminal Law and Equal Protection (3 cr)
- PLS 371 Public Management (3 cr)
- PLS 372 Public Personnel Administration (3 cr)
- PLS 381 Principles of Labor Relations (3 cr)

**Applied Competency: Problem Solving**  
3 crs
- PLS 271 Introduction to Public Administration (3 cr)
- PLS 325 African American Politics (3 cr)
- PLS 331 Urban Politics and Administration (3 cr)
- PLS 342 American Foreign Policy (3 cr)
- PLS 343 Global Economic and Political Conflict (3 cr)
- PLS 351 European Politics (3 cr)
- PLS 356 Politics of Developing Regions (3 cr)
- PLS 361 Political Theory from Ancient Times through the 19th Century (3 cr)
- PLS 362 Contemporary Political Ideologies (3 cr)
- PLS 365 Constitutional Law: The Federal System (3 cr)
- PLS 366 Constitutional Law: First Amendment Freedom (3 cr)
- PLS 367 Constitutional Law: Criminal Law and Equal Protection (3 cr)
- PLS 374 Public Service Ethics (3 cr)

**Applied Competency: Experiential Learning**  
6 crs
- PLS 251 Introduction to Comparative Politics (3 cr)
- PLS 252 Costa Rica: Politics, Economy, and Society (3 cr)
- PLS 307 Applied Research in Political Science (3 cr)
- PLS 313 The Judicial Process (3 cr)
- PLS 323 Campaigns, Elections, and Political Parties (3 cr)
- PLS 333 Applications in State and Local Public Policy (3 cr)
- PLS 347 Applied Diplomacy (3 cr)
- PLS 348 Applied Diplomacy (3 cr)
- PLS 357 Comparative Revolutions (3 cr)
- PLS 358 European Political Economy and Security (3 cr)
- PLS 359 European Political Integration and Identity (3 cr)
- PLS 395 Internship I (3 cr)
# PSYCHOLOGY – B.A. ##

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
<td></td>
</tr>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing</td>
<td>3 cr</td>
</tr>
<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
<td></td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication</td>
<td>3 cr</td>
</tr>
<tr>
<td>Mathematical Competency-Any mathematics course listed under Category A of the Gen Ed program</td>
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</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures</td>
<td>3 cr</td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age</td>
<td>3 cr</td>
</tr>
<tr>
<td>II. Categories of Knowledge</td>
<td>33 cr</td>
</tr>
<tr>
<td>A: Logic/Numbers for Rational Thinking</td>
<td></td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions</td>
<td>9 cr</td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences</td>
<td>9 cr</td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science</td>
<td>6 cr</td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science</td>
<td>6 cr</td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>III. Library Skills Completed as part of Writing course</td>
<td></td>
</tr>
<tr>
<td>Psychology Requirements</td>
<td>42 cr</td>
</tr>
<tr>
<td>Core Classes: Perspectives in Psychology (one course from each area)**</td>
<td>18 cr</td>
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<tr>
<td>Developmental:</td>
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</tr>
<tr>
<td>PSY 265 Child &amp; Adolescent Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 352 Psychology of Adulthood &amp; Aging</td>
<td>3 cr</td>
</tr>
<tr>
<td>Social/Personality:</td>
<td></td>
</tr>
<tr>
<td>PSY 240 Psychology of Personality</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 270 Social Psychology</td>
<td>3 cr</td>
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<tr>
<td>Abnormal:</td>
<td></td>
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<tr>
<td>PSY 330 Abnormal Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 355 Psychology of the Exceptional Child</td>
<td>3 cr</td>
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<tr>
<td>Neuroscience:</td>
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<tr>
<td>PSY 320 Behavioral Neuroscience</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 323 Sensation and Perception</td>
<td>3 cr</td>
</tr>
<tr>
<td>Cognition/S&amp;P:</td>
<td></td>
</tr>
<tr>
<td>PSY 323 Sensation and Perception</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 325 Psychology of Human Cognition</td>
<td>3 cr</td>
</tr>
<tr>
<td>Learning/Behavioral:</td>
<td></td>
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<tr>
<td>PSY 235 Conditioning and Learning</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 383 Children’s Understanding of the Social World</td>
<td>3 cr</td>
</tr>
<tr>
<td>Core Classes: Scientific Methods*</td>
<td>9 cr</td>
</tr>
<tr>
<td>Required courses (complete sequentially)</td>
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</tr>
<tr>
<td>PSY 105 Research Design and Statistics I (can take concurrently with PSY 101)</td>
<td></td>
</tr>
<tr>
<td>PSY 205 Research Design and Statistics II (Prerequisite: PSY 101 and PSY 105)</td>
<td></td>
</tr>
<tr>
<td>PSY 301 Experimental Psychology (Prerequisite: PSY 205)</td>
<td></td>
</tr>
<tr>
<td>Electives (two courses required from each category, below)</td>
<td>12 cr</td>
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<tr>
<td>Ethical and Social Responsibility in a Diverse World:</td>
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<tr>
<td>PSY 315 Psychology of Prejudice and the Minority Experience</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 330 Psychology of Sustainability</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 365 Multicultural Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 410 Psychology and Women</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 420 Health Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 447 Multicultural Health Psychology</td>
<td>3 cr</td>
</tr>
<tr>
<td>PSY 470 Legal Psychology</td>
<td>3 cr</td>
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<tr>
<td>Professional Development:</td>
<td></td>
</tr>
<tr>
<td>PSY 311 Applied Behavior Analysis (Prerequisite: PSY 235)</td>
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</tr>
<tr>
<td>PSY 333 Psychology of Social Influence (Prerequisite: PSY 270*)</td>
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</tr>
<tr>
<td>PSY 340 Introduction to Clinical Psychology (Prerequisite: PSY 330 &amp; 240)</td>
<td></td>
</tr>
<tr>
<td>PSY 361 Group Interaction</td>
<td></td>
</tr>
<tr>
<td>PSY 384 Person to Person Interaction</td>
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</tr>
<tr>
<td>PSY 432 The Psychology of Computers and the Internet</td>
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</tr>
<tr>
<td>PSY 435 Psychopharmacology (Prerequisite: PSY 320*)</td>
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</tr>
<tr>
<td>PSY 445 The Psychology of Thinking (Prerequisite: PSY 325)</td>
<td></td>
</tr>
<tr>
<td>PSY 450 Crisis Intervention (Prerequisite: PSY 384)</td>
<td></td>
</tr>
<tr>
<td>PSY 475 Industrial &amp; Organizational Psychology (Prerequisite: PSY 205*)</td>
<td></td>
</tr>
<tr>
<td>PSY 485 Tests &amp; Measurements (Prerequisite: At least one stats/methods course*)</td>
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</tr>
<tr>
<td>Capstone</td>
<td>3 cr</td>
</tr>
<tr>
<td>Can be fulfilled in one of the following three ways:</td>
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</tr>
<tr>
<td>Advanced Research I or II (PSY 374 or PSY 375)</td>
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<tr>
<td>PSY 379 Capstone Seminar in Psychology</td>
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</tr>
<tr>
<td>PSY 440 History and Systems of Psychology</td>
<td></td>
</tr>
<tr>
<td>Internship (at least 3 credits)</td>
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</tr>
<tr>
<td>Other Psychology Courses (as Free Electives; some selected topics may count for core areas per departmental discretion)</td>
<td></td>
</tr>
<tr>
<td>PSY 393 Selected Topics Psychology</td>
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<tr>
<td>PSY 395 Seminar in Selected Topics (senior standing)</td>
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</tr>
<tr>
<td>PSY 490 Selected Topics in Psychology</td>
<td></td>
</tr>
<tr>
<td>Additional Perspectives courses or Electives category courses as listed previously</td>
<td></td>
</tr>
<tr>
<td>Internships (up to 6 credits; 3 can count towards major [for Capstone Req.])</td>
<td></td>
</tr>
<tr>
<td>PSY 385 Internship I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PSY 386 Internship II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Total Graduation Requirements</td>
<td>120 cr</td>
</tr>
<tr>
<td>NOTE: Students can take PSY 385 Internship I, or both PSY 385 and PSY 386 Internship II. If your internship involves one-to-one confidential and personal interaction with clients, you must take PSY 384 (Person to Person Interaction) prior to your internship. Likewise, if it involves group interaction, you must take PSY 361 (Group Interaction) prior to your internship. If your internship will involve interaction with children, you must have taken a child psychology or child development course prior to your internship. Comparable training may qualify. Please discuss your preparation with your agency, faculty internship coordinator, or the department internship coordinator.</td>
<td></td>
</tr>
<tr>
<td>The remaining credits toward your 120 total should be comprised of a minor (strongly recommended – 18-21 credits), other courses of interest outside the major to broaden your higher educational experiences, and additional psychology courses.</td>
<td></td>
</tr>
<tr>
<td>** B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 3, or the completion of a 103 level course. Three credits of a foreign language may count under category B.</td>
<td></td>
</tr>
<tr>
<td>* Or permission of Instructor</td>
<td></td>
</tr>
<tr>
<td>** C or better required in each course</td>
<td></td>
</tr>
<tr>
<td>GPA Needed to Declare:</td>
<td>2.3</td>
</tr>
<tr>
<td>Admission is competitive and a screening interview is required. Apply to the Psychology Department within the first three weeks of each semester. You will be contacted regarding the screening meeting.</td>
<td></td>
</tr>
</tbody>
</table>

### HELPFUL HINTS FOR ADVISING:

<table>
<thead>
<tr>
<th>Year I</th>
<th>PSY 101 General Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY 105 Research Design &amp; Statistics I</td>
<td></td>
</tr>
<tr>
<td>Year II</td>
<td>PSY 205 Research Design &amp; Statistics II</td>
</tr>
<tr>
<td>Begin Foundation Courses</td>
<td></td>
</tr>
<tr>
<td>Year III</td>
<td>PSY 301 Experimental Psychology</td>
</tr>
<tr>
<td>A psychology minor is available 18 cr.</td>
<td></td>
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</tbody>
</table>
### GENERAL EDUCATION REQUIREMENTS

**I. Required Skills and Competencies**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Writing</td>
<td>3 cr</td>
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<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
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<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
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</tr>
<tr>
<td>MAT 117 Applied Statistics (4 cr)</td>
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<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) <strong>AND</strong></td>
<td></td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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</table>

**II. Categories of Knowledge**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
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<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
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</table>

**III. Library Skills Completed as part of the College Writing or Advanced Writing course**

**Public Administration Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Administration Requirements*</td>
<td>Total 39 cr</td>
</tr>
</tbody>
</table>

**CORE COURSES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 100 U.S. Government and Politics (3 cr)</td>
<td>6 cr</td>
</tr>
<tr>
<td>PLS 202 Applications in Public Affairs (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 231 State and Local Government (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 271 Introduction to Public Administration (3 cr)</td>
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</tr>
<tr>
<td>PLS 300 Adv. U.S Gov’t: Institutions and Public Policy (3 cr)</td>
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</tr>
<tr>
<td>PLS 301 Political Science Research Methods (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 302 Public Policy Analysis (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 371 Public Management (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 372 Public Personnel Administration (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 373 Public Financial Administration (3 cr)</td>
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</tr>
</tbody>
</table>

*Students must earn a "C" or better in each Required Core Course

**NOTE:** PLS 373, PLS 372, and PLS 371 are only offered once every two years.

**Public Administration Electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 387 Practicum in Public Administration (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 388 Public Administration Internship I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 389 Internship II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 390 Internship III (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 395 Internship I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 396 Internship II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 397 Internship III (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 431 Pennsylvania Local Government (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 307 Applied Research in Political Science (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 333 Applications in State and Local Public Policy (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 365 Constitutional Law: The Federal System (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 374 Public Service Ethics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 381 Principles of Labor Relations (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 389 Special Topics in Public Administration (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 395 Internship I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 396 Internship II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 397 Internship III (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 431 Pennsylvania Local Government (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

**Economics Requirement**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 101 Principles of Macroeconomics (3 cr) ***</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECO 102 Principles of Microeconomics (3 cr) or ECO 113 Principles of Economics (4 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>Any Economics course at or above the 200 level (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

**Sociology Requirement**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 101 Introduction to Sociology (3 cr) ***</td>
<td>3 cr</td>
</tr>
<tr>
<td>An additional Sociology course from the following</td>
<td></td>
</tr>
<tr>
<td>SOC 241, 243, 258, 346, 351, 354, 363, 365, or 425</td>
<td></td>
</tr>
</tbody>
</table>

**Math and Computer Competency***

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 117 Applied Statistics (4 cr)</td>
<td>4 cr</td>
</tr>
</tbody>
</table>

**Free Electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Graduation Requirements</td>
<td>120 cr</td>
</tr>
</tbody>
</table>

**HELPFUL HINTS FOR ADVISING:**

**YEAR 1**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 100 U.S. Government and Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>MAT 117 Applied Statistics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>PLS 271 Introduction to Public Administration</td>
<td></td>
</tr>
</tbody>
</table>

**YEAR 2**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 271 and MAT 117 are prerequisites for PLS 301</td>
<td></td>
</tr>
<tr>
<td>PLS 301 is a prerequisite for PLS 302</td>
<td></td>
</tr>
<tr>
<td>PLS 302 is only offered during the Spring semester</td>
<td></td>
</tr>
</tbody>
</table>

Students are strongly encouraged to complete an internship.

A student may count a maximum of six internship credits toward the Major.

To qualify for an internship, students must have a 2.0 overall GPA and a 2.3 in the Public Administration major. Students must have completed the following courses to be eligible for an internship: PLS 100, PLS 202, PLS 231, PLS 271, PLS 300, and PLS 301.

PLS 395 and 396 fulfill a major requirement. PLS 397 can count as part of a student's 120 credit hour requirement.

**At least 6 credits must be taken at the 300-level or above. Substitution for an elective course may be made with the prior permission of the department chair.**

GPA Needed to Declare: 2.0
SOCIOLOGY – B.A. ##

General Education Requirements

I. Required Skills and Competencies 16 cr

___ ENG 113 Writing Intensive First Year Seminar OR
ENG 115 Advanced Placement Writing (3 cr)
May need ENG 113 Intro to Academic Writing first, based on test results
___ HCS 100 Intro to Human Communication (3 cr)
___ Mathematical Competency-Required
MAT 117 Applied Statistics (4 cr)
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr

A: Logic/Numbers for Rational Thinking (3 cr)
___ PHL Philosophy Elective (100 level)

B: Literary, Artistic & Cultural Traditions (9 cr)
___ ______________________________
___ ______________________________
___ ______________________________

C: Biological & Physical Sciences (9 cr)
___ ______________________________
___ ______________________________
___ ______________________________

D: Political, Economic & Geographic Science (6 cr)
Recommended:
___ PLS 100 U.S. Government and Politics
___ ECO 101 Principles of Macroeconomics

E: Social & Behavioral Science (6 cr)
___ PLS 100 U.S. Government & Politics, OR
___ ECO 101 Principles of Macroeconomics
___ ANT 11 Cultural Anthropology

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Sociology Requirements 36 cr

___ SOC 101 Introduction to Sociology (3 cr)
___ SOC 201 Thinking Sociologically (3 cr)
___ SOC 220 Social Stratification (3 cr)
___ SOC 380 Classical Social Theory (3 cr)
___ SOC 385 Introduction to Social Research (3 cr)
___ SOC 386 Data Collection and Analysis (3 cr)
___ SOC 415 Senior Seminar (3 cr)

All SOC courses listed above must be passed with a grade of ‘C’ or higher.

___ SOC Sociology Elective
___ SOC Sociology Elective May include 6 credits of
___ SOC Sociology Elective an internship; highly
___ SOC Sociology Elective recommended
___ SOC Sociology Elective

Philosophy/Psychology Requirement 6 cr

___ PSY 101 General Psychology (3 cr) *
___ PHL Philosophy Elective (3 cr) *

Political Science Requirement sequence 6 cr

___ PLS ______________________________ (3 cr) *
___ PLS ______________________________ (3 cr)

Economics Requirement 3 cr

___ ECO ______________________________ (3 cr) *

Anthropology Requirement 3 cr

___ ANT 111 Cultural Anthropology (3 cr) *

Math Requirement 4 cr

___ MAT 117 Applied Statistics (4 cr)*

Geography Requirement 3 cr

___ GEO Elective (3 cr)

Free Electives*** 21 cr

A 6 cr Sociology internship may count toward the major. A student needs a 2.5 cumulative GPA to be eligible for internships.

***Special Interest Areas Available

Anthropology Gerontology
Culture and Social Change Human Relations
Family and Marriage Social Institutions/Organizations
Social Problems

Students interested in these areas should see the Department for more information.

## B.A. students must satisfy the Novice level competency in a foreign language. This is accomplished via 3 years of the same language in high school, an AP score of at least 2, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

*Major requirement double counts as General Education Credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

YEAR 1  SOC 101 Introduction to Sociology
PLS 100 U.S. Government & Politics, OR
ECO 101 Principles of Macroeconomics
MAT 117 Applied Statistics
ANT 111 Cultural Anthropology

YEAR 2  SOC 220 Social Stratification
SOC 201 Thinking Sociologically
2 Sociology Electives

A sociology minor is available 18 cr.
An anthropology minor is available 18 cr.
## Software Engineering – B.S.

### General Education Requirements

#### I. Required Skills and Competencies

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ ENG 114 Writing Intensive First Year Seminar OR</td>
<td>16 cr</td>
</tr>
<tr>
<td>___ ENG 115 Advanced Placement Writing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ MAT 211 Calculus I (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
<td></td>
</tr>
<tr>
<td>___ HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

#### II. Categories of Knowledge

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Language/Numbers for Rational Thinking (3 cr)</td>
<td></td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (11 cr)*</td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
</tbody>
</table>

#### III. Library Skills: Complete via College/Advanced Writing

### Software Engineering Major Core Requirements (all concentrations) 58 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ CSC 106 Computer Science Lab for Non-Majors (1 cr)</td>
<td></td>
</tr>
<tr>
<td>___ CSC 110 Computer Science I (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ CSC 310 Design &amp; analysis of Algorithms (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ CSC 371 Database Management (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ CSC 431 Computer Networks (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ CMPE 220 Computer Organization (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ CMPE 320 Operating Systems (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENGR 100 Engineering Seminar I (1 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENGR 110 Programming for Engineers (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENGR 200 Engineering Seminar II (1 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENGR 300 Engineering Seminar III (1 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENGR 310 Statistical Process Control (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

### Other Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ MAT 225 Discrete Mathematics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ MAT 318 Elementary Linear Algebra (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ MAT 375 Prob &amp; Stat for Engineers</td>
<td></td>
</tr>
<tr>
<td>___ SWE 200 Design Patterns (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ SWE 300 Drafting Quality Code (4 cr)</td>
<td></td>
</tr>
<tr>
<td>___ SWE/CMPE/CS elective (4 cr)</td>
<td></td>
</tr>
</tbody>
</table>

*Software Engineering majors must complete a two-semester science sequence. Students can choose from BIO161/162, CHM 121/125/122/126, or PHY 205/313. The first course in the sequence can count as a Category C General Education course.

** Computer Science or Engineering Elective is any CSC/SWE/CMPE/EE course at the 300-level or above.

*** Math or Computer Science Elective is any CSC or MAT course at the 300-level or above or MAT 223 or PHL 332.

**** Computer Science elective is any CSC course at the 300-level or above. Check with advisor or bulletin board for frequency of required courses.

### Free Electives

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 cr</td>
</tr>
</tbody>
</table>

### Total Graduation Requirements

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
</tr>
</tbody>
</table>

### GPA Needed to Declare

<table>
<thead>
<tr>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
</tr>
</tbody>
</table>

To declare or retain this major, a student must earn a “C” or better in CSC 110 Computer Science I and be at a minimum math placement level of 4.

### Helpful Hints for Advising:

#### Semester I

- CSC 110 Computer Science I (3 cr)
- ELEC 100 Engineering Seminar I (1 cr)
- MAT 211 Calculus I (4 cr)****
- Two General Education Classes (6 cr)

**** Depending on math placement.

Students not qualified to take Calculus I may be required to first complete MAT 175 Pre-Calculus.

A Computer Science minor is available 20-21 cr.
**SPANISH & SPANISH SECONDARY EDUCATION CERT. – B.A.**

**General Education Requirements**

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
</tr>
<tr>
<td>Mathematical Competency-Recommended</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Categories of Knowledge</th>
<th>33 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
<td></td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
</tbody>
</table>

| III. Library Skills Completed as part of the College Writing or Advanced Writing course |

**Spanish Major Requirements**

<table>
<thead>
<tr>
<th>30 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 202 Intermediate Spanish Conversation (3 cr)</td>
</tr>
<tr>
<td>SPN 204 Ideas &amp; Cultures from the Spanish-Speaking World (3 cr)</td>
</tr>
<tr>
<td>SPN 211 Intermediate Grammar (3 cr)</td>
</tr>
<tr>
<td>SPN 302 Advanced Spanish Conversation (3 cr)</td>
</tr>
<tr>
<td>SPN 309 Spanish Phonetics (3 cr)</td>
</tr>
<tr>
<td>SPN 312 Spanish Grammar (3 cr)</td>
</tr>
<tr>
<td>SPN 313 Advanced Composition &amp; Stylistics (3 cr)</td>
</tr>
<tr>
<td>SPN 343 Introduction to Literary Studies (3 cr)</td>
</tr>
<tr>
<td>SPN 360 Masterpieces of Spanish Literature (3 cr)</td>
</tr>
<tr>
<td>SPN 361 Masterpieces of Spanish-Am. Literature (3 cr)</td>
</tr>
</tbody>
</table>

**Spanish Electives**

<table>
<thead>
<tr>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPN 300-level or above (3 cr)</td>
</tr>
<tr>
<td>SPN 400-level or above (3 cr)</td>
</tr>
</tbody>
</table>

**Free Electives**

| 36 cr |

**Total Graduation Requirements**

| 120 cr |

**GPA Needed to Declare:**

| 3.0 |

**HELPFUL HINTS FOR ADVISING:**

**YEAR I**  Any introductory language courses necessary

Students planning to teach Spanish will find it to their advantage to work for dual certification in two modern languages, a modern language and English, or a modern language and another field. To achieve dual certification, a student must have the approval of both departments involved, follow an approved course of studies in the specialty areas, take the appropriate methods course, and complete student teaching in both fields.

See the Modern Languages Department for details.

All Spanish & Spanish Secondary Education Certification B.A. students must pass the ACTFL Oral Proficiency Interview prior to graduation and reach the advanced low level minimum.

*** All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

**Professional Education Requirements**

| 30 cr |

**if planning to teach Spanish**
SUSTAINABILITY – B.S.

I. Required Skills and Competencies
   15 cr
   — ENG 114 Writing Intensive First Year Seminar OR
   — ENG 115 Advanced Placement Writing (3 cr)
     May need ENG 113 Intro to Academic Writing first, based on test results
   — Mathematical Competency-Recommended
   — MAT 117 Applied Statistics (4 cr)
   — HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   — HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge
   33 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
   — ______________________________
   — ______________________________
   — ______________________________
   — ______________________________

   B: Literary, Artistic & Cultural Traditions (9 cr)
   — ______________________________
   — ______________________________
   — ______________________________
   — ______________________________

   C: Biological & Physical Sciences (9 cr)
   — BIO 162 Principles of Biology: Organismal Diversity
   — ______________________________
   — ______________________________
   — ______________________________

   D: Political, Economic & Geographic Science (6 cr)
   — ECO 102 Introduction to Microeconomics
   — ______________________________
   — ______________________________
   — ______________________________

   E: Social & Behavioral Science (6 cr)
   — PSY 101 General Psychology
   — SOC 101 Introduction to Sociology

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Sustainability Core
   6 cr
   — ESS 108 Conservation of Natural Resources
   — GEO 427 Environmental Sustainability

Environmental Conservation Concentration
   12+cr
   — GEO 202 GIS I: Introduction to GIS
   — GEO 230 Economic Geography
   — GEO 60 Internship (2.0 GPA; Junior Status)
   — GEO 391 Geography Seminar

Concentration Core
   12+cr
   — GEO 214 Geology of National Parks
   — ESS 404 Applied Meteorology and Climatology
   — ESS 413 Rock and Mineral Resources
   — ESS 442 Environmental Geology
   — ESS 451 Coastal Environmental Geography
   — GEO 405 Environmental Conservation and Management in PA
   — GEO 444 Environmental Land Use Planning
   — GEO 446 Water Resources Management
   — GEO 450 Geography-Geology Field Study*, **

Human Sustainability Electives (6 cr)
   — GEO 140 Cultural Geography
   — GEO 244 Land Use
   — GEO 310 Transportation Geography
   — GEO 322 Urban Geography

Technique Course Electives (9 cr)
   — GEO 339 REMote Sensing
   — GEO 352 Cartography
   — GEO 363 GIS II: Intermediate GIS
   — GEO 420 GIS III: Advanced GIS
   — GEO 425 Image Processing
   — GEO 440 Field Techniques
   — GEO 441 Quantitative Methods *

Biology
   3 cr
   — BIO 205 Marine Biology (BIO 162)
   — BIO 210 Field Zoology (BIO 162)
   — BIO 208 Field Biology (BIO 162)
   — BIO 230 Botany (BIO 161, 162)
   — BIO 242 Ecology (BIO 162)
   — BIO 245 Marine Ecology (BIO 162)
   — BIO 442 Aquatic Ecology (BIO 162)
   — BIO 444 Conservation Biology (BIO 242)

Psychology and Sociology
   6 cr
   — PSY 330 The Psychology of Sustainability (PSY 101)*
   — SOC 265 Global Society (SOC 101)
   — SOC 346 City and Community (SOC 101)
   — SOC 354 Social Movements and Social Change (SOC 101)
   — SOC 363 Population Problems (SOC 101)
   — SOC 440 Leader in Global Society (SOC 101)

Economics and Business
   3 cr
   — ECO 345 The Economics of Growth & Development (ECO 102)
   — ECO 355 Environmental Economics (ECO 102)*
   — MGT 447 Business and Society
   — MIS 142 Business Computer Systems
   — MIS 242 Design and Development of User Information Systems (MIS 142)
   — SCM 3XX Sustainable Operations Management (SCM 330 rec.)
   — SCM 420 Global Logistics Systems (SCM 330 rec.)

English, History, and Communication
   6 cr
   — ENG 238 Technical Writing
   — ENG 359 Native American Literature
   — HCS 345 Environmental Communication *
   — HIS 358 American Environment History *

Free Electives
   12 cr

Total Graduation Requirements
   120 cr

GPA Needed to Declare
   2.0

Helpful Hints for Advising:

Semester I
   PSY 101 General Psychology
   ENG 114 WIFYS
   HIS 105 History I
   ECO 102: Intro. to Microeconomics
   ESS 108 Conservation of Nat. Resources OR
   BIO 2145 Environmental Bio

Semester II
   GEO 202 GIS I
   GEO 226 Economic Geography
   HIS 106 History II
   HCS 100 Intro to Human Communication
   ESS 110 Intro to Geology OR
   ESS 210 Physical Geology

* Strongly recommended
** Can only count in one category
College of Education & Human Services
College of Education & Human Services

\textit{B.S.}

Criminal Justice  
Exercise Science

\textit{B.S.W.}

Social Work

\textit{B.S.Ed.}

Teacher Education:  
Early Childhood/Elementary Education PK-4  
Elementary/Middle School Education 4-8  
Elementary/Middle School Education 4-8/Special Education Dual Certification
Many individuals have found that they enjoy working with children or young adults through babysitting, summer camps, athletics, etc. and then decide that they would like to teach these age groups. This enjoyment and appreciation of youth is a basic necessity for a teacher but as one educator said, “You can’t teach what you don’t know.” Therefore, the teacher education program for either early childhood/elementary education (Grades PK-4, Special Education PK-4 Dual Education Majors) or elementary/middle level education (Grades 4-8) majors is a blend of practical experiences with children grounded in a solid academic background in the general education program and in the major. If you, as an exploratory student, are considering one of these majors, it must be a sound decision based on the understanding that you will be teaching children and young adults to take their places in society in the 21st century. You will need to: be a literate individual, knowledgeable in the math, sciences, social sciences and humanities; hone/sharpen critical and creative thinking skills, problem solving skills; have an appreciation of multicultural and international perspectives; and have an understanding of special needs children in inclusive classrooms in order to fulfill your responsibility to the children you teach.

All three programs at Shippensburg consist of a four-year program leading to the degree of Bachelor of Science in Education. Successful completion of this program of study qualifies the graduate for a variety of professional employment possibilities. The PK-4 Early Childhood/Elementary program leads to a PK-4 teaching certificate, thus qualifying the graduate for employment in any level pre-kindergarten through fourth grade. The dual Special Education/ PK-4 program leads to both PK-4 and special education certification. Those students choosing the Elementary/Middle Level program will select either one or two subjects in which they will be certified for the fourth through eighth grade level. The subject areas are: Social Studies, Language Arts, Math or Science. If a student selects the option to be certified in two subjects, one of the subjects must be math or science.

The curriculum for the programs can be divided into two parts: first, the university’s General Education requirements; and secondly, the education certification course requirement which focus on the particular grade band that a student will be certified to teach. Students must successfully complete the PAPA by a designated point before being permitted to continue, and complete required coursework with grades of “C” or higher. They must also have a 3.0 grade point average before gaining entry into either program. Students need to demonstrate initiative, patience, and empathy for children as they learn to plan and guide the child’s program and to observe the child’s application of skills and knowledge. Their program emphasizes knowing how and when to help the child learn using a reflective model of teaching. Through study, direct observation, and participation, students grow in understanding various methods of teaching and become skillful in the use of curriculum materials and specialized equipment. They critically examine various courses of study and the newer techniques of measuring and assessing children’s social and academic growth.


Hockersmith, P.E., School of Education and Human Services, June 2005.

Updated: Royce, C., Teacher Education, Shippensburg University, July, 2009.
Entry Requirements for Teacher Education

For admission into one of the program areas in the Department of Teacher Education:

1. Obtain an application at Shippen Hall 214 during the first week of the semester.
2. Complete and submit the application during the first two weeks of the semester.
3. Data used in the selection process include: your completed application form which includes a Statement of Commitment, high school and college GPA.
4. If you are selected, you will be notified prior to scheduling so that you can select appropriate courses.

Required: a minimum 3.0 GPA from Shippensburg prior to completing the application.

Suggestions: Have an academic advisor read the Statement prior to submitting the application.

Academic Advising

Students Interested in Secondary Teaching Profession

(i.e. Art, Biology, Chemistry, Earth Science, English, French, Math, Physics, Social Studies (history, geography, economics or political science) or Spanish)

Any exploratory student interested in teaching grades 7 through 12 or K-12 in public schools must be certified to teach those grades. Shippensburg University has no Secondary Education Department. All students interested in teaching in a specific discipline must apply directly to the department as the degree will be a degree in the subject area with certification added.

Most secondary programs can be completed in 4 years. In situations where a student wants to complete requirements for more than one certification area, an additional semester may be needed. Field work beginning in the first education course (American School) and additional department requirements must be completed. All secondary majors must achieve a B average by graduation in order to be certified in the state of Pennsylvania.

Entry Requirements for all education majors:

1. A minimum 3.0 Grade Point Average.
2. Declare at the beginning of each semester.
3. Discuss the major with education professors who teach the secondary methods courses.

Suggestions: Contact the College of Education and Human Services at 477-1487 if you have questions regarding secondary programs.
CRIMINAL JUSTICE – B.S.

General Education Requirements
I. Required Skills and Competencies 15 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
   ___ ENG 110 Advanced Placement Writing (3 cr)
   May need ENG 113, Intro to College Writing, based on test results.
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency** Any Category A math course.
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
A: Logic/Numbers for Rational Thinking (3 cr)
   ___ Recommend a Computer Science Course

B: Literary, Artistic & Cultural Traditions (9 cr)
   ___ Recommend a Spanish Course, but no language requirement

C: Biological & Physical Sciences (9 cr)
   ___

D: Political, Economic & Geographic Science (6 cr)
   ___ PLS 100 U. S. Government and Politics

E: Social & Behavioral Science (6 cr)
   ___ PSY 101 General Psychology
   ___ SOC 101 Introduction to Sociology

III. Library Skills Completed in ENG 106 or 110

Criminal Justice Core Courses 21 cr
   ___ CRJ 100 Introduction to Criminal Justice (3 cr)
   ___ CRJ 211 Criminal Law and Procedures (3 cr)
   ___ CRJ 221 Policing a Democracy (3 cr)
   ___ CRJ 241 Survey of Corrections (3 cr)
   ___ CRJ 309 Theories of Crime and Crime Control (3 cr)
   ___ CRJ 310 Research Methods (3 cr)
   ___ CRJ 452 Race, Ethnicity, & Crime (3 cr) approved diversity course

Required Capstone Courses 3 cr
   ___ CRJ 454 Policy, Professionalism, and Ethics (3 cr)

Criminal Justice Electives 21 cr
   ___ CRJ 321 Criminal Investigation (3 cr)
   ___ CRJ 326 Victimology: The Victim and the Law (3 cr)
   ___ CRJ 336 Introduction to Forensic Science (3 cr)
   ___ CRJ 342 Crime Prevention (3 cr)
   ___ CRJ 345 Organization & Management of CJ Agencies (3 cr)
   ___ CRJ 351 Juvenile Justice (3 cr)
   ___ CRJ 356 Organized Crime (3 cr)
   ___ CRJ 363 Intimate Partner Violence (3 cr)
   ___ CRJ 365 White-Collar Crime (3 cr)
   ___ CRJ 370 Mock Trial (3 cr)
   ___ CRJ 381 Mental Health Issues in Criminal Justice (3 cr)
   ___ CRJ 390 Selected Topics in Criminal Justice (3 cr)
   ___ CRJ 393 Selected Topics in Criminal Justice (3 cr)
   ___ CRJ 396 Selected Topics in Criminal Justice (3 cr)
   ___ CRJ 397 Selected Topics in Criminal Justice (3 cr)
   ___ CRJ 398 Selected Topics in Criminal Justice (3 cr)

Criminal Justice Electives (continued)
   ___ CRJ 411 Terrorism (3 cr)
   ___ CRJ 433 Evidence Law (3 cr)
   ___ CRJ 440 Community Corrections
   ___ CRJ 456 Forensic Science: Evidence Analysis (3 cr)
   ___ CRJ 461 Social Construction of Homicide (3 cr)
   ___ CRJ 463 Comparative Criminal Justice (3 cr)
   ___ CRJ 464 Popular Culture, Crime, & Justice (3 cr)
   ___ CRJ 466 Women and Criminal Justice (3 cr)
   ___ CRJ 469 Victim Treatment and Services (3 cr)
   ___ CRJ 471 Internship in Criminal Justice I (3 cr)*
   ___ CRJ 472 Internship in Criminal Justice II (3 cr)*
   ___ CRJ 473 Internship in Criminal Justice III (3 cr)*
   ___ CRJ 474 Internship in Criminal Justice IV (3 cr)*
   ___ CRJ 481 Independent Study in Criminal Justice (1-3 cr)
   ___ CRJ 490 Selected Topics in Criminal Justice (3 cr)

*Each section of Internship is 3 crs & requires 120 hrs of agency work. Therefore, 3 credits = 120 hrs of work, 6 credits = 240 hrs and so on.
Departmental approval is required.

Interdisciplinary Courses 15 cr
Students must select any five courses, 200 level or above, not Criminal Justice courses, and not being used to meet General Education or major requirements.
Please note: Military Science credits do not count.

Free Electives 12 cr
(Not to include any Criminal Justice Courses)
Please note: Only 12 Military Science and 3 Performance credits will count

*Major requirement fulfills General Education Credits

** Students who test at the advanced level on the placement test will have 12 credits under the Required Skills and Competencies—the remaining three (3) credits move to the General Education Electives 12 to 15 credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.75

Students are required to achieve “C” grades or above in all CRJ courses.

Helpful Hints for Advising: Semester I/II: CRJ 100

Criminal Justice majors are limited to 45 credits of CRJ courses. CRJ courses cannot be used for Free Electives or for Interdisciplinary Courses.
EXERCISE SCIENCE – B.S.

General Education Requirements

I. Required Skills and Competencies
   16 cr
   ___ ENG 114 Writing Intensive First Year Seminar OR
   ENG 115 Advanced Placement Writing (3 cr)
   May need ENG 113 Intro to Academic Writing first, based on test results
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency-Required
   ___ MAT 117 Applied Statistics (3 cr)
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge
   34 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
   ___
   B: Literary, Artistic & Cultural Traditions (9 cr)
   ___
   ___
   ___
   ___
   C: Biological & Physical Sciences (10 cr)
   ___ BIO 161 Principles of Biology: Cell Structure & Function (4 cr) OR
   BIO 162 Principles of Biology: Organismal Diversity (4 cr) OR
   BIO 237 Human Anatomy and Physiology 1 * (4 cr)
   ___ CHM105 Chemistry: An Observational Approach (3 cr) OR
   CHM 121/125 Chemical Bonding/Lab (4 cr)
   ___ PHY 121 Introductory Physics (3 cr) fall only
   ___ PHY 123 Introductory Physics Lab (1 cr)
   D: Political, Economic & Geographic Science (6 cr)
   ___
   ___
   ___
   E: Social & Behavioral Science (6 cr)
   ___ PSY 101 General Psychology (3 cr)
   ___ SOC 101 Intro to Sociology: Society and Diversity* (3 cr) OR
   WST 100 Intro to Women's Studies* (3 cr)

III. Library Skills Completed as part of the First Year Writing Seminar or Advanced Writing course

Biology Prerequisite courses
   (4-12 cr)
   ___ BIO 161 Principles of Biology: Cell Structure & Function (4 cr) OR
   ___ BIO 162 Principles of Biology: Organismal Diversity (4 cr) OR
   ___ BIO 238 Human Anatomy & Physiology II * (4 cr)
   ___ BIO 371 Human Anatomy (4 cr) fall only
   ___ BIO 350 Human Physiology (4 cr)

Exercise Science Requirements
   45-51 cr
   ___ ESC 244 Mechanical Analysis of Sport Skills (3 cr)
   ___ ESC 250 Introduction to Kinesiology (3 cr)
   ___ ESC 321 Exercise Physiology (4 cr)
   ___ ESC 333 Biomechanics (4 cr)
   ___ ESC 336 Motor Behavior (3 cr)
   ___ ESC 340 Prevention and Care of Athletic Injuries (3 cr)
   ___ ESC 350 Nutrition for Sport and Fitness (3 cr)
   ___ ESC 352 Psychology of Physical Activity (3 cr)
   ___ ESC 353 Research Design and Stats for Ex. Sci. (4 cr)
   ___ ESC 420 Cardiac Rehabilitation & Special Populations (4 cr)
   ___ ESC 421 Exercise Physiology II (4 cr)
   ___ ESC 422 Exercise Testing and Prescription (3 cr)
   ___ ESC 424 Internship flexible credits (6/9/12 cr)

Free Electives
   (depends on Internship credits and professional track) 4-20 cr

All students doing an internship must show proof of current certification and clearances: First Aid, CPR Certification, Child Abuse Clearance, Criminal Record Clearance, TB Test, and liability insurance.

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.75

Admission to this major is competitive. Students must have earned a grade of "C" or better in Principles of Biology 161 or 162 or BIO 237 and must have a 2.75 GPA.

Students are eligible for a Biology minor. See department for specifics.

*Fulfills University diversity requirements

Helpful Hints for Advising:

Students should begin their Biology sequence in the freshman year and must take 16 credits each semester during the freshman year.

Semester I BIO 161 Principles of Biology: Cell Structure & Function
Semester II BIO 162 Principles of Biology: Organismal Diversity
Semester III BIO 371 Human Anatomy ESC 250 Introduction to Kinesiology
          ESC 121 & 123 Introductory Physics 1 and Lab
Semester IV BIO 350 Human Physiology
          ESC 244 Mechanical Analysis of Sport Skills

General Education courses should be completed in the first 2 years.

Physics can be taken in the junior year.

Internship should be taken during the spring or summer semester of the senior year.

Any student may enroll and complete any course in the Department of Exercise Science. Prerequisites for any course must be complete prior to enrollment. Students may complete no more than 3 Exercise Science major courses within the Department of Exercise Science without admission into the Exercise Science major.

* Students not planning to study at the graduate level may take BIO 237 and 238 instead of the 16 credit sequence (BIO 161, 162, 371, 350).
# SOCIAL WORK – B.S.W.

## General Education Requirements

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>16 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
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</tr>
<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results.</td>
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</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Mathematical Competency-Required MAT 117 Applied Statistics (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
<td></td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

## II. Categories of Knowledge

### A: Logic/Numbers for Rational Thinking (3 cr)

- |

### B: Literary, Artistic & Cultural Traditions 9 cr

- |

### C: Biological & Physical Sciences 9 cr

- BIO 150 Human Biology |

### D: Political, Economic & Geographic Science 6 cr

- PLS 100 U.S. Government and Politics [required] |
- ECO 102 Macroeconomics [recommended] OR |
- ECO 101 Microeconomics OR |
- GEO 101 |

### E: Social & Behavioral Science 6 cr

- SOC 101 Introduction to Sociology |
- PSY 101 General Psychology |

## III. Library Skills Completed as part of the College Writing or Advanced Writing course

### Social Work Requirements CORE COURSES 55 cr

- SWK 102 Social Work in Social Welfare (3 cr) |
- SWK 150 Human Relations Lab (3 cr) |
- SWK 250 Assessing Individ. in the Social Environment (3 cr) |
- SWK 265 Understanding Diversity (3 cr) |
- SWK 270 Social Work Practice with Individuals (3 cr) |
- SWK 327 Social Work Skills for Practice with Families (3 cr) |
- SWK 340 Assessing Organizations & Communities (3 cr) |
- SWK 350-359 SWK Electives (3 cr) [See Dept.] OR |
- SWK 262 Introduction to Child Welfare (3 cr) |
- SWK 360 Research Techniques/Social Workers (3 cr) |
- SWK 370 Social Work Practice w/ Orgs. & Communities (3 cr) |
- SWK 375 Social Work Skills for Working with Groups (3 cr) |
- SWK 388 Preparation for Practicum (1 cr) |
- SWK 420 Gender Issues for Helping Professions (3 cr) |
- SWK 450 Social Welfare Policies & Service (3 cr) |
- SWK 460 Field Work in Social Work I (6 cr) |
- SWK 461 Field Work in Social Work II (6 cr) |
- SWK 462 Seminar in Social Work Methods (3 cr) |

### Sociology Requirement 3 cr

- SOC 101 Intro. to Sociology: Society and Diversity (3 cr) |

### Psychology Requirement 3 cr

- PSY 101 General Psychology (3 cr) |

### Math Requirement 3 cr

- MAT 117 Applied Statistics (3 cr) |

*Does NOT count under Category 'A' unless you tested at the advanced level on the placement test or your SATs satisfy the university's math competency.*

### Political Science Requirement 3 cr

- PLS 100 U.S. Government and Politics (3 cr) |

### Biology Requirement 3 cr

- BIO 150 Human Biology (3 cr) |

### Free Electives 17 cr

*Major requirement fulfills General Education credits*

### Total Graduation Requirements 120 cr

<table>
<thead>
<tr>
<th>GPA Needed to Declare</th>
<th>2.2 0 - 30 credits</th>
<th>2.4 31 - 59 credits</th>
<th>2.5 60 and above</th>
</tr>
</thead>
</table>

**Professional standing will only be granted after students successfully complete a formal admission process which occurs during the semester they are enrolled in SWK 270. A 2.5 GPA is needed for professional standing.**

**NOTE:** All students declaring Social Work must follow the department program guide sheet in effect at the time they declared the major. Pick up a current program from the department when the major is declared.

**Economics course required for joint Shippensburg/Millersville MSW program.**

### HELPFUL HINTS FOR ADVISING:

#### Semester I

- SWK 102 Social Work in Social Welfare |
- BIO 150 Human Biology |
- PSY 101 Gen. Psych. or SOC 101 Intro. to Soc. |
- ENG 106 Writing Intensive First Year Seminar OR |
- HCS 100 Intro to Human Communication |
- HIS 105 Historical Foundations of Global Cultures |

#### Semester II

- SWK 150 Human Relations Lab |
- PSY 101 General Psych. or SOC 101 Prin. of Soc. |
- ENG 106 Writing Intensive First Year Seminar OR |
- HCS 100 Intro to Human Communication |
- HIS 106 Thinking Historically in a Global Age |
- General Ed course - Category "B" |

#### Semester III

- SWK 250 Assess. Ind. in the Social Environment |
- SWK 265 Understanding Diversity |
- PLS 100 U. S. Government and Politics |
- MAT 117 Applied Statistics |

#### Semester IV

- **SWK 270 SW Practice with Individuals** |
- SWK 360 Research Techniques for Social Workers |
- Gerontology minor is available.
TEACHER EDUCATION (Early Childhood Education/PK-4th Grade)  
– B.S.Ed.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
</tr>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
</tr>
<tr>
<td>MAT 111 Fundamentals of Mathematics II (3 cr)</td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr)</td>
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<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Categories of Knowledge</th>
<th>33 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
<td></td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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<tr>
<td>Select ONE Literature course: ENG 243 OR ENG 248 OR ENG 250 OR a Modern Language literature course (under advisement)</td>
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<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<tr>
<td>One course must be selected from each of the three categories. ONE of the three courses must have a laboratory component indicated with an asterisk *.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Library Skills: Complete via College Writing Competency</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Other Major Course Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Core</td>
</tr>
<tr>
<td>ECH 210 The Early Childhood Profession</td>
</tr>
<tr>
<td>ECH 220 The Developing Child I: Physical, Motor, Health &amp; Wellbeing</td>
</tr>
<tr>
<td>ECH 253 Early Literacy &amp; Literature for Children &amp; Families: Birth-5 yrs</td>
</tr>
<tr>
<td>ECH 260 The Developing Child II: Cognitive &amp; Language Development</td>
</tr>
<tr>
<td>ECH 320 The Developing Child III: Social &amp; Emotional Development &amp; Guiding Children’s Behavior</td>
</tr>
<tr>
<td>ECH 333 Social Studies Methods in P-4</td>
</tr>
<tr>
<td>ECH 343 Math Methods I, P-1st</td>
</tr>
<tr>
<td>ECH 370 Assessing Young Children</td>
</tr>
<tr>
<td>ECH 373 Science &amp; Technology Methods in P-4</td>
</tr>
<tr>
<td>ECH 393 Math Methods II, 2nd-4th grade</td>
</tr>
<tr>
<td>ECH 415 Professional Practicum in P-4</td>
</tr>
<tr>
<td>ECH 440 Building Family &amp; Community Partnerships</td>
</tr>
<tr>
<td>ECH 453 Integrated Curriculum, P-4</td>
</tr>
<tr>
<td>ECH 480 Early Childhood Professional Seminar</td>
</tr>
<tr>
<td>EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners</td>
</tr>
<tr>
<td>EEC 423 Effective Instructional Strategies for Children with Exceptionalities PK-8</td>
</tr>
<tr>
<td>EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making</td>
</tr>
<tr>
<td>RDG 323 Processes of Word/Text Comprehension in Grades 1-4</td>
</tr>
<tr>
<td>RDG 363 Reading &amp; Writing in P-4</td>
</tr>
<tr>
<td>RDG 383 English Language Learners in P-4</td>
</tr>
<tr>
<td>RDG 443 Reading Measures and Interventions</td>
</tr>
<tr>
<td>ECH 489 Early Childhood Student Teaching &amp; Professional Pract.</td>
</tr>
</tbody>
</table>

Total Graduation Requirements | 120 cr |

GPA Needed to Declare: 3.0

Admission to this major is competitive.

Students are considered for admission to Early Childhood Education (PK-4) during the first two weeks of each semester. Students are ranked by several factors including educational philosophy, current GPA, interview, a writing sample, and grades in certain classes. An application requesting admission to the department is the first step in the application procedure. See “Admission to Elementary Education” for details. Students who plan to major in Early Childhood Education (PK-4) should maintain close contact with the department to ensure that they meet program requirements.
TEACHER EDUCATION (Elementary/Middle Level Option #1 – English/Language Arts)

A student selecting this option will be certified to teach only English/Language Arts at the middle level grades 4-8

PDE Competency Areas
1. Content Knowledge: 80 credits including General Education Requirements, which are indicated by an *. A total of 36 credits are counted in a dual capacity.

Concentration Area
A. Language Arts: 30 credits required
   - ENG 114 Writing Intensive Seminar (3 cr) OR
   - ENG 110 Advanced Placement Writing (3 cr) *
   - ENG 190 Literacy in America (3 cr) * OR
   - ENG 248 Intro to Culturally Diverse Lit (3 cr) * OR
   - ENG 250 Intro to Literature (3 cr) *
   - ENG 366 History and Stucture of the English Language (3 cr)
   - ENG 420 Studies in Writing (3 cr)
   - ENG 426 Adolescent Literature (3 cr)
   - HCS 100 Intro to Human Communication (3 cr) *
   - TCH 303 Books and Materials (3 cr)
   - RDG 232 Reading in the Elementary School (3 cr)
   - RDG 344 Reading Assessment (3 cr) (Prerequisite RDG 232)
   - RDG 340 Seminar in Literacy Tutoring (3 cr) (Prerequisite RDG 232 and RDG 334)

Cognate Areas
B. Math: 13 credits required
   - MAT 205 Survey of Middle Grades Mathematics (3 cr)
   - MAT 175 Precalculus (3 cr) (Prerequisites: MAT 140A, MAT 140B, math placement, or permission of department chair.) *
   - MAT 105 Math for Liberal Arts (3 cr)
   - MAT 117 Applied Statistics (4 cr)

C. Science: 12 credits required
   - BIO 100 Basic Biology (3 cr) *
   - CHM 105 Intro Observational Approach (3 cr) *
   - PHY 121 Physics I (3 cr)
   - ESS 110 Introduction to Geology (3 cr) *

D. Social Studies: 12 credits required
   - GEO 101 World Geography (3 cr) *
   - ECO 101 Macroeconomics (3 cr) * OR
   - PLS 100 U.S. Government and Politics (3 cr)
   - HIS 105 Historical Foundation of Global Cultures (3 cr) *
   - HIS 106 Thinking Historically in a Global Age (3 cr) *

E. Fine Arts: 6 credits (select from two different disciplines)
   - Music
     - MUS 110 Fundamental Music Skills (3 cr) OR
     - MUS 121 Introduction to Music (3 cr) * OR
     - MUS 261 World Music (3 cr) *
   - Art (ART 101 is recommended)
     - ART 101 Art Appreciation (3 cr) * OR
     - ART 231 Art History I (3 CR) OR
     - ART 232 Art History II (3 cr) * OR
     - ART274 Intro to Cultural Studio (3 cr) * OR
     - ART 339 History of American Art (3 cr) *
   - Theatre
     - THE 121 Intro to Theatre (3 cr) *

F. Social and Behavioral Science: 6 credits
   - PSY 101 General Psychology (3 cr) *
   - Choose one of the following:
     - ANT 111 Cultural Anthropology (3 cr) * OR
     - GEO 140 Cultural Geography (3 cr) * OR
     - SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 42 credits
A. Middle Level Cognitive Development
   - TCH 206 Social Found. of Middle Level Education (3 cr)
B. Early Adolescent and Adolescent Learning Theory
   - TCH 261 Adolescent Dev. and Lng. Theory (3 cr)
C. Assessments and Interventions
   - EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
D. Adaptations and Accommodations for Diverse Learners
   - EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   - EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)
E. Middle Level Teaching Methods
   - TCH 322 Teaching Middle Level Language Arts (3 cr)
   - TCH 251 Elements of Middle Level Instruction (3 cr)
   - RDG 329 Reading in the Content Area (3 cr)
F. English Language Learners (ELL)
   - RDG 413 Teaching Reading to English Language Learners (3 cr)
G. Student Teaching
   - EDU 495 Student Teaching Experience (15 cr)

This planning sheet is for students admitted Fall 2017 or later.
TEACHER EDUCATION (Elementary/Middle Level Option #2 – Math and Language Arts)

A student selecting this option will be certified to teach only math and language arts at the middle level grades 4-8.

PDE Competency Areas
I. Content Knowledge: 81 credits including General Education Requirements which are indicated by *. A total of 33 credits are counted in a dual capacity.

Concentration Area
A. Math: 21 credits required
   ___ MAT 105  Math for Liberal Studies * (3 cr)
   ___ MAT 205 Survey of Middle Grades Mathematics (3 cr)
   ___ MAT 117 Applied Statistics (4 cr)
   ___ MAT 211 Calculus I * (4 cr)
   Students must meet one of the following prerequisites: C or better in MAT 175 or math placement level 6. However, a prerequisite override could be granted based on a recommendation to the math department from the student's advisor.
   ___ MAT 225 Discrete Math * (4 cr)
   Students must meet one of the following prerequisites: MAT 140A or math placement level 4 or above.
   ___ MAT 333 Geometry (3 cr)

B. Language Arts: 21 credits required
   ___ ENG 114 Writing Intensive Seminar (3 cr) OR
   ___ ENG 110 Advanced Placement Writing (3 cr) *
   ___ ENG 190 Literacy in America (3 cr) * OR
   ___ ENG 248 Intro to Culturally Diverse Lit (3 cr) * OR
   ___ ENG 250 Intro to Literature (3 cr) *
   ___ ENG 420 Studies in Writing (3 cr)
   ___ ENG 426 Adolescent Literature (3 cr)
   ___ RDG 232 Reading in the Elementary School (3 cr)
   ___ RDG 334 Reading Assessment (3 cr) (Prerequisite RDG 232)
   ___ RDG 340 Seminar in Literacy Tutoring (3 cr) (Prerequisite RDG 232 and RDG 334)

Cognate Areas
C. Science: 12 credits required
   ___ BIO 100 Basic Biology (3 cr) *
   ___ CHM 105 n Observational Approach (3 cr) *
   ___ PHY 121 Physics I (3 cr)
   ___ ESS 110 Introduction to Geology (3 cr) *

D. Social Studies: 12 credits required
   ___ GEO 101 World Geography (3 cr) *
   ___ ECO 101 Macroeconomics (3 cr) * OR
   ___ PLS 100 U.S. Government and Politics (3 cr)
   ___ HIS 105 Historical Foundation of Global Cultures (3 cr) *
   ___ HIS 106 Thinking Historically in a Global Age (3 cr) *

E. Writing/Fluency Competencies: 3 credits required
   ___ HCS 100 Intro to Human Communication * (3 cr)

F. Fine Arts: 6 credits (select from two different disciplines)
   Music
   ___ MUS 110 Fundamental Music Skills (3 cr) OR
   ___ MUS 121 Introduction to Music (3 cr) * OR
   ___ MUS 261 World Music (3 cr) *

   Art (ART 101 is recommended)
   ___ ART 101 Art Appreciation (3 cr) * OR
   ___ ART 231 Art History I (3 cr) OR
   ___ ART 232 Art History II (3 cr) * OR
   ___ ART274 Intro to Cultural Studio (3 cr) * OR
   ___ ART 339 History of American Art (3 cr) *

   Theatre
   ___ THE 121 Intro to Theatre (3 cr)

G. Social and Behavioral Science: 6 credits
   ___ PSY 101 General Psychology (3 cr) *
   Choose one of the following:
   ___ ANT 111 Cultural Anthropology (3 cr) * OR
   ___ GEO 140 Cultural Geography (3 cr) * OR
   ___ SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits
A. Middle Level Cognitive Development
   ___ TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   ___ TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   ___ EEC 273 Introduction to Exceptionalities:
      ___ Understanding Diverse Learners (3 cr)
      ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   ___ TCH 322 Teaching Middle Level Language Arts (3 cr)
   ___ TCH 342 Teaching Middle Level mathematics (3 cr)
   ___ RDG 329 Reading in the Content Area (3 cr)

F. English Language Learners (ELL)
   ___ RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   ___ EDU 495 Student Teaching Experience (12 cr)

This planning sheet is for students admitted Fall 2017 or later.
TEACHER EDUCATION (Elementary/Middle Level Option #1 – Math)

A student selecting this option will be certified to teach only mathematics at the middle level grades 4-8

PDE Competency Areas
1. Content Knowledge: 81 credits including General Education Requirements which are indicated by *. A total of 33 credits are counted in a dual capacity.

Concentration Area
A. Math: 30 credits required
   ___ MAT 105 Math for Liberal Studies (3 cr)
   ___ MAT 206 Survey of Middle Grades Mathematics (3 cr)
   ___ MAT 175 Precalculus * (3 cr)
Students must meet the following prerequisites: MAT 140A, MAT 140B, math placement level 5, or permission of department chair.
   ___ MAT 211 Calculus I * (4 cr)
Students must meet one of the following prerequisites: C or better in MAT 175, or math placement level 6. However, a prerequisite override could be granted based on a recommendation to the math department from the student's advisor.
   ___ MAT 225 Discrete Math * (4 cr)
Students must meet one of the following prerequisites: MAT 140A or math placement level 4 or above.
   ___ MAT 333 Geometry (3 cr)
Two of the following:
   ___ MAT 318 Elementary Linear Algebra (3)
   ___ MAT 326 Mathematical Modeling (3 cr)
Students must meet the following prerequisites: Either CSC 180 or CS110 and either MAT 213 or MAT 318, or be permission of the instructor.
   ___ MAT 400 History of Mathematics (3 cr)
Students must meet one of the following prerequisites: MAT 320 or at least junior standing.

Cognate Areas
B. Language Arts: 12 credits required
   ___ ENG 114 Writing Intensive Seminar * (3 cr) OR
   ___ ENG 110 Advanced Placement Writing * (3 cr)
   ___ HCS 100 Intro to Human Communication * (3 cr)
   ___ RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

C. Science: 12 credits required
   ___ BIO 100 Basic Biology * (3 cr)
   ___ CHM 105 An Observational Approach * (3 cr)
   ___ PHY 121 Physiscal (3 cr)
   ___ ESS 110 Introduction to Geology * (3 cr)

D. Social Studies: 12 credits required
   ___ GEO 101 World Geography (3 cr) *
   ___ ECO 101 Macroeconomics (3 cr) * OR
   ___ PLS 100 U.S. Government and Politics (3 cr)
   ___ HIS 105 Historical Foundation of Global Cultures (3 cr) *
   ___ HIS 106 Thinking Historically in a Global Age (3 cr) *

Additional Coursework
E. Literature: 3 credits
   ___ ENG 243 Art of the Film * (3 cr) OR
   ___ ENG 248 Intro to Culturally Diverse Lit * (3 cr) OR
   ___ ENG 250 Intro to Literature * (3 cr)

F. Fine Arts: 6 credits (select from two different disciplines)
   ___ MUS 110 Fundamental Music Skills (3 cr) OR
   ___ MUS 121 Introduction to Music (3 cr) * OR
   ___ MUS 261 World Music (3 cr) *

Art (ART 101 is recommended)
   ___ ART 101 Art Appreciation (3 cr) * OR
   ___ ART 231 Art History I (3 CR) OR
   ___ ART 232 Art History II (3 cr) * OR
   ___ ART274 Intro to Cultural Studio (3 cr) * OR
   ___ ART 339 History of American Art (3 cr) *

Theatre
   ___ THE 121 Intro to Theatre (3 cr)

G. Social and Behavioral Science: 6 credits
   ___ PSY 101 General Psychology (3 cr) *
   Choose one of the following:
   ___ ANT 111 Cultural Anthropology (3 cr) * OR
   ___ GEO 140 Cultural Geography (3 cr) * OR
   ___ SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   ___ TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   ___ TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
   ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   ___ EEC 273 Introduction to Exceptionalities:
      Understanding Diverse Learners (3 cr)
   ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   ___ TCH 342 Teaching Middle Level mathematics (3 cr)
   ___ TCH 251 Elements of Middle Level Instruction (3 cr)

F. English Language Learners (ELL)
   ___ RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   ___ EDU 495 Student Teaching Experience (12 cr)

This planning sheet is for students admitted Fall 2017 or later.
TEACHER EDUCATION (Elementary/Middle Level Option #2 – Math & Social Studies

A student selecting this option will be certified to teach only mathematics and social studies at the middle level grades 4-8.

PDE Competency Areas

1. Content Knowledge: 81 credits including General Education Requirements which are indicated by *. A total of 33 credits are counted in a dual capacity.

Concentration Areas

A. Math: 21 credits required
   ___ MAT 105 Math for Liberal Studies *(3 cr)
   ___ MAT 205 Survey of Middle Grades Mathematics (3 cr)
   ___ MAT 117 Applied Statistics (4 cr)
   ___ MAT 211 Calculus I * (4 cr)
   Students must meet one of the following prerequisites: C or better in MAT 175, or math placement level 6. However, a prerequisite override could be granted based on a recommendation to the math department from the student's advisor.
   ___ MAT 225 Discrete Math * (4 cr)
   Students must meet one of the following prerequisites: MAT 140A or math placement level 4 or above.
   ___ MAT 333 Geometry

B. Social Studies: 21 credits required
   ___ GEO 101 World Geography * (3 cr)
   ___ ECO 101 Macroeconomics * (3 cr)
   ___ PLS 100 U.S. Govt. & Politics * (3 cr)
   ___ HIS 105 Historical foundation of global Cultures * (3 cr)
   ___ HIS 106 Thinking Historically in a Global Age * (3 cr)
   ___ GEO 305 Geography of Europe (3 cr) OR
   GEO 308 Geography of Latin America (3 cr) OR
   GEO 313 Geography of South and South-East Asia (3 cr) OR
   GEO 317 Geography of East Asia (3 cr) OR
   GEO 415 Regional Geography Studies (3 cr) OR
   GEO 450 Field Studies (1-3 cr)
   ___ PLS 311 The Legislative Process (3 cr) OR
   PLS 312 The American Presidency (3 cr) OR
   PLS 313 The Judicial Process (3 cr) OR
   PLS 342 American Foreign Policy (3 cr) OR
   PLS 356 Politics of Developing Regions (3 cr) OR
   ECO 345 Economics of Growth and Development (3 cr)

Cognate Areas

C. Science: 12 credits required
   ___ BIO 100 Basic Biology *(3 cr)
   ___ CHM 105 An Observational Approach *(3 cr)
   ___ PHY 121 PhysicsI (3 cr)
   ___ ESS 110 Introduction to Geology * (3 cr)

D. Language Arts: 12 credits required
   ___ ENG 114 Writing Intensive Seminar (3 cr) OR
   ENG 110 Advanced Placement Writing *(3 cr)
   ___ HCS 100 Intro to Human Communication *(3 cr)
   ___ RDG 232 Reading in the Elementary School (3 cr)
   ___ RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

D. Literature: 3 credits required
   ___ ENG 243 Art of the Film *(3 cr) OR
   ENG 248 Into to Culturally Diverse Lit *(3 cr) OR
   ENG 250 Intro to Literature *(3 cr)

E. Fine Arts: 6 credits (Select two from different disciplines)
   ___ MUS 110 Fundamental Music Skills (3 cr) OR
   MUS 121 Introduction to Music (3 cr) * OR
   MUS 261 World Music (3 cr) *

Art (ART 101 is recommended)
   ___ ART 101 Art Appreciation (3 cr) * OR
   ART 231 Art History I (3 cr) OR
   ART 232 Art History II (3 cr) * OR
   ART274 Intro to Cultural Studio (3 cr) * OR
   ART 339 History of American Art (3 cr) *

Theatre
   ___ THE 121 Intro to Theatre (3 cr)

F. Social and Behavioral Science: 6 credits
   ___ PSY 101 General Psychology (3 cr) *
   Choose one of the following:
   ___ ANT 111 Cultural Anthropology (3 cr) * OR
   GEO 140 Cultural Geography (3 cr) * OR
   SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   ___ TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   ___ TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
   ___ TCH 345 Assessment and Evaluations (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   ___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   ___ TCH 342 Teaching Middle Level Mathematics (3 cr)
   ___ TCH 348 Teaching Middle Level Social Studies (3 cr)

F. English Language Learners (ELL)
   ___ RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   ___ EDU 495 Student Teaching Experience (12 cr)
TEACHER EDUCATION (Elementary/Middle level Option #2 – Science and Language Arts)

A student selecting this option will be certified to teach only science and language arts at the middle level grades 4-8.

PDE Competency Areas
1. Content Knowledge: 84-85 credits including General Education Requirements, which are indicated by *. A total of 33 credits are counted in a dual capacity.

Concentration Areas

A. Science: 22-23 credits required
   ___ BIO 100 Basic Biology * (3 cr) OR
   ___ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   ___ CHM 105 An Observational Approach * (3 cr)
   ___ PHY 108 Astronomy (3 cr)
   ___ PHY 121 Physics I (3 cr) AND
   ___ PHY 123 Physics I Lab (1 cr)
   ___ ESS 110 Introduction to Geology * (3 cr)
   ___ ESS 111 Intro to Atmosphere (3 cr)
   ___ BIO 142 Intro to Ecology (3 cr) OR
   ___ BIO 145 Environmental Biology (3 cr)

B. Language Arts: 21 credits required
   ___ ENG 114 Writing Intensive Seminar (3 cr) OR
   ___ ENG 110 Advanced Placement Writing (3 cr) *
   ___ ENG 248 Intro to Culturally Diverse Lit (3 cr) * OR
   ___ ENG 250 Intro to Literature (3 cr) *
   ___ ENG 420 Studies in Writing (3 cr)
   ___ ENG 426 Adolescent Literature (3 cr)
   ___ RDG 232 Reading in the Elementary School (3 cr)
   ___ RDG 334 Reading Assessment (3 cr) (Prerequisite RDG 232)
   ___ RDG 340 Seminar in Literacy Tutoring (3 cr) (Prerequisite RDG 232 and RDG 334)

Cognate Areas
C. Social Studies: 12 credits required
   ___ GEO 101 World Geography (3 cr) *
   ___ ECO 101 Macroeconomics (3 cr) * OR
   ___ PLS 100 U.S. Government and Politics (3 cr)
   ___ HIS 105 Historical Foundation of Global Cultures (3 cr) *
   ___ HIS 106 Thinking Historically in a Global Age (3 cr) *

D. Math: 13 credits required
   ___ MAT 205 Survey of Middle Grades Mathematics (3 cr)
   ___ MAT 175 Precalculus * (3 cr)
Students must meet the following prerequisites: MAT 140A, MAT 140B, math placement level 5, or permission of department chair.
   ___ MAT 105 Math for the Liberal Arts * (3 cr)
   ___ MAT 117 Applied Statistics (4 cr)

E. Writing/Fluency Competencies: 3 credits
   ___ HCS 100 Into to Human Communication (3 cr)

F. Fine Arts: 6 credits (Select two from different disciplines)
   ___ MUS 110 Fundamental Music Skills (3 cr) OR
   ___ MUS 121 Introduction to Music (3 cr) * OR
   ___ MUS 261 World Music (3 cr) *

Art (ART 101 is recommended)
   ___ ART 101 Art Appreciation (3 cr) * OR
   ___ ART 231 Art History I (3 CR) OR
   ___ ART 232 Art History II (3 cr) * OR
   ___ ART 274 Intro to Cultural Studio (3 cr) * OR
   ___ ART 339 History of American Art (3 cr) *

Theatre
   ___ THE 121 Intro to Theatre (3 cr)

G. Social and Behavioral Science: 6 credits
   ___ PSY 101 General Psychology (3 cr) *
Choose one of the following:
   ___ ANT 111 Cultural Anthropology (3 cr) * OR
   ___ GEO 140 Cultural Geography (3 cr) * OR
   ___ SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits
A. Middle Level Cognitive Development
   ___ TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   ___ TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   ___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   ___ TCH 322 Teaching Middle Level Language Arts (3 cr)
   ___ TCH 366 Teaching Middle Level Science (3 cr)
   ___ RDG 329 Reading in the Content Area (3 cr)

F. English Language Learners (ELL)
   ___ RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   ___ EDU 495 Student Teaching Experience (12 cr)
TEACHER EDUCATION (Elementary/Middle Level Option #2 – Science and Social Studies)

A student selecting this option will be certified to teach only science and social studies at the middle level grades 4-8.

PDE Competency Areas

1. Content Knowledge: 84-85 credits including General Education Requirements, which are indicated by *. A total of 33 credits are counted in a dual capacity.

Concentration Areas

A. Science: 22-23 credits required
   - BIO 100 Basic Biology *(3 cr) OR
   - BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   - CHM 105 An Observational Approach *(3 cr)
   - PHY 108 Astronomy (3 cr)
   - PHY 121 Physics I (3 cr) AND
   - PHY 123 Physics I Lab (1 cr)
   - ESS 110 Introduction to Geology *(3 cr)
   - ESS 111 Intro to Atmosphere (3 cr)
   - BIO 142 Intro to Ecology (3 cr) OR
   - BIO 145 Environmental Biology (3 cr)

B. Social Studies: 21 credits required
   - GEO 101 World Geography *(3 cr)
   - ECO 101 Macroeconomics *(3 cr)
   - PLS 100 U.S. Govt. & Politics *(3 cr)
   - HIS 105 Historical foundation of global Cultures *(3cr)
   - HIS 106 Thinking Historically in a Global Age *(3 cr)
   - GEO 305 Geography of Europe (3 cr) OR
   - GEO 308 Geography of Latin America (3 cr) OR
   - GEO 313 Geography of South and South-East Asia (3 cr) OR
   - GEO 317 Geography of East Asia (3 cr) OR
   - GEO 415 Regional Geography Studies (3 cr) OR
   - GEO 450 Field Studies (1-3 cr)
   - PLS 311 The Legislative Process (3 cr) OR
   - PLS 312 The American Presidency (3 cr) OR
   - PLS 313 The Judicial Process (3 cr) OR
   - PLS 342 American Foreign Policy (3 cr) OR
   - PLS 356 Politics of Developing Regions (3 cr) OR
   - ECO 345 Economics of Growth and Development (3 cr)

Cognate Areas

C. Language Arts: 12 credits required
   - ENG 114 Writing Intensive Seminar (3 cr) OR
   - ENG 10 Advanced Placement Writing *(3 cr)
   - HCS 100 Intro to Human Communication *(3 cr)
   - RDG 232 Reading in the Elementary School (3 cr)
   - RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

D. Math: 13 credits required
   - MAT 205 Survey of Middle Grades mathematics (3 cr)
   - MAT 175 Precalculus *(3 cr)
   - Students must meet the following prerequisites: MAT 140A, MAT 140B, math placement level 5, or permission of department chair.
   - MAT 105 Math for the Liberal Arts *(3 cr)
   - MAT 117 Applied Statistics (4 cr)

D. Literature: 3 credits required
   - ENG 243 Art of the Film *(3 cr) OR
   - ENG 248 Into to Culturally Diverse Lit *(3 cr) OR
   - ENG 250 Intro to Literature *(3 cr)

F. Fine Arts: 6 credits (Select two from different disciplines)
   - MUS 110 Fundamental Music Skills (3 cr) OR
   - MUS 261 World Music (3 cr) *

Art (ART 101 is recommended)
   - ART 101 Art Appreciation (3 cr) * OR
   - ART 231 Art History I (3 cr) OR
   - ART 232 Art History II (3 cr) * OR
   - ART 274 Intro to Cultural Studio (3 cr) * OR
   - ART 339 History of American Art (3 cr) *

Theatre
   - THE 121 Intro to Theatre (3 cr)

G. Social and Behavioral Science: 6 credits
   - PSY 101 General Psychology (3 cr) *
   - Choose one of the following:
     - ANT 111 Cultural Anthropology (3 cr) * OR
     - GEO 140 Cultural Geography (3 cr) * OR
     - SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   - TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   - TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   - EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
   - TCH 345 Assessment & Evaluation (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   - EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   - EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   - TCH 348 Teaching Middle Level Social Studies (3 cr)
   - TCH 366 Teaching Middle Level Science (3 cr)

F. English Language Learners (ELL)
   - RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   - EDU 495 Student Teaching Experience (12 cr)
TEACHER EDUCATION (Elementary/Middle Level Option #1 – Science)

A student selecting this option will be certified to teach only Science at the middle level grades 4-8.

PDE Competency Areas

1. Content Knowledge: 84-85 credits including General Education Requirements, which are indicated by *. A total of 33 credits are counted in a dual capacity.

II. Concentration Area

A. Science: 31 credits required
   ___ BIO 161 Principles of Biology: Cell Structure * (4 cr)
   ___ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
   ___ BIO 208 Field Biology (3 cr) OR
   ___ BIO 242 Ecology (3 cr)
   ___ CHM 105 An Observational Approach * (3 cr)
   ___ CHM 121 Chemical Bonding (3 cr) AND
   ___ CHM 125 Chemical Bonding Lab (1 cr) OR
   ___ PHY 122 Intro to Physics II (3 cr) AND
   ___ PHY 125 Physics II Lab (1 cr)
   ___ PHY 121 Physics I (3 cr) AND
   ___ PHY 123 Physics I Lab (1 cr)
   ___ ESS 110 Introduction to Geology * (3 cr)
   ___ ESS 111 Intro to Atmosphere (3 cr)
   ___ ESS 210 Physical Geography (3 cr)
   ___ ESS 220 Oceanography (3 cr) OR
   ___ ESS 355 meteorology (3 cr) OR
   ___ ESS 404 Applied Meteorology and Climatology (3 cr)

Cognate Areas

C. Social Studies: 12 credits required
   ___ GEO 101 World Geography (3 cr) *
   ___ ECO 101 Macroeconomics (3 cr) * OR
   ___ PLS 100 U.S. Government and Politics (3 cr)
   ___ HIS 105 Historical Foundation of Global Cultures (3 cr) *
   ___ HIS 106 Thinking Historically in a Global Age (3 cr) *

D. Language Arts: 12 credits required
   ___ ENG 114 Writing Intensive Seminar (3 cr) OR
   ___ ENG 110 Advanced Placement Writing * (3 cr)
   ___ HCS 100 Intro to Human Communication * (3 cr)
   ___ RDG 232 Reading in the Elementary School (3 cr)
   ___ RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

Additional Coursework

E. Literature: 3 credits
   ___ ENG 243 Art of the Film * (3 cr) OR
   ___ ENG 248 Intro to Culturally Diverse Lit * (3 cr) OR
   ___ ENG 250 Intro to Literature * (3 cr)

F. Fine Arts: 6 credits (Select two from different disciplines)
   ___ MUS 110 Fundamental Music Skills (3 cr) OR
   ___ MUS 121 Introduction to Music (3 cr) * OR
   ___ MUS 261 World Music (3 cr) *

Art (ART 101 is recommended)
   ___ ART 101 Art Appreciation (3 cr) * OR
   ___ ART 231 Art History I (3 cr) OR
   ___ ART 232 Art History II (3 cr) * OR
   ___ ART 274 Intro to Cultural Studio (3 cr) * OR
   ___ ART 339 History of American Art (3 cr) *

Theatre
   ___ THE 121 Intro to Theatre (3 cr)

Choose one of the following:

G. Social and Behavioral Science: 6 credits
   ___ PSY 101 General Psychology (3 cr) *
   ___ ANT 111 Cultural Anthropology (3 cr) * OR
   ___ GEO 140 Cultural Geography (3 cr) * OR
   ___ SOC 101 Intro to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   ___ TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   ___ TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
   ___ TCH 345 Assessment & Evaluation (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   ___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   ___ TCH 366 Teaching Middle Level Science (3 cr)
   ___ TCH 251 Elements of Middle Level Instructions (3 cr)

F. English Language Learners (ELL)
   ___ RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   ___ EDU 495 Student Teaching Experience (12 cr)
TEACHER EDUCATION (Elementary/Middle Level Option #1 – Social Studies)

A student selecting this option will be certified to teach only Social Studies at the middle level grades 4-8.

PDE Competency Areas

1. Content Knowledge: 84-85 credits including General Education Requirements, which are indicated by *. A total of 33 credits are counted in a dual capacity.

Concentration Area

A. Social Studies: 33 credits required
   - GEO 101 World Geography (3 cr)
   - GEO 140 Cultural Geography * (3 cr)
   - GEO 305 Geography of Europe (3 cr) OR
     GEO 308 Geography of Latin America (3 cr) OR
     GEO 317 Geography of East Asia (3 cr) OR
     GEO 415 Regional Geography Studies (3 cr) OR
     GEO 450 Field Studies (1-3 cr)
   - PLS 100 U.S. Govt. & Politics (3 cr)
   - PLS 311 The Legislative Process (3 cr) OR
     PLS 312 The American Presidency (3 cr) OR
     PLS 313 The Judicial Process (3 cr) OR
     PLS 342 American Foreign Policy (3 cr) OR
     PLS 356 Politics of Developing Regions (3 cr)
   - GEO 101 World Geography (3 cr)
   - GEO 305 Geography of Europe (3 cr) OR
     GEO 308 Geography of Latin America (3 cr) OR
     GEO 317 Geography of East Asia (3 cr) OR
     GEO 415 Regional Geography Studies (3 cr) OR
     GEO 450 Field Studies (1-3 cr)
   - PLS 100 U.S. Govt. & Politics (3 cr)
   - PLS 311 The Legislative Process (3 cr) OR
     PLS 312 The American Presidency (3 cr) OR
     PLS 313 The Judicial Process (3 cr) OR
     PLS 342 American Foreign Policy (3 cr) OR
     PLS 356 Politics of Developing Regions (3 cr)
   - ECO 101 Macroeconomics * (3 cr)
   - ECO 345 Economics of Growth and Development (3 cr)
   - HIS 105 Historical Foundation of Global Cultures * (3 cr)
   - HIS 106 Thinking Historically in a Global Age * (3 cr)
   - HIS 201 Early History of the U.S. (3 cr) OR
   - HIS 202 Recent History of the U.S. (3 cr)
   - HIS 301 The West in American History (3 cr) OR
     HIS 302 American Economic History (3 cr) OR
     HIS 304 American Diplomatic History (3 cr) OR
     HIS 305 The Civil War (3 cr) OR
     HIS 306 History of the South (3 cr) OR
     HIS 309 History of the American worker (3 cr) OR
     HIS 314 Jacksonian America (3 cr) OR
     HIS 318 History of U.S. Women (3 cr) OR
     HIS 338 Colonial america (3 cr) OR
     HIS 341 African American History (3 cr) OR
     HIS 342 U.S. Immigration and Ethnicity (3 cr) OR
     HIS 345 Military History of the U.S. (3 cr) OR
     HIS 402 Revolutionary America (3 cr) OR
     HIS 413 Pennsylvania History (3 cr)

Cognate Areas

B. Math: 13 credits required
   - MAT 205 Survey of Middle Grades mathematics (3 cr)
   - MAT 175 Precalculus * (3 cr)

   Students must meet the following prerequisites: MAT 140A, MAT 140B, math placement level 5, or permission of department chair.
   - MAT 105 Math for the Liberal Arts * (3 cr)
   - MAT 117 Applied Statistics (4 cr)

C. Science: 12 credits required
   - BIO 100 Basic Biology * (3 cr)
   - CHM 105 An Observational Approach * (3 cr)
   - PHY 121 Physics I (3 cr)
   - ESS 110 Introduction to Geology * (3 cr)

D. Language Arts: 12 credits required
   - ENG 114 Writing Intensive Seminar (3 cr) OR
     ENG 110 Advanced Placement Writing * (3 cr)
   - HCS 100 Intro to Human Communication * (3 cr)
   - RDG 232 Reading in the Elementary School (3 cr)
   - RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

E. Language Arts: 12 credits required
   - ENGL 114 Writing Intensive Seminar (3 cr) OR
   - ENGL 110 Advanced Placement Writing * (3 cr)
   - HCS 100 Intro to Human Communication * (3 cr)
   - RDG 232 Reading in the Elementary School (3 cr)
   - RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

F. Fine Arts: 6 credits (Select two from different disciplines)
   - MUS 110 Fundamental Music Skills (3 cr) OR
   - MUS 121 Introduction to Music (3 cr) * OR
   - MUS 261 World Music (3 cr) *

   Art (ART 101 is recommended)
   - ART 101 Art Appreciation (3 cr) * OR
   - ART 231 Art History I (3 cr) * OR
   - ART 232 Art History II (3 cr) * OR
   - ART 274 Intro to Cultural Studio (3 cr) * OR
   - ART 339 History of American Art (3 cr) *

   Theatre
   - THE 121 Intro to Theatre (3 cr)

G. Social and Behavioral Science: 6 credits
   - PSY 101 General Psychology (3 cr) *

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   - TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
   - TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
   - EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
   - TCH 345 Assessment & Evaluation (3 cr)

D. Adaptations and Accommodations for Diverse Learners
   - EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
   - EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
   - TCH 348 Teaching Middle Level Social Studies (3 cr)
   - TCH 366 Elements of Middle Level Instruction (3 cr)

F. English Language Learners (ELL)
   - RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
   - EDU 495 Student Teaching Experience (12 cr)
TEACHER EDUCATION (Elementary/Middle Level Option #2 – Math & Science)

A student selecting this option will be certified to teach only mathematics and science at the middle level grades 4-8.

PDE Competency Areas

I. Content Knowledge: 82-83 credits including General Education Requirements which are indicated by an *. A total of 33 credits are counted in a dual capacity.

Concentration Areas

A. Math: 21 credits required
___ MAT 105 Math for Liberal Studies * (3 cr)
___ MAT 205 Survey of Middle Grades Mathematics (3 cr)
___ MAT 117 Applied Statistics (4 cr)
___ MAT 211 Calculus I * (4 cr)
Students must meet one of the following prerequisites: C or better in MAT 175 or math placement level 6. However, a prerequisite override could be granted based on a recommendation to the math department from the student’s advisor.
___ MAT 225 Discrete Math * (4 cr)
Students must meet one of the following prerequisites: MAT 140A or math placement level 4 or above.
___ MAT 333 Geometry (3 cr)

B. Science: 22-23 credits required
___ BIO 100 Basic Biology * (3 cr) OR
___ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
___ CHM 105 An Observational Approach * (3 cr)
___ PHY 108 Astronomy (3 cr)
___ PHY 121 Physics I (3 cr) AND
___ PHY 123 Physics I Lab (1 cr)
___ ESS 110 Introduction to Geology * (3 cr)
___ ESS 111 Intro to Atmosphere (3 cr)
___ BIO 142 Intro to Ecology (3 cr) OR
___ BIO 145 Environmental Biology (3 cr)

Cognate Areas

C. Social Studies: 12 credits required
___ GEO 101 World Geography (3 cr) *
___ ECO 101 Macroeconomics (3 cr) * OR
___ PLS 100 U.S. Government and Politics (3 cr)
___ HIS 105 Historical Foundation of Global Cultures (3 cr) *
___ HIS 106 Thinking Historically in a Global Age (3 cr) *

D. Language Arts: 12 credits required
___ ENG 114 Writing Intensive Seminar (3 cr) OR
___ ENG 110 Advanced Placement Writing * (3 cr)
___ HCS 100 Intro to Human Communication * (3 cr)
___ RDG 232 Reading in the Elementary School (3 cr)
___ RDG 329 Reading in the Content Area (3 cr) (Prerequisite RDG 232)

E. Literature: 3 credits
___ ENG 243 Art of the Film * (3 cr) OR
___ ENG 248 Into to Culturally Diverse Lit * (3 cr) OR
___ ENG 250 Intro to Literature * (3 cr)

F. Fine Arts: 6 credits (Select two from different disciplines)
___ MUS 110 Fundamental Music Skills (3 cr) OR
___ MUS 121 Introduction to Music (3 cr) * OR
___ MUS 261 World Music (3 cr) *
Art (ART 101 is recommended)
___ ART 101 Art Appreciation (3 cr) * OR
___ ART 231 Art History I (3 CR) OR
___ ART 232 Art History II (3 cr) * OR
___ ART 274 Intro to Cultural Studio (3 cr) * OR
___ ART 339 History of American Art (3 cr) *

Theatre
___ THE 121 Intro to Theatre (3 cr)

G. Social and Behavioral Science: 6 credits
___ PSY 101 General Psychology (3 cr) *
Choose one of the following:
___ ANT 111 Cultural Anthropology (3 cr) * OR
___ GEO 140 Cultural Geography (3 cr) * OR
___ SOC 101 Intro. to Soc: Society & Diversity (3 cr) *

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
___ TCH 206 Social Found. of Middle Level Education (3 cr)

B. Early Adolescent and Adolescent Learning Theory
___ TCH 261 Adolescent Dev. and Lng. Theory (3 cr)

C. Assessments and Interventions
___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)
___ TCH 345 Assessment and Evaluations (3 cr)

D. Adaptations and Accommodations for Diverse Learners
___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)
___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3 cr)

E. Middle Level Teaching Methods
___ TCH 342 Teaching Middle Level Mathematics (3 cr)
___ TCH 366 Teaching Middle Level Science (3 cr)

F. English Language Learners (ELL)
___ RDG 413 Teaching Reading to English Language Learners (3 cr)

G. Student Teaching
___ EDU 495 Student Teaching Experience (12 cr)
### General Education Requirements

#### I. Required Skills and Competencies

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENG 115 Advanced Placement Writing</td>
<td>3 cr</td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication</td>
<td>3 cr</td>
</tr>
<tr>
<td>MAT 111 Fundamentals of Mathematics II</td>
<td>3 cr</td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures</td>
<td>3 cr AND</td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

#### II. Categories of Knowledge

**A: Language/Numbers for Rational Thinking (3 cr)**

- MAT 110 Fundamentals of Mathematics I

**B: Literary, Artistic & Cultural Traditions (9 cr)**

- Select ONE Literature course:
  - ART 101 Art Appreciation (recommended) (3 cr)
  - ART 231 Art History I (3 cr)
  - ART 232 Art History II
  - ART 274 Intro to Cultural Studio
  - ART 339 History of American Art
  - MUS 110 Fundamentals of Music
  - MUS 121 Introduction to Music
  - MUS 261 World Music

- THE 121 Introduction to Theater

**C: Biological & Physical Sciences (9 cr)**

- Select one course from each of the 3 categories. One of the 3 courses must have a laboratory component (indicated with an asterisk [*])

  **Biology (choose one)**
  - BIO 100 Basic Biology (3 cr)
  - BIO 162 Principles of Biology: Organismal Diversity * (4 cr)
  - BIO 150 Human Biology (3 cr)
  - BIO 208 Field Biology * (3 cr)
  - BIO 142 Introduction to Ecology * (3 cr)
  - BIO 242 Ecology * (3 cr)

  **Earth Sciences (choose one)**
  - ESS 108 Conservation of Natural Resources
  - ESS 110 Introduction to Geology *
  - ESS 111 Introduction to Atmosphere
  - ESS 210 Physical Geology *
  - BIO 145 Environmental Biology

  **Physical Sciences (choose one)**
  - PHY 108 Astronomy
  - PHY 110 Physical Science for Society
  - PHY 115 Physical Science: A Lab Approach *
  - PHY 121/123 Introductory Physics I *
  - PHY 205 Intermediate Physics I *
  - CHM 103 Chemistry: A Cultural Approach
  - CHM 105 Chemistry: An Observational Approach *
  - CHM 121 Chemical Bonding

  **D: Political, Economic & Geographic Sciences - Choose two (6 cr)**
  - GEO 101 World Geography
  - ECO 101 Principles of Macroeconomics OR ECO 102 Principles of Microeconomics
  - PLS 100 U.S. Government and Politics

**E: Social & Behavioral Science (6 cr)**

- PSY 101 General Psychology (Required) AND one of the following:

- ANT 111 Cultural Anthropology
- GEO 140 Cultural Geography
- SOC 101 Introduction to Sociology

#### III. Library Skills: Complete via College Writing Competency

**Professional Core**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECH 210 The Early Childhood Profession</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 280 The Developing Child: Cognitive, Language, Physical</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 253 Early Literacy &amp; Literature for Children &amp; Families: Birth-5 years</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 320 The Developing Child III: Social &amp; Emotional Development</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 333 Social Studies Methods in P-4</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 343 Math Methods I, P-1st</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 370 Assessing Young Children</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 373 Science &amp; Technology Methods in P-4</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 393 Math Methods II, 2nd-4th grade</td>
<td>2 cr</td>
</tr>
<tr>
<td>ECS 415 Professional Practicum in P-4/SpecEd</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECS 440 Building Family &amp; Community Partnerships</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 453 Integrated Curriculum, P-4th</td>
<td>3 cr</td>
</tr>
<tr>
<td>ECH 480 Early Childhood Professional Seminar</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 280 Best Practices in Collaboration: Educators, Families, &amp; Related Service Providers</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 320 Interventions for Students with Communication Impairments</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 335 Interventions for Students with Cognitive and/or Physical Impairments</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 325 Interventions for Students with Social/Emotional and Behavioral Impairments</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 330 Teaching Students with Exceptionalities in a Standards-Aligned System</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 423 Effective Instructional Strategies for Children with Exceptionalities, Pre-K-8</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEC 447 Special Education Processes</td>
<td>3 cr</td>
</tr>
<tr>
<td>RDG 323 Processes of Word/Text/Comprehension in Grades 1-4</td>
<td>3 cr</td>
</tr>
<tr>
<td>RDG 363 Reading and Writing in P-4</td>
<td>2 cr</td>
</tr>
<tr>
<td>RDG 383 English Language Learners in P-4</td>
<td>2 cr</td>
</tr>
<tr>
<td>RDG 443 Reading Measures and Interventions</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**Early Childhood/Special Education Student Teaching**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECS 489 Student Teaching &amp; Prof. Pract.</td>
<td>12 cr</td>
</tr>
</tbody>
</table>

**Total Graduation Requirements**

- a minimum of 120 cr

---

**GPA Needed to Declare**

**3.0**

Students are considered for admission to Teacher Education during the first two weeks of each semester. Students are ranked by several factors including educational philosophy, current GPA, interview, a writing sample, and grades in certain classes. An application requesting admission to the department is the first step in the application procedure. See "Admission to Teacher Education" for details.

Students electing certain minors can be required to complete more credits to complete both the elementary program and the requirements of the select minor. All students are required to complete at least 120 credit hours for graduation. The final responsibility for scheduling and fulfilling program requirements belongs to the student. Majors failing to maintain department required GPA of 3.0 will not be permitted to schedule elementary courses until they have reached the required GPA.

Students who plan to major in Teacher Education should maintain close contact with the department to ensure that they meet program requirements.
John L. Grove
College of Business
John L. Grove College of Business

B.S.B.A.
Bachelor of Science in Business Administration
Accounting
Entrepreneurship
Finance
Personal Financial Planning
Information Technology for Business Education
Information Technology for Business Education w/Secondary Certification
Management
   International Management
   Human Resource Management
   Management
Management Information Systems
Marketing
Supply Chain Management
Logistics Management

Minor
Business Administration (For non-business majors)
# Suggested Program for B.S.B.A. Students

## FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing Intensive First Year Seminar *</td>
<td>Intro to Human Communication *</td>
</tr>
<tr>
<td>Historical Foundation of Global Cultures *</td>
<td>Thinking Historically in a Global Age *</td>
</tr>
<tr>
<td>College Algebra (A/B)</td>
<td>Applied Calculus I</td>
</tr>
<tr>
<td>General Education Elective *</td>
<td>Business Computer Systems *</td>
</tr>
<tr>
<td>General Education Elective *</td>
<td>Principles of Economics (4 cr) *</td>
</tr>
<tr>
<td>Foundations of Business Administration (2 cr) *</td>
<td>OR a General Education Elective</td>
</tr>
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</table>

## SECOND YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund. of Financial Accounting</td>
<td>Managerial Accounting</td>
</tr>
<tr>
<td>Principles of Economics (4 crs) *</td>
<td>Managerial Economics</td>
</tr>
<tr>
<td>OR a General Education Elective</td>
<td>Statistical Applications in Business</td>
</tr>
<tr>
<td>American Legal Environment *</td>
<td>General Education Elective</td>
</tr>
<tr>
<td>General Education Elective *</td>
<td>General Education Elective</td>
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<tr>
<td>General Education or Free Elective</td>
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## THIRD YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Financial Management *</td>
<td>Major Course *</td>
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<tr>
<td>Organizational Behavior *</td>
<td>Major Course *</td>
</tr>
<tr>
<td>Principles of Marketing *</td>
<td>General Education Elective *</td>
</tr>
<tr>
<td>Supply Chain Operations Mgt *</td>
<td>Free Elective *</td>
</tr>
<tr>
<td>OR General Education Elective</td>
<td>Free Elective *</td>
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<tr>
<td>Major Course, General Education Elective *</td>
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</table>

## FOURTH YEAR

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>Business and Society *</td>
<td>Strategic Management *</td>
</tr>
<tr>
<td>Major Course</td>
<td>Major Course</td>
</tr>
<tr>
<td>Major Course</td>
<td>Major Course</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>Free Elective</td>
</tr>
<tr>
<td>Free Elective (Major course for ACC and PFP Majors)</td>
<td>Free Elective</td>
</tr>
</tbody>
</table>

* These courses can be interchanged between semesters within the specified year.

Bolded courses are part of the business core curriculum as shown in a prerequisite flow chart on the next page.

**PLEASE NOTE:** Sequencing of Courses may vary depending upon the specific requirements within a particular major. For example: Accounting, Management Information Systems, Management, Human Resource Management, International Management, and Entrepreneurship majors should begin their major coursework during the first semester of their junior year.

Be sure to check with your advisor or departmental office for further information.
PREREQUISITE FLOW CHART FOR B.S.B.A. CORE COURSES

BSN 101 1
Foundations of Business Administration (2 cr)

ACC 200 * 2
Fundamentals of Financial Accounting

ACC 201 * 2
Managerial Accounting

ACC 200 *
Fundamentals of Financial Accounting

ACC 201 *
Managerial Accounting

BSL 261 2 or 3
American Legal Environment

FIN 311 3
Financial Management

ECO 113 1 or 2
Principles of Economics (4 cr)

ECO 280 2 or 3
Managerial Economics

MKT 305 3
Principles of Marketing

MAT 181 1 or 2
Applied Calculus I

MAT 140 A/B 1
College Algebra
Grade of “C” or higher required

MAT 140 A/B
College Algebra
Grade of “C” or higher required

MIS 142 1
Business Computer Systems

BSL 261 2 or 3
American Legal Environment

SCM 200 2
Statistical Applications in Business

SCM 330 3
Supply Chain & Operations Management

MGT 492 4
Strategic Management

MGT 447 4
Business & Society

FIN 311 3
Financial Management

Requirements for Business Students:
Complete ENG 114 Writing Intensive First Year Seminar, or equivalent with a “C” or better.
Maintain a 2.0 cumulative average in the business core, the major, and a 2.0 cumulative average overall.

*Accounting Majors: ACC 200 in the first semester and ACC 201 in the second semester of your sophomore year and earn at least a “C” grade or higher in both courses.

*Personal Financial Planning Majors: Must earn a “C” grade or higher in ACC 200 and ACC 201.
ACCOUNTING – B.S.B.A.

General Education Requirements

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar</td>
<td></td>
</tr>
<tr>
<td>Min. grade of “C” required OR</td>
<td></td>
</tr>
<tr>
<td>ENG 110 Advanced Placement Writing</td>
<td></td>
</tr>
<tr>
<td>May need ENG 113 Basic Writing first, based on test results.</td>
<td></td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication</td>
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</tr>
<tr>
<td>Mathematical Competency-Required</td>
<td></td>
</tr>
<tr>
<td>MAT 140 College Algebra</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures</td>
<td>AND</td>
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<tr>
<td>HIS 106 Thinking Historically in a Global Age</td>
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</table>

II. Categories of Knowledge

<table>
<thead>
<tr>
<th>34 cr</th>
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</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking</td>
</tr>
<tr>
<td>MAT 140 College Algebra</td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions</td>
</tr>
<tr>
<td>Lit. Course:</td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science</td>
</tr>
<tr>
<td>**Students who have started the 6 cr Economics sequence ECO 101 or 102</td>
</tr>
<tr>
<td>can complete the sequence or take ECO 113, however; it is recommended</td>
</tr>
<tr>
<td>that they complete the 6 cr sequence. Business majors or students</td>
</tr>
<tr>
<td>interested in business who have not completed an economics class</td>
</tr>
<tr>
<td>will be required to complete ECO 113.</td>
</tr>
<tr>
<td>ECO 113 Principles of Economics</td>
</tr>
<tr>
<td>**E: Social &amp; Behavioral Science</td>
</tr>
<tr>
<td>6 cr</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>III. Library Skills Completed via College or Advanced Writing</td>
</tr>
<tr>
<td>Business Core Requirements All B.S.B.A. Majors</td>
</tr>
<tr>
<td>ACC 200 Fundamentals of Financial Accounting</td>
</tr>
<tr>
<td>ACC 201 Managerial Accounting</td>
</tr>
<tr>
<td>BSL 261 American Legal Environment</td>
</tr>
<tr>
<td>BSN 101 Foundations of Business Administration</td>
</tr>
<tr>
<td>ECO 113 Principles of Economics</td>
</tr>
<tr>
<td>ECO 280 Managerial Economics</td>
</tr>
<tr>
<td>FIN 311 Financial Management</td>
</tr>
<tr>
<td>MAT 140 College Algebra</td>
</tr>
<tr>
<td>MAT 181 Applied Calculus</td>
</tr>
<tr>
<td>MIS 142 Business Computer Systems</td>
</tr>
<tr>
<td>MGT 305 Organizational Behavior</td>
</tr>
<tr>
<td>MGT 447 Business &amp; Society</td>
</tr>
<tr>
<td>MGT 497 Strategic Management</td>
</tr>
<tr>
<td>MGT 305 Principles of Marketing</td>
</tr>
<tr>
<td>SCM 200 Statistical Applications in Business</td>
</tr>
<tr>
<td>SCM 330 Supply Chain and Operations Management</td>
</tr>
</tbody>
</table>

Accounting Major Requirements

<table>
<thead>
<tr>
<th>21 cr</th>
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</thead>
<tbody>
<tr>
<td>ACC 306 Tax Accounting</td>
</tr>
<tr>
<td>ACC 310 Intermediate Accounting I</td>
</tr>
<tr>
<td>ACC 311 Intermediate Accounting II</td>
</tr>
<tr>
<td>ACC 312 Cost Determination &amp; Analysis</td>
</tr>
<tr>
<td>ACC 404 Auditing</td>
</tr>
<tr>
<td>ACC Accounting Elective</td>
</tr>
<tr>
<td>MIS 300 Information Technology &amp; Business Operations</td>
</tr>
</tbody>
</table>

Free Electives

| 12 cr |

*Major requirement fulfills General Education credits

HELPFUL HINTS FOR ADVISING:

Semester I
- BSN 101 Foundations of Business Administration
- MAT 140 College Algebra

Semester II
- MAT 181 Applied Calculus I
- MIS 142 Business Computer Systems
- ECO 113 Principles of Economics

Semester III
- ACC 200 Fund. of Financial Accounting
- BSL 261 American Legal Environment
- ECO 113 Principles of Economics, if not already taken
- SCM 200 Statistical Applications in Business

Semester IV
- ACC 201 Managerial Accounting
- ECO 280 Managerial Economics
- SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
- MAT 140 is recommended before taking ECO 113f
- MIS 142 is a prerequisite for SCM 200.

SCM 200 is satisfied by successful completion of MAT 117

Superscript numbers indicate year course should be taken

1 = Freshman year See Business Prerequisite Flow Chart.
BUSINESS ADMINISTRATION – GENERAL

General Education Requirements
I. Required Skills and Competencies 15 cr
   ___ ENG 114 Writing Intensive First Year Seminar
      Min. grade of "C" required OR
      ENG 115 Advanced Placement Writing (3 cr)
      May need ENG 113 Intro to Academic Writing first, based on test results.
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency-Required
      MAT 140 College Algebra (3 cr) (Minimum grade of ‘C’ required)
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
      ___ MAT 181 Applied Calculus I
   B: Literary, Artistic & Cultural Traditions (9 cr)
      ___ Lit. Course:____________________
   C: Biological & Physical Sciences (9 cr)
      ___ ______________________________
      ___ ______________________________
      ___ ______________________________
   D: Political, Economic & Geographic Science (7 cr)**
      ___ ______________________________
      ___ ______________________________
      ___ ______________________________

**Students who have started the 6 cr Economics sequence ECO 101 or 102 can complete the sequence or take ECO 113; however, it is recommended that they complete the 6 cr sequence. Business majors or students interested in business who have not completed an economics class will be required to complete ECO 113.
   ___ ECO 113 Principles of Economics (4 cr)
   ___ ______________________________

E: Social & Behavioral Science (6 cr)
   ___ ______________________________

III. Library Skills Completed via College or Advanced Writing

Business Core Requirements All B.S.B.A. Majors 38 cr
   ___ *ACC 200 Fundamentals of Financial Accounting (3 cr)²
   ___ *ACC 201 Managerial Accounting (3 cr)²
   ___ BSL 261 American Legal Environment (3 cr)²/³
   ___ BSN 101 Foundations of Business Administration (2 cr)¹
   ___ ECO 113 Principles of Economics (4 cr)¹/² *
   ___ ECO 280 Managerial Economics (3 cr)²/³
   ___ FIN 311 Financial Management (3 cr)¹
   ___ MAT 140 College Algebra (3-4 cr)¹
   ___ MAT 181 Applied Calculus (3 cr)¹⁺
   ___ MIS 142 Business Computer Systems (3 cr)¹
   ___ MGT 305 Organizational Behavior (3 cr)³
   ___ MGT 447 Business & Society (3 cr)⁴
   ___ MGT 497 Strategic Management (3 cr)⁴
   ___ MKT 305 Principles of Marketing (3 cr)³
   ___ SCM 200 Statistical Applications in Business (3 cr)²
   ___ SCM 330 Supply Chain and Operations Management (3 cr)³

The Business Administration-General option is designed for students entering the John L. Grove College of Business who are undecided about choosing a specific B.S.B.A. major. Since the coursework in the B.S.B.A. degree program is basically the same for all majors through the sophomore year, this undecided option provides students with up to two years before declaring a specific major in the College of Business. You are encouraged to declare a major sooner than your junior year. At any given time, admission to specific majors may be limited.

If you have any questions about this program, call the College of Business at 717-477-1620.

*****************************************************************************

GPA Needed to Declare: 2.0

NOTE: A grade of “C” or better in MAT 140, College Algebra and ENG 114, Writing Intensive First-Year Seminar is required. In addition, students must have a 2.0 cumulative grade point average in all of the 100/200 level business core courses they have completed. Freshmen must wait until the second semester to declare a Business major. EXCEPTION: Those students with MSAT of 560+ or those testing at level 5 in mathematics on the placement test.

HELPFUL HINTS FOR ADVISING:

Semester I   BSN  101 Foundations of Business Administration
              MAT 140 College Algebra
Semester II   MAT 181 Applied Calculus I
              MIS 142 Business Computer Systems
              ECO 113 Principles of Economics
Semester III  ACC 200 Fund. of Financial Accounting
              BSL  261 American Legal Environment
              ECO 113 Principles of Economics, if not already taken
              SCM 200 Statistical Applications in Business
Semester IV   ACC 201 Managerial Accounting
              ECO 280 Managerial Economics
              SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
MAT 140 is recommended before taking ECO 113
MAT 140 and MIS 142 are prerequisites for SCM 200.
ACC 200 is a prerequisite for ACC 201.
ECO 113 and MAT 181 are prerequisites for ECO 280.

Superscript numbers indicate year course should be taken
¹ = Freshman year See Business Prerequisite Flow Chart for Prerequisites and requirements.
² = Accounting and Personal Financial Planning majors require a minimum grade of ‘C’ in ACC 200 and ACC 201

*Major requirement fulfills General Education credits

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## ENTREPRENEURSHIP – B.S.B.A.

### General Education Requirements

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar</td>
<td></td>
</tr>
<tr>
<td>Min. grade of “C” required OR</td>
<td></td>
</tr>
<tr>
<td>ENG 115 Advanced Placement Writing (3 cr)</td>
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</tr>
<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results.</td>
<td></td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td>Mathematical Competency-Required</td>
<td></td>
</tr>
<tr>
<td>MAT 140 College Algebra (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
<td></td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

### II. Categories of Knowledge

<table>
<thead>
<tr>
<th>34 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
</tr>
<tr>
<td>MAT 181 Applied Calculus I</td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
</tr>
<tr>
<td>Lit. Course:</td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (7 cr)***</td>
</tr>
<tr>
<td>**Students who have started the 6 cr Economics sequence ECO 101 or 102 can complete the sequence or take ECO 113, however, it is recommended that they complete the 6 cr sequence. Business majors or students interested in business who have not completed an economics class will be required to complete ECO 113.</td>
</tr>
<tr>
<td>ECO 113 Principles of Economics (4 cr)</td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
</tr>
</tbody>
</table>

### III. Library Skills Completed via College or Advanced Writing

<table>
<thead>
<tr>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Core Requirements, All B.S.B.A. Majors</td>
</tr>
<tr>
<td>ACC 200 Fundamentals of Financial Accounting (3 cr)²</td>
</tr>
<tr>
<td>ACC 201 Managerial Accounting (3 cr)</td>
</tr>
<tr>
<td>BSL 261 American Legal Environment (3 cr)²</td>
</tr>
<tr>
<td>BSN 101 Foundations of Business Administration (2 cr)¹</td>
</tr>
<tr>
<td>ECO 113 Principles of Economics (4 cr)²</td>
</tr>
<tr>
<td>ECO 280 Managerial Economics (3 cr)²</td>
</tr>
<tr>
<td>FIN 311 Financial Management (3 cr)</td>
</tr>
<tr>
<td>MAT 140 College Algebra (3/4 cr) *¹</td>
</tr>
<tr>
<td>MAT 181 Applied Calculus (3 cr)²</td>
</tr>
<tr>
<td>MIS 142 Business Computer Systems (3 cr)</td>
</tr>
<tr>
<td>MGT 305 Organizational Behavior (3 cr)²</td>
</tr>
<tr>
<td>MGT 447 Business &amp; Society (3 cr)²</td>
</tr>
<tr>
<td>MGT 497 Strategic Management (3 cr)²</td>
</tr>
<tr>
<td>MKT 305 Principles of Marketing (3 cr)²</td>
</tr>
<tr>
<td>SCM 200 Statistical Applications in Business (3 cr)</td>
</tr>
<tr>
<td>SCM 330 Supply Chain and Operations Management (3 cr)³</td>
</tr>
</tbody>
</table>

*Major requirement fulfills General Education credits

### Free Electives

<table>
<thead>
<tr>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Graduation Requirements</td>
</tr>
<tr>
<td>GPA Needed to Declare:</td>
</tr>
</tbody>
</table>

**NOTE:** A grade of “C” or better in College Algebra and/or Applied Calculus and ENG 114 Writing Intensive First-Year Seminar is required. In addition, students must have a 2.0 cumulative grade point average in all of the 100/200 level business core courses they have completed. Freshmen must wait until the second semester to declare a Business major. EXCEPTION: Those students with MSAT of 605+ or those testing at the advanced level in mathematics on the placement test.

### HELPFUL HINTS FOR ADVISING:

#### Semester I

| BSN 101 Foundations of Business Administration |  |
| MAT 140 College Algebra |  |

#### Semester II

| MAT 181 Applied Calculus I |  |
| MIS 142 Business Computer Systems |  |
| ECO 113 Principles of Economics |  |

#### Semester III

| ACC 200 Fund. of Financial Accounting |  |
| BSL 261 American Legal Environment |  |
| ECO 113 Principles of Economics if not already taken |  |
| SCM 200 Statistical Applications in Business |  |

#### Semester IV

| ACC 201 Managerial Accounting |  |
| ECO 280 Managerial Economics |  |
| SCM 200 Statistical Apps in Bus. if not already taken |  |

### General Advice:

MAT 140 and MIS 142 are prerequisites for SCM 200.

Superscript numbers indicate year course should be taken

¹ = Freshman year See Business Prerequisite Flow Chart.

### Free Electives

<table>
<thead>
<tr>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Graduation Requirements</td>
</tr>
<tr>
<td>GPA Needed to Declare:</td>
</tr>
</tbody>
</table>

**NOTE:** A grade of “C” or better in College Algebra and/or Applied Calculus and ENG 114 Writing Intensive First-Year Seminar is required. In addition, students must have a 2.0 cumulative grade point average in all of the 100/200 level business core courses they have completed. Freshmen must wait until the second semester to declare a Business major. EXCEPTION: Those students with MSAT of 605+ or those testing at the advanced level in mathematics on the placement test.

### HELPFUL HINTS FOR ADVISING:

#### Semester I

| BSN 101 Foundations of Business Administration |  |
| MAT 140 College Algebra |  |

#### Semester II

| MAT 181 Applied Calculus I |  |
| MIS 142 Business Computer Systems |  |
| ECO 113 Principles of Economics |  |

#### Semester III

| ACC 200 Fund. of Financial Accounting |  |
| BSL 261 American Legal Environment |  |
| ECO 113 Principles of Economics if not already taken |  |
| SCM 200 Statistical Applications in Business |  |

#### Semester IV

| ACC 201 Managerial Accounting |  |
| ECO 280 Managerial Economics |  |
| SCM 200 Statistical Apps in Bus. if not already taken |  |

### General Advice:

MAT 140 and MIS 142 are prerequisites for SCM 200.

Superscript numbers indicate year course should be taken

¹ = Freshman year See Business Prerequisite Flow Chart.
FINANCE – B.S.B.A.
Finance and Personal Financial Planning Majors

General Education Requirements

I. Required Skills and Competencies 15 cr
- ENG 114 Writing Intensive First Year Seminar
- MAT 140 College Algebra (3 cr)
- MAT 160 Statistical Applications in Business
- MAT 181 Applied Calculus (3 cr)
- ENG 115 Advanced Placement Writing (3 cr)
- HCS 100 Intro to Human Communication (3 cr)
- HIST 105 Historical Foundations of Global Cultures (3 cr) AND
- HIS 106 Thinking Historically in a Global Age (3 cr)
- MAT 113 Principles of Economics (4 cr)
- MAT 211 Applied Calculus II

II. Categories of Knowledge 34 cr
A: Logic/Numbers for Rational Thinking (3 cr)
- MAT 181 Applied Calculus I
B: Literary, Artistic & Cultural Traditions (9 cr)
- Lit. Course: ____________________________
- Hist. Course: __________________________
C: Biological & Physical Sciences (9 cr)
- _________________________________
- _________________________________
- _________________________________
D: Political, Economic & Geographic Science (7 cr)**

**Students who have started the 6 cr Economics sequence ECO 101 or 102 can complete the sequence or take ECO 113; however, it is recommended that they complete the 6 cr sequence. Business majors or students interested in business who have not completed an economics class will be required to complete ECO 113.
- ECO 113 Principles of Economics (4 cr)
- _________________________________

E: Social & Behavioral Science (6 cr)
- _________________________________
- _________________________________
- _________________________________

III. Library Skills Completed via College or Advanced Writing
- MAT 140 College Algebra (3/4 cr)

Business Core Requirements All B.S.B.A. Majors 38 cr
- ACC 200 Fundamentals of Financial Accounting (3 cr)
- ACC 201 Managerial Accounting (3 cr)
- BSL 261 American Legal Environment (3 cr)
- BSN 101 Foundations of Business Administration (2 cr)
- ECO 113 Principles of Economics (4 cr)**
- ECO 280 Managerial Economics (3 cr)
- FIN 311 Financial Management (3 cr)
- MAT 140 College Algebra (3/4 cr)
- MAT 181 Applied Calculus (3 cr)**
- MIS 142 Business Computer Systems (3 cr)
- MGT 305 Organizational Behavior (3 cr)
- MGT 447 Business & Society (3 cr)
- MGT 497 Strategic Management (3 cr)
- MKT 305 Principles of Marketing (3 cr)
- SCM 200 Statistical Applications in Business (3 cr)
- SCM 330 Supply Chain and Operations Management (3 cr)

Finance Major Requirements 18 cr
- FIN 312 Investments (3 cr)
- FIN 313 Advanced Financial Management (3 cr)
- FIN 314 Financial Institutions (3 cr)
- FIN 333 Applied Company and Security Analysis (3 cr)

Personal Financial Planning Concentration Requirements 21 cr
- ACC 306 Tax Accounting (3 cr)
- FIN 312 Investments (3 cr)
- FIN 320 Risk Management & Insurance (3 cr)
- FIN 322 Estate Planning (3 cr)
- FIN 324 Retirement Planning & Employee Benefits (3 cr)
- FIN 333 Applied Company and Security Analysis (3 cr)
- FIN 421 Personal Financial Planning Capstone (3 cr)

Free Electives 12-15 cr
* Major requirement fulfills General Education credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

NOTE: A grade of “C” or better in MAT 140, College Algebra and ENG 114, Writing Intensive First-Year Seminar is required. In addition, students must have a 2.0 cumulative grade point average in all of the 100/200 level business core courses they have completed. Freshmen must wait until the second semester to declare a Business major. EXCEPTION: Those students with MSAT of 560+ or those testing at level 5 in mathematics on the placement test.

HELPFUL HINTS FOR ADVISING:

Semester I
- BSN 101 Foundations of Business Administration
- MAT 140 College Algebra

Semester II
- MAT 181 Applied Calculus I
- MIS 142 Business Computer Systems
- ECO 113 Principles of Economics

Semester III
- ACC 200 Fund of Financial Accounting
- BSL 261 American Legal Environment
- ECO 113 Principles of Economics, if not already taken
- SCM 200 Statistical Applications in Business

Semester IV
- ACC 201 Managerial Accounting
- ECO 280 Managerial Economics
- SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
- MAT 140 is recommended before taking ECO 113
- MIS 142 is a prerequisite for SCM 200

Superscript numbers indicate year course should be taken
- = Freshman year See Business Prerequisite Flow Chart for Prerequisites and requirements.
MANAGEMENT – B.S.B.A.
Management, Human Resource Management, & International Management Concentrations

General Education Requirements

I. Required Skills and Competencies 15 cr
   - ENG 114 Writing Intensive First Year Seminar
     Min. grade of "C" required OR
   - ENG 115 Advanced Placement Writing (3 cr)
      May need ENG 113 Intro to Academic Writing first, based on test results.
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency-Required
   - MAT 140 College Algebra (3 cr)
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
      - MAT 181 Applied Calculus I
   B: Literary, Artistic & Cultural Traditions (9 cr)
      - Lit. Course: ______________________________(3 cr)
      ______________________________(3 cr)
   C: Biological & Physical Sciences (9 cr)
      ______________________________(3 cr)
      ______________________________(3 cr)
      ______________________________(3 cr)
   D: Political, Economic & Geographic Science (7 cr)**
      **Students who have started the 6 cr Economics sequence ECO 101 or 102 can complete the sequence or take ECO 113, however; it is recommended that they complete the 6 cr sequence. Business majors or students interested in business who have not completed an economics class will be required to complete ECO 113.
      - ECO 113 Principles of Economics (4 cr)
      ______________________________(3 cr)
   E: Social & Behavioral Science (6 cr)
      ______________________________(3 cr)
      ______________________________(3 cr)

III. Library Skills Completed via College or Advanced Writing

Business Core Requirements All B.S.B.A. Majors 38 cr
   - ACC 200 Fundamentals of Financial Accounting (3 cr)¹
   - ACC 201 Managerial Accounting (3 cr)²
   - BSL 261 American Legal Environment (3 cr)²/³
   - BSN 101 Foundations of Business Administration (2 cr)¹
   - ECO 113 Principles of Economics (4 cr)²/³*
   - ECO 280 Managerial Economics (3 cr)²/³
   - FIN 311 Financial Management (3 cr)³
   - MAT 140 College Algebra (3/4 cr) * ¹
   - MAT 181 Applied Calculus (3 cr)¹²
   - MIS 142 Business Computer Systems (3 cr)³¹
   - MGT 305 Organizational Behavior (3 cr)²
   - MGT 447 Business & Society (3 cr)³
   - MGT 497 Strategic Management (3 cr)³
   - MKT 305 Principles of Marketing (3 cr)³
   - SCM 200 Statistical Applications in Business (3 cr)³
   - SCM 330 Supply Chain and Operations Management (3 cr)³

*Major requirement fulfills General Education credits

Management Concentration 18 cr
   - MGT 340 Human Resource Management (3 cr)
   - MGT 370 International Business (3 cr)
   - MGT 394 Leadership & Decision Making (3 cr)
   - ENT 431 Corporate Entrepreneurship (3 cr)
   - MGT 498 Strategy Implementation (3 cr)
   - 1 Management Elective-see electives sheet or catalog

Human Resource Management Concentration 18 cr
   - MGT 340 Human Resource Management (3 cr)
   - MGT 342 Labor Relations & Collective Bargaining (3 cr)
   - MGT 346 Human Resource Management Law (3 cr)
   - MGT 348 Compensation Administration (3 cr)
   - 2 Human Resource electives—see catalog

International Management Concentration 18 cr
   - MGT 340 Human Resource Management (3 cr)
   - MKT 360 International Marketing (3 cr)
   - MGT 370 International Business (3 cr)
   - MGT 470 International Management (3 cr)
   - 2 International Management electives—see catalog

Free Electives 15 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

NOTE: A grade of "C" or better in College Algebra and/or Applied Calculus and ENG 114 Writing-Intensive First-Year Seminar is required. In addition, students must have a 2.0 cumulative grade point average in all of the 100/200 level business core courses they have completed. Freshmen must wait until the second semester to declare a Business major. EXCEPTION: Those students with MSAT of 605+ or those testing at the advanced level in mathematics on the placement test.

HELPFUL HINTS FOR ADVISING:

Semester I  BSN 101 Foundations of Business Administration
           MAT 140 College Algebra

Semester II  MAT 181 Applied Calculus I
             MIS 142 Business Computer Systems
             ECO 113 Principles of Economics

Semester III ACC 200 Fund. of Financial Accounting
              BSL 261 American Legal Environment
              ECO 113 Principles of Economics, if not already taken
              SCM 200 Statistical Applications in Business

Semester IV  ACC 201 Managerial Accounting
             ECO 280 Managerial Economics
             SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
MAT 140 recommended before taking ECO 113
MAT 140 and MIS 142 are prerequisites for SCM 200.
Superintendent numbers indicate year course should be taken
¹ = Freshman year See Business Prerequisite Flow Chart.
MANAGEMENT INFORMATION SYSTEMS – B.S.B.A.

General Education Requirements
I. Required Skills and Competencies 15 cr
   __ ENG 114 Writing Intensive First Year Seminar
   __ Min. grade of “C” required OR
   __ MAT 140 College Algebra (3 cr)
   __ May need ENG 113 Intro to Academic Writing first, based on test results.
   __ HCS 100 Intro to Human Communication (3 cr)
   __ MAT 140 College Algebra (3 cr)
   __ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   __ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
      __ MAT 181 Applied Calculus I

   B: Literary, Artistic & Cultural Traditions (9 cr)
      __ Lit. Course: ______________________________
   C: Biological & Physical Sciences (9 cr)
   D: Political, Economic & Geographic Science (7 cr)**

   **Students who have started the 6 cr Economics sequence ECO 101 or 102 can complete the sequence or take ECO 113, however; it is recommended that they complete the 6 cr sequence. Business majors or students interested in business who have not completed an economics class will be required to complete ECO 113.
      __ ECO 113 Principles of Economics (4 cr)

   E: Social & Behavioral Science (6 cr)
      __ ______________________________

III. Library Skills Completed via College or Advanced Writing

Business Core Requirements All B.S.B.A. Majors 38 cr
   __ ACC 200 Fundamentals of Financial Accounting (3 cr) 2
   __ ACC 201 Managerial Accounting (3 cr) 2
   __ BSL 261 American Legal Environment (3 cr) 2/3
   __ BSN 101 Foundations of Business Administration (2 cr) 2
   __ ECO 113 Principles of Economics (4 cr) 2/3 *
   __ ECO 280 Managerial Economics (3 cr) 2/3
   __ FIN 311 Financial Management (3 cr) 3
   __ MAT 140 College Algebra (3/4 cr) * 1
   __ MAT 181 Applied Calculus (3 cr) 2
   __ MIS 142 Business Computer Systems (3 cr) 1
   __ MGT 305 Organizational Behavior (3 cr) 2
   __ MGT 447 Business & Society (3 cr) 3
   __ MGT 497 Strategic Management (3 cr) 3
   __ MKT 305 Principles of Marketing (3 cr) 3
   __ SCM 200 Statistical Applications in Business (3 cr) 2
   __ SCM 330 Supply Chain and Operations Management (3 cr) 3

Management Information Systems Major Requirements 18 cr
   __ MIS 240 Introduction to Programming Concepts (3 cr)
   __ MIS 340 Business Programming (3 cr)
   __ MIS 344 Business Systems Analysis & Design (3 cr)
   __ MIS 355 Database Applications (3 cr)
   __ MIS 420 Telecommunications/Distrib. Processing (3 cr)
   __ MIS 446 Information Systems project Development (3 cr)

Free Electives 15 cr
   *Major requirement fulfills General Education credits

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

NOTE: A grade of “C” or better in College Algebra and/or Applied Calculus
      MAT 140 recommended before taking ECO 113

In addition, students must have a 2.0 cumulative grade point average in all of
      the 100/200 level business core courses they have completed. Freshmen must
      wait until the second semester to declare a Business major. EXCEPTION:
      Those students with MSAT of 605+ or those testing at the advanced level in
      mathematics on the placement test.

HELPFUL HINTS FOR ADVISING:

Semester I  BSN 101 Foundations of Business Administration
          MAT 140 College Algebra

Semester II  MAT 181 Applied Calculus I
              MIS 142 Business Computer Systems
              ECO 113 Principles of Economics

Semester III  ACC 200 Fund. of Financial Accounting
              BSL 261 American Legal Environment
              ECO 113 Principles of Economics, if not already taken
              SCM 200 Statistical Applications in Business

Semester IV  ACC 201 Managerial Accounting
              ECO 280 Managerial Economics
              SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
      MAT 140 recommended before taking ECO 113
      MAT 140 and MIS 142 are prerequisites for SCM 200.

Superscript numbers indicate year course should be taken
      1 = Freshman year See Business Prerequisite Flow Chart.
MARKETING – B.S.B.A.

General Education Requirements

I. Required Skills and Competencies 15 cr
   - ENG 114 Writing Intensive First Year Seminar
     Min. grade of “C” required OR
   - ENG 115 Advanced Placement Writing (3 cr)
     May need ENG 113 Intro to Academic Writing first, based on test results.
   - HCS 100 Intro to Human Communication (3 cr)
   - Mathematical Competency-Required
     MAT 140 College Algebra (3 cr)
   - HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   - HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
     - MAT 181 Applied Calculus I
   B: Literary, Artistic & Cultural Traditions (9 cr)
     - Lit. Course:
   C: Biological & Physical Sciences (9 cr)
     - ______________________________
     - ______________________________
     - ______________________________
   D: Political, Economic & Geographic Science (7 cr)**
   **Students who have started the 6 cr Economics sequence ECO 101 or 102 can complete the sequence or take ECO 113, however; it is recommended that they complete the 6 cr sequence. Business majors or students interested in business who have not completed an economics class will be required to complete ECO 113.
     - ECO 113 Principles of Economics (4 cr)
     - ______________________________
   E: Social & Behavioral Science (6 cr)
     - ______________________________

III. Library Skills Completed via College or Advanced Writing

Business Core Requirements All B.S.B.A. Majors 38 cr
   - ACC 200 Fundamentals of Financial Accounting (3 cr)
   - ACC 201 Managerial Accounting (3 cr)
   - BSL 261 American Legal Environment (3 cr)
   - BSN 101 Foundations of Business Administration (3 cr)
   - ECO 113 Principles of Economics (4 cr)
   - ECO 280 Managerial Economics (3 cr)
   - FIN 311 Financial Management (3 cr)
   - MAT 181 Applied Calculus (3 cr)
   - MAT 140 College Algebra (3/4 cr)*
   - MIS 142 Business Computer Systems (3 cr)
   - MGT 305 Organizational Behavior (3 cr)
   - MGT 447 Business & Society (3 cr)
   - MGT 497 Strategic Management (3 cr)
   - MKT 305 Principles of Marketing (3 cr)
   - SCM 200 Statistical Applications in Business (3 cr)
   - SCM 330 Supply Chain and Operations Management (3 cr)

Marketing Requirements 18 cr
   - MKT 306 Buyer Behavior (3 cr)
   - MKT 430 Marketing Research (3 cr)
   - MKT 495 Marketing Analysis & Strategy Dev. (3 cr)
   - Three 3 Marketing Electives-see electives sheet or catalog
     - MKT ____________________________ (3 cr)
     - MKT ____________________________ (3 cr)
     - MKT ____________________________ (3 cr)

Free Electives 15 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

NOTE: A grade of “C” or better in College Algebra and/or Applied Calculus and ENG 114 Writing Intensive First-Year Seminar is required. In addition, students must have a 2.0 cumulative grade point average in all of the 100/200 level business core courses they have completed. Freshmen must wait until the second semester to declare a Business major. EXCEPTION: Those students with MSAT of 605+ or those testing at the advanced level in mathematics on the placement test.

HELPFUL HINTS FOR ADVISING:
Semester I
   - BSN 101 Foundations of Business Administration
   - MAT 140 College Algebra

Semester II
   - MAT 181 Applied Calculus I
   - MIS 142 Business Computer Systems
   - ECO 113 Principles of Economics

Semester III
   - ACC 200 Fund. of Financial Accounting
   - BSL 61 American Legal Environment
   - ECO 113 Principles of Economics, if not already taken
   - SCM 200 Statistical Applications in Business

Semester IV
   - ACC 201 Managerial Accounting
   - ECO 280 Managerial Economics
   - SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
   - MAT 140 recommended before taking ECO 113
   - MAT 140 and MIS 142 are prerequisites for SCM 200.

Superscript numbers indicate year course should be taken
Freshman year See Business Prerequisite Flow Chart.

*Major requirement fulfills General Education credits
SUPPLY CHAIN MANAGEMENT – B.S.B.A.
Supply Chain Management and Logistics Management Majors

General Education Requirements

I. Required Skills and Competencies 15 cr
___ ENG 114 Writing Intensive First Year Seminar
___ Min. grade of “C” required OR
___ ENG 115 Advanced Placement Writing (3 cr)
___ May need ENG Intro to Academic Writing first, based on test
___ HCS 100 Intro to Human Communication (3 cr)
___ Mathematical Competency-Required
___ MAT 140 College Algebra (3 cr)
___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 34 cr
A: Logic/Numbers for Rational Thinking (3 cr)
___ MAT 181 Applied Calculus I
B: Literary, Artistic & Cultural Traditions (9 cr)
___ Lit. Course:____________________
___ ______________________________
___ ______________________________
C: Biological & Physical Sciences (9 cr)
___ ______________________________
___ ______________________________
___ ______________________________
D: Political, Economic & Geographic Science (7 cr)**
___ ______________________________
**Students who have started the 6 cr Economics sequence ECO 101 or 102
can complete the sequence or take ECO 113, however; it is recommended
that they complete the 6 cr sequence. Business majors or students
interested in business who have not completed an economics class
will be required to complete ECO 113.
___ ECO 113 Principles of Economics (4 cr)
___ ______________________________
E: Social & Behavioral Science (6 cr)
___ ______________________________

III. Library Skills Completed via College or Advanced Writing

Business Core Requirements All B.S.B.A. Majors 38 cr
___ ACC 200 Fundamentals of Financial Accounting (3 cr)
___ ACC 201 Managerial Accounting (3 cr)
___ BSL 261 American Legal Environment (3 cr)
___ BSN 101 Foundations of Business Administration (2 cr)
___ ECO 113 Principles of Economics (4 cr)
___ ECO 280 Managerial Economics (3 cr)
___ FIN 311 Financial Management (3 cr)
___ MAT 140 College Algebra (3/4 cr) * 1
___ MAT 181 Applied Calculus (3 cr)
___ MIS 142 Business Computer Systems (3 cr)
___ MGT 305 Organizational Behavior (3 cr)
___ MGT 447 Business & Society (3 cr)
___ MGT 497 Strategic Management (3 cr)
___ MKT 305 Principles of Marketing (3 cr)
___ SCM 200 Statistical Applications in Business (3 cr)
___ SCM 330 Supply Chain and Operations Management (3 cr)

Supply Chain Management Major 18 cr
___ SCM 315 Strategic Procurement (3 cr)
___ SCM 355 Quality Management and Continuous Improvement (3 cr)
___ SCM 370 Integrated Supply Chain Systems (3 cr)
___ SCM 380 Data Mining for Supply Chain Management (3 cr)
___ SCM 420 Global Logistics Systems (3 cr)
___ SCM Elective ___________________ (3 cr)

Logistics Management Concentration 18 cr
___ SCM 370 Integrated Supply Chain Systems (3 cr)
___ SCM 390 Strategic Warehouse Management (3 cr)
___ SCM 410 Distribution Systems in Supply Chains (3 cr)
___ SCM 420 Global Logistics Systems (3 cr)

Free Electives 15 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

NOTE: A grade of “C” or better in College Algebra and/or Applied Calculus
and ENG 114 Writing Intensive First-Year Seminar is required. In addition,
students must have a 2.0 cumulative grade point average in all of the 100/200
level business core courses they have completed. Freshmen must wait until the
second semester to declare a Business major. EXCEPTION: Those students
with MSAT of 605+ or those testing at the advanced level in mathematics on
the placement test.

HELPFUL HINTS FOR ADVISING:

Semester I
BSN 101 Foundations of Business Administration
MAT 140 College Algebra

Semester II
MAT 181 Applied Calculus I
MIS 142 Business Computer Systems
ECO 113 Principles of Economics

Semester III
ACC 200 Fund. of Financial Accounting
BSL 261 American Legal Environment
ECO 113 Principles of Economics, if not already taken
SCM 200 Statistical Applications in Business

Semester IV
ACC 201 Managerial Accounting
EEO 280 Managerial Economics
SCM 200 Statistical Apps in Bus., if not already taken

General Advice:
SCM majors should have access to a computer by the beginning of their
sophomore year.
MAT 140 is recommended before taking ECO 113
MIS 142 Business Computer Systems is a prerequisite for SCM 200
Statistical Applications in Business.

Superscript numbers indicate year course should be taken
1 = Freshman year See Business Prerequisite Flow Chart.
References


Workshop conducted by Gurney Williams, national consultant, New York: NY. March 20, 1997.
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<tr>
<td>Arts &amp; Sciences</td>
<td>Dr. James H. Mike</td>
<td>DHC 223</td>
<td>Jeanie M. Henry</td>
<td>1151</td>
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<tr>
<td>Business</td>
<td>Dr. John G. Kooti</td>
<td>GRH 124</td>
<td>Debra K. Booz</td>
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<tr>
<td>Education/Human Services</td>
<td>Dr. Nicole R. Hill</td>
<td>SPH 350</td>
<td>Jennifer A. Caudill</td>
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<tr>
<td>School of Academic Programs &amp; Services</td>
<td>Dr. Sarah E. Stokely</td>
<td>HH 112</td>
<td>Jennifer R. Hahn</td>
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<td>School of Graduate Studies</td>
<td>Dr. Tracy A. Schoolcraft</td>
<td>OM 308</td>
<td>Dynel L. Miracle</td>
<td>1371</td>
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<tr>
<td>Academic Outreach and Innovation</td>
<td>Dr. Carolyn M. Callaghan, Acting</td>
<td>HH 111</td>
<td>Sherry L. Dinsmore</td>
<td>1348</td>
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<tr>
<td>Library</td>
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<td>LL 110</td>
<td>Jennifer R. Hahn</td>
<td>1463</td>
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<tr>
<th>Dept./Div./Prog.</th>
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<th>Location</th>
<th>Office Associate</th>
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<tr>
<td>Accounting &amp; Mgmt. Info. Systems</td>
<td>Dr. Brian J. Wentz</td>
<td>GRH 318</td>
<td>Kristina S. Commerer</td>
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<td>Art &amp; Design</td>
<td>Mr. William G. Whiteley</td>
<td>HAC 209</td>
<td>Ellen L. Fetter</td>
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<tr>
<td>Biology</td>
<td>Dr. Todd M. Hurd</td>
<td>FSC 240</td>
<td>Joan M. Carson</td>
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<tr>
<td>Chemistry &amp; Biochemistry</td>
<td>Dr. Robin L. McCann</td>
<td>FSC 325</td>
<td>Vickie M. Byers</td>
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<tr>
<td>Communication &amp; Journalism</td>
<td>Dr. Kim D. Garris</td>
<td>RLH 112</td>
<td>Francine C. Smith</td>
<td>1521</td>
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<td>Computer Science &amp; Engineering</td>
<td>Dr. Carol A. Wellington</td>
<td>MCT 156</td>
<td>Jody L. Burdge</td>
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<td>Criminal Justice</td>
<td>Dr. Billy W. Henson</td>
<td>SPH 319</td>
<td>Bonnie G. Heming</td>
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<td>Economics</td>
<td>Dr. David E. Kalist</td>
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<td>Laurie A. Stader</td>
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<td>English</td>
<td>Dr. Shari L. Horner</td>
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<td>Patricia A. Hooper</td>
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<tr>
<td>Exercise Science</td>
<td>Dr. Sally A. Paulson</td>
<td>HG 109</td>
<td>(Vacant)</td>
<td>1721</td>
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<td>Finance &amp; Supply Chain Mgmt.</td>
<td>Dr. Ian M. Langella</td>
<td>GRH 117</td>
<td>(Vacant)</td>
<td>1434</td>
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<tr>
<td>Geography &amp; Earth Science</td>
<td>Dr. William L. Blewett</td>
<td>SRH 104</td>
<td>Tammy L. Myers</td>
<td>1685</td>
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<td>History &amp; Philosophy</td>
<td>Dr. Steven B. Burg</td>
<td>WRI 232</td>
<td>Janice J. Reed</td>
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<tr>
<td>Human Communication Studies</td>
<td>Dr. Kara A. Laskowski</td>
<td>DHC 118</td>
<td>Karen S. Reath</td>
<td>1732</td>
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<td>Management &amp; Marketing</td>
<td>Dr. William D. Oberman</td>
<td>GRH 218</td>
<td>Karen S. Kelley</td>
<td>1439</td>
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<tr>
<td>Mathematics</td>
<td>Dr. Kimberly J. Presser</td>
<td>MCT 250B</td>
<td>Nancy E. Thomas</td>
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<td>Military Science (ROTC)</td>
<td>MAJ Christopher T. Morton</td>
<td>WRI 206</td>
<td>Byron C. Stouffer</td>
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<tr>
<td>Modern Languages</td>
<td>Dr. Jose Ricardo-Osorio</td>
<td>RLH 111</td>
<td>Janine F. Olah</td>
<td>1635</td>
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<tr>
<td>Music &amp; Theatre Arts</td>
<td>Mr. Trever R. Famulare</td>
<td>PAC 222</td>
<td>Karen S. Reath</td>
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<tr>
<td>Physics</td>
<td>Dr. Michael R. Cohen</td>
<td>FSC 209</td>
<td>Vickie M. Byers</td>
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<td>Political Science</td>
<td>Dr. C. Nielsen Brasher</td>
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<td>Psychology</td>
<td>Dr. Lea T. Adams</td>
<td>FSC 114</td>
<td>Victoria L. Morgan</td>
<td>1657</td>
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<tr>
<td>Social Work</td>
<td>Dr. Deborah F. Jacobs</td>
<td>SPH 384A</td>
<td>Dottysue Ott</td>
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<td>Sociology &amp; Anthropology</td>
<td>Dr. Barbara J. Denison</td>
<td>GRH 430</td>
<td>Lisa M. Dubbs</td>
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<tr>
<td>Teacher Education</td>
<td>Dr. Janet M. Bufalino</td>
<td>SPH 214A</td>
<td>Danielle L. Surotchak</td>
<td>1688</td>
</tr>
</tbody>
</table>

Academic Programs

| Academic Success Prog. (Act 101)          | Dr. Chad H. Bennett | WRI 130  | Judith P. Ferrell | 1134 |
| Disability Studies                        | Dr. Allison C. Carey | WRI 102  | 1193 |
| Ethnic Studies                             | Dr. Ana N. Morana  | HH 103   | 1478   |
| Honors Program                             | Dr. Kim M. Klein   | HH 104   | Cindy M. Poe      | 1604   |
| Interdisciplinary Arts                     | Dr. J. Michael Pressler | DHC 109 | 1135 |
| International Studies                      | Dr. Jonathan K. Skaff | CUB 221B | 1907 |
| Learning Center                            | Dr. Sabrina I. Marschall | LL 133  | Kelly B. Miner    | 1420   |
| Women's & Gender Studies                   | Dr. Rebecca J. Ward | HH 125   | 1104   |