CHARTING YOUR ACADEMIC COURSE

2016-2017 GUIDEBOOK FOR UNDERGRADUATE STUDENTS

SHIPPENSBURG UNIVERSITY
# Academic Calendar 2016 - 2017

## Fall Semester 2016

<table>
<thead>
<tr>
<th>Event/Date</th>
<th>Day</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>New faculty orientation</td>
<td>Mon-Tue</td>
<td>Aug 22-23</td>
</tr>
<tr>
<td>Faculty meetings</td>
<td>Wed</td>
<td>Aug 24</td>
</tr>
<tr>
<td>New students arrive</td>
<td>Thu</td>
<td>Aug 25</td>
</tr>
<tr>
<td>Fall welcome week</td>
<td>Thu-Sun</td>
<td>Aug 25-28</td>
</tr>
<tr>
<td>Regular class schedule begins</td>
<td>Mon</td>
<td>Aug 29</td>
</tr>
<tr>
<td>Labor Day, University closed*</td>
<td>Mon</td>
<td>Sept 5</td>
</tr>
<tr>
<td>Fall break begins, 4:00 p.m.</td>
<td>Fri</td>
<td>Oct 14</td>
</tr>
<tr>
<td>Classes resume, 8:00 a.m.</td>
<td>Wed</td>
<td>Oct 19</td>
</tr>
<tr>
<td>Thanksgiving break begins, 8:00 a.m.</td>
<td>Wed</td>
<td>Nov 23</td>
</tr>
<tr>
<td>Classes resume, 8:00 a.m.</td>
<td>Mon</td>
<td>Nov 28</td>
</tr>
<tr>
<td>Last day of classes</td>
<td>Fri</td>
<td>Dec 9</td>
</tr>
<tr>
<td>Final exams</td>
<td>Mon-Fri</td>
<td>Dec 12-16</td>
</tr>
<tr>
<td>Graduate Commencement</td>
<td>Fri</td>
<td>Dec 16</td>
</tr>
<tr>
<td>Undergraduate Commencement</td>
<td>Sat</td>
<td>Dec 17</td>
</tr>
</tbody>
</table>

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

## Approved Winter Term, 2016-17

<table>
<thead>
<tr>
<th>Session opens</th>
<th>Mon</th>
<th>Dec 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session ends</td>
<td>Fri</td>
<td>Jan 20</td>
</tr>
</tbody>
</table>

## Spring Semester 2017

<table>
<thead>
<tr>
<th>Event/Date</th>
<th>Day</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLK Day, University Closed</td>
<td>Mon</td>
<td>Jan 16</td>
</tr>
<tr>
<td>New students arrive</td>
<td>Fri</td>
<td>Jan 20</td>
</tr>
<tr>
<td>New student orientation</td>
<td>Fri-Sun</td>
<td>Jan 20-22</td>
</tr>
<tr>
<td>Regular class schedule begins</td>
<td>Mon</td>
<td>Jan 23</td>
</tr>
<tr>
<td>Spring break begins, 4:00 p.m.</td>
<td>Fri</td>
<td>Mar 10</td>
</tr>
<tr>
<td>Classes resume, 8:00 a.m.</td>
<td>Mon</td>
<td>Mar 20</td>
</tr>
<tr>
<td>Last day of classes</td>
<td>Fri</td>
<td>May 5</td>
</tr>
<tr>
<td>Final exams</td>
<td>Mon-Fri</td>
<td>May 8-12</td>
</tr>
<tr>
<td>Graduate Commencement</td>
<td>Fri</td>
<td>May 12</td>
</tr>
<tr>
<td>Undergraduate Commencement</td>
<td>Sat</td>
<td>May 13</td>
</tr>
</tbody>
</table>

## Summer Term 3, 2017

<table>
<thead>
<tr>
<th>Event/Date</th>
<th>Day</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session opens</td>
<td>Mon</td>
<td>May 22</td>
</tr>
<tr>
<td>Memorial Day, university closed</td>
<td>Mon</td>
<td>May 29</td>
</tr>
<tr>
<td>Special make-up for Memorial Day</td>
<td>Sat</td>
<td>Jun 3</td>
</tr>
<tr>
<td>Session ends</td>
<td>Fri</td>
<td>Jun 30</td>
</tr>
</tbody>
</table>

## Summer Term 4, 2017

<table>
<thead>
<tr>
<th>Event/Date</th>
<th>Day</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session opens</td>
<td>Mon</td>
<td>Jul 3</td>
</tr>
<tr>
<td>July 4th, university closed</td>
<td>Tues</td>
<td>Jul 4</td>
</tr>
<tr>
<td>Special make-up for July 4th</td>
<td>Sat</td>
<td>Jul 8</td>
</tr>
<tr>
<td>Session ends</td>
<td>Fri</td>
<td>Aug 11</td>
</tr>
</tbody>
</table>
Greetings, and welcome to an exciting new year at SHIP!

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 31)
- Explanations of placement testing and modern language requirements (page 14)
- Information about programs such as Study Abroad and the Honors Program (page 18-19)
- Requirements for declaring all majors offered here at SHIP (page 20)
- Details of all programs of study, including registration tips, and prerequisites (page 42)

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,

Denise Yarwood,
Interim Assistant Dean,
School of Academic Programs & Services, and Office for Exploratory Studies
Charting Your Academic Course
A Guidebook for Undergraduate Students
2016 - 2017
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I. Academic Policies & Procedures

“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:

- Basic Writing (ENG 113)
- Developmental Mathematics (MAT 050)
- College Reading & Study Skills (RDG 050)


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. Undeclared 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.
Quick Answers to Common Questions

What happens if a student carries 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 a student becomes 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 a student is 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 a student on academic probation?
To remain in good academic standing, a student must maintain a minimum cumulative grade point average of 2.0 ("C").

Can students 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 a student gets a “D” or an “F” grade in a course at Shippensburg University, can he/she repeat it at another university?
"D" and “F” grades earned at Shippensburg must be repeated at Shippensburg.

Should students always repeat courses when they 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.

Do students 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 a student 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.

How can students obtain academic advice?
Every student is assigned to an academic advisor either by the department of the student's major or, if the student is undeclared, by the Office of Undeclared Students. Students who do not know their assigned advisor should contact the appropriate department or the Office of Undeclared Students, or should access their myShip portal.
Answers to Questions (continued)

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

What steps must a student follow to declare a major?
Declaring a major is a simple process. The student must follow these steps:

1. Student must be in good academic standing. In all cases, students need a minimum cumulative GPA of at least a 2.0.
2. Student should talk with their advisors about their plans.
3. Students should verify transfer 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 students meet the major requirements, they need to go to their dean's office to pick up a change of major form. The form should be taken to the department chairperson and new college dean for their signatures. Once signatures have been obtained, the form needs to be returned to the dean's office.

What are minors?
An academic minor is a structured group of courses that can enhance a student’s 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.

Academic Dismissal
If you fail to meet the conditions of academic probation you are subject to dismissal. If your QPA beyond the first semester falls below 1.7, or if your semester QPA is below a 1.0, you are subject to immediate dismissal.
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>
</table>
| Level 1 | • Developmental Math - MAT 050  
          • Remediate prior to arrival at Shippensburg University  
          • Tutoring and Waiver Exam Option available  
          • You will have the opportunity to bypass MAT 050 by taking and passing the final exam on the first day of class.  
          • The developmental course will not count towards the credits required for graduation. |
| Level 2 | MAT 050 |
| Level 3 | MAT 140A – College Algebra (4 credits) |
| Level 4 | MAT 140B – College Algebra (3 credits) |
| Level 5 | Science majors: MAT 175 Pre-Calculus  
          Business majors: MAT 181 Applied Calculus  
          Check with your advisor to see if your major requires any further math courses. |
| Level 6 | Eligible to take MAT 211 Calculus I  
          Check with your advisor to see if your major requires any further math courses |

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 2</td>
<td>ENG 114</td>
<td>Writing Intensive First-Year Seminar</td>
</tr>
<tr>
<td>Level 3</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
### 2016 – 2017 Mathematics Placement Information

<table>
<thead>
<tr>
<th>Scores</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuplacer</td>
<td>EA ≤ 39</td>
<td>40 ≤ EA ≤ 57</td>
<td>58 ≤ EA ≤ 80</td>
<td>EA ≥ 81 but CLM ≤ 64</td>
<td>65 ≤ CLM ≤ 84</td>
<td>CLM ≥ 85</td>
</tr>
<tr>
<td>SAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math Dept</td>
<td></td>
<td></td>
<td>28 ≤ MD ≤ 40</td>
<td>41 ≤ MD ≤ 54</td>
<td>55 ≤ MD ≤ 74</td>
<td>75 ≤ MD ≤ 80</td>
</tr>
</tbody>
</table>

#### First Available Math Course by Placement Level

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT050</td>
<td>MAT050</td>
<td>MAT140A</td>
<td>MAT140B</td>
<td>MAT181</td>
<td>MAT211</td>
</tr>
<tr>
<td>MAT117</td>
<td>MAT117</td>
<td>MAT117</td>
<td>MAT175</td>
<td>MAT181</td>
<td></td>
</tr>
<tr>
<td>MAT110</td>
<td>MAT110</td>
<td>MAT110</td>
<td>MAT140B</td>
<td>MAT175</td>
<td></td>
</tr>
<tr>
<td>MAT107</td>
<td>MAT107</td>
<td>MAT107</td>
<td>MAT117</td>
<td>MAT140B</td>
<td></td>
</tr>
<tr>
<td>MAT105</td>
<td>MAT105</td>
<td>MAT105</td>
<td>MAT110</td>
<td>MAT117</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MAT107</td>
<td>MAT110</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MAT105</td>
<td>MAT107</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MAT105</td>
<td></td>
</tr>
</tbody>
</table>

- Students who eventually have to take a course in the calculus-intending sequence (MAT140AB / MAT175 / MAT181 / MAT211) need to get started with mathematics in the first possible semester.
- Students who are **not** required to take a course in the calculus-intending sequence **should not take** MAT050 in their first year. This is especially true of students who do not know what major they want to be.
- If a student is required to take a math class above their initial placement level, they will need to complete the prerequisite courses first. So for example, a Level 2 student who needs to take MAT 211 for their major will first need to complete, in order, MAT 050, MAT 140A and MAT 175.
- Incoming students who want their placement level to be higher can email mcmurphy@ship.edu for information on how to do this.
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
Course _____________________________________________ Grade ___
Course _____________________________________________ Grade ___
Course _____________________________________________ Grade ___
Course _____________________________________________ Grade ___

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 chairperson 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 - Ceddie 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 Ceddie Union Building, 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 web site 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.
<table>
<thead>
<tr>
<th>Major</th>
<th>Required GPA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Physics (Pre-engineering) B.S.</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Art B.A. Education (K-12)</td>
<td>2.0</td>
<td>Students must complete a portfolio for presentation to the Department of Art and Design. Contact department for specifics.</td>
</tr>
<tr>
<td>Biology B.S.</td>
<td>2.5</td>
<td>Admission to this major is competitive and selective. Students must have earned at least 15 credits and have grades of &quot;C&quot; or better in Principles of Biology I/II AND one of the following: Chemical Bonding OR successfully completed Pre-calculus or Calculus I with a &quot;C&quot; or better. Students who meet the admission guidelines must submit a change of major form to the department within the first three weeks of the semester.</td>
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<tr>
<td>Biology/Biotechnology/Pre-Forensic Sci.</td>
<td>2.5</td>
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<tr>
<td>Biology/Clinical Sciences B.S.</td>
<td>2.5</td>
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<tr>
<td>Biology/Health Professions B.S.</td>
<td>2.8</td>
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<tr>
<td>Biology/Ecology and Environmental B.S.</td>
<td>2.5</td>
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<tr>
<td>Biology B.S. Secondary Education Certification</td>
<td>3.0</td>
<td>Admission to this major is competitive and selective. Students must have earned at least 15 credits and have grades of &quot;C&quot; or better in Principles of Biology I (BIO 115) AND Chemical Bonding (CHM121) OR successfully completed Pre-calculus (MAT 175) or higher math. Students who meet the admission guidelines must submit a change of major form to the department within the first three weeks of the semester.</td>
</tr>
<tr>
<td>Business B.S.B.A. Accounting</td>
<td>2.0</td>
<td>A grade of &quot;C&quot; or better in College Algebra and/or Applied Calculus 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. First-year students must wait until the second semester to declare a Business major. EXCEPTION: Those students testing at the advanced level in math on the placement test. All Business programs require a grade of &quot;C&quot; or higher in Eng 101: College Writing or Eng 106: Writing Intensive First Year Seminar.</td>
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<tr>
<td>Finance</td>
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<td>Management</td>
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<td>General Management</td>
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<td>Human Resources Management</td>
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<td>International Management</td>
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<tr>
<td>Marketing</td>
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<tr>
<td>Supply Chain Operations, &amp; Management</td>
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<tr>
<td>Chemistry B.S.</td>
<td>2.0</td>
<td>CHM 121 is required. 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.</td>
</tr>
<tr>
<td>Biochemistry B.S.</td>
<td>2.0</td>
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<tr>
<td>Chemistry/Business B.S.</td>
<td>2.0</td>
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<td>Chemistry/Pre-Pharmacy B.S.</td>
<td>2.8</td>
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<tr>
<td>Chemistry/Forensic Science B.S.</td>
<td>2.5</td>
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<tr>
<td>Chemistry B.S. Secondary Education Certification</td>
<td>3.0</td>
<td>CHM 121 is required. 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.</td>
</tr>
<tr>
<td>Communication/Journalism B.A.</td>
<td>2.3</td>
<td>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. This is NOT the same exam as the internal transfer entrance exam noted above. COM 112 must be taken at Shippensburg University.</td>
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<tr>
<td>Electronic Media</td>
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<td>Print Media</td>
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<tr>
<td>Public Relations</td>
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<tr>
<td>Major</td>
<td>Required GPA</td>
<td>Comments</td>
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<tr>
<td>Computer Engineering B.S.</td>
<td>2.0</td>
<td>Students must also have completed CSC 110 Computer Science I (4 cr) with a grade of &quot;C&quot; or better. Students pursuing this major should have strong math skills.</td>
</tr>
<tr>
<td>Computer Science B.S.</td>
<td>2.0</td>
<td>Students must also have completed CSC 110 Computer Science I (4 cr) with a grade of &quot;C&quot; or better. Students pursuing this major should have strong math skills. A computer graphics concentration is now available.</td>
</tr>
<tr>
<td>Criminal Justice B.S.</td>
<td>2.75</td>
<td>Students who meet the admission guidelines must submit a change of major form to the department within the first three weeks of the semester.</td>
</tr>
<tr>
<td>Earth Science/Secondary Ed B.S.Ed.</td>
<td>3.0</td>
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<tr>
<td>Economics B.S.</td>
<td>2.0</td>
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<tr>
<td>Electrical Engineering B.S.</td>
<td>2.0</td>
<td>This is an academically challenging major and requires a significant effort outside the classroom. Students pursuing this major should have strong math skills.</td>
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<tr>
<td>English B.A.</td>
<td>2.0</td>
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<tr>
<td>English/Writing Emphasis B.A.</td>
<td>2.0</td>
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<tr>
<td>English B.A.</td>
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<tr>
<td>Secondary Education Certification</td>
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<tr>
<td>Exercise Science B.S.</td>
<td>2.75</td>
<td>Admission to this major is competitive. Students must have earned a grade of &quot;C&quot; or better in Principles of Biology I/II and must have a 2.75 GPA.</td>
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<tr>
<td>French B.A.</td>
<td>2.0</td>
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<tr>
<td>Secondary Education Certification</td>
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<tr>
<td>Geoenvironmental Studies B.S.</td>
<td>2.0</td>
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<tr>
<td>Geography B.S.</td>
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<tr>
<td>Geographic Information System</td>
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<td>Human Environmental Studies</td>
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<td>Land Use</td>
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<tr>
<td>Geography/Secondary Education B.S.Ed.</td>
<td>3.0</td>
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<tr>
<td>(Social Studies)</td>
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<tr>
<td>History B.A.</td>
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<tr>
<td>Public History</td>
<td>2.0</td>
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<tr>
<td>History B.A. with American, European, or</td>
<td>2.0</td>
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<tr>
<td>Middle East/Asia Concentrations</td>
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<tr>
<td>Major</td>
<td>Required GPA</td>
<td>Comments</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>History Secondary Education B.S.Ed. (Social Studies)</td>
<td>3.0</td>
<td>Must have completed Calculus I with &quot;C&quot; or better. Computer Science concentration must have completed Calculus I and CSC 110 Computer Science I (4 cr) with a grade of &quot;C&quot; or better.</td>
</tr>
<tr>
<td>Human Communication Studies</td>
<td>2.0</td>
<td>*Secondary Education majors must have a 3.0 GPA to declared this major</td>
</tr>
<tr>
<td>Interdisciplinary Arts Program</td>
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<tr>
<td>International Studies</td>
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<tr>
<td>Mathematics B.S.</td>
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<tr>
<td>Applied</td>
<td>2.0</td>
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<tr>
<td>Computer Science</td>
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<tr>
<td>Statistics</td>
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<tr>
<td>Secondary Education Certification *</td>
<td>3.0 for Secondary Ed</td>
<td></td>
</tr>
<tr>
<td>Physics B.S.</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Physics Secondary Education B.S.Ed.</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Political Science B.A.</td>
<td>2.0</td>
<td>A student who has between 60 and 74 credits should have completed PLS 100 U. S. Government and Politics.</td>
</tr>
<tr>
<td>Psychology B.A.</td>
<td>2.3</td>
<td>Admission is competitive and a screening interview is required. Contact the Psychology Department within the first three weeks of each semester to arrange for the interview.</td>
</tr>
<tr>
<td>Public Administration B.S.</td>
<td>2.0</td>
<td>A student who has between 60 and 74 credits should have completed PLS 100 U.S. Government and Politics.</td>
</tr>
<tr>
<td>Social Work B.S.W.</td>
<td>2.2</td>
<td>Students must have a 2.5 GPA before they are permitted to assume professional status. Also, IMPORTANT: Students must follow the Social Work program guide in effect at the time they entered Shippensburg. Students who meet the admission guidelines must submit a change of major form to the department within the first three weeks of the semester.</td>
</tr>
<tr>
<td>0-30 credits</td>
<td>2.4</td>
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<tr>
<td>31-59 credits</td>
<td>2.5</td>
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<tr>
<td>60 credits and over</td>
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<tr>
<td>Sociology B.A.</td>
<td>2.0</td>
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<tr>
<td>Spanish B.A.</td>
<td>2.0</td>
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<tr>
<td>Software Engineering B.S.</td>
<td>2.0</td>
<td>Students must also have completed CSC 110 Computer Science I (4 cr) with a grade of &quot;C&quot; or better. Students pursuing this major should have strong math skills.</td>
</tr>
<tr>
<td>Spanish B.A. Secondary Education Certification</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Teacher Education B.S.Ed.</td>
<td>3.0</td>
<td>Admission to this major is competitive. Students must submit a letter of application to the department. Students are considered for admission during the first week of each semester. Students who apply are ranked according to a score on a rating form. Enrollment is limited and only top ranked students will be admitted.</td>
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<tr>
<td>Early Childhood Education Elementary/ Middle School Level</td>
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<tr>
<td>Pre-K – 4/Pre-K – 8 Special Education Dual Certification</td>
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</tr>
</tbody>
</table>
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:

**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.

**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.

**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.

**Fully participate in AIM.**
The university has many valuable resources available to you as you make the journey from academic probation to meeting the academic standards of the university. The AIM (Academic IMprovement Plan) has been designed specifically to help you if you have encountered academic difficulty. The plan introduces you to all campus resources, and provides workshops that will help you develop skills necessary for academic success. Topics include study strategies, time management, and academic responsibility. You are strongly encouraged to participate in this program!

**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!

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
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. Deborah Montouri, WRI, 1665

**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
Minors

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 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>
<th>Contact</th>
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<tbody>
<tr>
<td>Anthropology</td>
<td>18 credits</td>
<td>Sociology Dept., GRH 428</td>
</tr>
<tr>
<td>Art and Design</td>
<td>21 credits</td>
<td>Art Dept., HAC 210</td>
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<tr>
<td>Biology</td>
<td>19 credits</td>
<td>Biology Dept., FCS 142</td>
</tr>
<tr>
<td>Business</td>
<td>18 credits</td>
<td>College of Business, GRH 128</td>
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<tr>
<td>Chemistry</td>
<td>23-27 credits</td>
<td>Chemistry and BiochemistryDept., FSC 327</td>
</tr>
<tr>
<td>Coaching</td>
<td>18 credits</td>
<td>Exercise Science Dept., HG 109</td>
</tr>
<tr>
<td>Comm/Journalism</td>
<td>18 credits</td>
<td>Communication/Journalism Dept., RLH 108</td>
</tr>
<tr>
<td>Computer Science</td>
<td>20-21 credits</td>
<td>Computer Science Dept., MCT 156</td>
</tr>
<tr>
<td>Criminal Justice</td>
<td>18 credits</td>
<td>Criminal Justice Dept., SPH 113</td>
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<tr>
<td>Disability Studies</td>
<td>18 credits</td>
<td>Dr. Alison Carey, GRH 436</td>
</tr>
<tr>
<td>Economics</td>
<td>18 credits</td>
<td>Dr. Brendan Finucane., DHC 127</td>
</tr>
<tr>
<td>English</td>
<td>18 credits</td>
<td>English Dept., DHC 128</td>
</tr>
<tr>
<td>Ethnic Studies</td>
<td>18 credits</td>
<td>Dr. Ana Morana, RLH 115</td>
</tr>
<tr>
<td>Exercise Science</td>
<td>18 credits</td>
<td>Exercise Science Dept., HG 109</td>
</tr>
<tr>
<td>French</td>
<td>18 credits</td>
<td>Modern Languages Dept. RLH 109</td>
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### 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
  - ___ teamsmanship (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).

III. The General Education Program

“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 course work.

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  

**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

**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)**

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  

**GER151 German Cinema**  
**GER320 Berlin**  
**GER322 Readings in 19th and 20th Century German Literature**  
**SPN360 Masterpieces of Spanish Literature**  
**SPN361 Masterpieces of Spanish-American Literature**  

**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**  

**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

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

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

Special Topics in General Education, Category E (xxx190)
### 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

#### Required Skills & Competencies (15 credits)
- Writing Competency/Advanced Placement Writing Grade __
- History 105 Grade __
- History 106 Grade __
- Human Communication Studies Grade __
- Math Competency Grade __

#### Categories of Knowledge A through E (33 credits)

**Category A: Logic & Numbers for Rational Thinking (3 credits)**
- 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\textsuperscript{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\textsuperscript{2} Introduction to Culturally Diverse Literature of the U.S. (English)
ETH 100 Introduction to Ethnic Studies (Ethnic Studies)
GEO 103\textsuperscript{3} Geography of the U.S. & Canada (Geography/Earth Science)
GEO 140\textsuperscript{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\textsuperscript{4} Introduction to Sociology: Society & Diversity (Sociology/Anthropology)
WST 100\textsuperscript{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.

\textsuperscript{1} May fulfill a Category B Humanities requirement.
\textsuperscript{2} May fulfill a Category B Literature requirement.
\textsuperscript{3} May fulfill a Category D requirement.
\textsuperscript{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
IV. Undergraduate Degree Programs

“Nothing will work unless you do.” Maya Angelou
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<th>College of Arts and Sciences</th>
<th>College of Business</th>
<th>College of Education &amp; Human Services</th>
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<td>(* Social Studies)</td>
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College of Arts & Sciences

ART
CHEMISTRY
ELECTRICAL ENGINEERING
ENGLISH
GEOGRAPHY
HUMAN COMMUN. STUDIES
PSYCHOLOGY
PUBLIC ADMIN.
SOCIOLOGY
… MORE
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 course work 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

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

##  B.S. also available with secondary education certification
A Guidebook for Undergraduate Students 2016-2017

ART-B.A. ##

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)
- 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) [Photomnmanipulation & 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) ##

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 F  ART 215 Color/2-Dimensional Design F  ART 110 Basic Drawing F  ART 218 Three-Dimensional Design S
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 chairperson for more information.

A 4-year template is available at www.ship.edu/undeclared.
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) F
  
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

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 232 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 (3 cr) **
- ART 400 Contemporary Methods in Art Education (3 cr)
- EEC 423 Effect Instruction Strat. Child w/Exceptionalities (3 cr)
- EEC 483 Assess. Children w/Exceptionalities for Curricular Decision Making (3 cr)
- 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 (3 cr)

** 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 course work. 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:**

YEARS  
YEAR 1  ART 101 Art Appreciation
  ART 110 Basic Drawing offered all year round
  ART 210 Drawing II
  ART 215 Color & Two-Dimensional Design
  ART 218 Three-Dimensional Design
  ART 232 Art History II

See the department chairperson for more information.

A 4-year template is available at www.ship.edu/undeclared.
## 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 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-Required MAT 211 Calculus I — if necessary, student may need MAT 175 Pre-Calculus first</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>

### II. Categories of Knowledge

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 117 Applied Statistics</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>10 cr</td>
</tr>
<tr>
<td>PHY 121 Introductory Physics I* AND PHY 125 Introductory Physics II lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHY 122 Introductory Physics II AND PHY 125 Introductory Physics II lab</td>
<td></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>
</tbody>
</table>

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

### Biology Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function **</td>
<td>4 cr</td>
</tr>
<tr>
<td>BIO 162 Principles of Biology: Organismal Diversity (4 cr) *</td>
<td></td>
</tr>
<tr>
<td>BIO 260 Genetics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>BIO 499 Capstone Seminar in Biology (1 cr)</td>
<td></td>
</tr>
</tbody>
</table>

**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.

### Additional Biology electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO</td>
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<td>BIO</td>
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<tr>
<td>BIO</td>
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</tr>
</tbody>
</table>

### Math Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 211 Calculus I (4 cr) *</td>
<td></td>
</tr>
<tr>
<td>MAT A Statistics course (4 cr) * See Category A</td>
<td></td>
</tr>
</tbody>
</table>

### Physics Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 121 Introductory Physics I* AND PHY 123 Introductory Physics I lab</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHY 122 Introductory Physics II AND PHY 125 Introductory Physics II lab</td>
<td></td>
</tr>
</tbody>
</table>

### Chemistry Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 121 Chemical Bonding* AND CHM 125 Lab IB (4 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 122 Chemical Dynamics AND CHM 126 Lab IIIB (4 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 221 Organic Chemistry I AND CHM 225 Lab IIIB (4 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 222 Organic Chemistry II AND CHM226 Lab IVB (4cr) OR</td>
<td></td>
</tr>
<tr>
<td>CHM227 Introduction to Biochemistry (4 cr)</td>
<td></td>
</tr>
</tbody>
</table>

### Free Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 242 Ecology (3 cr) OR BIO 430 Principles of Evolution (3 cr)</td>
<td></td>
</tr>
<tr>
<td>BIO 351 Animal Physiology (4 cr) OR BIO 350 Human Physiology (4 cr)</td>
<td></td>
</tr>
<tr>
<td>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)</td>
<td></td>
</tr>
</tbody>
</table>

### Total Graduation Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology Requirements</td>
<td>37 cr</td>
</tr>
<tr>
<td>Additional Biology electives</td>
<td>16 cr</td>
</tr>
<tr>
<td>Math Requirements</td>
<td>8 cr</td>
</tr>
<tr>
<td>Physics Requirements</td>
<td>8 cr</td>
</tr>
<tr>
<td>Chemistry Requirements</td>
<td>16 cr</td>
</tr>
<tr>
<td>Free Electives</td>
<td>14 cr</td>
</tr>
</tbody>
</table>

**Total:** 120 cr

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**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.

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)
- Mathematical Competency-Required
- MAT 121 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 Captone Seminar in Biology (1 cr)

Physiology elective 3-4 cr
- BIO 350 Human Physiology (4 cr) OR BIO 351 Animal Physiology (4 cr)

Experimental Requirement
- BIO 397 Intro. to Research (3 cr) OR Research/Internship
- BIO 391 Internship (3 cr) **** must be forensic based

**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.

Additional Biology electives 10 cr
- BIO

Strongly recommended biology electives include:
- BIO 220 Microbiology (4 cr)
- BIO 324 Pathogenic Microbiology (3 cr)
- BIO 371 Human Anatomy [for Forensic Science] (4 cr)
- BIO 408 Virology (3 cr)
- BIO 409 Immunology (3 cr)

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 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 126 Chemical Dynamics AND
- MAT A Statistics course  (4 cr) *
- MAT 211 Calculus I (4 cr) *
- PHY 121 Introductory Physics I* (3 cr) AND
- PHY 122 Introductory Physics II and (3 cr) AND
- PHY 125 Introductory Physics II lab (1 cr)

Free Electives 7-8 cr
Consider taking Criminal Justice requirements listed below if interested in Pre-Forensic Science.

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

Criminal Justice Requirements 15 cr
- CRJ 100 Intro. to Criminal Justice (3 cr)
- CRJ 211 Criminal Law and Procedures (3 cr)
- CRJ 309 Theories of Crime & Crime Control (3 cr)
- CRJ 336 Intro to Forensic Science (3 cr)

Students wishing to do the Pre-Forensic Science track will graduate with at least 122 credits.

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.

A 4-year template is available at www.ship.edu/undeclared
**BIOLOGY – CLINICAL SCIENCES CONCENTRATION - B.S.**

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

### 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 Major 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 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)

**Additional Biology electives**  
7 cr

- BIO *(3 cr)
- BIO *(4 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.

### Math Requirements

4 cr

- MAT 211 Calculus *(4 cr) *

### Chemistry Requirements

18-21 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 227 Introduction to Biochemistry *(4 cr)

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**Helpful Hints for Advising:**

- A GPA of at least 2.8 is required to remain in the Health Sciences track.
- GPA Needed to Declare: 2.5

**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)

**Medical Technology Concentration**  
8 cr

Required:

- BIO 317 Parasitology *(3 cr)
- BIO 324 Pathogenic Microbiology *(3 cr)
- BIO 374 Hematology *(3 cr)
- BIO 409 Immunology *(3 cr)

**Cyto-Technology Concentration**  
7 cr

Strongly recommended:

- BIO 371 Human Anatomy *(4 cr)
- BIO 418 Molecular Biology *(3 cr)

**Histo-Technology Concentration**  
7 cr

Required:

- BIO 371 Human Anatomy *(4 cr)
- BIO 375 Histology *(3 cr)

**Respiratory Therapy Concentration**  
7 cr

Required:

- BIO 371 Human Anatomy *(4 cr)

Strongly recommended:

- BIO 409 Immunology *(3 cr)

Recommended:

- ENG 248 Technical/Professional Writing *(3 cr)

*Major requirement double counts as General Education credits

**Total Graduation Requirements**  
120 cr

**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.**

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.

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A 4-year template is available at www.ship.edu/undeclared
# 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
- CHM121 Chemical Bonding
- BIO 161 Principles of Biology: Cell Structure & Function **

### D: Political, Economic & Geographic Science  
(6 cr)
- ECO 101 Principles of Economics  
- HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)

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

## 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.

## 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 IIB (4 cr)
- CHM 122 Chemical Dynamics and CHM 126 Lab IIB (6 cr)
- CHM 221 Organic Chemistry I and CHM 225 Lab IIIB (4 cr)
- CHM 222 Organic Chemistry II and CHM 226 Lab IVC (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

*Major requirement double counts as General Education credits

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.
- 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

A 4-year template is available at www.ship.edu/undeclared
**Biology - Health Professions Concentration - B.S.**

Includes: Pre-Chiropractic, Pre-Medicine, Pre-Dentistry, Pre-Veterinary medicine, 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)
- 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* AND CHM 125 Lab IB (4 cr)
  - CHM 122 Chemical Dynamics AND CHM 126 Lab IIB (4 cr)
  - CHM 127 Introduction to Biochemistry (4 cr)
- **D: Political, Economic & Geographic Science** (6 cr)
- **E: Social & Behavioral Science** (6 cr)

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

### Biology Major Requirements 38 cr

**CORE COURSES** 17 cr

- BIO 161 Principles of Biology: Cell Structure & Function (4 cr)
- BIO 162 Principles of Biology: Organismal Diversity (4 cr)
- BIO 220 Microbiology (4 cr)
- BIO 260 Genetics (4 cr)
- BIO 499 Capstone Seminar in Biology (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 221 Organic Chemistry I AND CHM 225 Lab IIB (4 cr)
- CHM 227 Introduction to Biochemistry (4 cr)

**Math Requirements** 8 cr

- MAT 211 Calculus I (4 cr) AND 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 electives** 12-13 cr

- BIO 300 Careers in the Health Professions (1 cr) recommended

**Math electives** 8 cr

- MAT 211 Calculus (4 cr)*

**Physics electives** 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)

**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 221 Organic Chemistry I AND CHM 225 Lab IIB (4 cr)
- CHM 227 Introduction to Biochemistry (4 cr)

**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

**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

**Helpful Hints for Advising:**

- Students should begin their math sequence in the freshman year.

**Year I**

- BIO 161 Principles of Biology: Cell Structure & Function
- BIO 162 Principles of Biology: Organismal Diversity

**Year II**

- CHM 121 & CHM 125 Chemical Bonding and lab
- CHM 122 & CHM 124 Chemical Dynamics 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 credits
BIOLOGY-SECONDARY EDUCATION CERTIFICATION- B.S.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>35 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>II. Categories of Knowledge</td>
<td></td>
</tr>
<tr>
<td>A: Logic/Numbers for Rational Thinking (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 117 Applied Statistics</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 (10 cr)</td>
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</tr>
<tr>
<td>PHY 121 Introductory Physics</td>
<td></td>
</tr>
<tr>
<td>CHM 121 Chemical Bonding</td>
<td></td>
</tr>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function</td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
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<tr>
<td>___________________________</td>
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<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
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<tr>
<td>PSY 101 General Psychology</td>
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</table>

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

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>15 cr</th>
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<tbody>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function (4 cr)</td>
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<tr>
<td>BIO 162 Principles of Biology: Organismal Diversity (4 cr)</td>
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<tr>
<td>BIO 208 Field Biology (3 cr)</td>
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<tr>
<td>BIO 242 Ecology (3 cr)</td>
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<tr>
<td>BIO 260 Genetics (4 cr)</td>
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<tr>
<td>BIO 385 Cell Biology (3 cr)</td>
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<tr>
<td>BIO 499 Capstone Seminar in Biology (1 cr)</td>
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</table>

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

<table>
<thead>
<tr>
<th>Physiology elective</th>
<th>4 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 1 course:</td>
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</tr>
<tr>
<td>BIO 350 Human Physiology (4 cr) OR</td>
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<tr>
<td>BIO 351 Animal Physiology (4 cr)</td>
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<table>
<thead>
<tr>
<th>Biology Electives</th>
<th>10 cr</th>
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<tbody>
<tr>
<td>BIO _________________________</td>
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<td>BIO _________________________</td>
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<td>BIO _________________________</td>
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</tbody>
</table>

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### 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 Teaching Reading ELL (3 cr)
- EDU 495 Student Teaching & Professional Practicum (12 cr) **

*Majors requirement fulfills General Education credits

**Total Graduation Requirements 120+ cr

---

A 4-year template is available at [www.ship.edu/undeclared](http://www.ship.edu/undeclared)
CHEMISTRY - B.S.

General Education Requirements 16 cr

I. Required Skills and Competencies
   ___ 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
      MAT211 Calculus I —if necessary, student may need
      MAT175 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)
      ___ BIO 161 Principles of Biology: Cell Structure & Function
      ___ CHM121 Chemical Bonding
      ___ PHY 205 Intermediate Physics I
   D: Political, Economic & Geographic Science (6 cr)
      ___ ______________________________
      ___ ______________________________
   E: Social & Behavioral Science (6 cr)
      ___ ______________________________
      ___ ______________________________

III. Library Skills Complete via College/Advanced Writing course

Chemistry Requirements 50 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 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 361 Physical Chemistry I (4 cr)
   ___ CHM 362 Physical Chemistry II (4 cr)
   ___ CHM 371 Analytical Chemistry (4 cr)
   ___ CHM 381 Intermediate Inorganic Chemistry (3 cr)
   ___ CHM 420 Biochemistry II (3 cr) OR
   ___ CHM 490 Special Topics (3 cr)
   ___ CHM 481 Advanced Inorganic Chemistry (4 cr)
   ___ CHM 497 Introduction to Research (semester I) (1 cr)
   ___ CHM 498 Introduction to Research (semester II) (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)

Computer Science Requirements 4 cr

   ___ CSC 110 Computer Science I (3 cr) AND
   ___ CSC 106 Computer Science Lab (1 cr)

Free Electives 13 cr

   *Major requirement double counts as General Education Credits

Min. Total Graduation Requirements 120 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
   ___ CHM212 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
   ___ CHM221 Modern Organic Chem I & CHM 223 Lab IIIA

Semester IV
   ___ PHY 206 Intermediate Physics II & PHY 125 Lab II
   ___ CHM222 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 Chairperson 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.

A 4-year template is available at www.ship.edu/undeclared
## CHEMISTRY - BIOCHEMISTRY CONCENTRATION - B.S.

### General Education Requirements

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>16 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-Required</td>
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<tr>
<td>MAT 211 Calculus I —if necessary, student may need MAT 175 Pre-Calculus first</td>
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</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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</table>

### Categories of Knowledge

**II. Categories of Knowledge**

<table>
<thead>
<tr>
<th>A: Logic/Numbers for Rational Thinking</th>
<th>4 cr</th>
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<tbody>
<tr>
<td>MAT 212 Calculus II</td>
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</table>

<table>
<thead>
<tr>
<th>B: Literary, Artistic &amp; Cultural Traditions</th>
<th>9 cr</th>
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</thead>
<tbody>
<tr>
<td>CHM 121 Chemical Bonding</td>
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</tr>
<tr>
<td>PHY 205 Intermediate Physics I</td>
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</tr>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function</td>
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</table>

<table>
<thead>
<tr>
<th>C: Biological &amp; Physical Sciences</th>
<th>12 cr</th>
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</thead>
<tbody>
<tr>
<td>CHM 121 Chemical Bonding *</td>
<td></td>
</tr>
<tr>
<td>PHY 205 Intermediate Physics I *</td>
<td></td>
</tr>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>D: Political, Economic &amp; Geographic Science</th>
<th>6 cr</th>
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<tbody>
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<table>
<thead>
<tr>
<th>E: Social &amp; Behavioral Science</th>
<th>6 cr</th>
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<tbody>
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### III. Library Skills Complete via College/Advanced Writing course

### Chemistry Requirements

<table>
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<tr>
<th>46 cr</th>
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<tbody>
<tr>
<td>CHM 110 The Chemistry Experience (1 cr)</td>
</tr>
<tr>
<td>CHM 121 Chemical Bonding (3 cr)</td>
</tr>
<tr>
<td>(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,)</td>
</tr>
<tr>
<td>CHM 123 Lab I (1 cr)</td>
</tr>
<tr>
<td>CHM 122 Chemical Dynamics (3 cr)</td>
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<tr>
<td>(Prereq: Grade of C or better in CHM 121)</td>
</tr>
<tr>
<td>CHM 124 Lab IIA (3 cr)</td>
</tr>
<tr>
<td>CHM 221 Modern Organic Chemistry I (3 cr)</td>
</tr>
<tr>
<td>CHM 223 Lab IIIA (1 cr)</td>
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<tr>
<td>CHM 222 Modern Organic Chemistry II (3 cr)</td>
</tr>
<tr>
<td>CHM 224 Lab IVA (3 cr)</td>
</tr>
<tr>
<td>CHM 301 Biochemistry I (3 cr)</td>
</tr>
<tr>
<td>CHM 312 Chemistry Seminar (1 cr)</td>
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<td>CHM 324 Advanced Organic Lab (1 cr)</td>
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<td>CHM 361 Physical Chemistry I (4 cr)</td>
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<tr>
<td>CHM 362 Physical Chemistry II (4 cr)</td>
</tr>
<tr>
<td>CHM 371 Analytical Chemistry (4 cr)</td>
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<tr>
<td>CHM 381 Intermediate Inorganic Chemistry (3 cr)</td>
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<tr>
<td>CHM 420 Biochemistry II (3 cr)</td>
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<td>CHM 421 Biochemistry Lab (1 cr)</td>
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<tr>
<td>CHM 496 Introduction to Research III (1 cr)</td>
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### Physics Requirements

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

### Biology Requirements

<table>
<thead>
<tr>
<th>12 cr</th>
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<tbody>
<tr>
<td>BIO 260 Genetics (3 cr)</td>
</tr>
<tr>
<td>BIO 385 Cell Biology (3 cr)</td>
</tr>
<tr>
<td>BIO 418 Molecular Biology (3 cr)</td>
</tr>
<tr>
<td>BIO 461 Techniques in Biochemistry (3 cr)</td>
</tr>
</tbody>
</table>

### Restricted Elective (choose one)

<table>
<thead>
<tr>
<th>3-4 cr</th>
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<tbody>
<tr>
<td>CHM 481 Advanced Inorganic Chemistry (4 cr)</td>
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<tr>
<td>BIO 220 Microbiology (3 cr)</td>
</tr>
<tr>
<td>BIO 408 Virology (3 cr)</td>
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<tr>
<td>BIO 409 Immunology (3 cr)</td>
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</table>

### Free Electives

<table>
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<th>3-4 cr</th>
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<tbody>
<tr>
<td>CSC 110 Computer Science I (3 cr) AND</td>
</tr>
<tr>
<td>CSC 106 Computer Science I Lab (1 cr)</td>
</tr>
<tr>
<td>CHM 490 Special Topics (3 cr)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>120 cr</th>
</tr>
</thead>
</table>

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GPA Needed to Declare: 2.0

### Helpful Hints for Advising:

- **Semester I**: CHM121 Chemical Bonding and CHM 123 Lab IA
  MAT 211 Calculus II

- **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 IIIA
  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.

Internships are available Fall, Spring, and Summer in the Carlisle Forensic Laboratory.
## Chemistry - Forensics Concentration - B.S.

### General Education Requirements

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>16 cr</th>
<th>Physics Requirements</th>
<th>8 cr</th>
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</thead>
<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
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<td>PHY 205 Intermediate Physics I (3 cr) * AND</td>
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<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
<td></td>
<td>PHY 123 Physics I Lab (1 cr)</td>
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<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
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<td>PHY 206 Intermediate Physics II (3 cr) AND</td>
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<tr>
<td>Mathematical Competency-Required</td>
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<td>PHY 125 Physics II Lab (1 cr)</td>
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<tr>
<td>MAT 211 Calculus I —if necessary, student may need to take MAT 175 Pre-Calculus first</td>
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<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
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</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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### Categories of Knowledge

<table>
<thead>
<tr>
<th>II. Categories of Knowledge</th>
<th>37 cr</th>
<th>Biology Requirements</th>
<th>9 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (4 cr)</td>
<td></td>
<td>BIO 260 Genetics (3 cr)</td>
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<tr>
<td>MAT 212 Calculus II</td>
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<td>BIO 418 Molecular Biology (3 cr)</td>
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<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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<td>BIO 461 Techniques in Biochemistry (3 cr)</td>
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<td></td>
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</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (12 cr)</td>
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<tr>
<td>CHM121 Chemical Bonding *</td>
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<tr>
<td>PHY 205 Intermediate Physics I *</td>
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<td>BIO 161 Principles of Biology: Cell Structure &amp; Function I *</td>
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<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
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### Chemistry Requirements

<table>
<thead>
<tr>
<th>III. Library Skills Complete via College/Advanced Writing course</th>
<th>43-44 cr</th>
<th>Total Graduation Requirements</th>
<th>123 cr</th>
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<tbody>
<tr>
<td>CHM 110 The Chemistry Experience (1 cr)</td>
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<td>GPA Needed to Declare: 2.0</td>
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<tr>
<td>CHM 121 Chemical Bonding (3 cr)</td>
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<tr>
<td>(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.)</td>
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<tr>
<td>CHM 123 Lab IA (1 cr)</td>
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<td>CHM 122 Chemical Dynamics (3 cr)</td>
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<tr>
<td>(Prereq: Grade of C or better in CHM 121)</td>
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<tr>
<td>CHM 124 Lab IIA (3 cr)</td>
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<td>CHM 221 Modern Organic Chemistry I (3 cr)</td>
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<td>CHM 223 Lab IIIA (1 cr)</td>
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<td>CHM 362 Physical Chemistry II (4 cr)</td>
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<td>CHM 371 Analytical Chemistry (4 cr)</td>
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<td>CHM 381 Intermediate Inorganic Chemistry (3 cr)</td>
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<tr>
<td>CHM 4xx Level Chemistry Elective (3-4 cr)</td>
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</table>

*Major requirement fulfills General Education Credits

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Helpful Hints for Advising:

- Semester I: CHM121 Chemical Bonding & CHM 123 Lab IA
  MAT 211 Calculus I
- Semester II: CHM122 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
  CHM221 Modern Organic Chem I & Chem 223 Lab IIIA
  BIO 260 Genetics
- Semester IV: PHY 206 Intermediate Physics II & PHY 125 Lab II
  CHM222 Mod Organic Chem II & Chem 224 Lab IVA
  BIO 220 Microbiology

American Chemical Society Certification available. See Department Chairperson 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.

A 4-year template is available at www.ship.edu/undeclared
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 37 cr
A: Logic/Numbers for Rational Thinking (4 cr)
    ___ MAT 212 Calculus II
B: Literary, Artistic & Cultural Traditions (9 cr)
    ___ ______________________________
    ___ ______________________________
    ___ ______________________________
C: Biological & Physical Sciences (12 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)
      (Prerequisites: Grade of C or better in CHM 121)
___ CHM 124 Lab IIA (3 cr)
___ CHM 221 Modern Organic Chemistry I (3 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 361 Physical Chemistry I (4 cr)
___ CHM 362 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 13 cr

___ BIO 162 Principles of Biology: Organismal Diversity (4 cr)
___ BIO 220 Microbiology (3 cr)

Choose one:
___ BIO 350 Human Physiology (4 cr) OR
___ BIO 370 Comparative Anatomy (4 cr)

Free Electives 11 cr

*Major requirement double counts as General Education Credits

Min. Total Graduation Requirements 120 cr

GPA 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
___ CHM121 Chemical Bonding and Lab IA
___ MAT 211 Calculus I

Semester II
___ CHM122 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
___ CHM221 Modern Organic Chem I & Chem 223 Lab IIIA
___ BIO 260 Genetics

Semester IV
___ PHY 206 Intermediate Physics II & PHY 125 Lab II
___ CHM222 Mod Organic Chem II & Chem 224 Lab IV A
___ 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-SECONDARY EDUCATION CERTIFICATION-B.S.

#### 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)
- HIS 106 Thinking Historically in a Global Age (3 cr)

#### II. Categories of Knowledge

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 212 Calculus II</td>
<td>4 cr</td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (12 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM121 Chemical Bonding</td>
<td></td>
</tr>
<tr>
<td>PHY 205 Intermediate Physics I *</td>
<td></td>
</tr>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function *</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>PSY 101 General Psychology</td>
<td>6 cr</td>
</tr>
</tbody>
</table>

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

**Chemistry Requirements**
- 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 IIIA (1 cr)
- CHM 222 Modern Organic Chemistry II (3 cr)
- CHM 224 Lab IV A (3 cr)
- CHM 301 Biochemistry I (3 cr)
- CHM 361 Physical Chemistry I (4 cr)
- CHM 362 Physical Chemistry II (4 cr)
- CHM 371 Analytical Chemistry (4 cr)
- CHM 381 Intermediate Inorganic Chemistry (3 cr)

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

**Professional Education Requirements**
- 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)
- EDU 495 Student Teaching & Professional Practicum (12 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**

- 130 cr

**GPA Needed to Declare:**

- 3.0

### Helpful Hints for Advising:

**Semester 1**
- CHM121 Chemical Bonding and CHM 123 Lab IA
- MAT 211 Calculus I

**Semester II**
- CHM122 Chemical Dynamics and CHM 124 Lab IIA
- PSY 101 General Psychology

**Semester III**
- PHY 205 Intermediate Physics I & PHY 123 Lab I
- CHM221 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
- CHM222 Mod Organic Chem II & Chem 224 Lab IVA

American Chemical Society Certification available.

See Department Chairperson 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 course work. 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 QR
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 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)
Students in the program must have appropriate prerequisites and class standing before taking advanced Comm/Journ courses.
___ 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)

Note: Students take the exam no more than two times. COM 112 must be taken at Shippensburg University.

Helpful Hints for Advising:

GPA Needed to Declare: 2.3

Total Graduation Requirements 120 cr

These courses can be from any academic area outside of Comm/Journ.

GPA Needed to Declare: 2.3

Free Electives and/or Minor 29 cr

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

Helpful Hints for Advising:

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 Shippensburg University.

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.
### 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>
<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>MAT 211 Calculus I (4 cr)</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>34 cr</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 (10 cr)*</td>
<td></td>
</tr>
<tr>
<td>PHY 205 Intermediate Physics</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>

<table>
<thead>
<tr>
<th>III. Library Skills: Complete via College/Advanced Writing</th>
<th></th>
</tr>
</thead>
</table>

### Computer Science Major Core Requirements

<table>
<thead>
<tr>
<th>43 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 107 Computer Science I Lab (1 cr) (Majors)</td>
</tr>
<tr>
<td>CSC 110 Computer Science I (4 cr)</td>
</tr>
<tr>
<td>CSC 111 Computer Science II (4 cr)</td>
</tr>
<tr>
<td>CMPE 220 Computer Organization (4 cr)</td>
</tr>
<tr>
<td>CMPE 310 Design &amp; Analysis of Algorithms (4 cr)</td>
</tr>
<tr>
<td>CMPE 320 Operating Systems (4 cr)</td>
</tr>
<tr>
<td>CMPE 322 Microcontrollers and Interfaces (4 cr)</td>
</tr>
<tr>
<td>CMPE 410 Real-Time and Mobile Development (4 cr)</td>
</tr>
<tr>
<td>CMPE 498 Engineering Research Methods (2 cr)</td>
</tr>
<tr>
<td>CMPE 499 Engineering Design and Development (2 cr)</td>
</tr>
<tr>
<td>CSC/CMPE Elective (3 cr) *</td>
</tr>
<tr>
<td>CSC/CMPE Elective (3 cr) *</td>
</tr>
</tbody>
</table>

Computer Science or Engineering Elective is any computer science, computer engineering, or software engineering course at the 300-level or above. Check with your advisor or the department for the frequency of related courses.

### Mathematics Requirements

<table>
<thead>
<tr>
<th>23 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 211 Calculus I (4 cr)</td>
</tr>
<tr>
<td>MAT 212 Calculus II (4 cr)</td>
</tr>
<tr>
<td>MAT 213 Calculus III (4 cr)</td>
</tr>
<tr>
<td>MAT 225 Discrete Mathematics (4 cr)</td>
</tr>
<tr>
<td>MAT 313 Statistics I (4 cr)</td>
</tr>
<tr>
<td>MAT 322 Differential Equations (3 cr)</td>
</tr>
</tbody>
</table>

### Physics Requirements

<table>
<thead>
<tr>
<th>20 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 205 Intermediate Physics I (3 cr)</td>
</tr>
<tr>
<td>PHY 123 Physics I Lab (1 cr)</td>
</tr>
<tr>
<td>PHY 206 Intermediate Physics II (3 cr)</td>
</tr>
<tr>
<td>PHY 125 Physics II Lab (1 cr)</td>
</tr>
<tr>
<td>PHY 311 Quantum (4 cr)</td>
</tr>
<tr>
<td>PHY 326 Semiconductor Devices (4 cr)</td>
</tr>
<tr>
<td>PHY 335 Electronics (4 cr)</td>
</tr>
</tbody>
</table>

### Total Graduation Requirements

125 cr

GPA Needed to Declare: 2.0

To declare or retain this major, a student must earn a ‘C’ or better in CSC 110 Computer Science I.

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 have strong academic skills, have strong math, logic, and reasoning skills; and a background in science. To complete the program in 4 years, students must begin their first semester with MAT 211: Calculus I. Students requiring remedial mathematics should complete this work prior to beginning their first semester.

### Helpful Hints for Advising:

**Semester I**
- CSC 110 Computer Science I (3 cr)
- CSC 107 Computer Science I Lab (1 cr)
- CSC 211 Calculus I (4 cr)****
- Two General Education Classes (6 cr)

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

An alternative to this program that does not include the rigorous math and science requirements is the embedded systems concentration in computer science.

Students who enroll in computer engineering may complete a physics minor by completing two additional course requirements. Students may complete a mathematics dual-major by completing (2) 300 level or 400 level courses, and (2) 400 level course.

**** Depending on math placement.

**** Students not qualified to take Calculus I may be required to first complete MAT 175 Pre-Calculus
COMPUTER SCIENCE-B.S.

General Computer Science, Computer Graphics, Embedded Programming, & Related Discipline Concentration

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)
- MAT 211 Calculus I (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

A: Language/Numbers for Rational Thinking (3 cr)
- English/Writing

B: Literary, Artistic & Cultural Traditions (9 cr)
- Literature
- Fine Arts

C: Biological & Physical Sciences (11 cr)*
- Any two of the following:
  - CMPE 410 Real-Time & Mobile Computing (4 cr)
  - CSC 461 Introduction to Robotics (4 cr)
  - CSC 440 Compiler Design (4 cr)
  - CSC 432 Computer Networks (4 cr)
  - CSC 401 Simulation Techniques (4 cr)
  - CSC 350 Intro to Computer Graphics (4 cr)

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

E: Social & Behavioral Science (6 cr)
- Psychology
- Sociology

III. Library Skills: Complete via College/Advanced Writing

- Writing Intensive First Year Seminar
- Writing Intensive First Year Seminar

Other Courses required in all Concentrations

- MAT 225 Discrete Mathematics (4 cr)
- MAT 318 Elementary Linear Algebra (3 cr)
- CSC 111 Computer Science II (4 cr)
- CSC 110 Computer Science I (3 cr)
- CSC 107 Computer Science I Lab (1 cr)

Other Concentrations

- Embedded Programming Concentration
- Computer Graphics Concentration

Related Discipline Concentration

- ART 425 Computer Design IV (3 cr) Multimedia
- ART 319 Computer Design III (3 cr) Photomanipulation & Painting
- ART 306 Computer Design II (3 cr) Illustration

Free Electives

- Elective

Total Graduation Requirements

120-122 cr

GPA Needed to Declare: 2.0

To declare or retain this major, a student must earn a 'C' or better in CSC 110 Computer Science I.

Students pursuing this major should have strong math skills.

Helpful Hints for Advising:

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

A 4-year template is available at www.ship.edu/undeclared
## General Education Requirements

### I. Required Skills and Competencies

- **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

#### 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

- **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:

- **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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biology</strong> (9 credits by advisement)</td>
<td>34+ cr</td>
</tr>
<tr>
<td>BIO 161 Principles of Biology: Cell Structure &amp; Function (4 cr)</td>
<td></td>
</tr>
<tr>
<td>BIO 162 Principles of Biology: Organismal Diversity (4 cr)</td>
<td></td>
</tr>
<tr>
<td>BIO 145 Environmental Biology (3 cr)</td>
<td></td>
</tr>
<tr>
<td>BIO 242 Ecology * (3 cr) (prereq. BIO 162 and Soph standing)</td>
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</tr>
<tr>
<td>BIO 248 Field Biology * (3 cr) (prereq. BIO 162)</td>
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<tr>
<td>BIO 311 Ornithology (3 cr) (prereq. BIO 161 and 162)</td>
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</tr>
<tr>
<td>BIO 448 Field Botany &amp; Plant Taxonomy * (3 cr) (prereq. BIO 162)</td>
<td></td>
</tr>
<tr>
<td><strong>Chemistry</strong> (8 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 121 Chemical Bonding (3 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 125 Lab IB (1 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 122 Chemical Dynamics (3 cr)</td>
<td></td>
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<tr>
<td>CHM 126 Lab IIB (1 cr)</td>
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</tr>
<tr>
<td><strong>Physics</strong> (11 cr)</td>
<td></td>
</tr>
<tr>
<td>PHY 108 Astronomy (3 cr)</td>
<td></td>
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<tr>
<td>PHY 121 Introductory Physics I (3 cr)</td>
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<tr>
<td>PHY 123 Lab (1 cr)</td>
<td></td>
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<tr>
<td>PHY 122 Introductory Physics II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>PHY 125 Lab (1 cr)</td>
<td></td>
</tr>
<tr>
<td><strong>Math</strong> (8+ credits by advisement)</td>
<td></td>
</tr>
<tr>
<td>MAT 117 Applied Statistics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>MAT 211 Calculus I (4 cr) (prereq MAT 175 or Math Placement Level 6)</td>
<td></td>
</tr>
<tr>
<td>MAT 212 Calculus II (4 cr)</td>
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</tr>
</tbody>
</table>

### Professional Education Requirements

- **TCH 207** Org. & Psych. Foundations of Secondary Education (3 cr)
- **ECC 273** Introduction to Exceptionality: Understanding Diverse Learners (3 cr)
- **ECC 423** Effective Instructional Strategies for Children with Exceptionalities (3 cr)
- **ECC 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. [Link](#)
- **CSC 180** Microcomputer Basic. [Link](#)
- **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 **CHM 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

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**GPA Needed to Declare:** 3.0

### Helpful Hints for Advising:

- **Semester I**
  - ESS 210 Physical Geology
  - Second Core Course
  - Biology 162

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A 4-year template is available at [www.ship.edu/undeclared](http://www.ship.edu/undeclared)
ECONOMICS, B.S.

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

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
       ___ ECO 270 Intermediate Macroeconomic Theory (3 cr)
       ___ ECO 280 Managerial Economics (3 cr)
   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)
   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.

   Business Concentration 18 cr
   ___ ACC 200 Fundamentals of Accounting (3 cr)
   ___ FIN 311 Financial Management (3 cr)
   ___ MGT 305 Organizational Behavior (3 cr)
   ___ MKT 305 Principles of Marketing (3 cr)
   ___ Choose 1 Finance or Accounting course (3 cr)
   ___ Choose 1 business course at 300 level (3 cr)

   Data Science Concentration 19-20 cr
   ___ MAT 104 Programming with Pyton or (3-4 cr)
   ___ MAT 110 Computer Science I or
   ___ MIS 200 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)

   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 ___________________________ (3 cr) [300 level]
   ___ PLS ___________________________ (3 cr)

   Public Administration Concentration 18 cr
   ___ 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 Political Science or Public Administration Elective (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)

   *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

   A 4-year template is available at www.ship.edu/undeclared
## Electrical Engineering - B.S.

### General Education Requirements

**I. Required Skills and Competencies**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<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>College Level Math. Satisfied by MAT 211 Calculus I* (4 cr) If necessary, student may need MAT 175 Pre-Calculus first.</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**AND**

HIS 106 Thinking Historically in a Global Age (3 cr)

**II. Categories of Knowledge**

**A: Language/Numbers for Rational Thinking**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 205/123 Physics I*</td>
<td>4 cr</td>
</tr>
</tbody>
</table>

**B: Literary, Artistic & Cultural Traditions**

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

**C: Biological & Physical Sciences**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 205/123 Physics I*</td>
<td>4 cr</td>
</tr>
</tbody>
</table>

**D: Political, Economic & Geographic Science**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

**E: Social & Behavioral Science**

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

### Physics Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 205/123 Physics I*</td>
<td>4 cr</td>
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### Physics Engineering Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CMPE 220 Computer Organization</td>
<td>4 cr</td>
</tr>
<tr>
<td>CMPE 322 Microcontrollers and Interfaces</td>
<td>4 cr</td>
</tr>
<tr>
<td>CMPE 420 Digital and Reconfigurable Computing</td>
<td>4 cr</td>
</tr>
<tr>
<td>CMPE 498 Engineering Research Methods</td>
<td>2 cr OR CMPE 499 Development Project (capstone)</td>
</tr>
</tbody>
</table>

### Math Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 211 Calculus I</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 212 Calculus II</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 213 Calculus III</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 225 Discrete Math</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 322 Differential Equations</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

### Computer Engineering Requirements

<table>
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<th>Course</th>
<th>Hours</th>
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<tbody>
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<td>CMPE 220 Computer Organization</td>
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<td>CMPE 322 Microcontrollers and Interfaces</td>
<td>4 cr</td>
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<tr>
<td>CMPE 420 Digital and Reconfigurable Computing</td>
<td>4 cr</td>
</tr>
<tr>
<td>CMPE 498 Engineering Research Methods</td>
<td>2 cr OR CMPE 499 Development Project (capstone)</td>
</tr>
</tbody>
</table>

### Electrical Engineering Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 100 Programming for Engineers</td>
<td>3 cr</td>
</tr>
<tr>
<td>ELEC 210 Signals &amp; Systems</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 300 Foundations of Electronic Systems</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 323 Electronic Design &amp; Processes</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 360 Communication Systems</td>
<td>4 cr</td>
</tr>
<tr>
<td>ELEC 422 High-Speed Circuits</td>
<td>4 cr</td>
</tr>
</tbody>
</table>

### Electives: Choose >= 5 cr

CMPE or ELEC courses, 300 level or above, or Internship

### Total Graduation Requirements

120 cr

### GPA Needed to Declare

2.0

### Helpful Hints for Advising:

This is an academically challenging major and requires a significant effort outside the classroom. The successful student will be self-disciplined and committed to task completion. Additionally, students in this major can expect to engage in independent research and work beyond the basic requirements.

In deciding if this major is appropriate for you, and for an explanation on differences between Computer Engineering and Computer Engineering Technology, visit www.cs.ship.edu.

* Students who have completed PHY 224/226 satisfy this requirement

* Credits may be applied to Math/Physics Requirements and General Education Credit Requirements (Category C, Categories of Knowledge).
**ENGLISH-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 (Prev. ENG 106) Writing Intensive First Year Seminar (3 cr)</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>ENG 115 (Prev. ENG 110) Advanced Placement Writing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>May need ENG 113 Intro to Academic Writing (Prev. 050 Basic 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>___ MAT XXX any college-level math course</td>
<td></td>
</tr>
<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>
<td></td>
</tr>
</tbody>
</table>

### Required Courses

<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>

### English Major Requirements

<table>
<thead>
<tr>
<th>CORE COURSES all required</th>
<th>21 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ ENG 130 Literary Studies for the English Major &amp; Minor (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENG 111 Introduction to Literary Studies II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENG 233 American Literature I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENG 234 American Literature II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENG 236 British Literature I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENG 237 British Literature II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ENG 330 Shakespeare (3 cr)</td>
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</tbody>
</table>

### Topics and Approaches select 6

<table>
<thead>
<tr>
<th>18 cr</th>
</tr>
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<tbody>
<tr>
<td>___ ENG 238 Technical/Professional Writing I (3 cr)</td>
</tr>
<tr>
<td>___ ENG 240 World Literature (3 cr)</td>
</tr>
<tr>
<td>___ ENG 256 Introduction to Mythology (3 cr)</td>
</tr>
<tr>
<td>___ ENG 304 Literary Criticism (3 cr)</td>
</tr>
<tr>
<td>___ ENG 307 Poetry Writing (3 cr)</td>
</tr>
<tr>
<td>___ ENG 308 Fiction Writing (3 cr)</td>
</tr>
<tr>
<td>___ ENG 318 Studies in English Renaissance Lit. (3 cr)</td>
</tr>
<tr>
<td>___ ENG 323 Reviewing the Arts (3 cr)</td>
</tr>
<tr>
<td>___ ENG 333 Cultural Studies (3 cr)</td>
</tr>
<tr>
<td>___ ENG 335 Creative Nonfiction (3 cr)</td>
</tr>
<tr>
<td>___ ENG 336 Theories &amp; Approaches (3 cr)</td>
</tr>
<tr>
<td>___ ENG 343 Film Criticism (3 cr)</td>
</tr>
<tr>
<td>___ ENG 345 Women’s Literature (3 cr)</td>
</tr>
<tr>
<td>___ ENG 358 Ethnic Literature (3 cr)</td>
</tr>
<tr>
<td>___ ENG 366 History &amp; Structure of the English Language (3 cr)</td>
</tr>
<tr>
<td>___ ENG 370 Queer Studies (3 cr)</td>
</tr>
<tr>
<td>___ ENG 375 African-American Literature (3 cr)</td>
</tr>
<tr>
<td>___ ENG 376 Studies in Medieval Lit. (3 cr)</td>
</tr>
</tbody>
</table>

### Categories of Knowledge (Choose approved Topic & Approaches courses)

<table>
<thead>
<tr>
<th>A. Historical Knowledge</th>
<th>3 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-1800</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>Post-1800</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>Either (non-writing concentration)</td>
<td>(3 cr)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Criticism (non-writing concentration)</th>
<th>3 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any course whose content focuses on criticism, method, and/ or theory</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Multicultural Perspectives</th>
<th>3 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any course whose content and topic concern work by historically marginalized social groups</td>
<td></td>
</tr>
</tbody>
</table>

### Minor or Free Electives

<table>
<thead>
<tr>
<th>30 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Graduation Requirements</td>
</tr>
</tbody>
</table>

### GPA Needed to Declare

| 2.0 |

Helpful Hints for Advising:

- Take ENG 107 and ENG 111, Intro. to Literary Studies and Introduction to Literary Studies II, before taking upper level courses.

- Semester II: Two core courses

- Shakespeare should NOT be taken in the first 2 semesters.

- Designated courses may double count for the period and multicultural requirement. See course descriptions in department advising materials.

- 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.

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A 4-year template is available at www.ship.edu/undeclared
ENGLISH - WRITING EMPHASIS - B.A. ##

General Education Requirements
I. Required Skills and Competencies 15 cr
   __ ENG 114 (Prev. ENG 106) Writing Intensive First Year Seminar (3 cr)
   OR
   ENG 115 (Prev. ENG 110) 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
   __ ENG 130 Literary Studies for the English Major & Minor (3 cr)
   __ ENG 111 Introduction to Literary Studies II (3 cr)
   __ ENG 233 American Literature I (3 cr)
   __ ENG 234 American Literature II (3 cr)
   __ ENG 236 British Literature I (3 cr)
   __ ENG 237 British Literature II (3 cr)
   __ ENG 330 Shakespeare (3 cr)

WRITING select three 9 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 (3 cr)
   __ ENG 335 Creative Nonfiction (3 cr)
   __ ENG 420 Studies in Writing (3 cr)
   __ ENG 427 Advanced Poetry Writing (3 cr)
   __ ENG 428 Advanced Fiction Workshop (3 cr)
   __ ENG 438 Technical/Professional Writing II (3 cr)

TOPICS and APPROACHES select three 9 cr
   __ ENG 240 World Literature (3 cr)
   __ ENG 243 Art of the Film (3 cr)
   __ ENG 256 Introduction to Mythology (3 cr)
   __ ENG 304 Literary Criticism (3 cr)
   __ ENG 318 Studies in English Renaissance Lit. (3 cr)
   __ ENG 333 Cultural Studies (3 cr)
   __ ENG 336 Theories & Approaches (3 cr)

TOPICS and APPROACHES (cont.)
   __ ENG 330 Shakespeare (3 cr)
   __ ENG 375 African-American Literature (3 cr)
   __ ENG 376 Studies in Medieval Lit. (3 cr)
   __ ENG 377 Studies in Restoration/18th C. Lit. (3 cr)
   __ ENG 378 Studies in Early American Lit (3 cr)
   __ ENG 380 Studies in 19th C. British Lit. (3 cr)
   __ ENG 381 Studies in 19th C. American Lit. (3 cr)
   __ ENG 382 Studies in 20th C. British Lit. (3 cr)
   __ ENG 383 Studies in 20th C. American Lit. (3 cr)
   __ ENG 385 Studies in Lit. of the Postcolonial World (3 cr)
   __ ENG 394 Selected Topics (3 cr)

Note: Courses may fulfill both the period and multicultural requirement. See course descriptions in department advising materials.

TOPICS IN ENGLISH
A. Historical Knowledge
   Pre-1800 _________________________  (3 cr)
   Post-1800 _________________________ (3 cr)
B. Multicultural Perspectives
   Any course whose content and topic concern work by historically marginalized social groups.

ENGLISH SEMINARS select one 3 cr
   __ ENG 464 Seminar in Major Author (3 cr)
   __ ENG 465 Seminar in Creative Nonfiction (3 cr)
   __ ENG 466 Seminar in Literary Theory (3 cr)
   __ ENG 467 Seminar in Drama (3 cr)
   __ ENG 468 Seminar in Fiction (3 cr)
   __ ENG 469 Seminar in Poetry (3 cr)
   __ ENG 490 Seminar in Selected Topics (3 cr)

Minor or Free Electives 30 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

Helpful Hints for Advising:
Take ENG 107 and ENG 111, Intro. to Literary Studies and Intro. to Literary Studies II, before taking upper level courses.

Semester II: Two core courses
Shakespeare should NOT be taken in the first 2 semesters.

Designated courses may double count for the period and multicultural requirement. See course descriptions in department advising materials.

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.##

I. Required Skills and Competencies 15-16 cr
   __ ENG 114 (Prev. ENG 106) Writing Intensive First Year Seminar (3 cr) OR
   ENG 115 (Prev. ENG 110) Advanced Placement Reading (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)
      __ ENG 115 (Prev. ENG 110) Advanced Placement Writing (3 cr)
      May need ENG 113 Intro to Academic Writing first, based on test results
      __ ENG 111 Introduction to Literary Studies II (3 cr)
   C: Biological & Physical Sciences (9 cr)
   D: Political, Economic & Geographic Science (6 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.

English Major Requirements 39 cr

CORE COURSES all required 27 cr
   __ ENG 130 Literary Studies for the English Major & Minor (3 cr)
   __ ENG 111 Introduction to Literary Studies II (3 cr)
   __ ENG 233 American Literature I (3 cr)
   __ ENG 234 American Literature II (3 cr)
   __ ENG 236 British Literature I (3 cr)
   __ ENG 237 British Literature II (3 cr)
   __ ENG 330 Shakespeare (3 cr)
   __ ENG 366 History & Structure of English (3 cr)
   __ ENG 426 Teaching Adolescent Literature (3 cr)

TOPICS and APPROACHES 9 cr

A. Historical Knowledge
   Pre-1800 (3 cr)
   Post-1800 (3 cr)

B. Multicultural Perspectives
   Any course whose content and topic concern work by historically marginalized social groups.
   __ ENG 240 World Literature (3 cr) OR
   __ ENG 385 Studies in Lit. of the Postcolonial World (3 cr)***

III. Professional Certification Requirements 33 cr

   __ TCH 207 Org. & Psych. Foundations in Secondary Education (3 cr)
   __ EEC 273 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 Reading Teaching to English Language Learners (3 cr)
   __ EDU 290 Introduction to ELA Education (3 cr)
   __ EDU 422 Teaching English II (3 cr)
   __ EDU 495 Student Teaching (12 cr)

Note: Courses may fulfill both the period and multicultural requirement.

A Guidebook for Undergraduate Students 2016-2017

A 4-year template is available at www.ship.edu/undeclared
### General Education Requirements

<table>
<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>15 cr</th>
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<tbody>
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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>
<tr>
<td>HCS 100 Intro. to Human Communication (3 cr)</td>
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<tr>
<td>Mathematical Competency-any math listed under Category “A”</td>
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<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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<table>
<thead>
<tr>
<th>II. Categories of Knowledge</th>
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<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
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<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>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
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<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
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<tr>
<th>III. Library Skills</th>
<th>Completed via College or Advanced Writing</th>
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<tr>
<td>French Major Requirements</td>
<td>30 cr</td>
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<tr>
<td>FRN 202 Intern. French Conversation through the Media (3 cr)</td>
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<td>FRN 204 Ideas &amp; Cultures from the French-Speaking World (3 cr)</td>
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<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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<tr>
<td>FRN 340 Genres Littéraires (3 cr)</td>
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<th>French Electives (Choose any 2)</th>
<th>6 cr</th>
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<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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<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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<th>Free Electives</th>
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<table>
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<tr>
<th>Total Graduation Requirements</th>
<th>120 cr</th>
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</table>

GPA Needed to Declare: 2.0

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

General Education Requirement

I. Required Skills and Competencies          15 cr

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-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                  33 cr

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

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

C: Biological & Physical Sciences (9 cr)
Note the course options under BIO, CHM and PHY

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)
If ESS 110 taken, select ESS 212, GEO 306, or ESS 214
ESS 355 Meteorology*
If ESS 111 taken, select ESS 404
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 322 Urban Geography (3 cr)
GEO 415 Regional Geographic Studies (3 cr)
GEO 450 Geog. – Geography Field Studies (3 cr)

GeoEnvironmental Complex System Electives Select 3 courses: 9 cr

ESS 404 Applied Meteorology and Climatology (3 cr)
ESS 413 Mineral & Rock Resources (3 cr)
ESS 442 Environmental Geology (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. – Geography Field Studies (3 cr)
GEO 466 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. – Geography Field Studies (3 cr)
GEO 463 Applied Geophysical Imaging (3 cr)
GEO 490 Selected Topics

GeoEnvironmental Electives 3 cr

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

ESS 212 Historical Geology (3 cr)
ESS 214 Geology of National Parks (3 cr)
ESS 220 Oceanography (3 cr)
GEO 203 Climatology (3 cr)
GEO 306 Geomorphology (3 cr)
GEO 450 Geog. – Geography Field Studies (3 cr)
GEO 490 Selected Topics

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 448 Field Botany & Plant Taxonomy (3 cr) **

** Required for 200 level or above biology courses. If student has a special interest in zoology or botany, they should follow sequential courses in that area.

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 II (3 cr)
PHY 121 Physics I and PHY 125 Physics II lab (4 cr) [recommended]

Computer Science Requirement Select 1 course: 3 or 4 cr

MIS 142 Intro to Business Computer Systems (3 cr)
CSC 103 Overview of Computer Science (3 cr)
CSC 180 Microcomputer Basic (3 cr)

Math Requirement Select 1 course: 3 or 4 cr

MAT 117 Applied Statistics (4 cr)
MAT 140 (A or B) 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

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

A 4-year template is available at www.ship.edu/undeclared
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 first, 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

Required: 9 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 3 cr

___ Internship Junior Status, 60 cr - 2.0 Required

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)

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 117 Applied Statistics (4 cr) (REQUIRED)
___ MAT 140A College Algebra (4 cr) (Students who place at the advanced level in the mathematics placement/competency tests should not take MAT 140A)
___ MAT 140B College Algebra (4 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

TOTAL GRADUATION REQUIREMENTS 120 cr

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

Helpful Hints for Advising:

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

Semester II  Core Course

General Education courses should be completed as soon as possible.

A 4-year template is available at www.ship.edu/undeclared
GEOGRAPHY – HUMAN ENVIRONMENTAL STUDIES TRACK - B.S.

General Education Requirements
I. Required Skills and Competencies 16 cr
   ___ ENG 114 Writing 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-See math under allied courses
   ___ 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)
   ____ ECO 101 or 102
   ____ PLS 100 or 141
   E: Social & Behavioral Science (6 cr)
   ___ GEO 140 Cultural Geography (3 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 1 (3 cr)
   ___ GEO 230 Economic Geography (3 cr)
   ___ GEO 244 Land Use OR
   ___ GEO 322 Urban Geography (if not in core) (3 cr)
   ___ GEO 391 Geography Seminar (3 cr)

Human-Environment Track 18 cr
   Required:
   ___ GEO 140 Cultural Geography (3 cr)

Human Geography Courses Select 2 courses:
   ___ GEO 244 Land Use (if not in Core)
   ___ GEO 310 Transportation Geography (3 cr)
   ___ GEO 320 Historical Geography (3 cr)
   ___ GEO 322 Urban Geography (3 cr)

Environmental Courses Select 1 course:
   ___ GEO 301 Introduction to Biogeography (3 cr)
   ___ GEO 402 Medical Geography (3 cr)
   ___ GEO 404 Hydrogeology (3 cr)
   ___ ESS 404 Applied Meteorology/Climatology (3 cr)
   ___ ESS 442 Environmental Geology (3 cr)
   ___ GEO 444 Environmental Land Use Planning (3 cr)
   ___ GEO 446 Water Resource Management (3 cr) (Prereq: GEO 226)

Regional Courses Select 1 course:
   ___ GEO 305 Geography of Europe (3 cr)
   ___ GEO 308 Geography of Latin America (3 cr)
   ___ GEO 313 Geography of S. and S.E. Asia (3 cr)
   ___ GEO 316 Geography of Africa (3 cr)
   ___ GEO 317 Geography of East Asia (3 cr)
   ___ GEO 415 Regional Geographic Studies (3 cr)
   ___ GEO 450 Geography-Geology Field Study (3 cr)

Technique Course Electives Select 1 course:
   ___ 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 463 Applied Geophysical Imaging (3 cr)

Allied Courses 16 cr
   Mathematics
   Select one:
   ___ MAT 117 Applied Statistics (4 cr)
   ___ MAT 175 Pre-Calculus (3 cr)

   Social Sciences
   Select one:
   ___ PLS 231 State and Local Government (3 cr) (Pre-req: PLS 100)
   ___ PLS 341 International Law and Organization (3 cr) (Pre-req: PLS 141)
   ___ ECO 321 International Economics (3 cr)
   ___ ECO 325 Globalization (3 cr)
   ___ ECO 340 Intro to Regional Economics (3 cr)
   ___ ECO 355 Environmental Economics (3 cr)

   Select one:
   ___ ANT 211 Comparative Cultures (3 cr)
   ___ ANT 220 Anthropology for International Studies (3 cr)

   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 1113 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)

- ______________________________

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

- ______________________________
- ______________________________
- ______________________________

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

- ______________________________
- ______________________________
- ______________________________

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

- PLS 100 U.S. Government and Politics or 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) OR GEO 322 Urban Geography (3 cr)
- 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 GEO 339 Remote Sensing (3 cr)

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) *

* If not taken in core

#### Geography Internship

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

#### Applied Courses

15 – 17 cr

**Computer Science/Math Requirement** 7 - 8 cr

Select Course:

- MAT 117 Applied Statistics (4 cr)

Select 1 Course:

- CSC 103 Overview of Computer Science (3 cr)
- CSC 180 Microcomputer Basic (3 cr)
- CSC 110 Computer Science I (3 cr) AND CSC 106 Computer Science I Lab (1 cr)

**Political Science Requirement** 6 cr

Select 2 courses: each course has pre-requisites

- PLS 231 State and Local Government (3 cr)
- PLS 331 Municipal Gov. & Administration (3 cr)
- PLS 431 Pennsylvania Local Government (3 cr)
- PLS 441 Political Science course by advisement (3 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)

**Free Electives** 20+ 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  
Political Science

General Education courses should be completed as soon as possible.

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A 4-year template is available at www.ship.edu/undeclared
### GEOGRAPHY-SECONDARY EDUCATION CERTIFICATION-B.S. ED.

#### Social Studies

**General Education Requirements**

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<thead>
<tr>
<th>I. Required Skills and Competencies</th>
<th>16 cr</th>
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<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>
<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) <strong>AND</strong> HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

**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)**
- BIO 145 Environmental Biology

**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: 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)

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**Helpful Hints for Advising:**

- GPA Needed to Declare: 3.0

**Total Graduation Requirements**

**120 cr**

### Professional Education Requirements

**33 cr**

- PLS 100 U.S. Government and Politics (3 cr)
- PLS See Department for appropriate courses (3 cr)
- PLS 141 Intro. to International Relations (3 cr)
- TCH 207 Org. & Psych. Foundations of Secondary Education (3 cr)
- EDU 412 Teaching of Social Studies I (3 cr)***
- EDU 413 Teaching of Social Studies II (3 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)
- 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

**Economics should not be taken until the sophomore year.

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A 4-year template is available at www.ship.edu/undeclared
# HISTORY B.A.
With American, European, or Middle East/Asian History Concentration

## General Education Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Required Skills and Competencies</th>
<th>Credits</th>
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<tbody>
<tr>
<td>I.</td>
<td>Required Skills and Competencies</td>
<td>15 cr</td>
</tr>
<tr>
<td></td>
<td>ENG 114 Writing Intensive First Year Seminar OR ENG 115 Advanced Placement Writing (3 cr)</td>
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<tr>
<td></td>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematical Competency-Any math listed under Category 'A' in the Gen Ed Program</td>
<td></td>
</tr>
<tr>
<td></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>II.</td>
<td>Categories of Knowledge (Including diversity requirement)</td>
<td>33 cr</td>
</tr>
<tr>
<td>A:</td>
<td>Logic/Numbers for Rational Thinking (3 cr)</td>
<td></td>
</tr>
<tr>
<td>B:</td>
<td>Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>C:</td>
<td>Biological &amp; Physical Sciences (9 cr)</td>
<td></td>
</tr>
<tr>
<td>D:</td>
<td>Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>E:</td>
<td>Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>III.</td>
<td>Library Skills Completed as part of the College Writing or Advanced Writing course</td>
<td></td>
</tr>
</tbody>
</table>

## History Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr)</td>
<td>18 cr</td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 201 Early History of the United States (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 202 Recent History of the United States (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 203 Theory and Practice of History (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 397 Seminar in Comparative History (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

## History Concentration: 12 cr

- Select from: U.S., Europe, Middle East/Asia

<table>
<thead>
<tr>
<th>Electives</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr)</td>
<td>12 cr</td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

## Restricted History Electives: 300 level or above

<table>
<thead>
<tr>
<th>Electives</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS American History Course (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS European History Course (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS Africa/Asia/Latin America Course (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS Africa/Asia/Latin America Course (3 cr)</td>
<td></td>
</tr>
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</table>

## Free Electives

<table>
<thead>
<tr>
<th>Electives</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>36 cr</td>
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</table>

## Total Graduation Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>120 cr</td>
</tr>
</tbody>
</table>

---

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

---

A 4-year template is available at www.ship.edu/undeclared
### A 4-year template is available at www.ship.edu/undeclared

#### 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 Electives: 200 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 Electives: 300 level or above** 6 cr
- HIS __________________________ (3 cr)
- HIS __________________________ (3 cr)

**Free Electives** 42 cr
- Total Graduation Requirements 120 cr

**GPA Needed to Declare:** 2.0

### Helpful Hints for Advising:

**Year 1**
- HIS 105 World History I
- HIS 106 World History II

A history minor is available 18 credits.
A philosophy minor is available 18 credits.

**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.

**# 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.

**Students must meet the university Diversity Requirement.**
### 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 Placement Writing (3 cr)</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 (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>Mathematical Competency</td>
<td></td>
</tr>
<tr>
<td>Any math listed under Category &quot;A&quot; of the Gen Ed Program</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>6 cr</td>
</tr>
</tbody>
</table>

**II. Categories of Knowledge**

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3-4 cr)</td>
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<tr>
<td>MAT 117 Applied Statistics</td>
<td>3 cr</td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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</tr>
<tr>
<td>ENG 248 or 250 Literature Requirement</td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
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</tr>
<tr>
<td>GEO 101 World Geography</td>
<td></td>
</tr>
<tr>
<td>ECO 101 Principles of Macroeconomics</td>
<td></td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>PSY 101 General Psychology</td>
<td></td>
</tr>
<tr>
<td>SOC 101 Introduction to Sociology</td>
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</tbody>
</table>

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

**History Requirements** Includes HIS 105 and 106

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIS 201 Early History of the United States (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>HIS 202 Recent History of the United States (3 cr)</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**Restricted Electives: 300 level or above**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HIS American History (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>HIS European History (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>HIS African/Asia/Latin American History (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>HIS African/Asia/Latin American History (3 cr)</td>
<td>3 cr</td>
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**History Electives: 300 level or above**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HIS</td>
<td>3 cr</td>
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<tr>
<td>HIS</td>
<td>3 cr</td>
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</table>

**Social Studies Certification Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 103 Geography of the U.S. &amp; Canada (3 cr)*</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 100 U.S. Government and Politics (3 cr)*</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS Elective (3 cr) [PLS 141, or a 200/300 level course]</td>
<td>3 cr</td>
</tr>
<tr>
<td>Social Science Elective (3 cr) +</td>
<td></td>
</tr>
<tr>
<td>Social Science Elective (3 cr) +</td>
<td></td>
</tr>
</tbody>
</table>

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

---

**HISTORY-SECONDARY EDUCATION CERTIFICATION- B.S.Ed.**

**Social Studies**

**Professional Education Requirements**

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

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

*Major requirement fulfills General Education credits

**Total Graduation Requirements**

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>121 cr</td>
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**GPA Needed to Declare:**

<table>
<thead>
<tr>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
</tr>
</tbody>
</table>

**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.**

---

A 4-year template is available at www.ship.edu/undeclared
HUMAN COMMUNICATION STUDIES-B.A.

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) (prereq HCS 125)
   ___ HCS 210 Public Speaking (3 cr)
   ___ HCS 360 Research Methods in communication (3 cr)
   ___ HCS 370 Rhetorical Criticism (3 cr)
   ___ HCS 400 Senior Seminar (3 cr)

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 requirement.

Rhetoric & Symbolism
   ___ HCS 325 Rhetoric of African-American Struggle and Progress (3 cr)
   ___ HCS 352 Argumentation & Debate (3 cr)
   ___ HCS 356 Persuasion (3 cr)
   ___ HCS 365 Language and Meaning (3 cr)
   ___ HCS 345 Environmental Communication (3 cr)
   ___ HCS 363 Political Rhetoric (3 cr)
   ___ HCS 375 Selected Topics in Rhetoric & Symbolism

Organizational Communication
   ___ HCS 230 Small Group Communication (3 cr)
   ___ HCS 260 Computer Mediated Communication (3 cr)
   ___ HCS 350 Theories of Organizational Communication (3 cr)
   ___ HCS 372 Communication for Training and Instruction (3 cr)
   ___ HCS 381 Professional Communication & Multi Media
      Presentation(3 cr)

   ___ HCS 351 Selected Topics in Organizational Communication (3 cr)

Cultural Perspectives
   ___ HCS 270 Intergroup/Intercultural Communication (3 cr)
   ___ HCS 310 African-American Communication (3 cr)
   ___ HCS 315 Asian-American Communication (3 cr)
   ___ 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)
   ___ HCS 330 Selected Topics in Cultural Perspectives (3 cr)

Interpersonal Communication
   ___ HCS 220 Nonverbal Communication (3 cr)
   ___ HCS 225 Communication and Sport (3 cr)
   ___ HCS 250 Interpersonal Communication (3 cr)
   ___ HCS 265 Interviewing (3 cr)
   ___ HCS 333 Communicating Identity (3 cr)
   ___ HCS 385 Resolving Conflict through Communication (3 cr)
   ___ HCS 430 Advanced Interpersonal Communication (3 cr)
   ___ HCS 349 Selected Topics in Interpersonal Communication (3 cr)

Internships
   ___ HCS 390 Internship I (3 cr)
   ___ HCS 391 Internship II (3 cr)
   ___ HCS 392 Internship III (3 cr)

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 (prereq for HCS 200)

Each student must select at least four 4 courses at or above the 300 level.

Human Communication Studies Minor is available 18 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.

---

A 4-year template is available at www.ship.edu/undeclared
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
- __________ 3 cr
- __________ 3 cr

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

**Secondary Concentration *:**  
12 cr

- __________ 3 cr
- __________ 3 cr
- __________ 3 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  
B. Theory and Criticism  
C. Arts Praxis  
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.

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.

Secondary Concentration *  
12 cr

- __________ 3 cr
- __________ 3 cr
- __________ 3 cr
- __________ 3 cr
- __________ 3 cr
- __________ 3 cr

See program advisor to develop 4-year scheduling plan.
### INTERNATIONAL STUDIES-B.A. ##

#### 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</td>
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<td>___ 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>
<td></td>
</tr>
<tr>
<td>___ HCS 100 Intro to Human Communication (3 cr)</td>
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</tr>
<tr>
<td>___ Mathematical Competency- Any math listed under Category A of the General Education Program.</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** MAT 117 Applied Statistics required for Global Business Concentration (3 cr)  

<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>___</td>
<td></td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
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<tr>
<td>___</td>
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<tr>
<td>___</td>
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<tr>
<td>___</td>
<td></td>
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<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<td>___</td>
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<tr>
<td>___</td>
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<tr>
<td>___</td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>___ GEO 101 World Geography</td>
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</tr>
<tr>
<td>___ PLS 141 World Politics</td>
<td></td>
</tr>
</tbody>
</table>

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 | |
|-------------------------------------------------------------------------------------|     |

<table>
<thead>
<tr>
<th>Required International Studies Courses</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ INT 200 Introduction to International Studies (3 cr)</td>
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</tr>
<tr>
<td>___ INT 300 International Studies Seminar (3 cr)</td>
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</table>

<table>
<thead>
<tr>
<th>Global Perspectives Concentration</th>
<th>12 cr</th>
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</thead>
<tbody>
<tr>
<td>Six credits must be at 300-level or higher. Courses from two or more disciplines.</td>
<td></td>
</tr>
<tr>
<td>___</td>
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<tr>
<td>___</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>Area Studies Concentration</th>
<th>12 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six credits must be at 300-level or higher. Courses from two or more disciplines.</td>
<td></td>
</tr>
<tr>
<td>___</td>
<td></td>
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<tr>
<td>___</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>Foreign Language or Free Electives (Based on language requirements)</th>
<th>9-18 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>3 cr</td>
</tr>
<tr>
<td>___</td>
<td>3 cr</td>
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<tr>
<td>___</td>
<td>3 cr</td>
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<tr>
<td>___</td>
<td>3 cr</td>
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<tr>
<td>___</td>
<td>3 cr</td>
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<table>
<thead>
<tr>
<th>Study Abroad/Internship</th>
<th>3 cr min</th>
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<table>
<thead>
<tr>
<th>Free Electives</th>
<th>24 cr</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Total Graduation Requirements</th>
<th>120 cr</th>
</tr>
</thead>
</table>

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

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.

A 4-year template is available at www.ship.edu/undeclared
A Guidebook for Undergraduate Students 2016-2017

MATHEMATICS-B.S.

Statistics, Applied Mathematics Concentrations and Secondary Education Certification; also “No Concentration” option

I. Required Skills and Competencies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 211</td>
<td>Calculus I</td>
</tr>
<tr>
<td></td>
<td>A: Logic/Numbers for Rational Thinking (4 cr)</td>
</tr>
<tr>
<td>HIS 105</td>
<td>Historical Foundations of Global Cultures (3 cr) AND</td>
</tr>
<tr>
<td></td>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
</tr>
</tbody>
</table>

Category: General Education Requirements

II. Categories of Knowledge

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 114</td>
<td>Writing Intensive First Year Seminar OR</td>
</tr>
<tr>
<td></td>
<td>ENG 115 Advanced Placement Writing (3 cr)</td>
</tr>
<tr>
<td></td>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
</tr>
<tr>
<td>HCS 100</td>
<td>Intro to Human Communication (3 cr)</td>
</tr>
<tr>
<td>MAT 225</td>
<td>Discrete Math</td>
</tr>
<tr>
<td>HIS 106</td>
<td>Historical Foundations of Global Cultures (3 cr) AND</td>
</tr>
<tr>
<td></td>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
</tr>
<tr>
<td></td>
<td>Student may need to take Pre-Calculus first</td>
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</table>

III. Library Skills Complete via College/Writing course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
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</table>

Mathematics and Computer Science Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 185</td>
<td>First Year Seminar in Mathematics</td>
</tr>
<tr>
<td>MAT 211</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MAT 212</td>
<td>Calculus II</td>
</tr>
<tr>
<td>MAT 213</td>
<td>Calculus III</td>
</tr>
<tr>
<td>MAT 225</td>
<td>Discrete Mathematics</td>
</tr>
<tr>
<td>MAT 313</td>
<td>Statistics I</td>
</tr>
<tr>
<td>MAT 318</td>
<td>Elementary Linear Algebra</td>
</tr>
<tr>
<td>MAT 320</td>
<td>Introduction to Abstract Algebra</td>
</tr>
<tr>
<td>MAT 430</td>
<td>Complex Analysis (3 cr) OR</td>
</tr>
<tr>
<td>MAT 441</td>
<td>Real Analysis</td>
</tr>
<tr>
<td>CSC 180</td>
<td>Microcomputer Basic</td>
</tr>
<tr>
<td>CSC 104</td>
<td>Python Programming</td>
</tr>
<tr>
<td>CSC 110</td>
<td>Computer Science I</td>
</tr>
<tr>
<td>CSC 106</td>
<td>Computer Science I Lab</td>
</tr>
</tbody>
</table>

Concentration Requirements

| Course Code | Description |

Statistics Concentration*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 413</td>
<td>Statistics II (3 cr)</td>
</tr>
<tr>
<td>MAT 476</td>
<td>Probability (3 cr)</td>
</tr>
<tr>
<td>MAT 486</td>
<td>Mathematical Statistics (3 cr)</td>
</tr>
<tr>
<td>MAT 300/400</td>
<td>Math Level Elective (3 cr)</td>
</tr>
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</table>

Applied Mathematics Concentration*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 322</td>
<td>Differential Equations (3 cr)</td>
</tr>
<tr>
<td>MAT 326</td>
<td>Mathematical Modeling (3 cr)</td>
</tr>
<tr>
<td>MAT 400</td>
<td>Level Applied Elective (3 cr)</td>
</tr>
</tbody>
</table>

Professional Sequence:

| Course Code | Description |

Secondary Education Certification ***

| Course Code | Description |

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0 3.0 for secondary education

Semester I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 211</td>
<td>Calculus I (4 cr)</td>
</tr>
<tr>
<td>MAT 225</td>
<td>Discrete Math (4 cr)</td>
</tr>
</tbody>
</table>

NOTE: Recommended Course Load: 16 credits

Semester II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 212</td>
<td>Calculus II (4 cr)</td>
</tr>
<tr>
<td>MAT 225</td>
<td>Discrete Math (4 cr)</td>
</tr>
</tbody>
</table>

NOTE: Recommended Course Load: 14 or 17 credits

* May replace Allied Electives (or Allied Electives/Interdisciplinary Sequence combination) 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 course work. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.

A 4-year template is available at www.ship.edu/undeclared
### APPLIED PHYSICS-B.S.  
(Pre-Engineering)  

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>APPLIED PHYSICS-B.S.</th>
<th>16 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar OR</td>
<td>CSC 106 Computer Science I lab (1 cr)</td>
<td>8 cr</td>
</tr>
<tr>
<td>ENG 115 Advanced Placement Writing (3 cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May need ENG 113 Intro to Academic Writing first, based on test results.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematical Competency-Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 211 Calculus I —if necessary, student may need MAT 175 Pre-Calculus first</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Categories of Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: Logic/Numbers for Rational Thinking (4 cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAT 212 Calculus II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (11 cr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM121 Chemical Bonding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 221 Fundamentals Physics I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D: Political, Economic &amp; Geographic Science (6 cr)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 101 Principles of Macroeconomics or ECO 102 Principles of Microeconomics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. Library Skills Completed as part of the College Writing or Advanced Writing course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total Credits Required From Shippensburg | 98 cr |  
| GPA Needed to Declare: | 2.5 |  

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.
Advanced Physics Track Requirements               30cr
Concentration Requirements               28-31 cr
Mathematics/Computer Science Requirements       19 cr
Physics Core Requirements             32cr
Mathematics/Computer Science Requirements 19 cr
Chemistry Requirements                  4 cr
Concentration Requirements              28-31 cr
Advanced Physics Track Requirements      30 cr

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  
___ 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 of Physics I

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
___ 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
___ 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 Lab (1 cr)

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

Concentration Requirements

Advanced Physics Track Requirements
___ 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 397 Research Project (3 cr)

Total Graduation Requirements                          120 cr

GPA Needed to Declare:      2.0
******************************************************************************

Physics Requirements
___ 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.     18 cr

GPA Needed to Declare:      2.0
******************************************************************************

Nanotechnology Certificate:
______________________________
______________________________
Free Electives**                     18 cr

*Major requirement fulfills General Education Credits

GPA Needed to Declare:      2.0
******************************************************************************

Total Graduation Requirements                         120 cr

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 exceptional students may take it earlier

Computer Science I should be taken early in the program.

Physics minor is available 26 cr.

A 4-year template is available at www.ship.edu/undeclared
### 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 Placement Writing (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>MAT 211 Calculus I — if necessary, student may need to take MAT 175 Pre-Calculus first</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>
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</tbody>
</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 (4 cr)</td>
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</tr>
<tr>
<td>MAT 212 Calculus II</td>
<td>4 cr</td>
</tr>
<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (10 cr)</td>
<td></td>
</tr>
<tr>
<td>CHM 121 Chemical Bonding</td>
<td>3 cr</td>
</tr>
<tr>
<td>ESS 110 Intro to Geology OR ESS 210 Physical Geology</td>
<td></td>
</tr>
<tr>
<td>BIO 162 Principles of Biology: Organismal Diversity</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>
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</table>

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

### Physics Core Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PHY 107 Freshman Seminar Physics I (2 cr)</td>
<td>2 cr</td>
</tr>
<tr>
<td>PHY 221 Fundamentals of Physics I (5 cr)</td>
<td>5 cr</td>
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<tr>
<td>PHY 222 Fundamentals of Physics II (5 cr)</td>
<td>5 cr</td>
</tr>
<tr>
<td>PHY 301 Math and Numerical Techniques (4 cr)</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHY 311 Quantum I (4 cr)</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHY 321 Electricity and Magnetism I (4 cr)</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHY 331 Mechanics I (4 cr)</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHY 341 Classical and Statistical Thermo (4 cr)</td>
<td>4 cr</td>
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### Physics Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 4xx Physics Elective (3 cr)</td>
<td>3 cr</td>
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</table>

### Mathematics Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 211 Calculus I (4 cr)*</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 212 Calculus II (4 cr)*</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 213 Calculus III (4 cr)</td>
<td>4 cr</td>
</tr>
<tr>
<td>MAT 322 Differential Equations (3 cr)</td>
<td>3 cr</td>
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<tr>
<td>CSC 110 Computer Science I (3 cr)</td>
<td>3 cr</td>
</tr>
<tr>
<td>CSC 106 Computer Science I (1 cr)</td>
<td>1 cr</td>
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</table>

### Chemistry Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHM 121 Chemical Bonding (3 cr) *</td>
<td>3 cr</td>
</tr>
<tr>
<td>CHM 125 Lab IB (1 cr)</td>
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</table>

### Professional Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCH 207 Org. &amp; Psych. Foundations of Secondary Education (3 cr)</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

*Major requirement fulfills General Education Credits*

### Total Graduation Requirements

- **Physics-B.S.Ed.**
  - **Total Credits:** 134 cr
  - **GPA 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.
## 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)  
- 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)

#### D: Political, Economic & Geographic Science (6 cr)
- ECO 101 Principles of Macroeconomics OR ECO 102 Principles of Microeconomics OR ECO 113 Principles of Economics  
- GEO 101 World Geography OR GEO 103 Geography of U.S. and Canada  

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

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

### Political Science Core Requirements  
18 cr

Students must earn a grade of "C" or better in each core course
- PLS 100 U.S. Government and Politics (3 cr)  
- PLS 141 World Politics (3 cr)  
- PLS 201 Foundations of Political Science: Concepts and Critical Analysis (3 cr)  
- PLS 202 Applications in Public Affairs (3 cr)  
- PLS 300 Adv. U.S. Gov't: Institutions and Public Policy (3 cr)  
- PLS 301 Political Science Research Methods (3 cr)  
- PLS 399 Senior Seminar (3 cr)

### Political Science - International Track  
39 cr

International Track Required Courses
- PLS 100 U.S. Government and Politics (3 cr)  
- PLS 141 World Politics (3 cr)  
- PLS 201 Foundations of Political Science: Concepts and Critical Analysis (3 cr)  
- PLS 202 Applications in Public Affairs (3 cr)  
- PLS 251 Introduction to Comparative Politics (3 cr)  
- PLS 301 Political Science Research Methods (3 cr)  
- PLS 341 International Law and Organization (3 cr)  
- PLS 399 Senior Seminar (3 cr)

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. 80 for list of courses)

### Department Electives (Political Science)  
6 - 9 cr

### Department Electives (Political Science - International Track)  
0 - 3 cr
Any Political Science courses(s)
- 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)

### 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.

* 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.

**Political Science continues on next page.**
**POLITICAL SCIENCE-B.A.**

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 252</td>
<td>Cost Rica: Politics, Economy and Society</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 311</td>
<td>The Legislative Process</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 313</td>
<td>The Judicial Process</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 324</td>
<td>Women in American Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 347</td>
<td>Applied Diplomacy</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 348</td>
<td>Applied Diplomacy</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 357</td>
<td>Comparative Revolutions</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 361</td>
<td>Political Theory from Ancient Times through the 19th Century</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 373</td>
<td>Public Financial Administration</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**Applied Competency: Written Communication**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 231</td>
<td>State and Local Government</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 307</td>
<td>Applied Research in Political Science</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 312</td>
<td>The American Presidency</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 321</td>
<td>Public Opinion and Political Media</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 322</td>
<td>Interest Groups in American Society</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 324</td>
<td>Women in American Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 325</td>
<td>African American Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 341</td>
<td>International Law and Organization</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 351</td>
<td>European Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 356</td>
<td>Politics of Developing Regions</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 363</td>
<td>American Political Thought</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 365</td>
<td>Constitutional Law: The Federal System</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 366</td>
<td>Constitutional Law: First Amendment Freedom</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 367</td>
<td>Constitutional Law: Criminal Law and Equal Protection</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 371</td>
<td>Public Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 372</td>
<td>Public Personnel Administration</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 381</td>
<td>Principles of Labor Relations</td>
<td>3 cr</td>
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</table>

**Applied Competency: Problem Solving**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PLS 271</td>
<td>Introduction to Public Administration</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 325</td>
<td>African American Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 331</td>
<td>Urban Politics and Administration</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 342</td>
<td>American Foreign Policy</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 343</td>
<td>Global Economic and Political Conflict</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 351</td>
<td>European Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 356</td>
<td>Politics of Developing Regions</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 361</td>
<td>Political Theory from Ancient Times through the 19th Century</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 362</td>
<td>Contemporary Political Ideologies</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 365</td>
<td>Constitutional Law: The Federal System</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 366</td>
<td>Constitutional Law: First Amendment Freedom</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 367</td>
<td>Constitutional Law: Criminal Law and Equal Protection</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 374</td>
<td>Public Service Ethics</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

**Applied Competency: Experiential Learning**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLS 251</td>
<td>Introduction to Comparative Politics</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 252</td>
<td>Costa Rica: Politics, Economy, and Society</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 307</td>
<td>Applied Research in Political Science</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 313</td>
<td>The Judicial Process</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 323</td>
<td>Campaigns, Elections, and Political Parties</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 333</td>
<td>Applications in State and Local Public Policy</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 347</td>
<td>Applied Diplomacy</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 348</td>
<td>Applied Diplomacy</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 357</td>
<td>Comparative Revolutions</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 358</td>
<td>European Political Economy and Security</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 359</td>
<td>European Political Integration and Identity</td>
<td>3 cr</td>
</tr>
<tr>
<td>PLS 395</td>
<td>Internship I</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

A 4-year template is available at www.ship.edu/undeclared
### 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
  - HIS 100 Intro to Human Communication (3 cr)
  - Mathematical Competency-Any mathematics course 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**
- **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 Writing course**

**Psychology Requirements**
- **42 cr**
  - Core Classes: **Perspectives in Psychology** (one course from each area)**
    - PSY 265 Child & Adolescent Psychology (3 cr)
    - PSY 352 Psychology of Adulthood & Aging (3 cr)
  - Social/Personality:
    - PSY 240 Psychology of Personality (3 cr)
    - PSY 270 Social Psychology (3 cr)
  - Abnormal:
    - PSY 330 Abnormal Psychology (3 cr)
    - PSY 355 Psychology of the Exceptional Child (3 cr)
  - Neuroscience:
    - PSY 320 Behavioral Neuroscience (3 cr)
    - PSY 323 Sensation and Perception (3 cr)
  - Cognition/S&P:
    - PSY 323 Sensation and Perception (3 cr)
    - PSY 325 Psychology of Human Cognition (3 cr)
  - Learning/Behavioral:
    - PSY 235 Conditioning and Learning (3 cr)
    - PSY 383 Children’s Understanding of the Social World (3 cr)
  - **9 cr**
    - Required courses (complete sequentially)
      - PSY 105 Research Design and Statistics I (can take concurrently with PSY 101)
      - PSY 205 Research Design and Statistics II (Prerequisite: PSY 101 and PSY 105)
      - PSY 301 Experimental Psychology (Prerequisite: PSY 205)

**Electives (two courses required from each category, below)**
- **12 cr**
  - Ethical and Social Responsibility in a Diverse World:
    - PSY 315 Psychology of Prejudice and the Minority Experience (3 cr)
    - PSY 350 Psychology of Sustainability (3 cr)
    - PSY 365 Multicultural Psychology (3 cr)
    - PSY 410 Psychology and Women (3 cr)
    - PSY 420 Health Psychology (3 cr)
    - PSY 447 Multicultural Health Psychology (3 cr)
    - PSY 470 Legal Psychology (3 cr)
  - **12 cr**

### PSYCHOLOGY B.A. ##

**Professional Development:**
- PSY 311 Applied Behavior Analysis (Prerequisite: PSY 235)
- PSY 335 Psychology of Social Influence (Prerequisite: PSY 270*)
- PSY 340 Introduction to Clinical Psychology (Prerequisite: PSY 330 & 240)
- PSY 361 Group Interaction
- PSY 384 Person to Person Interaction
- PSY 432 The Psychology of Computers and the Internet
- PSY 435 Psychopharmacology (Prerequisite: PSY 320*)
- PSY 445 The Psychology of Thinking (Prerequisite: PSY 325)
- PSY 450 Crisis Intervention (Prerequisite: PSY 384)
- PSY 475 Industrial & Organizational Psychology (Prerequisite: PSY 205*)
- PSY 485 Tests & Measurements (Prerequisite: At least one stats/methods course)

**Capstone**
- **3 cr**
  - Can be fulfilled in one of the following three ways:
    - Advanced Research I or II (PSY 374 or PSY 375)
    - PSY 379 Capstone Seminar in Psychology
    - PSY 440 History and Systems of Psychology
  - Internship (at least 3 credits)

**Other Psychology Courses (as Free Electives; some selected topics may count for core areas per departmental discretion)**
- PSY 393 Selected Topics Psychology
- PSY 395 Seminar in Selected Topics (senior standing)
- PSY 490 Selected Topics in Psychology
- Additional Perspectives courses or Electives category courses as listed previously

**Internships (up to 6 credits; 3 can count towards major [for Capstone Req.])**
- PSY 385 Internship I (3 cr)
- PSY 386 Internship III (3 cr)

**Total Graduation Requirements**
- **120 cr**

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.

The remaining credits toward your 120 total should comprise 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.

# 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 3f, or the completion of a 103 level course. Three credits of a foreign language may count under category B.

* Permission of Instructor
** C or better required in each course

GPA Needed to Declare: 2.3

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.

Helpful Hints for Advising:
- **Year I**
  - PSY 101 General Psychology
  - PSY 105 Research Design & Statistics I
- **Year II**
  - PSY 205 Research Design & Statistics II
  - Begin Foundation Courses
- **Year III**
  - PSY 301 Experimental Psychology

A psychology minor is available 18 cr.
### PUBLIC ADMINISTRATION-B.S.

#### 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</td>
<td>ENG 115 Advanced Placement Writing (3 cr) May need ENG 113 Intro to Academic Writing first, based on test results</td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td>Mathematical Competency-Required</td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</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) (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) ECO 101 Principles of Macroeconomics AND ECO 102 Principles of Microeconomics OR ECO 113 Principles of Economics</td>
<td></td>
</tr>
<tr>
<td>GEO 101 World Geography OR GEO 103 Geography of U.S and Canada</td>
<td></td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr) SOC 101 Introduction to Sociology</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Library Skills Completed as part of the College Writing or Advanced Writing course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Administration Requirements* Total 39 cr</td>
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</tbody>
</table>

#### Allied Fields

<table>
<thead>
<tr>
<th>Allied Fields</th>
<th>16 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics Requirement</td>
<td>6 cr</td>
</tr>
<tr>
<td>ECO 101 Principles of Macroeconomics (3 cr) ***</td>
<td>ECO 102 Principles of Microeconomics (3 cr)</td>
</tr>
<tr>
<td>ECO 113 Principles of Economics (4 cr) or Any Economics course at or above the 200 level (3 cr)</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Sociology Requirement</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 101 Introduction to Sociology (3 cr) ***</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Math and Computer Competency ***</th>
<th>4 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 117 Applied Statistics (4 cr)</td>
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</tr>
</tbody>
</table>

***Major requirement fulfills General Education Credits

<table>
<thead>
<tr>
<th>Free Electives</th>
<th>23 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Graduation Requirements</td>
<td>120 cr</td>
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### Allied Fields

<table>
<thead>
<tr>
<th>Economics Requirement</th>
<th>6 cr</th>
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<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sociology Requirement</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 101 Introduction to Sociology (3 cr) ***</td>
<td></td>
</tr>
</tbody>
</table>

An additional Sociology course from the following |
SOC 241, 243, 258, 346, 351, 354, 363, 365, or 425

<table>
<thead>
<tr>
<th>Math and Computer Competency ***</th>
<th>4 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 117 Applied Statistics (4 cr)</td>
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</table>

***Major requirement fulfills General Education Credits

<table>
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<tr>
<th>Free Electives</th>
<th>23 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Graduation Requirements</td>
<td>120 cr</td>
</tr>
</tbody>
</table>

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### GPA Needed to Declare: 2.0

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#### Helpful Hints for Advising:

YEAR I PLS 100 U.S. Government and Politics

YEAR 2 PLS 271 Introduction to Public Administration
MAT 117 Applied Statistics

PLS 271 and MAT 117 are prerequisites for PLS 301
PLS 301 is a prerequisite for PLS 302
PLS 302 is only offered during the Spring semester.

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.

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#### Public Administration Electives** 12 cr

**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.

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A 4-year template is available at www.ship.edu/undeclared
A Guidebook for Undergraduate Students 2016-2017

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)
      ___ PSY 101 General Psychology
      ___ ANT 111 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 Sociological Practice (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
Culture and Social Change
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 Sociological Practice
      2 Sociology Electives

A sociology minor is available 18 cr.
An anthropology minor is available 18 cr.

A 4-year template is available at www.ship.edu/undeclared
## SOFTWARE 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 0113 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 35 cr

- A: Language/Numbers for Rational Thinking (3 cr)
- B: Literary, Artistic & Cultural Traditions (9 cr)
- C: Biological & Physical Sciences (11 cr)*
- D: Political, Economic & Geographic Science (6 cr)
- E: Social & Behavioral Science (6 cr)

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

### Computer Science Major Core Requirements 57 cr

- CSC 107 Computer Science I Lab (1 cr)
- CSC 110 Computer Science I (4 cr)
- CSC 111 Computer Science II (4 cr)
- CSC 210 Data Structures (4 cr)
- CMPE 220 Computer Organization (4 cr)
- CSC 310 Design & Analysis of Algorithms (4 cr)
- CMPE 320 Operating Systems (4 cr)
- CSC 371 Database Management (4 cr)
- SWE 310 Software Metrics/Process Management (4 cr)
- SWE 300 Crafting Quality Code (4 cr)
- CSC 431 Computer Networks (4 cr)
- SWE 420 Extreme Programming (4 cr)
- CSC 498 Senior Research Methods (2 cr)
- CSC 499 Research and Development Project (2 cr)
- CSC XXX Computer Science Elective** (4 cr)
- SWE 400 Large Scale Architectures (4 cr)

### Other Required Courses 15 cr
- MAT 211 Calculus I (4 cr)
- MAT 225 Discrete Mathematics (4 cr)
- MAT 313 Statistics I (4 cr)
- MAT 318 Elementary Linear Algebra (3 cr)

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*Software Engineering majors must complete a two-semester science sequence. Students can choose from BIO 161/162 CHM 121&125/122&126, or PHY 205&123/206&125. The first course in the sequence can count as a Category C General Education course.

** Computer Science Elective is any CSC course at the 300-level or above. Check with advisor or bulletin board for frequency of required courses.

### GPA Needed to Declare: 2.0

To declare or retain this major, a student must earn a ‘C’ or better in CSC 110 Computer Science I.

Students pursuing this major should have strong math skills.

### Helpful Hints for Advising:

#### Semester I
- CSC 110 Computer Science I (3 cr)
- CSC 107 Computer Science I Lab (1 cr)
- 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.

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A 4-year template is available at www.ship.edu/undeclared
SPANISH & SPANISH SECONDARY EDUCATION CERTIFICATION-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
___ Mathematical Competency-Recommended
Any math 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 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

Spanish Major Requirements 30 cr

___ SPN 202 Intermediate Spanish Conversation (3 cr)
___ SPN 204 Ideas & Cultures from the Spanish-Speaking World (3 cr)
___ SPN 211 Intermediate Grammar (3 cr)
___ SPN 302 Advanced Spanish Conversation (3 cr)
___ SPN 309 Spanish Phonetics (3 cr)
___ SPN 312 Spanish Grammar (3 cr)
___ SPN 313 Advanced Composition & Stylistics (3 cr)
___ SPN 343 Introduction to Literary Studies (3 cr)
___ SPN 360 Masterpieces of Spanish Literature (3 cr)
___ SPN 361 Masterpieces of Spanish-Am. Literature (3 cr)

Spanish Electives 6 cr

___ SPN 300-level or above _____________ (3 cr)
___ SPN 400-level or above _____________ (3 cr)

Free Electives 36 cr

Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0

Advising Hints: YEAR I: Any introductory language courses necessary

Spanish minor is available 18 credits

Professional Education Requirements

if planning to teach Spanish ** 30 cr

Secondary Education majors in Spanish must take a math course to satisfy the Category A requirement. This cannot be the same course used for Required Skills. They must also take an two English courses. If any exceptions are made, they must be approved by the Teacher Education Office.

Spanish major/elective requirements for secondary education majors are the same as for the Spanish B.A.

Replace free electives with the following:

___ TCH 207 Organizational & Psychological Foundations (3 cr)
___ TCH 251 Elements of Middle Level Instruction (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)
___ EDU 426 Teaching of Foreign Language*** (3 cr)
___ EDU 495 Student Teaching & Professional Practicum***( 12 cr)

** Other requirements for teacher certification are available from the Department of Modern Languages.

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 course work. These basic skills tests must be passed before students are permitted to take any 300 level or above education course.
College of Education & Human Services
College of Education & Human Services

B.S.
Criminal Justice
Exercise Science

B.S.W.
Social Work

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 course work 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 skilled 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.
A Guidebook for Undergraduate Students 2016-2017

Criminal Justice Electives (continued)

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRJ 411 Terrorism (3 cr)</td>
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<tr>
<td>CRJ 433 Evidence Law (3 cr)</td>
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<tr>
<td>CRJ 440 Community Corrections</td>
</tr>
<tr>
<td>CRJ 456 Forensic Science: Evidence Analysis (3 cr)</td>
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<tr>
<td>CRJ 461 Social Construction of Homicide (3 cr)</td>
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<tr>
<td>CRJ 463 Comparative Criminal Justice (3 cr)</td>
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<tr>
<td>CRJ 464 Popular Culture, Crime, &amp; Justice (3 cr)</td>
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<tr>
<td>CRJ 466 Women and Criminal Justice (3 cr)</td>
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<tr>
<td>CRJ 471 Internship in Criminal Justice I (3 cr)*</td>
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<tr>
<td>CRJ 472 Internship in Criminal Justice II (3 cr)*</td>
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<tr>
<td>CRJ 473 Internship in Criminal Justice III (3 cr)*</td>
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<tr>
<td>CRJ 474 Internship in Criminal Justice IV (3 cr)*</td>
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<tr>
<td>CRJ 481 Independent Study in Criminal Justice (1-3 cr)</td>
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<tr>
<td>CRJ 490 Selected Topics in Criminal Justice (3 cr)</td>
</tr>
</tbody>
</table>

*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 8 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

<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>
<td>May need ENG 113 Intro to Academic Writing first, based on test results</td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
<td>Mathematical Competency-Required</td>
</tr>
<tr>
<td>MAT 117 Applied Statistics (3 cr)</td>
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</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>

### 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) |
| CHM105 Chemistry: An Observational Approach (3 cr) |
| PHY 121 Introductory Physics (3 cr) fall only |
| PHY 123 Introductory Physics I 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 Minor Requirements

16 cr

- BIO 161 Principles of Biology: Cell Structure & Function (4 cr) OR BIO 162 Principles of Biology: Organismal Diversity (4 cr) |
| BIO 371 Human Anatomy (4 cr) fall only |
| BIO 350 Human Physiology (4 cr) |
| BIO 220, 260, 240, OR 224 (3 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 (3 cr) Spring Only |
| 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. (3 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 - 12 cr) |

### Free Electives

(dependents Internship credits and professional track) 6-12 cr

- All students doing an internship must hold current certifications at the student's expense: 1 First Aid, 2 CPR Certification, 3 Child Abuse Clearance, 4 Criminal Record Clearance, and 5 TB Test.
- All internship students must have 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 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 PHY 121 & 123 Introductory Physics I 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.

A 4-year template is available at www.ship.edu/undeclared.
A 4-year template is available at www.ship.edu/undeclared.
TEACHER EDUCATION (Early Childhood Education/PK-4th Grade)-B.S.Ed.

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)
___ HCS 100 Intro to Human Communication (3 cr)
___ MAT 111 Fundamentals of Mathematics II (3 cr)
___ HIS 105 Historical Foundations of Global Cultures (3 cr)
___ 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 110 Fundamentals of Mathematics I (3 cr)

B: Literary, Artistic & Cultural Traditions (9 cr)
___ Select ONE Literature course:
    ENG 243 OR  ENG 248 OR ENG 250 OR a Modern Language
    literature course (under advisement)
___ Select TWO courses from different disciplines with advisement
    ___ ART 101 Art Appreciation (recommended)
    ___ ART 231 Art History I
    ___ ART 232 Art History II
    ___ ART 274 Intro to Cultural Studio
    ___ ART 339 History of American Art

C: Biological & Physical Sciences (9 cr)
___ One course must be selected from each of the three categories. ONE
   one of the courses must have a laboratory component indicated with
   an asterisk *.

   Biology
   ___ BIO 100 Basic Biology OR
   ___ BIO 162 Principles of Biology: Organismal Diversity * OR
   ___ BIO 142 Introduction to Ecology * OR
   ___ BIO 242 Ecology * OR
   ___ BIO 150 Human Biology OR
   ___ BIO 208 Field Biology * OR

   Earth Sciences
   ___ ESS 108 Conservation of Natural Resources OR
   ___ ESS 110 Introduction to Geology * OR
   ___ ESS 111 Introduction to Atmosphere * OR
   ___ ESS 210 Physical Geology * OR
   ___ BIO 145 Environmental Biology

   Physical Sciences
   ___ PHY 108 Astronomy OR
   ___ PHY 110 Physics for Society OR
   ___ PHY 115 Physical Science: A Lab Approach* OR
   ___ PHY 121/123 Introductory Physics I and lab* OR
   ___ PHY 205 Intermediate Physics I* OR
   ___ CHM 103 Chemistry a Cultural Approach OR
   ___ CHM 105 Chemistry an Observational Approach* OR
   ___ CHM 121 Chemical Bonding* (lab not required)

D: Political, Economic & Geographic Sciences (6 cr from 2 different disciplines)
___ GEO 101 World Geography
___ ECO 101 Principles of Macroeconomics OR
___ ECO 102 Principles of Microeconomics

E: Social & Behavioral Science (6 cr)
___ PSY 101 General Psychology (required) AND
___ SOC 101 Introduction to Sociology OR
___ GEO 140 Cultural Geography OR
___ ANT 111 Cultural Anthropology

III. Library Skills: Complete via College Writing Competency

Other Major Course Requirements

Professional Core 60 cr

___ ECH 210 The Early Childhood Profession
___ ECH 220 The Developing Child I: Physical, Motor, Health & Wellbeing
___ ECH 253 Early Literacy & Literature for Children & Families: Birth-5 years
___ ECH 260 The Developing Child II: Cognitive & Language Development
___ ECH 320 The Developing Child III: Social & Emotional Development & Guiding
    Children's Behavior
___ ECH 333 Social Studies Methods in P-4
___ ECH 343 Math Methods I, P-1st
___ ECH 370 Assessing Young Children
___ ECH 373 Science & Technology Methods in P-4
___ ECH 393 Math Methods II, 2nd-4th grade
___ ECH 415 Professional Practicum in P-4
___ ECH 440 Building Family & Community Partnerships
___ ECH 453 Integrated Curriculum, P-4
___ ECH 480 Early Childhood Professional Seminar
___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners
___ EEC 423 Effective Instructional Strategies for Children with
   Exceptionalities PK-8
___ EEC 483 Assessing Children with Exceptionalities for Curricular
   Decision Making
___ RDG 323 Processes of Word/Text/Comprehension in Grades 1-4
___ RDG 363 Reading & Writing in P-4
___ RDG 383 English Language Learners in P-4
___ RDG 443 Reading Measures and Interventions
___ ECH 489 Early Childhood Student Teaching & Professional Pract. 12 cr

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, interviews, 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 insure that they meet program requirements.

A 4-year template is available at [www.ship.edu/undeclared](http://www.ship.edu/undeclared)
DEPARTMENT OF TEACHER EDUCATION
PROGRAM PLANNING SHEET
Elementary/Middle Level Option #1- English/Language Arts

A student selecting this option will only be certified to teach English/Language Arts at the middle level grades 4-8.

PDE Competency Areas
I. Content Knowledge: 80 credits including General Education Requirements. A total of 36 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

Concentration Area
A. Language Arts: 30 credits required
   ___ ENG 106 Writing Intensive Seminar (3) or
   ___ ENG 110 Advanced Placement Writing (3)
   ___ ENG 190 Literacy in America (3) or
   ___ ENG 248 Intro to Culturally Diverse Lit (3)
   ___ ENG 250 Intro to Literature (3)
   ___ ENG 366 History and Structure of the English Lang (3)
   ___ ENG 420 Studies in Writing (3) or
   ___ ENG 419 Tutoring and Teaching of Writing (3)
   ___ ENG 426 Adolescent Literature (3)
   ___ HCS 100 Intro to Human Communication (3)
   ___ TCH 303 Books and Materials (3)
   ___ RDG 232 Reading in the Elementary School (3)
   ___ RDG 334 Reading Assessment (3) (Prerequisite RDG 232)
   ___ RDG 340 Seminar in Literacy Tutoring (3) (Prerequisite RDG 232 and RDG 334)

Cognate Areas
B. Math: 13 credits required
   ___ MAT 205 Survey of Middle Grades Mathematics (3)
   ___ MAT 175 Pre-Calculus (3) (See note on Prerequisites)
   ___ MAT 105 Math for Liberal Arts (3)
   ___ MAT 117 Applied Statistics (4)

C. Science: 12 credits required
   ___ BIO 100 Basic Biology (3)
   ___ CHM 105 An Observational Approach (3)
   ___ PHY 121 Physics I (3)
   ___ ESS 110 Introduction to Geology (3)

D. Social Studies: 12 credits required
   ___ GEO 101 World Geography (3)
   ___ ECO 101 Macroeconomics (3) or
   ___ PLS 100 U.S. Government and Politics (3)
   ___ HIS 105 Historical Foundation of Global Cultures (3)
   ___ HIS 106 Thinking Historically in a Global Age (3)

E. Fine Arts: 6 credits
   (Select two from different disciplines)
   Music
   ___ MUS 110 Fundamental Music Skills (3) or
   ___ MUS 121 Introduction to Music (3) or
   ___ MUS 261 World Music (3)
   Art (ART 101 is recommended)
   ___ ART 101 Art Appreciation (3) or
   ___ ART 231 Art History I (3) or
   ___ ART 232 Art History II (3) or
   ___ ART 274 Intro to Cultural Studio (3) or
   ___ ART 339 History of American Art (3)
   Theatre
   ___ THE 121 Intro to Theatre (3)

F. Social and Behavioral Science: 6 credits
   ___ PSY 101 General Psychology (3)
   Choose one of the following
   ___ ANT 111 Cultural Anthropology (3) or
   ___ GEO 140 Cultural Geography (3)
   ___ SOC 101 Intro to Soc: Society & Div (3)

II. Professional Core & Student Teaching: 42 credits
A. Middle Level Cognitive Development
   TCH 206 Social Found of Middle Level Educ (3)
B. Early Adolescent and Adolescent Learning Theory
   TCH 261 Adolescent Dev and Lng Theory (3)
C. Assessments and Interventions
   ___ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)
D. Adaptations and Accommodations for Diverse Learners
   ___ EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3)
   ___ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3)
E. Middle Level Teaching Methods
   ___ TCH 322 Teaching Middle Level Language Arts (3)
   ___ TCH 251 Elements of Middle Level Instruction (3)
   ___ RDG 329 Reading in the Content Area (3)
F. English Language Learners (ELL)
   ___ RDG 413 Teach Read to English Lang Learners (3)
G. Student Teaching
   ___ EDU 495 Student Teaching Experience (15)

Note on Prerequisites
Pre-Calculus: MAT140A, MAT140B, math placement level 5, or permission of department chair.

Discrete Math: Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above.

Shippensburg University General Education Requirements
1 Satisfies a requirement for Required Skills and Competencies.
A Satisfies a requirement for a Category A General Education Course
B Satisfies a requirement for a Category B General Education Course
C Satisfies a requirement for a Category C General Education Course
D Satisfies a requirement for a Category D General Education Course
E Satisfies a requirement for a Category E General Education Course
A student selecting this option will only be certified to teach math and language arts at the middle level grades 4-8.

**PDE Competency Areas**

1. **Content Knowledge**: 81 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

### Concentration Areas

**A. Math:** 21 credits required

- MAT 105 Math For Liberal Studies (3)
- MAT 205 Survey of Middle Grades Mathematics (3)
- MAT 117 Applied Statistics (4)
- MAT 211 Calculus I (4) (See note for Prerequisites)
- MAT 225 Discrete Math (4) (See note for Prerequisites)
- MAT 333 Geometry (3)

**B. Language Arts:** 21 credits required

- ENG 190 Literacy in America (3)
- ENG 248 Intro to Culturally Diverse Lit (3)
- ENG 250 Intro to Literature (3)
- ENG 420 Studies in Writing (3)
- ENG 419 Tutoring and Teaching of Writing (3)
- ENG 426 Adolescent Literature (when 426 is offered)
- RDG 232 Reading in the Elementary School (3)
- RDG 334 Literacy Assessment (3) (Prerequisite RDG 232)
- RDG 340 Seminar in Literacy Tutoring (3) (Prerequisite RDG 232)

### Cognate Areas

**C. Science:** 12 credits required

- BIO 100 Basic Biology (3)
- CHM 105 An Observational Approach (3)
- PHY 121 Physics I (3)
- ESS 110 Introduction to Geology (3)

**D. Social Studies:** 12 credits required

- GEO 101 World Geography (3)
- ECO 101 Macroeconomics (3)
- PLS 100 U.S. Government and Politics (3)
- HIS 105 Historical Foundation of Global Cultures (3)
- HIS 106 Thinking Historically in a Global Age

**E. Writing/Fluency Competencies:** 3 credits

- HCS 100 Intro to Human Communication

**F. Fine Arts:** 6 credits

(Select two from different disciplines)

- MUS 110 Fundamental Music Skills
- MUS 121 Introduction to Music
- MUS 261 World Music
- ART 339 History of American Art

**G. Social and Behavioral Sciences:** 6 credits

- PSY 101 General Psychology
- ANT 111 Cultural Anthropology
- GEO 140 Cultural Geography

### Professional Core & Student Teaching: 39 credits

**A. Middle Level Cognitive Development**

- TCH 206 Social Found of Middle Level Educ

**B. Early Adolescent and Adolescent Learning Theory**

- TCH 261 Adolescent Dev and Lng Theory

**C. Assessments and Interventions**

- EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making

**D. Adaptations and Accommodations for Diverse Learners**

- EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners
- EEC 423 Effective Instructional Strategies for Students with Exceptionalities

**E. Middle Level Teaching Methods**

- TCH 322 Teaching Middle Level Language Arts
- TCH 342 Teaching Middle Level Mathematics
- RDG 329 Reading in the Content Area

**F. English Language Learners (ELL)**

- RDG 413 Teaching Reading to English Language Learners

**G. Student Teaching**

- EDU 495 Student Teaching Experience

### Note on Prerequisites

**Calculus I:** Students must meet one of the following prerequisites: C or better in MAT175 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.

**Discrete Math:** Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above.

#### Shippensburg University General Education Requirements

- Satisfies a requirement for Required Skills and Competencies.
- Satisfies a requirement for a Category A General Education Course
- Satisfies a requirement for a Category B General Education Course
- Satisfies a requirement for a Category C General Education Course
- Satisfies a requirement for a Category D General Education Course
- Satisfies a requirement for a Category E General Education Course
**PDE Competency Areas**

I. **Content Knowledge:** 81 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

II. **Concentration Area**

A. **Math:** 30 credits required
   - MAT 105 Math for Liberal Studies (3)
   - MAT 205 Survey of Middle Grades Mathematics (3)
   - MAT 175 Pre-Calculus (3) (See note on Prerequisites)
   - MAT 211 Calculus I (4) (See note on Prerequisites)
   - MAT 225 Discrete Math 1 (4) (See note on Prerequisites)
   - MAT 313 Statistics I (4) (Prerequisite MAT 211)
   - MAT 333 Geometry (3)

Two of the following:
   - MAT 320 Introduction to Abstract Algebra (3) (See note on Prerequisites)
   - MAT 326 Mathematical Modeling (3) (See note on Prerequisites)
   - MAT 400 History of Mathematics (3) (See note on Prerequisites)

Cognate Areas

B. **Language Arts:** 12 credits required
   - ENG 106 Writing Intensive Seminar (3) or
   - ENG 110 Advanced Placement Writing (3)
   - HCS 100 Intro to Human Communication (3)
   - RDG 232 Reading in the Elementary School (3)
   - RDG 340 Seminar in Literacy Tutoring (3)

C. **Science:** 12 credits required
   - BIO 100 Basic Biology (3)
   - CHM 105 An Observational Approach (3)
   - PHY 121 Physics I (3)
   - ESS 110 Introduction to Geology (3)

D. **Social Studies:** 12 credits required
   - GEO 101 World Geography (3)
   - ECO 101 Macroeconomics (3) or
   - PLS 100 U.S. Government and Politics (3)
   - HIS 105 Historical Foundation of Global Cultures (3)
   - HIS 106 Thinking Historically in a Global Age (3)

Additional Coursework

E. **Literature:** 3 credits
   - ENG 243 Art of the Film (3)
   - ENG 248 Intro to Culturally Diverse Lit (3)
   - ENG 250 Intro to Literature (3)

F. **Fine Arts:** 6 credits
   - MUS 110 Fundamental Music Skills (3)
   - MUS 121 Introduction to Music (3)
   - MUS 261 World Music (3)

G. **Social and Behavioral Sciences:** 6 credits
   - PSY 101 General Psychology

**Note on Prerequisites**

- **Pre-Calculus:** MAT140A, MAT140B, math placement level 5, or permission of department chair.
- **Calculus I:** Students must meet one of the following prerequisites: C or better in MAT175 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.
- **Discrete Math:** Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above.
- **Introduction to Abstract Algebra:** C or better in MAT 325 and MAT 318
- **Mathematical Modeling:** Either CSC180 or CS110 and either MAT213 or MAT318, or by permission of the instructor
- **History of Mathematics:** MAT320 or at least junior standing

**Shippensburg University General Education Requirements**

1 Satisfies a requirement for Required Skills and Competencies.
2 Satisfies a requirement for a Category A General Education Course
3 Satisfies a requirement for a Category B General Education Course
4 Satisfies a requirement for a Category C General Education Course
5 Satisfies a requirement for a Category D General Education Course
6 Satisfies a requirement for a Category E General Education Course
### PDE Competency Areas

#### I. Content Knowledge:
- 82-83 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

### Concentration Areas

**A. Math: 21 credits required**
- MAT 105 Math For Liberal Studies (3)\(^1\)/\(^A\)
- MAT 205 Survey of Middle Grades Mathematics (3)
- MAT 117 Applied Statistics (4)
- MAT 211 Calculus I (4) \(^1\)/\(^A\)  
  *(See note for Prerequisites)*
- MAT 225 Discrete Math (4) \(^1\)
  *(See note for Prerequisites)*
- MAT 333 Geometry (3)

**B. Science: 22-23 credits required**
- BIO 100 Basic Biology (3)\(^C\)
- BIO 162 Principles of Biology: Organismal Diversity (4)
- CHM 105 An Observational Approach (3)\(^C\)
- PHY 108 Astronomy (3)
- PHY 121 Physics I (3)
- PHY 123 Physics I Lab (1)
- ESS 110 Introduction to Geology (3)\(^C\)
- ESS 111 Intro to the Atmosphere (3)
- BIO 142 Intro to Ecology (3) or
- BIO 145 Environmental Biology (3)

**Cognate Areas**

**C. Social Studies: 12 credits required**
- GEO 101 World Geography (3)\(^D\)
- ECO 101 Macroeconomics (3)\(^D\)
- HIS 105 Historical Foundation of Global Cultures (3)\(^I\)
- HIS 106 Thinking Historically in a Global Age (3)\(^I\)

**D. Language Arts: 12 credits required**
- ENG 106 Writing Intensive Seminar (3)\(^I\)
- ENG 110 Advanced Placement Writing (3)\(^I\)
- HCS 100 Intro to Human Communication (3)\(^I\)
- RDG 232 Reading in the Elementary School (3)
- RDG 340 Seminar in Literacy Tutoring (3) \*(Prerequisite RDG 232)*

**F. Literature: 3 credits**
- ENG 243 Art of the Film (3)\(^B\)
- ENG 248 Intro to Culturally Diverse Lit (3)\(^B\)
- ENG 250 Intro to Literature (3)\(^B\)

**F. Fine Arts: 6 credits**
- Music
  - MUS 110 Fundamental Music Skills (3)\(^*\) or
  - MUS 121 Introduction to Music (3)\(^B\)
  - MUS 261 World Music (3)\(^B\)

**G. Social and Behavioral Sciences: 6 credits**
- PSY 101 General Psychology (3)\(^E\)
- Choose one of the following or
  - GEO 140 Cultural Geography (3)\(^E\)
  - SOC 101 Intro to Soc: Society & Div (3)\(^E\)

### II. Professional Core & Student Teaching: 39 credits

**A. Middle Level Cognitive Development**
- TCH 206 Social Found of Middle Level Educ (3)

**B. Early Adolescent and Adolescent Learning Theory**
- TCH 261 Adolescent Dev and Lng Theory (3)

**C. Assessments and Interventions**
- EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)
- TCH 345 Assessment and Evaluation (3)

**D. Adaptations and Accommodations for Diverse Learners**
- EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3)
- EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3)

**E. Middle Level Teaching Methods**
- TCH 342 Teaching Middle Level Mathematics (3)
- TCH 366 Teaching Middle Level Science (3)

**F. English Language Learners (ELL)**
- RDG 413 Teaching Reading to English Language Learners (3)

**G. Student Teaching**
- EDU 495 Student Teaching Experience (12)

### Note on Prerequisites

**Calculus I:** Students must meet one of the following prerequisites: C or better in MAT175 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.

**Discrete Math:** Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above.

**Shippensburg University General Education Requirements**

1 Satisfies a requirement for Required Skills and Competencies.  
2 Satisfies a requirement for a Category B General Education Course  
3 Satisfies a requirement for a Category C General Education Course  
4 Satisfies a requirement for a Category D General Education Course  
5 Satisfies a requirement for a Category E General Education Course
## DEPARTMENT OF TEACHER EDUCATION

**PROGRAM PLANNING SHEET**

Elementary/Middle Level Option #2 - Math & Social Science – B.S.Ed.

A student selecting this option will only be certified to teach mathematics and social studies at the middle level grades 4-8.

### PDE Competency Areas

**I. Content Knowledge:** 81 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

#### Concentration Areas

**A. Math: 21 credits required**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 105 Math for Liberal Studies (3)</td>
<td></td>
</tr>
<tr>
<td>MAT 205 Survey of Middle Grades Mathematics (3)</td>
<td></td>
</tr>
<tr>
<td>MAT 117 Applied Statistics (4)</td>
<td></td>
</tr>
<tr>
<td>MAT 211 Calculus I (4) ( \text{(See note for Prerequisites)} )</td>
<td></td>
</tr>
<tr>
<td>MAT 225 Discrete Math (4) ( \text{(See note for Prerequisites)} )</td>
<td></td>
</tr>
<tr>
<td>MAT 333 Geometry (3)</td>
<td></td>
</tr>
</tbody>
</table>

**B. Social Studies: 21 credits required**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 101 World Geography (3)</td>
<td></td>
</tr>
<tr>
<td>ECO 101 Macroeconomics (3)</td>
<td></td>
</tr>
<tr>
<td>PLS 100 US Govt &amp; Politics( )</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundation of Global Cultures(3)</td>
<td></td>
</tr>
<tr>
<td>HIS 106 Thinking Historically in a Global Age(3)</td>
<td></td>
</tr>
<tr>
<td>GEO 305 Geography of Europe (3) ( \text{or} )</td>
<td></td>
</tr>
<tr>
<td>GEO 308 Geography of Latin America (3) ( \text{or} )</td>
<td></td>
</tr>
<tr>
<td>GEO 313 Geography of South and South-East Asia(3) ( \text{or} )</td>
<td></td>
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<tr>
<td>GEO 317 Geography of East Asia (3) ( \text{or} )</td>
<td></td>
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<tr>
<td>GEO 415 Regional Geography Studies (3) ( \text{or} )</td>
<td></td>
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<tr>
<td>GEO 450 Field Studies (1-3)</td>
<td></td>
</tr>
<tr>
<td>PLS 311 The Legislative Process (3) ( \text{or} )</td>
<td></td>
</tr>
<tr>
<td>PLS 312 The American Presidency (3) ( \text{or} )</td>
<td></td>
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<tr>
<td>PLS 313 The Judicial Process (3) ( \text{or} )</td>
<td></td>
</tr>
<tr>
<td>PLS 342 American Foreign Policy (3) ( \text{or} )</td>
<td></td>
</tr>
<tr>
<td>PLS 356 Politics of Developing Regions (3)</td>
<td></td>
</tr>
<tr>
<td>ECO 325 Globalization Issues and Policies (3) ( \text{or} )</td>
<td></td>
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<tr>
<td>ECO 345 Economics of Growth and Development (3)</td>
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</tbody>
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#### Cognate Areas

**C. Science: 12 credits required**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 100 Basic Biology (3)</td>
<td></td>
</tr>
<tr>
<td>CHM 105 An Observational Approach (3) ( \text{C} )</td>
<td></td>
</tr>
<tr>
<td>PHY 121 Physics I (3)</td>
<td></td>
</tr>
<tr>
<td>ESS 110 Introduction to Geology (3) ( \text{C} )</td>
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</tr>
</tbody>
</table>

**D. Language Arts: 12 credits required**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>RDG 232 Reading in the Elementary School (3)</td>
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</tr>
<tr>
<td>RDG 340 Seminar in Literacy Tutoring (3) ( \text{(Prerequisite RDG 232)} )</td>
<td></td>
</tr>
<tr>
<td>ENG 106 Writing Intensive Seminar (3) ( \text{or} )</td>
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</tr>
<tr>
<td>ENG 110 Advanced Placement Writing (3) ( \text{or} )</td>
<td></td>
</tr>
<tr>
<td>HCS 100 Intro to Human Communication (3) ( \text{or} )</td>
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</tr>
</tbody>
</table>

**E. Literature: 3 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENG 243 Art of the Film (3) ( \text{or} )</td>
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<tr>
<td>ENG 248 Intro to Culturally Diverse Lit (3) ( \text{or} )</td>
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</tr>
<tr>
<td>ENG 250 Intro to Literature (3) ( \text{or} )</td>
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</tr>
</tbody>
</table>

**F. Fine Arts: 6 credits**

(Select two from different disciplines)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 110 Fundamental Music Skills (3) ( \text{or} )</td>
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<tr>
<td>MUS 121 Introduction to Music (3) ( \text{or} )</td>
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</tr>
<tr>
<td>MUS 261 World Music (3) ( \text{or} )</td>
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</tr>
</tbody>
</table>

### Requirements

- **Art** (ART 101 is recommended)
  - ART 101 Art Appreciation (3) \( \text{or} \)
  - ART 231 Art History I (3) \( \text{or} \)
  - ART 232 Art History II (3) \( \text{or} \)
  - ART 274 Intro to Cultural Studio (3) \( \text{or} \)
  - ART 339 History of American Art (3) \( \text{or} \)
- **Theatre**
  - THE 121 Intro to Theatre (3) \( \text{or} \)

### Social and Behavioral Sciences: 6 credits

- **Choose one of the following**
  - ECO 345 Economics of Growth and Development (3) \( \text{or} \)
  - ECO 325 Globalization Issues and Policies (3) \( \text{or} \)
  - GEO 317 Geography of East Asia (3) \( \text{or} \)
  - GEO 313 Geography of South and South-East Asia (3) \( \text{or} \)
  - GEO 415 Regional Geography Studies (3) \( \text{or} \)

### II. Professional Core & Student Teaching: 39 credits

**A. Middle Level Cognitive Development**

- TCH 206 Social Found of Middle Level Educ (3)

**B. Early Adolescent and Adolescent Learning Theory**

- TCH 261 Adolescent Dev and Lng Theory (3)

**C. Assessments and Interventions**

- EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)

**D. Adaptations and Accommodations for Diverse Learners**

- EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3)

**E. Middle Level Teaching Methods**

- TCH 342 Teaching Middle Level Mathematics (3)
- TCH 348 Teaching Middle Level Social Studies (3)

**F. English Language Learners (ELL)**

- RDG 413 Teaching Reading to English Language Learners (3)

**G. Student Teaching**

- EDU 495 Student Teaching Experience (12)

**Note on Prerequisites**

**Calculus I:** Students must meet one of the following prerequisites: C or better in MAT175 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.

**Discrete Math:** Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above

**Shippensburg University General Education Requirements**

1 Satisfies a requirement for Required Skills and Competencies.
2 Satisfies a requirement for a Category A General Education Course
3 Satisfies a requirement for a Category B General Education Course
4 Satisfies a requirement for a Category C General Education Course
5 Satisfies a requirement for a Category D General Education Course
6 Satisfies a requirement for a Category E General Education Course
A student selecting this option will only be certified to teach science and language arts at the middle level grades 4-8.

PDE Competency Areas

I. Content Knowledge: 84-85 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

Concentration Areas

A. Science: 22-23 credits required
   - BIO 100 Basic Biology (3) or
   - BIO 162 Principles of Biology: Organismal Diversity (4)
   - CHM 105 An Observational Approach (3)
   - PHY 108 Astronomy (3)
   - PHY 121 Physics I (3) and
   - PHY 123 Physics I Lab (1)
   - ESS 110 Introduction to Geology (3)
   - ESS 111 Intro to the Atmosphere (3)
   - BIO 142 Intro to Ecology (3) or
   - BIO 145 Environmental Biology (3)

B. Language Arts: 21 credits required
   - ENG 248 Intro to Culturally Diverse Lit (3) or
   - ENG 250 Intro to Literature (3) or
   - ENG 420 Studies in Writing (3) or
   - ENG 419 Tutoring and Teaching of Writing (3)
   - ENG 426 Adolescent Literature (3)
   - RDG 232 Reading in the Elementary School (3)
   - RDG 334 Reading Assessment (3) (Prerequisite RDG 232)
   - RDG 340 Seminar in Literacy Tutoring (3) (Prerequisite RDG 232 and RDG 334)
   - ENG 106 Writing Intensive Seminar (3) or
   - ENG 110 Advanced Placement Writing (3)

Cognate Areas

C. Social Studies: 12 credits required
   - GEO 101 World Geography (3)
   - ECO 101 Macroeconomics (3) or
   - PLS 100 US Government and Politics (3)
   - HIS 105 Historical Foundation of Global Cultures (3)
   - HIS 106 Thinking Historically in a Global Age (3)

D. Math: 13 credits required
   - MAT 205 Survey of Middle Grades Mathematics (3)
   - MAT 175 Precalculus (3) (See note on Prerequisites)
   - MAT 105 Math for Liberal Arts (3)
   - MAT 117 Applied Statistics (4)

E. Writing/Fluency Competencies: 3 credits
   - HCS 100 Intro to Human Communication (3)

F. Fine Arts: 6 credits
   - Select two from different disciplines
     - Music
     - MUS 110 Fundamental Music Skills (3) or
     - MUS 121 Introduction to Music (3) or
     - MUS 261 World Music (3) or

Art (ART 101 is recommended)
   - ART 101 Art Appreciation (3) or
   - ART 231 Art History I (3) or
   - ART 232 Art History II (3) or
   - ART 274 Intro to Cultural Studio (3) or
   - ART 339 History of American Art (3)

Theatre
   - THE 121 Intro to Theatre (3)

G. Social and Behavioral Sciences: 6 credits
   - PSY 101 General Psychology (3)
   - Choose one of the following
     - ANT 111 Cultural Anthropology (3) or
     - GEO 140 Cultural Geography (3) or
     - SOC 101 Intro to Soc: Society & Div (3)

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   - TCH 206 Social Found of Middle Level Educ (3)

B. Early Adolescent and Adolescent Learning Theory
   - TCH 261 Adolescent Dev and Lng Theory (3)

C. Assessments and Interventions
   - EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)

D. Adaptations and Accommodations for Diverse Learners
   - EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3)
   - EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3)

E. Middle Level Teaching Methods
   - TCH 322 Teaching Middle Level Language Arts (3)
   - TCH 366 Teaching Middle Level Science (3)
   - RDG 329 Reading in the Content Area (3)

F. English Language Learners (ELL)
   - RDG 413 Teaching Reading to English (3)

Student Teaching
   - EDU 495 Student Teaching Experience (12)

Note on Prerequisites

Precalculus: MAT140A, MAT140B, math placement level 5, or permission of department chair.

Discrete Math: Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above.

Shippensburg University General Education Requirements

1 Satisfies a requirement for Required Skills and Competencies.
2 Satisfies a requirement for a Category A General Education Course
3 Satisfies a requirement for a Category B General Education Course
4 Satisfies a requirement for a Category C General Education Course
5 Satisfies a requirement for a Category D General Education Course
6 Satisfies a requirement for a Category E General Education Course

1 Satisfies a requirement for Required Skills and Competencies.
2 Satisfies a requirement for a Category A General Education Course
3 Satisfies a requirement for a Category B General Education Course
4 Satisfies a requirement for a Category C General Education Course
5 Satisfies a requirement for a Category D General Education Course
6 Satisfies a requirement for a Category E General Education Course
A student selecting this option will only be certified to teach science and social studies at the middle level grades 4-8.

PDE Competency Areas

I. Content Knowledge: 84-85 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

II. Concentration Areas

A. Science: 22-23 credits required
   - BIO 100 Basic Biology (3) or
   - BIO 162 Principles of Biology (4)
   - CHM 105 An Observational Approach (3)
   - PHY 108 Astronomy (3)
   - PHY 121 Physics I (3)
   - PHY 123 Physics I Lab (1)
   - ESS 110 Introduction to Geology (3)
   - ESS 111 Intro to the Atmosphere (3)
   - BIO 142 Intro to Ecology (3) or
   - GEO 101 World Geography (3)D
   - GEO 140 Cultural Geography (3)E
   - GEO 305 Geography of Europe (3) or
   - GEO 308 Geography of Latin America or
   - GEO 313 Geography of South and South-East Asia or
   - GEO 317 Geography of East Asia or
   - GEO 415 Regional Geography Studies or
   - GEO 450 Field Studies
   - PLS 311 The Legislative Process (3) or
   - PLS 312 The American Presidency (3) or
   - PLS 313 The Judicial Process (3) or
   - PLS 342 American Foreign Policy (3) or
   - PLS 356 Politics of Developing Regions (3)
   - ECO 101 Macroeconomics (3)J
   - ECO 325 Globalization Issues and Policies (3) or
   - ECO 345 Economics of Growth and Development (3)
   - MUS 110 Fundamental Music Skills (3)* or
   - MUS 121 Introduction to Music (3)92 or
   - MUS 261 World Music (3)92
   - ART 101 is recommended
   - ART 101 Art Appreciation (3)92 or
   - ART 231 Art History I (3)92 or
   - ART 232 Art History II (3)92 or
   - ART 274 Intro to Cultural Studio (3)92 or
   - ART 339 History of American Art (3)92
   - THE 121 Intro to Theatre (3)92
   - MUS 261 World Music (3)92
   - ART 231 Art History I (3)92
   - ART 232 Art History II (3)92
   - ART 339 History of American Art (3)92
   - THE 121 Intro to Theatre (3)92

B. Social Studies: 21 credits required
   - GEO 101 World Geography (3)D
   - GEO 140 Cultural Geography (3)E
   - GEO 305 Geography of Europe (3) or
   - GEO 308 Geography of Latin America or
   - GEO 313 Geography of South and South-East Asia or
   - GEO 317 Geography of East Asia or
   - GEO 415 Regional Geography Studies or
   - GEO 450 Field Studies
   - PLS 311 The Legislative Process (3) or
   - PLS 312 The American Presidency (3) or
   - PLS 313 The Judicial Process (3) or
   - PLS 342 American Foreign Policy (3) or
   - PLS 356 Politics of Developing Regions (3)
   - ECO 101 Macroeconomics (3)J
   - ECO 325 Globalization Issues and Policies (3) or
   - ECO 345 Economics of Growth and Development (3)
   - MUS 110 Fundamental Music Skills (3)* or
   - MUS 121 Introduction to Music (3)92 or
   - MUS 261 World Music (3)92
   - ART 101 is recommended
   - ART 101 Art Appreciation (3)92 or
   - ART 231 Art History I (3)92 or
   - ART 232 Art History II (3)92 or
   - ART 274 Intro to Cultural Studio (3)92 or
   - ART 339 History of American Art (3)92
   - THE 121 Intro to Theatre (3)92

C. Language Arts: 12 credits required
   - ENG 106 Writing Intensive Seminar (3)1 or
   - ENG 110 Advanced Placement Writing (3)
   - HCS 100 Intro to Human Communication (3)1
   - RDG 232 Reading in the Elementary School (3)
   - RDG 340 Seminar in Literacy Tutoring (3)
   - RDG 142 Intro to Ecology (3) or
   - IO 145 Environmental Biology (3)1

D. Math: 13 credits required
   - MAT 205 Survey of Middle Grades Mathematics (3)
   - MAT 175 Pre-Calculus (3) (See note on Prerequisites)
   - MAT 105 Math for Liberal Arts (3)
   - MAT 117 Applied Statistics (4)

E. Literature – 3 credits
   - ENG 243 Art of the Film (3)82
   - ENG 248 Intro to Culturally Diverse Lit (3)82
   - ENG 250 Intro to Literature (3)82

F. Fine Arts: 6 credits
   - Choose one of the following
   - MUS 110 Fundamental Music Skills (3)* or
   - MUS 121 Introduction to Music (3)92 or
   - MUS 261 World Music (3)92
   - ART 101 is recommended
   - ART 101 Art Appreciation (3)92 or
   - ART 231 Art History I (3)92 or
   - ART 232 Art History II (3)92 or
   - ART 274 Intro to Cultural Studio (3)92 or
   - ART 339 History of American Art (3)92
   - THE 121 Intro to Theatre (3)92

G. Social and Behavioral Sciences: 6 credits
   - Choose one of the following
   - PSY 101 General Psychology (3)2
   - SOC 101 Intro to Soc: Society & Div (3)2

II. Professional Core & Student Teaching: 39 credits

A. Middle Level Cognitive Development
   - TCH 206 Social Found of Middle Level Educ (3)
B. Early Adolescent and Adolescent Learning Theory
   - TCH 261 Adolescent Dev and Lng Theory (3)
C. Assessments and Interventions
   - EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)
   - EEC 345 Assess & Evaluation (3)
D. Adaptations and Accommodations for Diverse Learners and English Language Learners
   - EEC 273 Introduction to Exceptionalities:
     - Understanding Diverse Learners (3)
   - EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3)
E. Middle Level Teaching Methods
   - TCH 348 Teaching Middle Level Social Studies (3)
   - TCH 366 Teaching Middle Level Science (3)
F. English Language Learners (ELL)
   - RDG 413 Teach Read to English Lang Learners (3)
G. Student Teaching
   - EDU 495 Student Teaching Experience (12)

Note on Prerequisites
Pre-Calculus: MAT140A, MAT140B, math placement level 5, or permission of department chair.
Discrete Math: Students must meet one of the following prerequisites:
MAT140A or math placement level 4 or above

Shippensburg University General Education Requirements
1 Satisfies a requirement for Required Skills and Competencies.
2 Satisfies a requirement for a Category A General Education Course
3 Satisfies a requirement for a Category B General Education Course
4 Satisfies a requirement for a Category C General Education Course
5 Satisfies a requirement for a Category D General Education Course
6 Satisfies a requirement for a Category E General Education Course
DEPARTMENT OF TEACHER EDUCATION
PROGRAM PLANNING SHEET
Elementary/Middle Level Option #1 - Science - B.S.Ed.
A student selecting this option will only be certified to teach Science at the middle level grades 4-8.

PDE Competency Areas

I. Content Knowledge: 84 credits including General Education Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

II. Concentration Area

A. Science; 31 credits required
   __ BIO161 Principles of Biology: Cell Structure (4) C
   __ BIO162 Principles of Biology: Organismal Diversity (4)
   __ BIO200 Field Biology (3) or
   __ BIO242 Ecology (3)
   __ CHM105 An Observational Approach (3) C
   __ CHM121 Chemical Bonding (3) and
   __ CHM125 Chemical Bonding Lab (1) or
   __ PHY122 Intro to Physics II (3) and
   __ PHY125 Intro to Physics II Lab (1)
   __ PHY121 Physics I (3) and
   __ PHY123 Physics I Lab (1)
   __ ESS110 Introduction to Geology (3) C
   __ ESS111 Intro to Atmosphere (3)
   __ ESS210 Physical Geography (3) or
   __ ESS220 Oceanography (3) or
   __ ESS355 Meteorology (3) or
   __ ESS404 Applied Meteorology and Climatology (3)

Cognate Areas

II. Social Studies; 12 credits required
   __ GEO 101 World Geography (3) P
   __ EC0 101 Macroeconomics (3) or
   __ PLS 100 U.S. Government and Politics (3) P
   __ HIS 105 Historical Foundation of Global Cultures (3) 1
   __ HIS 106 Thinking Historically in a Global Age (3) 1

C. Math; 13 credits required
   __ MAT 205 Survey of Middle Grades Mathematics (3)
   __ MAT 175 Pre-Calculus (3) (See note on Prerequisites)
   __ MAT 105 Math for Liberal Arts (3)
   __ MAT 117 Applied Statistics (4)

D. Language Arts; 12 credits required
   __ ENG 106 Writing Intensive Seminar (3) 1 or
   __ ENG 110 Advanced Placement Writing (3) 1
   __ HCS 100 Intro to Human Communication (3) 1
   __ RDG 232 Reading in the Elementary School (3)
   __ RDG 340 Seminar in Literacy Tutoring (3) (Prerequisite RDG 232)

Additional Coursework

E. Literature; 3 credits
   __ ENG 243 Art of the Film (3) 1 or
   __ ENG 248 Intro to Culturally Diverse Lit (3) 1 or
   __ ENG 250 Intro to Literature (3) 1

F. Fine Arts; 6 credits
   (Select two from different disciplines)
   Music
      __ MUS 110 Fundamental Music Skills (3) 1 or
      __ MUS 121 Introduction to Music (3) 1 or
      __ MUS 261 World Music (3) 1
   Art (ART 101 is recommended)
      __ ART 101 Art Appreciation (3) 1 or
      __ ART 231 Art History I (3) 1 or
      __ ART 232 Art History II (3) 1 or
      __ ART 274 Intro to Cultural Studio (3) 1 or
      __ ART 339 History of American Art (3) 1
   Theatre
      __ THE 121 Intro to Theatre (3) 1

G. Social and Behavioral Sciences; 6 credits
   __ PSY 101 General Psychology (3) 1
   __ Choose one of the following
      __ ANT 111 Cultural Anthropology (3) 1 or
      __ GEO 140 Cultural Geography (3) 1 or
      __ SOC 101 Intro to Soc: Society & Dev (3) 1

II. Professional Core & Student Teaching; 39 credits

A. Middle Level Cognitive Development
   __ TCH 206 Social Found of Middle Level Educ (3)
B. Early Adolescent and Adolescent Learning Theory
   __ TCH 261 Adolescent Dev and Lang Theory (3)
C. Assessments and Interventions
   __ EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)
   __ TCH 345 Assessment & Evaluation (3)
D. Adaptations and Accommodations for Diverse Learners
   __ EEC 273 Introduction to Exceptionalities:
      __ Understanding Diverse Learners (3)
      __ EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3)
E. Middle Level Teaching Methods
   __ TCH 366 Teaching Science at the Middle Level (3)
   __ TCH 251 Elements of Middle Level Instruction (3)
F. English Language Learners (ELL)
   __ RDG 413 Teach Read to English Lang Learners (3)
F. Student Teaching
   __ EDU 495 Student Teaching Experience (12)

Note on Prerequisites

Pre-Calculus: MAT140A, MAT140B, math placement level 5, or permission of department chair.

Discrete Math: Students must meet one of the following prerequisites: MAT140A or math placement level 4 or above.

Shippensburg University General Education Requirements
1 Satisfies a requirement for Required Skills and Competencies.
2 Satisfies a requirement for a Category A General Education Course
3 Satisfies a requirement for a Category B General Education Course
4 Satisfies a requirement for a Category C General Education Course
5 Satisfies a requirement for a Category D General Education Course
6 Satisfies a requirement for a Category E General Education Course

106
# DEPARTMENT OF TEACHER EDUCATION

## PROGRAM PLANNING SHEET

**Elementary/Middle Level Option #2- Social Studies Concentration – B.S.Ed.**

**A student selecting this option will only be certified to teach Social Studies at the middle level grades 4-8.**

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**PDE Competency Areas**

**I. Content Knowledge:** 83 credits including General Education

Requirements. A total of 33 credits are counted in a dual capacity. See notes on Shippensburg University General Education Requirements, below.

**II. Concentration Area**

**A. Social Studies: 33 credits required**

- GEO 101 World Geography (3)\(^{1}\)
- GEO 140 Cultural Geography (3)\(^{1}\)
- GEO 305 Geography of Europe (3) \(\text{or}\)
- GEO 308 Geography of Latin America \(\text{or}\)
- GEO 313 Geography of South and South-East Asia \(\text{or}\)
- GEO 317 Geography of East Asia \(\text{or}\)
- GEO 415 Regional Geography Studies \(\text{or}\)
- GEO 450 Field Studies

- PLS 100 US Government and Politics (3)
- PLS 311 The Legislative Process (3) \(\text{or}\)
- PLS 312 The American Presidency (3) \(\text{or}\)
- PLS 313 The Judicial Process (3) \(\text{or}\)
- PLS 342 American Foreign Policy (3) \(\text{or}\)
- PLS 356 Politics of Developing Regions (3)

- ECO 101 Macroeconomics (3)\(^{1}\)
- ECO 325 Globalization Issues and Policies (3) \(\text{or}\)
- ECO 345 Economics of Growth and Development (3)

- HIS 304 American Diplomatic History (3)
- HIS 305 The Civil War (3)
- HIS 306 History of the South (3) \(\text{or}\)
- HIS 308 American Economic History (3) \(\text{or}\)
- HIS 309 History of the American Worker (3) \(\text{or}\)
- HIS 314 Jacksonian America (3) \(\text{or}\)
- HIS 318 History of US Women (3) \(\text{or}\)
- HIS 338 Colonial America (3) \(\text{or}\)
- HIS 341 African American History (3) \(\text{or}\)
- HIS 342 US Immigration and Ethnicity (3) \(\text{or}\)
- HIS 345 Military History of the US (3) \(\text{or}\)
- HIS 402 Revolutionary America (3) \(\text{or}\)
- HIS 413 Pennsylvania History (3)

**Cognate Areas**

**B. Math: 13 credits required**

- MAT 205 Survey of Middle Grades Mathematics (3)
- MAT 175 Pre-Calculus (3) \(\text{See note on Prerequisites}\)
- MAT 105 Math for Liberal Arts (3)
- MAT 117 Applied Statistics (4)

**C. Science: 12 credits required**

- BIO 100 Basic Biology (3)\(^{1}\)
- CHM 105 An Observational Approach (3)\(^{1}\)
- PHY 121 Physics I (3)
- ESS 110 Introduction to Geology (3)\(^{1}\)

**D. Language Arts: 12 credits required**

- ENG 106 Writing Intensive Seminar (3) \(\text{or}\)
- ENG 110 Advanced Placement Writing (3)
- HCS 100 Intro to Human Communication (3)\(^{1}\)
- RDG 232 Reading in the Elementary School (3)

---

**E. Literature – 3 credits**

- ENG 243 Art of the Film (3)\(^{2}\)
- ENG 248 Intro to Culturally Diverse Lit (3)\(^{3}\)
- ENG 250 Intro to Literature (3)\(^{2}\)

**F. Fine Arts – 6 credits**

(Select two from different disciplines)

**Music**

- MUS 110 Fundamental Music Skills (3) \(\text{or}\)
- MUS 121 Introduction to Music (3)\(^{2}\)
- MUS 261 World Music (3)\(^{2}\)

**Art** (ART 101 is recommended)

- ART 101 Art Appreciation (3)\(^{2}\)
- ART 231 Art History I (3)\(^{2}\)
- ART 232 Art History II (3)\(^{2}\)
- ART 274 Intro to Cultural Studio (3)\(^{2}\)
- ART 339 History of American Art (3)\(^{2}\)

**Theatre**

- THE 121 Intro to Theatre (3)\(^{2}\)

**G. Social and Behavioral Sciences: 3 credits**

- PSY 101 General Psychology (3)\(^{2}\)

**III. Professional Core & Student Teaching: 39 credits**

**A. Middle Level Cognitive Development**

- TCH 206 Social Found of Middle Level Educ (3)

**B. Early Adolescent and Adolescent Learning Theory**

- TCH 261 Adolescent Dev and Lang Theory (3)

**C. Assessments and Interventions**

- EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3)
- TCH 345 Assessment Evaluation (3)

**D. Adaptations and Accommodations for Diverse Learners**

- EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3)
- EEC 423 Effective Instructional Strategies for Students with Exceptionalities (3)

**E. Middle Level Teaching Methods**

- TCH 348 Teaching Middle Level Social Studies (3)
- TCH 251 Elements of Middle Level Instruction (3)

**F. English Language Learners (ELL)**

- RDG 413 Teaching Reading to English (3)

**G. Student Teaching**

- EDU 495 Student Teaching Experience (12)

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**Note on Prerequisites**

**Pre-Calculus:** MAT140A, MAT140B, math placement level 5, or permission of department chair.

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**Shippensburg University General Education Requirements**

\(^{1}\)Satisfies a requirement for Required Skills and Competencies.

\(^{2}\)Satisfies a requirement for a Category A General Education Course

\(^{3}\)Satisfies a requirement for a Category B General Education Course

\(^{4}\)Satisfies a requirement for a Category C General Education Course

\(^{5}\)Satisfies a requirement for a Category D General Education Course

\(^{6}\)Satisfies a requirement for a Category E General Education Course
## TEACHER EDUCATION - Pre-K - 4/Pre-K-8 Special Education Dual Certification - B.S.Ed.

### 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>
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<tr>
<td>HCS 100 Intro to Human Communication (3 cr)</td>
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<tr>
<td>MAT 111 Fundamentals of Mathematics II (3 cr)</td>
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<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: Language/Numbers for Rational Thinking (3 cr)</td>
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</tr>
<tr>
<td>MAT 110 Fundamentals of Mathematics I</td>
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<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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</tr>
<tr>
<td>Select ONE Literature course:</td>
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<tr>
<td>ENG 243 Art of the Film</td>
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<tr>
<td>ENG 250 Introduction to Literature</td>
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<tr>
<td>ENG 248 Introduction to Culturally Diverse Lit. of the U.S.</td>
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<tr>
<td>Select TWO courses from different disciplines with advisement</td>
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<tr>
<td>ART 101 Art Appreciation (recommended) (3 cr)</td>
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<tr>
<td>ART 231 Art History I (3 cr)</td>
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<tr>
<td>ART 232 Art History II</td>
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<tr>
<td>ART 274 Intro to Cultural Studio</td>
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<tr>
<td>ART 339 History of American Art</td>
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<tr>
<td>MUS 110 Fundamentals of Music</td>
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<td>MUS 121 Introduction to Music</td>
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<tr>
<td>MUS 261 World Music</td>
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<tr>
<td>THE 121 Introduction to Theater</td>
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<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<tr>
<td>Select one course from each of the 3 categories. One of the 3 courses must have a laboratory component (indicated with an asterisk [*])</td>
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</tr>
<tr>
<td>Biology (choose one)</td>
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<tr>
<td>BIO 100 Basic Biology (3 cr)</td>
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<tr>
<td>BIO 162 Principles of Biology: Organismal Diversity [* (4 cr)]</td>
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<tr>
<td>BIO 150 Human Biology (3 cr)</td>
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<tr>
<td>BIO 208 Field Biology [* (3 cr)]</td>
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<tr>
<td>BIO 142 Introduction to Ecology [* (3 cr)]</td>
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<tr>
<td>BIO 242 Ecology [* (3 cr)]</td>
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<tr>
<td>Earth Sciences (choose one)</td>
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<tr>
<td>ESS 108 Conservation of Natural Resources</td>
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<tr>
<td>ESS 110 Introduction to Geology [*]</td>
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<td>ESS 111 Introduction to Atmosphere</td>
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<td>ESS 210 Physical Geology [*]</td>
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<tr>
<td>BIO 145 Environmental Biology</td>
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<tr>
<td>Physical Sciences (choose one)</td>
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<td>PHY 108 Astronomy</td>
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<tr>
<td>PHY 110 Physics for Society</td>
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<tr>
<td>PHY 115 Physical Science: A Lab Approach [*]</td>
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<tr>
<td>PHY 121/123 Introductory Physics I [*]</td>
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<tr>
<td>PHY 205 Intermediate Physics [*]</td>
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<tr>
<td>CHM 103 Chemistry: A Cultural Approach</td>
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<tr>
<td>CHM 105 Chemistry: An Observational Approach [*]</td>
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<tr>
<td>CHM 121 Chemical Bonding</td>
<td></td>
</tr>
</tbody>
</table>

### 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>60 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECH 210 The Early Childhood Profession (3 cr)</td>
</tr>
<tr>
<td>ECH 280 The Developing Child: Cognitive, Language, Physical (3 cr)</td>
</tr>
<tr>
<td>ECH 253 Early Literacy &amp; Literature for Children &amp; Families: Birth-5 years (3 cr)</td>
</tr>
<tr>
<td>ECH 320 The Developing Child III: Social &amp; Emotional Development &amp; Guiding Children's Behavior (3 cr)</td>
</tr>
<tr>
<td>ECH 333 Social Studies Methods in P-4 (3 cr)</td>
</tr>
<tr>
<td>ECH 343 Math Methods I, P-1st (3 cr)</td>
</tr>
<tr>
<td>ECH 370 Assessing Young Children (3 cr)</td>
</tr>
<tr>
<td>ECH 373 Science &amp; Technology Methods in P-4 (3 cr)</td>
</tr>
<tr>
<td>ECH 393 Math Methods II, 2nd-4th grade (2 cr)</td>
</tr>
<tr>
<td>ECS 415 Professional Practicum in P-4/Special Ed (3 cr)</td>
</tr>
<tr>
<td>ECH 440 Building Family &amp; Community Partnerships (3 cr)</td>
</tr>
<tr>
<td>ECH 453 Integrated Curriculum, P-4th (3 cr)</td>
</tr>
<tr>
<td>ECH 480 Early Childhood Professional Seminar (3 cr)</td>
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<tr>
<td>EEC 273 Introduction to Exceptionalities: Understanding Diverse Learners (3 cr)</td>
</tr>
<tr>
<td>EEC 280 Best Practices in Collaboration: Educators, Families, &amp; Related Service Providers (3 cr)</td>
</tr>
<tr>
<td>EEC 320 Interventions for Students with Communication Impairments (3 cr)</td>
</tr>
<tr>
<td>EEC 335 Interventions for Students with Cognitive and/or Physical Impairments (3 cr)</td>
</tr>
<tr>
<td>EEC 325 Interventions for Students with Social/Emotional and Behavioral Impairments (3 cr)</td>
</tr>
<tr>
<td>EEC 330 Teaching Students with Exceptionalities in a Standards-Aligned System (3 cr)</td>
</tr>
<tr>
<td>EEC 423 Effective Instructional Strategies for Children with Exceptionalities, Pre-K-8 (3 cr)</td>
</tr>
<tr>
<td>EEC 483 Assessing Children with Exceptionalities for Curricular Decision Making (3 cr)</td>
</tr>
<tr>
<td>EEC 447 Special Education Processes (3 cr)</td>
</tr>
<tr>
<td>RDG 323 Processes of Word/Text/Comprehension in Grades 1-4 (3 cr)</td>
</tr>
<tr>
<td>RDG 363 Reading and Writing in P-4th (2 cr)</td>
</tr>
<tr>
<td>RDG 383 English Language Learners in P-4th (2 cr)</td>
</tr>
<tr>
<td>RDG 443 Reading Measures and Interventions (3 cr)</td>
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</tbody>
</table>

#### Early Childhood/Special Education Student Teaching

<table>
<thead>
<tr>
<th>12 cr</th>
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</thead>
<tbody>
<tr>
<td>ECS 489 Student Teaching &amp; Prof. Pract.</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 QPA of 3.0 will not be permitted to schedule elementary courses until they have reached the required QPA.

Students who plan to major in Teacher Education should maintain close contact with the department to ensure that they meet program requirements.

A 4-year template is available at www.ship.edu/undeclared
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 PLAN FOR BSBA STUDENTS

## FIRST YEAR

### Fall Semester
- Writing Intensive First Year Seminar*
- Historical Foundation of Global Cultures*
- **College Algebra (A/B)**
- General Education Elective (Paired Course)*
- General Education Elective*
- **Foundations of Business Administration (2cr.)***

### Spring Semester
- Intro to Human Communication*
- Thinking Historically in a Global Age*
- **Applied Calculus I**
- Business Computer Systems*
- **Principles of Economics (4 crs.)***
  or a General Education Elective

## SECOND YEAR

### Fall Semester
- Fund. of Financial Accounting
- Principles of Economics (4 crs.)
  or a General Education Elective
- American Legal Environment*
- General Education Elective
- General Education or Free Elective

### Spring Semester
- Managerial Accounting
- Managerial Economics
- Statistical Applications in Business*
- General Education Elective
- General Education Elective

## THIRD YEAR

### Fall Semester
- Financial Management*
- Organizational Behavior*
- Principles of Marketing*
- Supply Chain Operations Mgt* or Gen. Ed. Elec.
- Major Course, General Education Elective*

### Spring Semester
- Major Course*
- Major Course*
- General Education Elective*
- Free Elective*
- Free Elective*

## FOURTH YEAR

### Fall Semester
- Business and Society*
- Major Course
- Major Course
- General Education Elective
- Free Elective (Major course for ACC & PFP Majors)

### Spring Semester
- Strategic Management*
- Major Course
- Major Course
- Free Elective
- Free Elective

*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 back of this sheet.

**PLEASE NOTE** Sequencing of courses may vary depending upon the specific requirements within a particular major. For example, Accounting, Management Information Systems, Information Technology for Business Education, Management, Human Resource Management, International Management, and Entrepreneurship majors should begin their major coursework during the first semester of their junior year. Check with your advisor or departmental office for further information.
**Requirements for Business Students:**
Complete ENG106 Writ Int First Yr Sm or equivalent with a “C” grade or better; Maintain a 2.0 cumulative average in the business core, the major, and a 2.0 cumulative average overall.

* Accounting majors should take ACC 200 in their first semester and ACC 201 in the second semester of their sophomore year and earn at least a “C” grade or higher in both courses.
**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 106 Writing Intensive First Year Seminar</td>
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<tr>
<td>Min. grade of &quot;C&quot; required OR ENG 110 Advanced Placement Writing (3 cr) May need ENG 050 Basic 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-Required MAT 140 College Algebra (3 cr)</td>
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<tr>
<td>___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND 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>34 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
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<tr>
<td>___ MAT 181 Applied Calculus I</td>
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<tr>
<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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<tr>
<td>___ Lit. Course:____________________</td>
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<td>___ ______________________________</td>
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<td>___ ______________________________</td>
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<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<td>___ ______________________________</td>
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<tr>
<td>D: Political, Economic &amp; Geographic Science (7 cr)**</td>
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<tr>
<td><strong>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.</strong></td>
<td></td>
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<tr>
<td>___ ECO 113 Principles of Economics (4 cr)</td>
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<td>___ ______________________________</td>
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<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
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<td>___ ______________________________</td>
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<td>___ ______________________________</td>
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</tbody>
</table>

| III. Library Skills Completed via College or Advanced Writing |       |

### Business Core Requirements All B.S.B.A. Majors 38 cr

<table>
<thead>
<tr>
<th>Business Core Requirements All B.S.B.A. Majors</th>
<th>38 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ ACC 200 Fundamentals of Financial Accounting (3 cr)^1</td>
<td></td>
</tr>
<tr>
<td>___ ACC 201 Managerial Accounting (3 cr)^2</td>
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</tr>
<tr>
<td>___ BSL 261 American Legal Environment (3 cr)^2</td>
<td></td>
</tr>
<tr>
<td>___ BSN 101 Foundations of Business Administration (2 cr)^3</td>
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</tr>
<tr>
<td>___ ECO 113 Principles of Economics (4 cr)^3</td>
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<tr>
<td>___ ECO 280 Managerial Economics (3 cr)^4</td>
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<tr>
<td>___ FIN 311 Financial Management (3 cr)^5</td>
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<tr>
<td>___ MAT 181 Applied Calculus (3 cr)^2</td>
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<tr>
<td>___ MIS 142 Business Computer Systems (3 cr)^3</td>
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<tr>
<td>___ MGT 305 Organizational Behavior (3 cr)^6</td>
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<tr>
<td>___ MGT 447 Business &amp; Society (3 cr)^7</td>
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<tr>
<td>___ MGT 497 Strategic Management (3 cr)^8</td>
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<tr>
<td>___ MKT 305 Principles of Marketing (3 cr)^9</td>
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</tr>
<tr>
<td>___ SCM 200 Statistical Applications in Business (3 cr)¹</td>
<td></td>
</tr>
<tr>
<td>___ SCM 330 Supply Chain and Operations Management (3 cr)¹</td>
<td></td>
</tr>
</tbody>
</table>

*Major requirement fulfills General Education credits

### Accounting Major Requirements 21 cr

<table>
<thead>
<tr>
<th>Accounting Major Requirements</th>
<th>21 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ ACC 306 Tax Accounting (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ACC 310 Intermediate Accounting I (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ACC 311 Intermediate Accounting II (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ACC 312 Cost Determination &amp; Analysis (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ACC 404 Auditing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ ACC Accounting Elective (3 cr)</td>
<td></td>
</tr>
<tr>
<td>___ MIS 300 Information Technology &amp; Business Operations (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

Free Electives 12 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 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:

<table>
<thead>
<tr>
<th>Semester I</th>
<th>BSN 101 Foundations of Business Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 140 College Algebra</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Semester II</th>
<th>MAT 181 Applied Calculus I</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS 142 Business Computer Systems</td>
<td></td>
</tr>
<tr>
<td>ECO 113 Principles of Economics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester III</th>
<th>ACC 200 Fund. of Financial Accounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSL 261 American Legal Environment</td>
<td></td>
</tr>
<tr>
<td>ECO 113 Principles of Economics If not already taken</td>
<td></td>
</tr>
<tr>
<td>SCM 200 Statistical Applications in Business</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester IV</th>
<th>ACC 201 Managerial Accounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 280 Managerial Economics</td>
<td></td>
</tr>
<tr>
<td>SCM 200 Statistical Apps in Bus. if not already taken</td>
<td></td>
</tr>
</tbody>
</table>

**General Advice:**

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.

1 = Year course should be taken

*Major requirement fulfills General Education credits

A 4-year template is available at www.ship.edu/undeclared
### 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)**
- **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 181 Applied Calculus (3 cr)**
- **MIS 142 Business Computer Systems (3 cr)**
- **MTG 305 Organizational Behavior (3 cr)**
- **MTG 447 Business & Society (3 cr)**
- **MTG 497 Strategic Management (3 cr)**
- **MKT 305 Principles of Marketing (3 cr)**
- **SCM 330 Supply Chain and Operations Management (3 cr)**

*Major requirement fulfills General Education credits*

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 course work 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

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GPA Needed to Declare: 2.0

**NOTE:** A grade of "C" or better in College Algebra and/or Applied Calculus 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 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
- **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 a prerequisite for 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.

* Accounting and Personal Financial Planning majors require a minimum grade of 'C' in ACC 200 and ACC 201*
### 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>Min. grade of &quot;C&quot; required OR ENG 115 Advanced Placement Writing (3 cr) May need ENG 113 Intro to Academic Writing first, based on test results.</td>
</tr>
<tr>
<td>MAT 140 College Algebra (3 cr)</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>HIS 105 Historical Foundations of Global Cultures (3 cr)</td>
<td>AND</td>
</tr>
<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>34 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
<td>MAT 181 Applied Calculus I</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 (7 cr)**</td>
<td></td>
</tr>
</tbody>
</table>

**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. |

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

| III. Library Skills Completed via College or Advanced Writing | |

### Business Core Requirements All B.S.B.A. Majors

<table>
<thead>
<tr>
<th>38 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 200 Fundamentals of Financial Accounting (3 cr)</td>
</tr>
<tr>
<td>ACC 201 Managerial Accounting (3 cr)</td>
</tr>
<tr>
<td>BSL 261 American Legal Environment (3 cr)</td>
</tr>
<tr>
<td>BSN 101 Foundations of Business Administration (2 cr)</td>
</tr>
<tr>
<td>ECO 113 Principles of Economics (4 cr)</td>
</tr>
<tr>
<td>ECO 280 Managerial Economics (3 cr)</td>
</tr>
<tr>
<td>FIN 311 Financial Management (3 cr)</td>
</tr>
<tr>
<td>MAT 181 Applied Calculus (3 cr)</td>
</tr>
<tr>
<td>MIS 142 Business Computer Systems (3 cr)</td>
</tr>
<tr>
<td>MGT 305 Principles of Marketing (3 cr)</td>
</tr>
<tr>
<td>SCM 330 Supply Chain and Operations Management (3 cr)</td>
</tr>
</tbody>
</table>

### Finance Major Requirements

<table>
<thead>
<tr>
<th>18 cr</th>
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<tbody>
<tr>
<td>FIN 312 Investments (3 cr)</td>
</tr>
<tr>
<td>FIN 313 Advanced Financial Management (3 cr)</td>
</tr>
<tr>
<td>FIN 314 Financial Institutions (3 cr)</td>
</tr>
<tr>
<td>FIN 333 Applied Company and Security Analysis (3 cr)</td>
</tr>
</tbody>
</table>

2 Finance Electives - see electives sheet or catalog |

### Personal Financial Planning Concentration Requirements

<table>
<thead>
<tr>
<th>21 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 306 Tax Accounting (3 cr)</td>
</tr>
<tr>
<td>FIN 312 Investments (3 cr)</td>
</tr>
<tr>
<td>FIN 320 Risk Management &amp; Insurance (3 cr)</td>
</tr>
<tr>
<td>FIN 322 Estate Planning (3 cr)</td>
</tr>
<tr>
<td>FIN 324 Retirement Planning &amp; Employee Benefits (3 cr)</td>
</tr>
<tr>
<td>FIN 362, 363, 364, 365 Applied Company and Security Analysis (3 cr)</td>
</tr>
<tr>
<td>FIN 421 Personal Financial Planning Capstone (3 cr)</td>
</tr>
</tbody>
</table>

### Free Electives

<table>
<thead>
<tr>
<th>12-15 cr</th>
</tr>
</thead>
</table>

* Major requirement fulfills General Education credits

### Graduation Requirements

<table>
<thead>
<tr>
<th>120 cr</th>
</tr>
</thead>
</table>

*Major requirement fulfills General Education credits

| GPA Needed to Declare: | 2.0 |

NOTE: A grade of “C” or better in College Algebra and/or Applied Calculus 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 IV | ACC 201 Managerial Accounting ECO 280 Managerial Economics SCM 200 Statistical Apps in Bus. if not already taken |

### General Advice:

| 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. |
ENTREPRENEURSHIP - BSBA

General Education Requirements

I. Required Skills and Competencies 15 cr

  ENG 114 Writing Intensive First Year Seminar
  ENG 115 Advanced Placement Writing (3 cr)
  MAT 140 College Algebra (3 cr)
  HIS 105 Historical Foundations of Global Cultures (3 cr)
  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) 2
  FIN 311 Financial Management (3 cr)
  MAT 181 Applied Calculus (3 cr)
  MIS 142 Business Computer Systems (3 cr)
  MGT 305 Principles of Marketing (3 cr)
  MGT 479 Strategic Management (3 cr)
  SCM 200 Statistical Applications in Business (3 cr)
  SCM 330 Supply Chain and Operations Management (3 cr)

*Major requirement fulfills General Education credits

Entrepreneurship Requirements

  ENT 336 Product Design & Development (F)
  ENT 337 Issues in Entrepreneurship (SP)
  ENT 431 Corporate Entrepreneurship (F/S/SP)
  ENT 432 Entrepreneurship (SP)
  ENT 433 Small business Management (F)

  * Elective 1 Entrepreneurship Elective

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 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
  = Freshman year See Business Prerequisite Flow Chart.
A Guidebook for Undergraduate Students 2016-2017

### MANAGEMENT: B.S.B.A.

Management, Human Resource Management, & International Management Concentrations

<table>
<thead>
<tr>
<th>General Education Requirements</th>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
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</tr>
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<tr>
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<td>- Mathematical Competency-Required</td>
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<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>
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<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
<td></td>
</tr>
<tr>
<td>- Lit. Course:</td>
<td></td>
</tr>
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<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<tr>
<td>- ECO 113 Principles of Economics (4 cr)</td>
<td></td>
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<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
<td></td>
</tr>
<tr>
<td>III. Library Skills Completed via College or Advanced Writing</td>
<td></td>
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<table>
<thead>
<tr>
<th>Business Core Requirements, All B.S.B.A. Majors</th>
<th>38 cr</th>
</tr>
</thead>
<tbody>
<tr>
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<td>- BSL 261 American Legal Environment (3 cr)</td>
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<tr>
<td>- BSN 101 Foundations of Business Administration (2 cr)</td>
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<tr>
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<td>- MIS 142 Business Computer Systems (3 cr)</td>
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<td>- MGT 447 Business &amp; Society (3 cr)</td>
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<tr>
<td>- MGT 497 Strategic Management (3 cr)</td>
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<tr>
<td>- MGT 505 Principles of Marketing (3 cr)</td>
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<td>- SCM 200 Statistical Applications in Business (3 cr)</td>
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<tr>
<td>- SCM 350 Supply Chain and Operations Management (3 cr)</td>
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</table>

*Major requirement fulfills General Education credits

### Management Concentration

<table>
<thead>
<tr>
<th>Management Concentration</th>
<th>18 cr</th>
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<tbody>
<tr>
<td>- MGT 340 Human Resource Management (3 cr)</td>
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</tr>
<tr>
<td>- MGT 370 International Business (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- MGT 394 Leadership &amp; Decision Making (3 cr)</td>
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</tr>
<tr>
<td>- ENT 431 Corporate Entrepreneurship (3 cr)</td>
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<tr>
<td>- MGT 498 Strategy Implementation (3 cr)</td>
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1 Management Elective—see electives sheet or catalog

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<thead>
<tr>
<th>Human Resource Management Concentration</th>
<th>18 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>- MGT 340 Human Resource Management (3 cr)</td>
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</tr>
<tr>
<td>- MGT 342 Labor Relations &amp; Collective Bargaining (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- MGT 346 Human Resource Management Law (3 cr)</td>
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<td>- MGT 348 Compensation Administration (3 cr)</td>
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<td>2 Human Resource electives—see catalog</td>
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<tr>
<td>- MGT</td>
<td>(3 cr)</td>
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<tr>
<td>- MGT</td>
<td>(3 cr)</td>
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<table>
<thead>
<tr>
<th>International Management Concentration</th>
<th>18 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>- MGT 340 Human Resource Management (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- MKT 360 International Marketing (3 cr)</td>
<td></td>
</tr>
<tr>
<td>- MGT 370 International Business (3 cr)</td>
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<tr>
<td>- MGT 470 International Management (3 cr)</td>
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<tr>
<td>2 International Management electives—see catalog</td>
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<tr>
<td>- MGT</td>
<td>(3 cr)</td>
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<tr>
<td>- MGT</td>
<td>(3 cr)</td>
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</table>

**Language Requirement 4 courses beyond introductory level 12 cr**

<table>
<thead>
<tr>
<th>Language</th>
<th>(3 cr)</th>
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<tbody>
<tr>
<td>Language</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>Language</td>
<td>(3 cr)</td>
</tr>
<tr>
<td>Commercial Language</td>
<td>(3 cr)</td>
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</table>

**Students must pass ACTFL Oral Competency Test at the intermediate level by the end of junior year (90 credits)**

<table>
<thead>
<tr>
<th>Free Electives</th>
<th>15 cr</th>
</tr>
</thead>
</table>

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 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.
A Guidebook for Undergraduate Students 2016-2017

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
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 (2 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)
___ 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)

*Major requirement fulfills General Education credits

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 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
* = Freshman year See Business Prerequisite Flow Chart.

A 4-year template is available at www.ship.edu/undeclared
### MARKETING - B.S.B.A.

#### General Education Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Required Skills and Competencies</td>
<td>15 cr</td>
</tr>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar</td>
<td></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 140 College Algebra (3 cr)</td>
<td></td>
</tr>
<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr)</td>
<td></td>
</tr>
</tbody>
</table>

| 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:                                   |         |
| MAT 140 College Algebra (3 cr)                 |         |
| MAT 181 Applied Calculus I                     |         |
| C: Biological & Physical Sciences (9 cr)       |         |
| MAT 140 College Algebra (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)         |         |
| MAT 181 Applied Calculus I                     |         |
| E: Social & Behavioral Science (6 cr)          |         |

#### Business Core Requirements All B.S.B.A. Majors

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</table>
| 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 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)

*Major requirement fulfills General Education credits

#### Marketing Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MKT 306 Buyer Behavior (3 cr)</td>
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<tr>
<td>MKT 430 Marketing Research (3 cr)</td>
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</tr>
<tr>
<td>MKT 495 Marketing Analysis &amp; Strategy Dev. (3 cr)</td>
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Three 3 Marketing Electives—see electives sheet or catalog

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<tr>
<td>MKT</td>
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<td>MKT</td>
<td>(3 cr)</td>
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<td>(3 cr)</td>
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#### Free Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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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 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.

Freshman year See Business Prerequisite Flow Chart.

---

A 4-year template is available at www.ship.edu/undeclared
### General Education Requirements

#### I. Required Skills and Competencies

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ENG 114 Writing Intensive First Year Seminar</td>
<td>3 cr</td>
</tr>
<tr>
<td>Min. grade of “C” required OR</td>
<td></td>
</tr>
<tr>
<td>ENG 115 Advanced Placement Writing</td>
<td>3 cr</td>
</tr>
<tr>
<td>May need ENG 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-Required</td>
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</tr>
<tr>
<td>MAT 140 College Algebra (3 cr)</td>
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<tr>
<td>HIS 105 Historical Foundations of Global Cultures (3 cr) AND</td>
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<tr>
<td>HIS 106 Thinking Historically in a Global Age (3 cr)</td>
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#### II. Categories of Knowledge

<table>
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<tr>
<td>A: Logic/Numbers for Rational Thinking (3 cr)</td>
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<td>B: Literary, Artistic &amp; Cultural Traditions (9 cr)</td>
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<tr>
<td>Lit. Course:</td>
<td></td>
</tr>
<tr>
<td>C: Biological &amp; Physical Sciences (9 cr)</td>
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<tr>
<td>D: Political, Economic &amp; Geographic Science (7 cr)**</td>
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<tr>
<td><strong>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.</strong></td>
<td></td>
</tr>
<tr>
<td>ECO 113 Principles of Economics (4 cr)</td>
<td></td>
</tr>
<tr>
<td>E: Social &amp; Behavioral Science (6 cr)</td>
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#### III. Library Skills Completed via College or Advanced Writing

| Library Skills                                                        |         |
|                                                                     |         |

### Business Core Requirements All B.S.B.A. Majors

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>ACC 201 Managerial Accounting (3 cr)</td>
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</tr>
<tr>
<td>BSL 261 American Legal Environment (3 cr)</td>
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<tr>
<td>BSN 101 Foundations of Business Administration (2 cr)</td>
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<tr>
<td>ECO 113 Principles of Economics (4 cr)</td>
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<tr>
<td>ECO 280 Managerial Economics (3 cr)</td>
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<tr>
<td>FIN 311 Financial Management (3 cr)</td>
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<tr>
<td>MAT 181 Applied Calculus (3 cr)</td>
<td></td>
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<tr>
<td>MIS 142 Business Computer Systems (3 cr)</td>
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<tr>
<td>MGT 305 Organizational Behavior (3 cr)</td>
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<td>MGT 447 Business &amp; Society (3 cr)</td>
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<tr>
<td>MGT 497 Strategic Management (3 cr)</td>
<td></td>
</tr>
<tr>
<td>MKT 305 Principles of Marketing (3 cr)</td>
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<tr>
<td>SCM 200 Statistical Applications in Business (3 cr)</td>
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<tr>
<td>SCM 330 Supply Chain and Operations Management (3 cr)</td>
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*Major requirement fulfills General Education credits

### Supply Chain Management Major

<table>
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<tr>
<td>SCM 315 Strategic Procurement (3 cr)</td>
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<tr>
<td>SCM 355 Quality Management and Continuous Improvement (3 cr)</td>
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<tr>
<td>SCM 370 Integrated Supply Chain Systems (3 cr)</td>
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<td>SCM 380 Data Mining for Supply Chain Management (3 cr)</td>
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<tr>
<td>SCM 420 Global Logistics Systems (3 cr)</td>
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### Logistics Management Concentration

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<tr>
<td>SCM 370 Integrated Supply Chain Systems (3 cr)</td>
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<tr>
<td>SCM 390 Strategic Warehouse Management (3 cr)</td>
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<tr>
<td>SCM 410 Distribution Systems in Supply Chains (3 cr)</td>
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</tr>
<tr>
<td>SCM 420 Global Logistics Systems (3 cr)</td>
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</table>

### Two Logistics Management Electives: See Catalog

<table>
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<th>Course</th>
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### Free Electives

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

### Total Graduation Requirements

120 cr

### GPA Needed to Declare: 2.0

### 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:

- SCM majors should have access to a computer by the beginning of their sophomore year.
- MIS 142 Business Computer Systems is a prerequisite for SCM 200 Statistical Applications in Business.
- Superscript numbers indicate year course should be taken
  
  = Freshman year See Business Prerequisite Flow Chart.

**NOTE:** A grade of “C” or better in College Algebra and/or Applied Calculus 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.
V. Appendix
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____ Students are. ACT National Center for the Advancement of Educational Practices.


Workshop conducted by Gurney Williams, national consultant, New York: NY. March 20, 1997.
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## Academic Deans

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<th>Deans</th>
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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. Kootei</td>
<td>GRH 124</td>
<td>Debra K. Booz</td>
<td>1435</td>
</tr>
<tr>
<td>Education/Human Services</td>
<td>Dr. James R. Johnson</td>
<td>SPH 350</td>
<td>Dawn R. Butts</td>
<td>1373</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>Terry A. Conyers</td>
<td>1395</td>
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<tr>
<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>
<td>Dr. Dennis H. Mathes</td>
<td>LL 110</td>
<td>Jennifer R. Hahn</td>
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## Alphabetical Listing of Academic Departments

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<th>Dept./Div./Prog.</th>
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<th>Location</th>
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<th>Tel #</th>
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<tr>
<td>Accounting &amp; Mgmnt. Info. Systems</td>
<td>Dr. J. Jay Mackie</td>
<td>GRH 318</td>
<td>Kristina S. Commerer</td>
<td>1436</td>
</tr>
<tr>
<td>Art &amp; Design</td>
<td>Mr. William G. Whiteley</td>
<td>HAC 209</td>
<td>Karen S. Reath</td>
<td>1530</td>
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<tr>
<td>Biology</td>
<td>Dr. Todd M. Hurd</td>
<td>FSC 240</td>
<td>Joan M. Carson</td>
<td>1401</td>
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<tr>
<td>Chemistry &amp; Biochemistry</td>
<td>Dr. Joseph W. Shane</td>
<td>FSC 325</td>
<td>Vickie M. Byers</td>
<td>1629</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>
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<tr>
<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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<tr>
<td>Criminal Justice</td>
<td>Dr. Melissa L. Ricketts</td>
<td>SPH 319</td>
<td>Bonnie G. Heming</td>
<td>1558</td>
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<tr>
<td>Economics</td>
<td>Dr. David E. Kalist</td>
<td>DHC 123</td>
<td>Laurie A. Stader</td>
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<tr>
<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. Russell E. Robinson</td>
<td>HG 109</td>
<td>Colleen A. McQueeney</td>
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<tr>
<td>Finance &amp; Supply Chain Mgmnt.</td>
<td>Dr. Ian M. Langella</td>
<td>GRH 117</td>
<td>Colleen A. McQueeney</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>
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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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<td>Human Communication Studies</td>
<td>Dr. Kara A. Laskowski</td>
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<tr>
<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>
<td>1431</td>
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<tr>
<td>Military Science (ROTC)</td>
<td>MAJ Christopher T. Morton</td>
<td>WRI 206</td>
<td>Byron C. Stouffer</td>
<td>1782</td>
</tr>
<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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<td>Dr. Michael R. Cohen</td>
<td>FSC 209</td>
<td>Vickie M. Byers</td>
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<td>GRH 407</td>
<td>Laurie A. Stader</td>
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<td>FSC 114</td>
<td>Victoria L. Morgan</td>
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<td>Dr. Deborah F. Jacobs</td>
<td>SPH 384A</td>
<td>Dottysue Ott</td>
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<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. Christine A. Royce</td>
<td>SPH 214A</td>
<td>Danielle L. Suroutchak</td>
<td>1688</td>
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## 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
- (Vacant)
  - 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