NAVIGATING YOUR FUTURE 2021-2022 GUIDEBOOK FOR UNDERGRADUATE STUDENTS



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USING THIS GUIDEBOOK

There are several uses for the 2021-2022 Guidebook for Undergraduate Students. Exploratory students use this text along with guidance from their faculty advisor to understand their abilities, values, and interests and select the major and career path that's right for them. Currently declared students searching for a minor or considering a major change use the Guidebook to explore their major and minor options. And faculty advisors use the Guidebook as an advising reference when meeting or preparing to meet with students.

Regardless of how you use this Guidebook, you'll find answers to many of your questions in these pages, such as:

- Important university policy information
- General Education requirements
- Explanations of Placement Testing and Foreign Language requirements
- Information about Study Abroad
- A listing of all majors and minors offered here at Shippensburg University
- Details of all programs of study, including registration tips, prerequisites, and declaration requirements

While this Guidebook contains a profusion of academic policies, listings and requirements, the University's official record of academic programs and requirements is provided in the 2021-2023 Undergraduate Catalog which can be found at: https://www.ship.edu/academics/academics-resources/catalog/

We wish you a very happy and successful year, and we know you will find 2021-2022 Guidebook for Undergraduate Students informative and helpful.

Sincerely, The Department of Academic Engagement & Exploratory Studies (AEES)

Disclaimer: This guidebook may be subject to change. For the most recent version, please visit ship.edu/exploratory/.

ACADEMIC CALENDAR 2021-2022

Fall Term 2021

Fall Welcome Week Kick off	Thursday	August 19
Classes Begin	Monday	August 23
Add/Drop Period Ends	Monday	August 30
Fall Break, No Classes	Monday-Tuesday	October 18-19
Withdrawal Period Ends	Monday	November 1
Thanksgiving Break	Wednesday-Friday	November 24-26
Last Day of Classes	Friday	December 3
Final Exam Week	Monday - Friday	December 6-10

Winter Term 2021

Session Opens	Monday	December 13
Session Ends	Friday	January 14

Spring Term 2022

Classes Begin	Tuesday	January 18
Add/Drop Period Ends	Tuesday	January 25
Spring Break	Monday - Friday	March 7-11
Withdrawal Period Ends	Tuesday	March 29
Last Day of Classes	Friday	April 29
Final Exam Week	Monday - Friday	May 2-6



ACADEMIC POLICIES AND PROCEDURES

First Day Attendance

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 your intended absence to the instructor, academic 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 by the instructor and your place in that class being given to another student. If you do not attend the first day of class, you cannot assume, how- ever, that you have been dropped from this class. It is your responsibility to verify your enrollment status by checking your schedule on your myShip portal.

Credits in the First Year

The normal semester hour workload varies between 15 and 18 credit hours. Students with less than 12 credit hours are classified as part-time. To take more than 17 credit hours in a semester, you must have approval of your academic dean. If you schedule 19 or more credits, you must pay an additional per credit fee (see Student Accounts for more information). Freshmen may not take more than 17 credit hours during their first semester.

Transfer Courses

If a transfer student is admitted, the Dean of the appropriate college will evaluate the student's transcript to deter- mine the amount of transferable credits. In general, a grade of C or better is required for transfer credit to be accepted. The transfer credit will appear on the student's transcript with a grade of TR and will not be used in calculating QPA.

For admitted students who wish to take courses at another college or university for transfer back to Shippensburg University, it is advised they refer to the course equivalency page. Transfer credit will not be awarded to replace a D or F grade earned at Shippensburg University. For additional information, please contact your advisor.

Withdrawal from a Class

Courses may be added or dropped without penalty or record notation during the official schedule adjustment period. The drop/add period extends to the eighth calendar day in a typical semester, excluding holidays, to adjust schedules. Dates for this schedule adjustment period will be announced by the Registrar's Office.

You may **withdraw** from a class through the tenth week of the semester subject to the restrictions listed here. Requests for withdrawals may be initiated through myShip during the spring and fall semesters by full-time undergraduate students who have attended the university at least one spring or fall semester previously and who have not applied for graduation. All other requests for withdrawals must

be initiated through your advisor. Following the initial schedule adjustment period, any courses from which you withdraw will remain on your academic record and will be assigned a grade of W. Please note that once a student withdraws from a class, the class cannot be re-added to the student's schedule.

You should carefully consider the ramifications before you withdraw from a course. If withdrawing from a course causes you to drop below 12 credit hours for the semester, you will be considered a part-time student, which may jeopardize financial aid, athletic eligibility, health insurance, and residence hall status. You should consult with your academic advisor, athletic coach and/or the Financial Aid Office before you withdraw from any course.

Should you withdraw from any course, it is your responsibility to do so officially, whether or not you have ever attended that class. If you do not attend and do not with- draw, your name will remain on the class roll until the final grading period and you will receive a grade of F for the course.

Registering for Classes

Current students may register for classes at the university during the registration period held each semester for the next semester or during official schedule adjustment periods. You must meet with your advisor to obtain your PIN. New students (freshmen and transfers) will be assigned a schedule prior to the beginning of their first term.

Minimum Academic Standards

Students admitted to the university are expected to maintain satisfactory academic standing, which requires a cumulative quality point average (QPA) of 2.0 (C) or better in their total program of courses and minimum 2.0 in the course work of their major areas of specialization.

Students who do not meet the required quality point aver- age may be granted one probationary semester in which to raise their average. Students who show academic progress, i.e., greater than a 2.0 semester QPA, may be continued on academic probation.

Repeating Classes

Students may avail themselves of the repeat/grade replacement option a total of six times. Grade replacement of a repeated course is not limited to courses in which D and

F grades were originally earned. However, the most recent grade of the course will be used in the QPA calculation, regardless of whether that grade is higher or lower. If you repeat a passed course and fail, you will lose both the quality points and the credits you had previously earned. A single course repeat for grade improvement will be limited to two times. The six repeats may include repeating six courses one time each, repeating three single courses two times each, or any combination which adds up to six instances where a single course is not repeated more than two times. After the sixth repeat instance, any additional course repeats will include both the previous and new grade in the QPA calculation.

Prior to any student athlete and/or any student with financial aid utilizing the repeat option, the student should ensure it will not jeopardize their status as a student athlete or their ability to receive financial aid.

A previously failed course may not be repeated through an online course.

A D or F grade earned at Shippensburg University may not be made up or replaced by credits earned at another institution of higher learning for the same course.

ADVISING FOR FINANCIAL AID SUCCESS

Free Application for Federal Student Aid (FAFSA)

The FAFSA opens each year on October 1st and is free to file each year. The Financial Aid office offers workshops each semester for students who need training and/or assistance with the process. All students who file the FAFSA, and are enrolled in 6 or more credits a semester, are eligible for loan interest loans (Stafford Loans). Depending on the student's calculated financial need, some students, may also be eligible for federal grants (Pell Grants). For more information about the FAFSA visit http://www.fafsa.gov.

Pennsylvania residents who file the FAFSA prior to May 1st are also eligible for the Pennsylvania State Grant. Visit <u>http://www.pheaa.org</u> for more information.

Satisfactory Academic Progress (SAP)

SAP is defined as sufficiently moving towards successful completion of degree requirements. At the end of the fall, spring and summer sessions, the Financial Aid office reviews each student's progress in the following ways:

Cumulative Grade Point Average

By the end of each term, the student must maintain the following minimum, cumulative GPA

- Terms 1 through 3: 1.7
- Term 4 until graduation: 2.0

Percentage of Credits Earned (PACE)

Students must successfully complete (earning a final grade of D or higher) 67% of the classes that they attempt. Dropped courses do not count in this calculation, however withdrawn courses count as courses attempted but not completed.

Maximum Time Frame

Students may not attempt more than 150% of the number of credits needed to graduate. Most Shippensburg undergraduate degrees are 120 credits. Students must complete their degrees before earning a total of 180 credits.

Pennsylvania State Grant Recipient SAP Requirements

Students receiving the PA State Grant must earn 24 NEW credits for full-time students (12 NEW credits for part-time students) each academic year to remain eligible for the Grant. While their is no specific GPA or PACE

requirement, students who successfully complete less than 24 credits per year are at risk of losing this Grant.

Repeats of courses in which the student earned a final grade of D do not count as new credits. For example: a repeated math course in which student earned a D in order to meet the minimum pre-requisite grade of C does not count as new credits and in some cases the student will need to complete additional new courses in order to meet the SAP requirements.

The Summer term may be used to earn deficient credits after the Fall/Sprint review for the next academic year.

For more information about the University's SAP policy visit: <u>https://www.ship.edu/paying/financial-aid/sap/</u>

Satisfactory Academic Progress (SAP) Non-Compliance

All students in non-compliance are emailed following SAP review and are given one warning term to get back into SAP compliance. If they are still not meeting SAP, they are emailed a notification that they are not eligible for aid.

Students may continue taking classes but they must secure a private loan or pay out of pocket until they meet SAP requirements. Students with unforeseen circumstances may submit an appeal which comprises the Appeal Form, a written statement explaining their situation and plan to meet SAP in the future and 3rd party documentation substantiating their appeal. Visit: <u>https://www.ship.edu/paying/financial-aid/</u> writing a successful sap appeal/ for guidance on the process.

If the student's appeal is granted, students are required to meet with their faculty advisor to complete an academic plan in which the two calculate and document a plan semester-by-semester for the student to meet SAP requirements. Adhering to the terms of this plan allows the student to continue receiving aid each semester.

For more information on these topics and specific answers to individual situations,

visit <u>https://www.ship.edu/paying/financial-aid/</u> call: 717-477-1131 or email: finaid@ship.edu

QUICK ANSWERS TO COMMON QUESTIONS

What if I take fewer than 12 credits?

The normal semester hour workload varies between 15 and 18 credit hours. Students with less than 12 credit hours are classified as part-time. It is extremely important when earning less than 12 credits you consult with the Financial Aid Office and Athletic Department regarding your eligibility.

What if I become ill and cannot complete the semester's coursework?

You may be allowed to withdraw from all your classes with grades of W if you provide your academic dean with clear medical evidence you are unable to continue your course work. It will be the determination of the dean whether this evidence is substantial enough to merit a medical withdrawal. Notification of a medical withdrawal must be received by the academic dean prior to the end of the cur- rent semester. Medical withdrawals are not permitted after the semester ends. If you receive a medical withdrawal, you will be eligible for a refund only if your withdrawal occurs within the time period normally allowed for refunds.

Students may also request the grade of an I (incomplete) if they have successfully completed a majority of the work for the course. Being awarded an I is a privilege not a right of the student and the decision to grant an incomplete grade rests solely with the course instructor.

Is class attendance mandatory?

At Shippensburg University, your participation in class is viewed as essential to the teaching/learning process. Therefore, it is expected you will miss classes infrequently and only for good reason.

Each instructor will state the course requirements including attendance expectations as part of the clearly written course information distributed at the beginning of each semester. An instructor must make provision for excused absences. However, if you elect to be absent from a class without being excused, you may not be provided a makeup opportunity for any graded activity that takes place at that session.

What if I am late for class?

Sometimes circumstances will prevent a student from attending class on time, but being habitually late to class is both rude and inconsiderate. Some professors deduct points for lateness or lock the classroom door to prevent you from interrupting.

What grade point average will place me on academic probation?

To remain in good academic standing, a student must maintain a minimum cumulative grade point average of 2.0 ("C"). Anything less will result in probation.

Can I take courses at another university to improve my grade point average?

Transfer credits will appear on the student's transcript with a grade of TR and will not be used to calculate QPA.

If I earn a "D" or an "F" grade in a course at Shippensburg University, can I repeat it at another university?

If a student has earned a D or F grade in a course at Shippensburg University and wishes to earn a higher grade, the course must be repeated at Shippensburg University.

Should I always repeat courses when I have earned "D" or "F" grades?

Students may be required to repeat a course in which they've earned a D or F grade if the course is developmental or if it counts toward the student's major requirements. Otherwise, it is recommended that students who want to improve their grade point average repeat a course in which they've earned a D or F 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 and/or your advisor before repeating courses.

Will I receive any recognition for outstanding academic performance?

A dean's list is published at the end of each semester to recognize students who earn at least a 3.5 or better. In addition, students who consistently perform at the highest levels are given special recognition at the end of each academic year.

How much time should I devote to studying?

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

Where should I go for academic advice?

Every Exploratory Studies student will be assigned an advisor from the Department of Academic Engagement and Exploratory Studies. Students who do not know their assigned advisor should access their myShip portal or con- tact their department.

When are Exploratory Studies students required to declare a major?

Exploratory Studies students are advised to declare no later than their third semester.

What steps must I follow to declare a major?

Declaring a major is a simple process. You should follow these steps:

1. Make sure you are in good academic standing. In all cases, students need a minimum cumulative GPA of at least a 2.0. Competitive majors require a higher GPA.

2. Talk to your advisor about your plans.

3. Verify requirements for the major with your advisor.

4. Certain majors have course requirements in addition to GPA standards. Some departments conduct prescreenings. They may also require student submit additional forms and complete certain courses before they are considered and accepted as majors. Please note certain majors only accept students by certain deadlines in the semester.

What is a minor?

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

Am I eligible for the Satisfactory/Unsatisfactory option?

If you have completed at least one academic year (30 semester hours) at Shippensburg University and are maintaining a cumulative QPA of 2.5 or better, you may schedule up to a maximum of three credits (or one four credit course) per semester under the satisfactory-unsatisfactory option. Transfer students with more than 30 semester hours accepted in transfer may adopt the satisfactory-unsatisfactory option for their first semester at Shippensburg.

You may adopt or rescind the satisfactory-unsatisfactory option during the first two weeks of the regular fall or spring semester. No changes may be made after the dead- line. Only full-time students are eligible. The maximum number of credits you may schedule under the satisfactory-unsatisfactory option while attending Shippensburg University will not exceed ten. Only courses taken outside your major and/or minor field may be scheduled on the satisfactory-unsatisfactory basis. Grades received from courses taken on the satisfactoryunsatisfactory basis will not be used in determining the cumulative quality point average. If you receive a grade of S, the credits earned will be recorded toward graduation requirements; however, no credit will be earned if a grade of U is assigned.

You may not schedule more than one course on a satisfactory-unsatisfactory basis in a given department or in a required sequence of course offerings within a major. The five required courses for the General Education Program (UNIV 101, HIS 105, ENG 114, COM 112, college-level math) may not be taken on a satisfactory-unsatisfactory basis.

Are foreign language courses required?

Students enrolling in BA degree programs at Shippensburg University must meet a language requirement for graduation. Students who have successfully completed three years or more of any one foreign language in high school have met the language requirement. The requirement can also be met through AP testing, CLEP or the university placement test combined with the department oral test. Students with no previous knowledge of a foreign language must begin with the introductory level and complete three courses in that language. All others will take the university placement test. For more information, see page 15.

READING, WRITING AND MATH TESTING AND PLACEMENT INFORMATION

Shippensburg University's General Education Program requires students to take various courses to develop certain skills and competencies. The mission the Shippensburg University Testing Center is to determine whether or not students are adequately prepared to succeed in their General Education courses. The Testing Center determines level of proficiency by testing Math and Writing (English). Also provided is an optional Reading test for students who are required to take Literacy for the 21st Century (AEES 192) and wish to challenge their placement in that course.

Registering for Placement Tests

To register for placement testing, new students should check their myShip portal and/or visit apply.ship.edu/ portal/placement. Transfer students will receive an email if required to complete testing.

Reading Placement Process

Students will be placed into AEES191R if they meet both of the following criteria: <u>a high school GPA of 2.5 or less</u> <u>and a score of 37 or below on the adapted MARSI SU</u> <u>College Reading Survey</u>. This survey is administered through Slate Platform and the results are updated in Banner and SSC. AEES191R: 21st Century Academic Literacies is in response to several under preparedness and equity concerns in meeting the educational and reading needs of students. This course has been approved as a special topic general education course. 60% of the course enrollment will be reserved for students gaining entry through the aforementioned screening process. The remainder of course enrollment will be open to the regular student body. Additionally, a student can take AEES191R to replace a RDG050 D, F, W grade. A student with a Reading Placement Score of "1" will be required to complete AEES191R.

Math Placement Testing

Math Testing: A Math Placement Test is required for firstyear students whose ACT-M is ≤ 21 or whose SAT-M is ≤550. A Math Placement level of 0 is also an indication the student must complete math placement testing. Students with Math SAT scores >550 are not required to take the Math Placement Test. Students in STEM, business, and middle-level education are encouraged to complete Optional Math Testing to advance their level. Math placement scores can fall into one of six categories (see next page for details).

Writing (English) Placement Testing

English Testing: The English (Writing) Placement Test is required for first-year students whose English SAT subscore is \leq 25 or whose ACT-English Sections are \leq 18. Based on writing placement test scores, students will enroll in one of two courses: ENG 113 or ENG 114 (see below).

Students who score at a level 5 may have the option to take ENG 115: Advanced Placement Writing. For more information about placement testing, visit ship.edu/testing/.

MATH PLACEMENT LEVELS

Placement Level	STEM M	1ajors ³	Business Majors		s Majors	Non-Calculus Majors	SAT Score		
1	NAT 4751		MAT 117A1		117 \ 1	MAT 105 or MAT 117A ¹			
2	Applied S	Statistics	Applied Statistics		Statistics	MAT 105 or MAT 107 or MAT 110 or MAT 117A ¹	Needs Math Placement Test		
3	MAT 140A ² College Algebra		MAT 140A ² College Algebra			MAT 105 Math for Liberal Studies			
4		MAT 140B College Algebra			MAT 140B College Algebra	or MAT 107 Math Models Applied to Money	560-570		
5	MAT Precal	175 × culus	— MAT Applied (MAT 181		181	or MAT 110 ⁴ Fundamentals I	580-600
6	MAT Calcu	211 Ilus I			Calculus	or MAT 117B ⁵ Applied Statistics	<u>≥</u> 610		

Advising Notes:

- MAT117A is a 4-credit version of Applied Statistics for Level 1 -2 students that includes review of basic algebra skills. Students should only take one of MAT117A or MAT117B, not both.
- MAT 140A is a 4-credit version of College Algebra for Level 3 students that includes more targeted algebra review. Students should only take one of MAT140A or MAT140B, not both.
- 3. A "STEM major" is any SU major requiring MAT 211 Calculus I.
- 4. MAT 110 Fundamentals of Mathematics I is only available to Education majors.
- 5. Quantitively-minded students in majors that require Applied Statistics and who place at level 5 or higher

may be encouraged to consider MAT 217 Statistics I instead of MAT117B.

Additional Notes:

- Math requirements for Middle-Level Education majors vary according to their concentration. Contact the Teacher Education department for more information.
- Challenge testing is available for students who wish to demonstrate their knowledge and increase their placement level.
- Math Placement Level 6 is required to declare Computer, Electrical, Mechanical, or Civil Engineering

FOREIGN LANGUAGE REQUIREMENTS FOR B.A. DEGREE PROGRAMS

Students enrolling in BA degree programs at Shippensburg University must meet competency requirements in one foreign language before graduation.

Students who have successfully completed three years or more of any one foreign language in high school have met the language requirement. The requirement can also be met through AP testing, CLEP, or the university placement test combined with the department oral test.

Students with no previous knowledge of a foreign language must begin with the introductory level (101) and complete three courses in that language. All others will take the university placement test. French, German, and Spanish 101/102/103 will complete the requirement sequence based on placement.

Students with three or more years of a language who want to take the same language as a General Education course or as a free elective, will be placed at the 103 or 200 level, according to their test results and the number of years they've studied the language in high school.

Years of Same Language Taken in High School	Appropriate College Level (All Languages)
0	101
1	102
2	103
3 or more	BA Requirement satisfied or 200/204 as Category B or Interconnections Course.

If you have questions, please contact the Department of Global Languages & Cultures at dwwildermuth@ship.edu.

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, England, France, Ireland, South Korea, 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 countries such as Italy, Sweden, or Korea 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. Transfer students are advised on an individual basis.

When do students study abroad?

Study abroad used to mean one semester during your junior year of college. Today, students can chose a time frame 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 and winter break programs are also available. These programs can last for 3, 6 or even 9 weeks.

Where will I live?

Housing options vary by location, but will be worked out prior to your departure. In some locations, students reside in university apartments or guesthouses. These accommodations typically provide single bedrooms within a shared apartment that includes a kitchen, bathroom and living room. In other locations, students reside with host families that are pre-screened by the program overseas. In most locations, meal plans are not purchased but students will rather purchase groceries and cook for themselves or if residing with a family, the family provides 2-3 meals daily.

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.

What are the benefits of study abroad?

Studying abroad allows you to do many things. You are able to take classes towards your degree while experiencing a new culture and in some cases, exposure to a new language. While overseas, you can travel during your free time and take advantage of local cuisine, festivals and highlights in the city in which you reside. Employers are also impressed with students who study abroad because it shows you are adaptable, globally minded and not afraid to step outside of your comfort zone.

How do I get started?

Please call 717-477-1279 or stop by the International Programs Office in the Student Success Center, Mowery Hall Rooms 212-210 and schedule an appointment. Information is also online at ship.edu/international.

TURNING ACADEMIC PROBATION INTO SUCCESS

Students who earn less than a 2.0 ("C") cumulative GPA are placed on academic probation. Being on probation risks continued Federal Financial Aid funding and continued enrollment at Shippensburg University.

If you find yourself on academic probation, please use all available resources on campus, including your faculty advisor, to turn academic probation into success.

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 try to 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 mis-advise 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 time frame.

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 miss classes frequently because they think they have more important things to do. But the more you miss class, the more intimidating 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 Academic Improvement Plan (AIM) assists students

Minimum Placement Score	Course
2	ENG 113: Intro to Academic Writing
3	ENG 114: Academic Writing

on academic probation in developing strategies and skills that will help them to improve their cumulative grade point average. Learning specialists guide students in the AIM program to help them experience success in college. This structured program is designed to give students skills in studying, self-management, emotional intelligence, and personal responsibility, all of which can help them to improve their academic standing and achieve success in their courses.

Visit the Student Success Center in Mowrey Hall for more information on AIM.

Visit the Learning Center

The Learning Center, located on the first floor of the Student Success Center in Mowrey Hall, is the university's primary site for tutoring services and academic support. Within the center, students are able to select from an array of options that can help them improve their academic performance, writing proficiency, and learning abilities.

Outside the center, students can peruse the Learning Center's website to obtain information on tutoring options, view virtual workshops, find schedules for faceto-face workshops, access writing and study skills resources, and learn how to schedule an appointment with a tutor or a Learning Specialist.

Speak to a Librarian.

In addition to providing library instruction sessions in a wide range of courses, librarians are available at The Ezra Lehman Memorial Library 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 collegelevel 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.

Adapted from:

Ford, J., Academic Advising, 1986-87. Houston Texas: Houston Baptist University, August 1986, 6, 10, 20-21, 50-51, 57-58, 69 (ERIC Document Reproduction Service ED Ford, J. 276 346.)



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 corresponding email address below, or the undergraduate catalogue for more information.

MINOR	CREDITS/GPA	CONTACT		
	18 credits/2.0	kglore@ship.edu		
Anthropology	Required Courses - ANT105, ANT111, ANT121 + 9 credits Anthropology electives at the 200+level. Six of the nine elective credits must be at the 300-400 level			
	21 credits/2.0	art@ship.edu		
Art and Design	Required Courses - ART101, ART110, ART215, ART215, ART218, ART history elective + 6credits any ART classes **ART215 - fall only, ART218 - spring only			
	24-28 credits/2.0	chem@ship.edu		
Biochemistry	Required Courses - CHM301, CH **CHM121/125, CHM122/126, C	M420/421, CHM496 - CHM496 must be taken concurrently with CHM421 HM221/225, CHM222/226 (Course with lab component) to declare		
	19 credits/2.0	biology@ship.edu		
Biology	Required Courses - BIO162, BIO162 + 11 BIO credits - Elective are to be chosen from courses for Biolog majors. At least 2-3 credit-hour courses must be at 300-level or above. Seminar, internship, and research may not be used for the minor. **Completion of BIO161 or 162 with "C" or higher to declare			
	18 credits/2.0	business@ship.edu		
Business	311, MGT305, MKT205 + 6 credits College of Business courses with r ECO102 or ECO113; MAT140A/B or MAT117 or SAT550 or higher			
	23-27 credits/2.0	chem@ship.edu		
Chemistry	Required Courses - 7 additional CHM credits at 300/400 level **CHM121/125, CHM122/126, CHM221/225, CHM222/226 (Course with lab component) to declare			
	19 credits/2.0	exsci@ship.edu		
Coaching	Required Courses - ESC220, ESC244, ESC325, ESC340, ESC343 + 1 elective course from the fol ESC213, ESC260, ESC387, ESC445, HCS 225 or SOC275. Note: BIO 150, 238, or 350 is a prerequisite for ESC 343; We strongly recommend completing B General Education course.			
	18 credits/2.3	commjour@ship.edu		
Comm/Journalism	Required Courses - COM111, COM112, COM245, COM345 + 2 200-400 level courses with the approval of the COM faculty advisor **Transfer courses may not be counted toward minor requirements			
	23-24 credits/2.0	compsci@ship.edu		
Computer Science	Required Courses - MAT 225, CSC 110 or SWE 100, CSC 111 or ENGR 120, CSC 310, CMPE 220, and CSC/ CMPE/SWE at 300+			

MINOR	CREDITS/GPA	CONTACT		
	18 credits/2.0	english@ship.edu		
Creative Writing	Required Courses - 12 credit hours from ENG 224, ENG 307, ENG 308, ENG 335, ENG 427, ENG 42 435; 6 credit hours from any other 300-level English course in Advanced Studies in Literature.			
	18 credits/2.5	crimjust@ship.edu		
Criminal Justice	Required Courses - CRJ100, CRJ309 + choose 2 from CRJ221, CRJ41, CRJ261 + 2 CRJ elective 300/404 level			
	18-21 credits/2.0	math@ship.edu		
Data Science	Start with a statistics class (MAT 2 ENGR110/ENG120/MIS240/SWE rest of the minor is MAT 317 (Spr	217/MAT 375/SCM 200) and a programming class (CSC 104/CSC 110/ 2100) before taking MAT 219 - Data Science I (offered in Spring only). The 2100 ing only), MAT 319 (Fall only) and one discipline specific Capstone class.		
Disability Studios	18 credits/2.0	disabilitystudies@ship.edu		
Disability studies	Required Courses - DS100, DS40	00 + 4 interdisciplinary electives from approved list		
	18 credits/2.0	economics@ship.edu		
Economics	Required Courses - ECO101/102 OR ECO113 + 12-14 credits Economic electives			
English	18 credits/2.0	english@ship.edu		
	Required Courses - ENG130 + 5 additional ENG courses, 2 must be at 300/400 level			
	18 credits/2.0	ent@ship.edu		
Entrepreneurship	Required Courses - ACC200, ENT337, ENT433, FIN311, & MKT205 + 1 elective from ENT336, MGT305, MGT370 or MKT370			
Ethnic Studies	18 credits/2.0	ethnic@ship.edu		
	Required Courses - ETH100, ETH	101, ETH102 + 9 additional credits from approved list		
	19 credits/2.0	exsci@ship.edu		
Exercise Science	Required courses: ESC 150, ESC 343 Elective options (pick four): ESC 244, ESC 260, ESC 278, ESC 336, ESC 340, ESC 348, ESC 350, ESC 352, ESC 375, ESC 425 Note: BIO 150, 238, or 350 is a prerequisite for ESC 343; We strongly recommend completing BIO 150 as a General Education course.			
	18 credits/2.0	french@ship.edu		
French Required Courses - FRN202, FRN20 FRN411, FRN490		V204, FRN211, FRN309 + two of the following FRN380, FRN392, FRN400,		
	18 credits/2.0	french@ship.edu		
French Cultural Studies	Required Courses - FRN 202, FRI interdisciplinary courses from ap	N 204, FRN 392 + one French course from approved list + two proved list		
	21 credits/2.0	geog@ship.edu		
Geography	Required Courses - 100, 200-300 Level Geo/Earth science courses, 400 level Geo/Earth Science Course + 12 credits ESS or GEO courses by advisement.			
	18 credits/2.0	geog@ship.edu		
Geographic Information Systems	Required Courses - GEO 202, GEO 363, GEO 420 + three courses from approved list			

MINOR	CREDITS/GPA	CONTACT			
	18 credits/2.0	german@ship.edu			
German Studies	Required Courses - GER150 or 151, GER203 or 204, GER309 or 320, GER312 or 313 + two additional 200-400 level electives courses				
	18 credits/2.0	dpbourassa@ship.edu			
Gerontology	Required Courses - GRN 100, GRN 301 or GRN 303 + 6 additional courses from approve list				
	18 credits/2.0	history@ship.edu			
History	Required Courses - HIS105, HIS1 300-level US History & 1 300-leve	06, HIS201 OR 202 + 3 additional courses; 1 300-level European History, 1 el Africa/Asia/Latin American or Middle East course			
	18 credits/2.0	kalask@ship.edu			
Human Communication Studies	Required Courses - HCS200, HC	Required Courses - HCS200, HCS210 + 4 additional courses from approved list			
	21 credits/2.0	ism@ship.edu			
International Development Studies elective, 9 cr. of Work Sector electives in Education, Health, Agriculture, Youth I Community Economic Development. Contact the department for a list of approved cor					
	21 credits/2.0	ism@ship.edu			
International Studies	Required Courses - INT200, INT300 + 2 of the following ANT111, GEO101, HIS106, PLS141, MGT370 + 3 additional courses from approved list				
	19 credits/2.0				
Marine Science	Required: BIO 162 and ESS 220 course and 3 credit capstone.	olus 6 credits of ESS/BIO courses, 3 credit Advanced Marine Science			
	18 credits/2.0	mkt@ship.edu			
Marketing	Admission Requirements: ECO 102 or ECO 113 and MAT 117 or SCM 200 Required Courses: MKT 205, MKT 206, MKT 430. Elective Options (Pick 3): MKT 310, MKT 315, MKT 325, MKT 335, MKT 340, MKT 342, MKT 365, MKT 370, MKT 380, MKT 390, MKT 490.				
	18-21 credits /2.0	math@ship.edu			
Mathematics	Required Courses - 6 MAT courses MAT 211 or above, exceptions can be made for MAT 117A/MAT 117B in place of MAT 217 or MAT 181 in place of MAT 211				
	18-21 credits/2.0	rotc@ship.edu			
Military Science	Required Courses - MIL131, MIL132, MIL231, & MIL232 + 10-12 credits of specific HIS, MIL, & PLS courses				
Music	18 credits/2.0	music@ship.edu			
	Required Courses - MUS140 MUS212, MUS320 + 3 additional classes at 300/400 level from approved list **MUS121 must be taken before declaring or within the first 2 semesters after declaring music minor				
	18 credits/2.0	history@ship.edu			
Philosophy	Required Courses - 2 of the following PHL248, PHL248, PHL340 + 4 additional courses, which include 1 at 200-level and 1 at 300-level				

MINOR	CREDITS/GPA	CONTACT		
	24-26 credits/2.0	physics@ship.edu		
Physics	Required Courses - PHY221, PHY222, PHY301, PHY321, PHY331 **Please note math pre-requisites to these classes			
	18 credits/2.0	polisci@ship.edu		
Political Science	Required Courses - PLS100, PLS7	141, PLS300 + 3 additional courses from approved list		
	18 credits/2.0	psych@ship.edu		
Psychology	Required Courses - 3 courses from the following PSY235, PSY240, PSY265, PSY270, PSY320, PSY323, PSY325, PSY330, PSY352, PSY355, PSY383 + 1-2 courses from the following PSY311, PSY335, PSY361, PSY432, PSY435, PSY475, PSY485 + 1-2 courses from the following PSY315, PSY350, PSY365, PSY410, PSY420, PSY447, PSY470 **For specific General education goal requirements, please see department.			
	18 credits/2.0	polisci@ship.edu		
Public Service	Required Courses - PLS100, PLS2 + 1 public administration/politica	271, PLS300 + 2 from the follow PLS231, PLS371, PLS372, PLS373, PLS374 al science course		
Deedine	18 credits/2.0			
keading				
	18 credits/2.0	socant@ship.edu		
Sociology	Required Courses - SOC101, SOC380 + any 4 elective Sociology courses from 200, 300 and 400 level offerings **At least 6 credits of this minor must be at 300-400 level			
	18 credits/2.0	spanish@ship.edu		
Spanish	Required Courses - SPN202, SPN204, SPN211, SPN312 + 2 additional Spanish Courses at the 300 & 400 level			
	21 credits/2.0	geog@ship.edu		
Sustainability	Required Courses - ESS108 and SOC, ECO, MGT, MIS, SCM, ENG	GEO427. Plus 18 credits of approved electives from ESS, GEO, BIO, PSY, , HCS, & HIS.		
	11 credits/3.0			
Teacher Education	Required Courses - RDG334, RD apply	G330, RDG340, RDG345. RDG350 **Only education major (PK-4 Only) may		
	18 credits/2.0	ctkung@ship.edu		
Technical/Professional Comm.	Required Courses - 2 of the following CSC103, CSC110, MIS142, ENG238 (one from writing, one from computer science) + 4 additional courses from approved list **Upon completion of 12 credits toward this minor, students may apply for optional internship (up to 3 credits)			
	18 credits/2.0	music@ship.edu		
Theater	Pre-requisite: THE121. Required Courses - 15 credits from four category areas (Theatre Praxis; History, Theory and Literature; Design Management and Technical Theatre, and Performance). See catalog for listing.			
	18 credits/2.0	wst@ship.edu		
Women's and Gender Studies	Required Courses - WST100 and WST300. 12 credits of approved electives from ANT, COM, CRJ, ECO, ENG, HCS, HIS, MAT, PLS, PSY, SOC, SWK, and WST. See catalog for listing.			

MAJORS

The selection of a curriculum or area of specialization should be made with care after considering your academic strengths, areas of interest, plans for future study, and career goals. You may want to consult with friends, family members, university counselors, or faculty advisors before making a decision.

MAJOR	REQUIRED GPA	REQUIREMENTS
Applied Physics (Pre-engineering) B.S.	2.5	
Art B.A. Education (K-12)	2.0 3.0	
Biology B.S. Biology/Biotechnology/Pre-Forensic Sci. Biology/Clinical Sciences Biology/Health Professions Biology/ Ecology and Environmental	2.5 2.5 2.5 2.8 2.5	Admission to this major is competitive and selective. Students must have earned at least 15 credits and have grades of "C" or better in Principles of Biology I/II (BIO161/162) AND one of the following; Chemical Bonding OR successfully completed Pre-calculus or Calculus I with a "C" or better.
Business B.S.B.A. Accounting Entrepreneurship Finance Personal Financial Planning Management Human Resources Management International Management Management Information Systems Marketing Marketing Management Digital Marketing and Analytics Supply Chain Management Logistics Management	2.0	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.
Chemistry B.S. Biochemistry B.S. Chemistry/Pre-Pharmacy B.S. Chemistry/Forensic Science B.S. Chemistry/Medical Science B.S. Secondary Education Certification	2.0 2.0 2.8 2.0 3.2	CHM 121 is required. Prerequisites: MAT 175: Pre-Calculus or MAT 117: Statistics (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.
Civil Engineering	2.0	Students must be ready to start MAT211: Calculus upon declaring (Math level 6). Students who are not ready to start MAT211 are placed into the Computer Science & Engineering General category
Communication, Journalism and Media B.A. Broadcast Media Production Journalism Public Relations	2.0	
Computer Engineering B.S.	2.0	This is an academically challenging major and requires a significant effort outside the classroom. Students pursuing this major should have strong math skills. Math Level 6 is required to declare major.

MAJOR	REQUIRED GPA	REQUIREMENTS
Computer Science B.S. Computer Graphics Artificial Intelligence Embedded Systems Computer Science Application Computer Science with Secondary Field	2.0	Students need to be at math level 4 (MAT 140B) or higher to declare the major. Students who are not at math level 4 are placed into the Computer Science & Software Engineering General category.
Criminal Justice B.S.	2.6	
Economics B.S.	2.0	
Electrical Engineering B.S.	2.0	This is an academically challenging major and requires a significant effort outside the classroom. Students pursuing this major should have strong math skills. Math Level 6 is required to declare major.
English B.A. Literary Studies Professional and Creative Writing Secondary Education Certification	2.0 3.0	Students must complete ENG 130 and ENG 213 by end of the second year, and ENG 460 in the senior year. In addition, students must complete 9 credit hours of literary surveys, and 24 credit hours in advanced literary studies. Secondary Education students must complete 36 credit hours in TCH, EEC, and EDU courses, ENG 366 and ENG 426, 9 credit hours of literary surveys, and 15 credit hours in advanced literary studies.
Exercise Science B.S. Allied Health Pre-Professional	2.5	Completion of at least 15 credits with a GPA of 2.50 or above and completion of BIO 161, BIO 162, or BIO 237 (or their equivalents) with a grade of C or higher Note: It is strongly recommended that students complete (or are scheduled to complete) BIO 237 Anatomy & Physiology I and BIO 238 Anatomy & Physiology II (or their equivalents) with a grade of C or higher before transferring to Exercise Science
Exercise Science B.S. Human Performance and Fitness	2.0	Completion of at least 15 credits with a GPA of 2.0 or above Completion of any biology, chemistry or physics course: BIO237, BIO238, BIO161, BIO162, CHM103, CHM105, CHM121+125, PHY 110 or PHY 121+123 recommended (or their equivalents) with a grade of C or higher Note: It is strongly recommended that students complete (or are scheduled to complete) BIO 237 Anatomy & Physiology I and BIO 238 Anatomy & Physiology II (or their equivalents) with a grade of C or higher before transferring to Exercise Science
Exercise Science B.S. Pre-Athletic Training Concentration	2.5	Completion of at least 15 credits with a GPA of 2.50 or above and completion of BIO 161, BIO 162, or BIO 237 (or their equivalents) with a grade of C or higher Note: This concentration is a 3+2 and therefore will be difficult for transfer students to complete. If you are interested in athletic training, look to the Allied Health Pre-Professional concentration instead.
French B.A. Secondary Education Certification	2.0 3.0	
Geoenvironnmental Science	2.0	
Geography B.S. Geographic Information System	2.0	
History B.A Public History Secondary Education B.S.Ed. (Social Studies)	2.0	Secondary Education students are encouraged to declare as soon as possible if considering this major, due to the state certification requirements.

MAJOR	REQUIRED GPA	REQUIREMENTS
Human Communication Studies	2.0	New majors are welcome. Students who have completed general education courses can complete the major in 2 years and graduate on time if proper advisement is followed.
Interdisciplinary Arts Program	2.0	
International Studies	2.0	
Mathematics B.S. Applied Mathematics Statistics Secondary Education Certification* Dual Certification in Mathematics and Special Education* Custom Concentration	2.0/3.0	Students interested in becoming an actuary are recommended to pursue the Statistics Concentration along with a Business minor. *Secondary Education majors must have a 3.0 GPA to declare this major Students are required to complete a minor or advanced coursework in an associated discipline (Allied Electives) for the Applied, Statistics, and Custom Concentrations.
Mechanical Engineering	2.0	Students must be ready to start MAT211 upon declaring (Math level 6). Students who are not ready to start MAT211 are placed into the Computer Science & Engineering General category
Physics B.S. Physics Secondary Education B.S.Ed	2.0 3.0	
Political Science B.A.	2.0	
Psychology B.A.	2.0	
Public Service B.S.	2.0	A student who has between 60 and 74 credits should have completed PLS 100 U.S. Government and Politics.
Social Work B.S.W	2.0 (0-30 credits) 2.2 (31-59 credits) 2.3 (60+ credits)	Students who do not meet GPA requirements should contact the Dept. Chair to discuss options and begin taking social work courses. IMPORTANT: Students must follow the Social Work program guide in effect at the time they were accepted to the department, not the one in effect at the time they entered Shippensburg.
Sociology B.A.	2.0	Sociology welcomes new majors at any time. An informational interview is required to declare the Sociology major. Please schedule an appointment with the department chair by contacting the Sociology and Anthropology Department.
Software Engineering B.S	2.0	Math Level 4 is required to declare major.
Spanish B.A. Secondary Education Certification	2.0 3.0	
Sustainability B.S	2.0	
Teacher Education B.S.Ed. Early Childhood/Elementary Education Elementary/Middle School Level Special Education/Early Childhood Dual	3.0	Admission to this major is competitive. Students must submit a letter of application to the department. Students who apply are ranked according to a score on a rating form. Enrollment is limited, and only top ranked students will be admitted.



THE GENERAL EDUCATION PROGRAM

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

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.

All students at the university are required to complete a general education program.

Overview: General Education Program

The new General Education Program at Shippensburg University comprises forty-five of the credit hours required for graduation. The program includes a series of special courses in five categories:

- Foundations (15 credits)
- Interconnections (9 credits)
- Citizenship and Responsibility (6 credits)
- Natural World and Technology (9 credits)
- Creativity and Expression (6 credits)

Advising for the General Education Program

When advising students, consider the following policies regarding the General Education Program at Shippensburg University:

- Expression and Creativity: Students cannot take two Literature courses: one Literature and one Creative or one Arts.
- No more than two courses from one department will apply to a student's General Education program. For example: If a student takes ENG 114 to satisfy a Foundations course and then takes ENG 250 for Literature followed by ENG 224 for Creative, ENG 224 will count as an elective and will not satisfy a General Education requirement.
- Students may not elected to take any of the five foundations courses "satisfactory-unsatisfactory".
- Lastly, courses either count toward a student's major or toward the General Education Program but not both.

GENERAL EDUCATION PROGRAM OFFERINGS

Foundations (5 courses/15 credits)

UNIV101 SU First Year Seminar ENG114 Academic Writing

MAT117B Applied Statistics B

HCS100 Introduction to Human Communication

MAT181 Applied Calculus MAT211 Calculus I MAT217 Statistics I *See your advisor to figure out which course is right for you and your major

HIS105 Historical Foundations of Global Cultures

Interconnections (3 courses/9 credits)

Diversity (at least one course from this group):

Quantitative Reasoning Options (choose 1): MAT105 Mathematics for Liberal Studies

MAT107 Mathematics Models Applied to Money

MAT117A Applied Statistics with Co-requisite Support

MAT111 Fundamentals of Mathematics II

COM245 Diversity and the Media DS100 Introduction to Disability Studies EEC273 Intro. to Exceptionalities ETH100 Introduction to Ethnic Studies ETH101 Introduction to African American Studies ETH102 Introduction to Latino Studies FRN150 French Civilization GEO103 Geography of the United States and Canada HON 102 Honors: Introduction to Women's Studies HON 140 Honors: Geo. of the United States and Canada HON 151 Honors: General Psychology INT252 Costa Rica: Politics, Economy and Society **PSY101** General Psychology SPN150 Spanish Civilization & Culture SWK 265 Understanding Human Diversity for SW WST100 Introduction to Women's & Gender Studies

Global Perspectives (at least one course from this group):

ANT105 Great Discoveries in Archaeology ANT111 Cultural Anthropology ECO101 Principles of Macroeconomics FRN 204 Ideas & Cultures From French-Speaking World GEO101 World Geography GER150 German Civilization & Culture GER204 Contemporary German Culture HIS106 Modern World History HON 123 Honors: Modern World History HON 141 Honors: World Geography HON 160 Honors: Cultural Anthropology HON 165 Honors: Principles of Macroeconomics HON 274 Honors: Intro. to International Politics PLS141 World Politics SPN153 Latino Pop Culture SPN204 Ideas & Cultures From Spanish-Speaking World SPN385 Aspectos De La Civiliacion Hispana

Foreign Language

ASL101 American Sign Language ASL102 American Sign Language CHN101 Beginner's Chinese CHN102 Beginner's Chinese II CHN103 Intermediate Chinese FRN101 Beginning French I FRN102 Beginning French II FRN103 Intermediate French FRN202 Intermediate Conversation Through the Media FRN320 French for the Professions **GER101** Beginning German I **GER102** Beginning German II **GER103** Intermediate German GER203 Intermediate German Communication GER215 German for the Professions SPN101 Beginning Spanish I SPN102 Beginning Spanish II SPN103 Intermediate Spanish SPN202 Intermediate Conversation SPN330 Spanish for the Professions
Citizenship and Responsibility (2 courses from 2 categories/6 credits)

Critical Reasoning

AEES210 Writing Tutoring Theory and Praxis ECO113 Principles of Economics ENGR110 Modeling and Simulation ESC207 Stress Management FIN101 Personal Finance GEO140 Human Geography GRN100 Introduction to Gerontology HCS125 Survey of Communication Studies HON130 Honors: Intro. To Philosophy HON161 Honors: Intro to Sociology MAT225 Discrete Mathematics PHL101 Introduction to Philosophy PHL102 Critical Thinking SOC101 Introduction to Sociology

Ethical Reasoning

HON105 Honors: Ethical Theories and Problems PHL105 Ethical Theories and Problems

Citizenship

COM111 Media Literacy ESS108 Introduction to Environmental Sustainability HIS201 Early History of the United States HON279 Honors: U.S. Government and Politics PLS100 U.S. Government and Politics

Natural World and Technology (3 courses/9 credits)

Natural World (at least two courses)

ANT121 Physical Anthropology **BIO100** Basic Biology **BIO145** Environmental Biology **BIO150 Human Biology** BIO161 Principles of Biology: Cell Structure and Function BIO162 Principles of Biology: Organismal Diversity **BIO208** Field Biology BIO237 Human Anatomy and Physiology I CHM103 Chemistry: A Cultural Approach CHM105 Chemistry: An Observational Approach CHM121 Chemical Bonding ESS110 Introduction to Geology ESS111 Introduction to Weather and Climate ESS210 Physical Geology GEO 105 Physical Geography HON108 Honors: Astronomy HON142 Honors: Intro to the Atmosphere HON145 Honors: Environmental Biology HON159 Honors: Physical Anthropology HON180 Honors: Physics for Society

HON186 Honors: Human Biology HON196 Honors: A Cultural Approach HON244 Honors: Introduction to Geology PHY108 Astronomy PHY110 Physics for Society PHY121 Introduction to Physics I PHY122 Introduction to Physics II PHY205 Intermediate Physics I PHY221 Fundamentals of Physics I

Technology

CSC103 Overview of Computer Science CSC104 Programming in Python CSC120 Intro to Computer Science and Metacognition CSC180 Microcomputer Basic ECO102 Principles of Microeconomics ENGR120 - Programming for Engineers HON166 Honors: Principles of Microeconomics HON182 Honors: Overview of Computer Science MAT219 Data Science I MIS300 Information Technology and Business Operations

Creativity and Expression (2 courses/6 credits)

Literature (at least one) :

ENG243 The Art of the Film ENG248 Intro to Culturally Diverse Literature of the U.S. ENG250 Literature and Society FRN330 Masterpieces of French Literature FRN331 Masterpieces of Francophone Literature GER151 German Cinema HON101 Honors: Introduction to the Theatre HON224 Honors: The Art of the Film HON249 Honors: Intro to Literature SPN152 Latino Literature SPN360 Masterpieces of Spanish Literature SPN361 Masterpieces of Spanish-American Literature THE121 Introduction to Theatre

Creative

ENG224 Introduction to Creative Writing MECH100 Engineering Graphics

Arts

ART101 Art Appreciation ART231 Art History I ART232 Art History II ART233 Art History III ART339 History of American Art HON111 Honors: Intro. to Interdisciplinary Arts HON135 Honors: Art History III HON208 Honors: Opera and Music There HON210 Honors: Introduction to Music HON261 Honors: World Music IAP111 Intro. to Interdisciplinary Arts MUS121 Introduction to Music MUS129 American Popular Music MUS216 Music and Film MUS227 Opera & Music Theatre MUS261 World Music

THE GENERAL EDUCATION PROGRAM (PRE-FALL 2018)

Students enrolled prior to Fall 2018 follow these General Education Requirements. Students are advised to review their course options with their faculty advisor and/or consult the 2017-2019 Undergraduate Catalog for more information.

48 Credits

Part I: Required Skills and Competencies (15 Credits)

- Historical Foundations of Global Cultures
- Thinking Historically in a Global Age
- Intro to Human Communication
- Writing Intensive First Year Seminar/Advanced Placement Writing
- College-Level Mathematics

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

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.



COLLEGE OF ARTS & SCIENCES DEGREE PROGRAMS

B.A.

Art & Design Education K-12 Communication Journalism Electronic Media Print Media **Public Relations** English **Literary Studies** Prof and Creative Writing Secondary Education Certification French # History Public History Human Communication Interdisciplinary Art **International Studies** Area Studies **Global Perspectives Political Science** Psychology Sociology Spanish #

Secondary cert. available

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.

History* Physics * Comprehensive Social Studies

B.S.

Applied Physics (Pre-Engineering) Biology # Biotechnology **Clinical Sciences** Ecology & Environmental **Health Professions** Chemistry# **Biochemistry Forensic Science** Medical Sciences **Pre-Pharmacy Civil Engineering Computer Engineering Computer Science Computer Graphics Computer Science Applications Related Discipline Economics Business Mathematics Political Science** Public Administration Social Science **Electrical Engineering** Geoenvironmental Science Geography **Geographic Information Systems** Math # **Statistics** Applied Math Mechanical Engineering Physics# **Public Administration** Software Engineering Sustainability

Secondary cert. available

Applied Physics - B.S. (Pre-Engineering)

Requirements for Applied Physics major 53-54 cr.

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Students in the Applied Physics program must complete their Shippensburg University requirements in three years. These consist

of the following courses:

Physics Core (32 cr)

__PHY 107 - Seminar for Physics majors (2 cr) __PHY 221 - Fundamentals of Physics I (5 cr) ** __PHY 222 - Fundamentals of Physics II (5 cr) __PHY 301 - Mathematical & 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 & Statistical Thermodynamics (4 cr)

Math Requirement (18 cr)

__MAT 211 - Calculus I (4 cr) ** __MAT 212 - Calculus II (4 cr) ** __MAT 213 - Calculus III (4 cr) __MAT 322 - Differential Equations (3 cr) __MAT 318 - Elementary Linear Algebra (3 cr)

Chemistry Requirement (8 cr)

- ___CHM 121 Chemical Bonding (3 cr) **
- ___CHM 125 Lab IB-Stoichiometry & Reactions (1 cr)

__CHM 122 - Chemical Dynamics (3 cr)

__CHM 126 - Lab IIB-Equilibrium & Instrumentation (1 cr)

<u>Computer Science/Engineering Requirement (3-4 cr)</u> __CSC 110 - Computer Science I-Lecture (3 cr) ** __CSC 106 - Computer Science I-Lab (1 cr) <u>OR</u> _ENGR 120 - Programming for Engineers (3 cr)

Shippensburg Requirements: 98 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING

Semester I MAT 211 - Calculus I PHY 105 - Seminar for Physics Majors

Semester II

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

<u>Notes:</u> 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.

Chemical engineering requires one year of Organic Chemistry.

Nanotechnology certificate is available. See the department for more information.

Art & Design - B.A.

Requirements for the Art major 39 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Foundation Courses (12 crs)

- Take during first year of program:
 - ___ART 101 Art Appreciation (3 cr) **
 - ___ART 110 Basic Drawing (3 cr)
 - __ART 215 Color and Two-Dimensional Design (3 cr) ^F
 - __ART 218 Three-Dimensional Design (3 cr) $^{\mbox{\scriptsize S}}$

Additional Art Requirements (12 cr)

- __ART 210 Drawing II (3 cr) ^s
- ___ART 232 Art History II (3 cr) F
- ___ART 233 Art History III (3 cr) ^s
- ___ART 385 Senior Art Seminar (3 cr)
- Art Electives (15-18 cr)

Select 5 courses below–6 if ART 101, ART 232, or ART 233 is taken as a general education elective; 4 must be at least 300-level.

__ART 211 - Figure Drawing (3 cr)
 __ART 216 - Visual Design Technology (3 cr)
 __ART 217 - Design I: Page Layout & Composition (3 cr)
 __ART 231 - Art History I (3 cr) ^F
 __ART 300, 301, 302, 303, 304, 305 - Independent Studio (3 cr)

- __ART 306 Design II: Vector Illustration (3 cr) ^s
- __ART 315 Imagination, Creativity and Methodology (3 cr)
- ___ART 318 Typography (3 cr)
- __ART 319 Design III: Photo Imagery, Editing (3 cr) ^s
- __ART 321 Watercolor I (3 cr) $^{\rm S}$
- ___ART 322 Watercolor II (3 cr) F
- __ART 326 Painting I (3 cr) $^{\rm F}$
- __ART 327 Painting II (3 cr) $^{\rm S}$
- __ART 337 Printmaking I (3 cr) ^s
- ___ART 339 History of American Art (3 cr)
- ___ART 338 Printmaking II (3 cr)
- __ART 340 Ceramics (3 cr)
- __ART 341 Advanced Ceramics (3 cr) ^s
- __ART 342 Digital Ceramics (3 cr)
- __ART 370 Sculpture (3 cr) $^{\scriptscriptstyle F}$
- __ART 371 Advanced Sculpture (3 cr)
- __ART 372 Dimensional Prototyping (3 cr)
- ___ART 395 Internship in Art I (3 cr)
- ___ART 399 Independent Study (3 cr)
- __ART 410 Advanced Digital/Graphic Design Studio (3 cr)
- __ART 420 Digital Fine Art & Design Printing (3 cr)
- ___ART 421 Digital Painting (3 cr)
- ___ART 422 Digital Printmaking (3 cr)
- __ART 425 Digital Media I (3 cr) $^{\mbox{\tiny S}}$
- ___ART 430 Digital Media II (3 cr) ^F
- ___ART 435 Portfolio Design & Presentation (3 cr) ^s

Optional: Certificate in Graphic Design (18 cr)

Students who complete all six computer design courses will receive a certification in Graphic Design upon graduation. Students must fill out a change of major form to add the certification and apply for it when they apply to graduate.

- ___ART 217 Graphic Design I: Page Composition (3 cr)
- ___ART 306 Graphic Design II: Vector Illustration (3 cr)
- __ART 319 Design III: Photo Imagery, Editing (3 cr)
- ___ART 425 Digital Media I (3 cr)
- ___ART 430 Digital Media II (3 cr)
- __ART 435 Portfolio Design & Presentation (3 cr)

Also Required:

- __Portfolio Review
- __Yearly Student Art Exhibit
- __Senior Exhibit

B.A. students must 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 testing or CLEP testing.

F=Fall only S=Spring only

Graduation Requirements: 120 cr Free Electives 33 cr GPA needed to declare: 2.0

HELPFUL HINTS FOR ADVISING:

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

<u>Notes:</u> Double majors such as Art/Communications increase career options.

Art minor is available - 21 cr

Art, Secondary Education Certification - B.A.

Requirements for Art major with Secondary Education Certification 72 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Foundation Courses (36 cr)

_ART 101 - Art Appreciation (3 cr) **
_ART 110 - Basic Drawing (3 cr)
_ART 210 - Drawing II (3 cr) ^S
_ART 215 - Color/2-Dimensional Design (3 cr) ^F
_ART 218 - Three-Dimensional Design (3 cr) ^S
_ART 232 - Art History II (3 cr) ^F
_ART 233 - Art History III (3 cr) ^S
_ART 385 - Senior Art Seminar (3 cr)
_ART 217 - Computer Design I: Page Composition (3 cr)
_ART 340 - Ceramics (3 cr)
_ART 370 - Sculpture (3 cr) ^F

Additional Requirements (21 cr)

- __GEO 103 Geography of the U.S. & Canada (3 cr) ** __PSY 101 - General Psychology (3 cr) ** __ENG 190, ENG 243, ENG 248, <u>OR</u> ENG 250 (3 cr) ** __MAT ______(MAT 117 recommended) ** __MAT ______(MAT 105 recommended) ** Select one or both: __BIO 145 - Environmental Biology (3 cr) **
 - __ESS 108 Conservation of Natural Resources (3 cr) **

Education Courses (36 cr)

- __ART 356 Social Structures of Aesthetics (3 cr) __ART 400 - Contemporary Methods in Art Education (3 cr)
- ___TCH 207 Org. & Psych. Foundations (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- __EEC 423 Effective Instructional Strategies (3cr)
- __RDG 413 Teaching Reading to ELL (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EDU 495 Student Teaching & Practicum (12-15 cr)

Also Required:

- __Portfolio Review
- __Yearly Student Art Exhibit
- __Senior Exhibit

B.A. students must 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 testing or CLEP testing.

<u>PAPA examinations</u>: All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300

F=Fall only S=Spring only

Graduation Requirements: 120 cr Free Electives 3 cr GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

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

Biology - B.S.

Requirements for the Biology major 55-56 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Biology Core Courses (13 cr)

- __BIO 161 Principles of Bio.: Cell Structure and Function (4 cr) **
- __BIO 162 Principles of Bio.: Organismal Diversity (4 cr)

__BIO 260 - Genetics (4 cr)

__BIO 499 - Capstone Seminar in Biology (1 cr)

Physiology Elective (4 cr)

Select one: ___BIO 350 - Human Physiology (4 cr) OR __BIO 351 - Animal Physiology (4 cr)

Additional Biology Electives (18 cr)

Professional program requirements should be considered when choosing electives. At least 6 credits need to be at the 300 level or above. Only 3 credits of internship/research may be used here.

BIO _	
BIO _	

Chemistry (16 cr)

__CHM 121 - Chemical Bonding (3 cr) ** __CHM 125 - Lab IB (1 cr) __CHM 122 - Chemical Dynamics (3 cr) __CHM 126 - Lab IIB (1 cr) __CHM 221 - Organic Chemistry (3 cr) __CHM 225 - Lab IIIB (1 cr) Select one: __CHM 227 - Introduction to Biochemistry (4 cr) OR __CHM 222 - Organic Chemistry II (3 cr) AND __CHM 226 - Lab IVB-Experiment. Org. Studies (1 cr)

Physics (8 cr)

- ___PHY 121 Introductory Physics I Lecture (3 cr) **
- ___PHY 123 Physics I Lab (1 cr)
- __PHY 122 Introductory Physics II Lecture (3 cr)
- ___PHY 125 Physics II Lab (1 cr)

<u>Mathematics (7-8 cr)</u> __MAT 211 - Calculus I (4 cr) **

AND __MAT 117A/B - Applied Statistics (3-4 cr) ** OR __MAT 217 - Statistics I (4 cr) **

Graduation Requirements: 120 cr Free Electives 17-18 cr GPA Needed to Declare: 2.5

Declare Biology: Admission to this major is competitive. Students must have earned at least 15 credits & have grades of "C" or better in BIO 161/BIO 162 and CHM 121, MAT 175, or MAT 211.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I BIO 161- Principles of Bio I CHM 121 - Chemical Bonding CHM 125 - Chem Lab IB

Semester II BIO 162 - Principles of Bio II CHM 122 - Chemical Dynamics CHM 126 - Chem Lab IIB

Notes: Physics is normally taken in the junior year

Students lacking strong chemistry/math backgrounds should consider taking CHM 105 before CHM 121.

Biology minor is available - 19 cr

Biology, Biotechnology Concentration - B.S.

Requirements for the Biology major with biotechnology concentration \approx 59-61 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Biology Core Courses (26 cr)

_BIO 161 - Principles of Bio.: Cell Structure and Function ** __BIO 162 - Principles of Bio.: Organismal Diversity (4 cr) __BIO 220 - Microbiology (4 cr) __BIO 260 - Genetics (4 cr) __BIO 385 - Cell Biology (3 cr) __BIO 418 - Molecular Biology (3 cr) __BIO 461 - Techniques in Biotechnology (3 cr) __BIO 499 - Capstone Seminar in Biology (1 cr) Physiology Elective (4 cr) Select one: ___BIO 350 - Human Physiology (4 cr) OR __BIO 351 - Animal Physiology (4 cr) Experiential Elective (3 cr) Select one: _BIO 397 - Intro to Research (3 cr) <u>OR</u>

__BIO 391 - Internship (3 cr)

Additional Biology Electives (3 cr)

Biology credits should total at least 41.

- __BIO _____
- __BIO _____

__BIO _

Recommended Electives: __BIO 230 - Botany (3 cr) __BIO 324 - Pathogenic Microbiology (3 cr) __BIO 408 - Virology (3 cr) __BIO 409 - Immunology (3 cr)

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<u>Chemistry (19-20 cr)</u>
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__CHM 121 - Chemical Bonding **

__CHM 125 - Lab IB (1 cr)

__CHM 122 - Chemical Dynamics (3 cr)

__CHM 126 - Lab IIB (1 cr)

__CHM 221 - Organic Chemistry (3 cr)

__CHM 225 - Lab IIIB (1 cr)

<u>Select one:</u>

__CHM 227 - Introduction to Biochemistry (4 cr)

OR

__CHM 222 - Organic Chemistry II (3 cr)

AND
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___CHM 226 - Lab IVB-Experiment. Org. Studies (1 cr)
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<u>Physics (5 cr)</u>

___PHY 121 - Introductory Physics I - Lecture **

___PHY 123 - Physics I Lab (1 cr)

- ___PHY 122 Introductory Physics II Lecture (3 cr)
- ___PHY 125 Physics II Lab (1 cr)

<u>Mathematics (3-4 cr)</u> __MAT 211 - Calculus I ** AND: __MAT 117A/B - Applied Statistics (3 cr) <u>OR</u> __MAT 217 - Statistics I (4 cr)

Graduation Requirements: 120 cr Free Electives \approx 12-14 cr GPA Needed to Declare: 2.5

Declare Biology: Admission to this major is competitive. Students must have earned at least 15 credits & have grades of "C" or better in BIO 161/BIO 162 and CHM 121, MAT 175, or MAT 211.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester IBIO 161- Principles of Bio
CHM 121 - Chemical Bonding
CHM 125 - Chem Lab IBSemester IIBIO 162 - Principles of Bio
CHM 122 - Chemical Dynamics
CHM 126 - Chem Lab IIB

Notes: Physics is normally taken in the junior year

Students lacking strong chemistry/math backgrounds should consider taking CHM 105 - Chemistry: An Observational Approach before CHM 121 - Chemical Bonding.

Biology, Clinical Science Concentration - B.S.

Medical Technology, Cytotechnology, Histotechnology, and Respiratory Therapy

Requirements for Biology major with Clinical Science Concentration $\approx 48\text{-}50\ \text{cr}$

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Biology Core Courses (20 cr)

_BIO 161 - Principles of Bio.: Cell Structure and Function **
_BIO 162 - Principles of Bio.: 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 499 - Capstone Seminar in Biology (1 cr)

BIO	BIO _	
RI O	BIO	
BIO	BIO	
BIO	_BIO	

Medical Technology Concentration (8+ cr):

- __BIO 409 Immunology (3 cr)
- __BIO 324 Pathogenic Microbiology (3 cr) __BIO 374 - Hematology (2 cr) Recommended:
- __BIO 317 Parasitology (3 cr)
- __BIO 418 Molecular Biology (3 cr)

Cytotechnology Concentration (7 cr):

Strongly recommended:

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

Histotechnology Concentration (7 cr): __BIO 371 - Human Anatomy (4 cr) __BIO 375 - Histology (3 cr)

Respiratory Therapy Concentration (7 cr):

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__BIO 371 - Human Anatomy (4 cr)
__BIO 409 - Immunology (3 cr)
Recommended:
__ENG 238 - Technical/Professional Writing I (3 cr)
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Chemistry (19-20 cr)

__CHM 121 - Chemical Bonding ** __CHM 125 - Lab IB (1 cr) __CHM 122 - Chemical Dynamics (3 cr) __CHM 126 - Lab IIB (1 cr) __CHM 221 - Organic Chemistry (3 cr) __CHM 225 - Lab IIIB (1 cr)

Select one: _CHM 227 - Introduction to Biochemistry (4 cr) OR _CHM 222 - Organic Chemistry II (3 cr) AND ___CHM 226 - Lab IVB-Experiment. Org. Studies (1 cr) Physics Requirements (5 cr) ___PHY 121 - Introductory Physics I - Lecture ** PHY 123 - Physics I Lab (1 cr) PHY 122 - Introductory Physics II - Lecture (3 cr) PHY 125 - Physics II Lab (1 cr) Mathematics Requirements (3-4 cr) ___MAT 211 - Calculus I ** Select one: _MAT 117A/B - Applied Statistics (3-4 cr) OR ___MAT 217 - Statistics I (4 cr)

All SU coursework must be successfully completed <u>prior</u> to beginning the clinical program. Up to 30 credits will be transferred back to SU after successful completion of the clinical program.

Graduation Requirements: 120 cr Free Electives \approx 23 cr GPA Needed to Declare: 2.5

Declare Biology: Admission to this major is competitive. Students must have earned at least 15 credits & have grades of "C" or better in BIO 161/BIO 162 and CHM 121, MAT 175, or MAT 211.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I	BIO 161- Principles of Bio CHM 121 - Chemical Bonding CHM 125 - Chem Lab IB
Semester II	BIO 162 - Principles of Bio CHM 122 - Chemical Dynamics CHM 126 - Chem Lab IIB

Notes: 24 credits must be taken in residence.

Physics is normally taken in the junior year.

Students lacking strong chemistry/math backgrounds should consider taking CHM 105 before CHM 121.

Biology, Ecology, Environment, and Conservation - B.S.

Requirements for Biology major with Ecology and Environmental Science Concentration $\approx 57\text{-}59~\text{cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Biology Core Courses (15 cr) BIO 161 - Principles of Bio.: Cell Structure and Function ** __BIO 162 - Principles of Bio.: 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) Cellular Elective (4 cr) Select one: __BIO 220 - Microbiology (4 cr) OR ___BIO 385 - Cell Biology (3 cr)***** Physiology Elective (4 cr) Select one: _BIO 350 - Human Physiology (4 cr) OR _BIO 351 - Animal Physiology (4 cr)*** Conservation and Management Elective (3 cr) Select any one: __BIO 444 - Conservation Biology (3 cr) OR ___BIO 483 - Wildlife and Fisheries Management (3 cr) Ecology Electives (9 cr) Select any three: __BIO 363 - Vertebrate Zoology (3 cr) __BIO 406 - Mammalogy (3 cr) BIO 412 - Ichthyology (3 cr) _BIO 417 - Herpetology (3 cr)_ _BIO 419 - Ornithology (3 cr) _BIO 430 - Principles of Evolution (3 cr) _BIO 442 - Aquatic Ecology (3 cr) _BIO 448 - Field Botany and Plant Taxonomy (3 cr) _BIO 4XX - Entomology (3 cr) _BIO 4XX - Freshwater Invertebrate Zoology (3 cr) ___BIO 444 - or BIO 4XX Additional Biology Electives (6 cr) **** __BIO _ BIO Mathematics Requirements (7-8 cr) __MAT 211 - Calculus I ** Select one: _MAT 117A/B - Applied Statistics (3-4 cr) <u>OR</u> ___MAT 217 - Statistics I (4 cr) Chemistry (13 cr) __CHM 121 - Chemical Bonding ** ___CHM 125 - Lab IB (1 cr) ___CHM 122 - Chemical Dynamics (3 cr)

___CHM 126 - Lab IIB (1 cr) ___CHM 221 - Organic Chemistry (3 cr) CHM 225 - Lab IIIB (1 cr) Select one: _CHM 227 - Introduction to Biochemistry (4 cr) OR _CHM 222 - Organic Chemistry II (3 cr) AND _CHM 226 - Lab IVB-Experiment. Org. Studies (1 cr) Physics**** (1 cr) ___PHY 121 - Introductory Physics I - Lecture ** ___PHY 123 - Physics I Lab (1 cr) Graduation Requirements: 120 cr Free Electives ≈ 14-16 cr* GPA Needed to Declare: 2.5 *Courses in Geography/Earth Science, including GIS, are recommended. ***BIO 351 is recommended ****One of the following Geography/Earth Science courses may be substituted for a biology course (3 credits): ESS 110 - Intro. to Geology (3) ESS 210 - Physical Geology (3) ESS 220 - Oceanography (3) GEO 202 - Introduction to GIS (3) GEO 224 - Soils (3) GEO 226 - Hydrology (3) GEO 244 - Land Use GEO 405 - Environmental Conservation and Management in PA GEO 421 - Environmental Law GEO 444 - Environmental Land-Use Planning *****PHY 122 and PHY 125 may be required by some graduate and professional programs. ******BIO 385 is recommended for students planning to attend graduate school. Declare Biology: Admission to this major is competitive. Students must have earned at least 15 credits & have grades of "C" or better in

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.Semester IBIO 161- Principles of Bio
CHM 121 - Chemical Bonding
CHM 125 - Chem Lab IBSemester IIBIO 162 - Principles of Bio
CHM 122 - Chemical Dynamics
CHM 126 - Chem Lab IIBNotes: Physics is normally taken in the junior year

BIO 161/BIO 162 and CHM 121, MAT 175, or MAT 211.

Students lacking strong chemistry/math backgrounds should consider taking CHM 105 before CHM 121.

Biology, Health Professions Concentration - B.S.

Requirements for Biology major with Health Professions Concentration \approx 56-61 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Biology Core Courses (13 cr) __BIO 161 - Principles of Bio.: Cell Structure and Function ** __BIO 162 - Principles of Bio.: Organismal Diversity (4 cr) __BIO 220 - Microbiology (4 cr) __BIO 260 - Genetics (4 cr) __BIO 499 - Capstone Seminar in Biology (1 cr) Physiology Elective (4 cr)

Select one:

__BIO 350 - Human Physiology (4 cr) __BIO 351 - Animal Physiology (4 cr)

Anatomy Elective (3-4 cr)

Select one:

__BIO 370 - Comparative Vertebrate Anatomy (4 cr)
 __BIO 371 - Human Anatomy (4 cr) [pre-physical therapy, pre-physician assistant, pre-occupational therapy]
 __BIO 375 - Histology (3 cr)

Cellular Elective (3 cr)

Select one:

__BIO 385 - Cell Biology (3 cr) __BIO 418 - Molecular Biology (3 cr)

Breadth Elective (3 cr)

Select one:

__BIO 208 - Field Biology (3 cr) __BIO 210 - Field Zoology (3 cr) __BIO 230 - Botany (3 cr) __BIO 242 - Ecology (3 cr) __BIO 330 - Animal Behavior (3 cr) __BIO 362 - Invertebrate Zoology (3 cr) __BIO 363 - Vertebrate Zoology (3 cr) __BIO 406 - Mammology (3 cr) __BIO 412 - Icthyology (3 cr) __BIO 417 - Herpetology (3 cr) __BIO 419 - Ornithology (3 cr) __BIO 430 - Principles of Evolution (3 cr)

Additional Biology Electives (9 cr)

Professional program requirements should be considered when choosing electives. Only 3 credits of internship or research may be used here.

BIO	
_BIO	
_BIO	

Chemistry Requirements (16-19 cr)

__CHM 121 - Chemical Bonding **

___CHM 125 - Lab IB (1 cr)

__CHM 122 - Chemical Dynamics (3 cr)

___CHM 126 - Lab IIB (1 cr)

___CHM 221 - Organic Chemistry (3 cr) CHM 225 - Lab IIIB (1 cr) Select one: __CHM 227 - Intro to Biochemistry (4 cr) OR ___CHM 222 - Modern Organic Chem II (3 cr) AND ___CHM 226 - Lab IVB (1 cr) AND __CHM 301 - Biochemistry I (3 cr) Physics Requirements (5 cr) __PHY 121 - Introductory Physics I** ___PHY 123 - Physics I Lab (1 cr) ___PHY 122 - Introductory Physics II (3 cr) __PHY 125 - Physics II Lab (1 cr) Mathematics Requirements (3-4 cr) MAT 211 - Calculus I ** Select one:

__MAT 117A/B - Applied Statistics (3-4 cr) ** <u>OR</u> __MAT 217 - Statistics I (4 cr) **

Organic II w/lab and Biochemistry I are required for pre-med, predental, pre-vet, and pre-pharmacy students. Pre-meds are urged to also take CHM 420 - Biochemistry II. Some veterinary programs require a "full course" in biochemistry, i.e., Biochemistry I & II.

Graduation Requirements: 120 cr Free Electives \approx 12-17 cr GPA Needed to Declare: 2.8

Declare Biology: Admission to this major is competitive. Students must have earned at least 15 credits & have grades of "C" or better in BIO 161/BIO 162 and CHM 121, MAT 175, or MAT 211.

The policy of the Shippensburg University Health Professions Committee requires a minimum 3.2 cumulative QPA (medical, dental, veterinary applicants) or 3.0 cumulative QPA (optometry, podiatric applicants) in order for a student to be granted a practice interview and committee letter.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester IBIO 161- Principles of Bio
CHM 121 - Chemical Bonding
CHM 125 - Chem Lab IBSemester IIBIO 162 - Principles of Bio
CHM 122 - Chemical Dynamics
CHM 126 - Chem Lab IIB

Notes: Physics is normally taken in the junior year

Students lacking strong chemistry/math backgrounds should consider taking CHM 105 before CHM 121.

Biology, Secondary Education Certification - B.S.

Requirements for the Biology major with Secondary Education Certification $\approx 80~{\rm cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Biology Core Courses (21 cr)

__BIO 161 - Principles of Bio.: Cell Structure and Function ** __BIO 162 - Principles of Bio.: Organismal Diversity (4 cr) __BIO 208 - Field Biology (3 cr) __BIO 242 - Ecology (3 cr) __BIO 260 - Genetics (4 cr) __BIO 385 - Cell Biology (3 cr) __BIO 430 - Principles of Evolution (3 cr) __BIO 499 - Capstone Seminar in Biology (1 cr)

Physiology Elective (4 cr)

Select one:

__BIO 350 - Human Physiology (4 cr) OR __BIO 351 - Animal Physiology (4 cr)***

Biology Electives (9 cr)

Only 3 credits of research or internship may count toward biology electives. Credits in excess of that number count as free electives.

__BIO __

__BIO _____

__BIO ____

Chemistry (13 cr)

__CHM 121 - Chemical Bonding ** __CHM 125 - Lab IB (1 cr) __CHM 122 - Chemical Dynamics (3 cr) __CHM 126 - Lab IIB (1 cr) __CHM 221 - Organic Chemistry (3 cr) __CHM 225 - Lab IIIB (1 cr) Recommended: __CHM 227 - Introduction to Biochemistry (4 cr)

Physics Requirements (1 cr)

__PHY 121 - Introductory Physics I - Lecture ** PHY 123 - Physics I Lab (1 cr) Recommended: __PHY 122 - Introductory Physics II - Lecture (3 cr) PHY 125 - Physics II Lab (1 cr)

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<u>Mathematics Requirements (3-4 cr)</u>
__MAT 211 - Calculus I **
Select one:
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__MAT 117A/B - Applied Statistics (3-4 cr) **
OR
__MAT 217 - Statistics I (4 cr) **
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College of Education and Human Services (33 cr)

- __TCH 207 Org. & Psych. Foundations (3 cr)
- _EEC 273 Introduction to Exceptionalities **
- __EEC 423 Effective Instructional Strategies (3 cr)
- __EEC 483 Assessing for Curriculum Decision Making (3 cr)
- __EDU 440 Teaching Science in Secondary Schools (3 cr)
- __EDU 441 Curriculum & Evaluation in Secondary Sci (3 cr)
- __RDG 413 Teaching Reading to ELL (3 cr)
- ___EDU 495 Student Teaching & Practicum (12 cr)

Graduation Requirements: 120+ cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

<u>Declare Biology:</u> Admission to this major is competitive. Students must have earned at least 15 credits & have grades of "C" or better in BIO 161/BIO 162 and CHM 121, MAT 175, or MAT 211.

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

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1^{st} year.

Semester I	BIO 161- Principles of Bio
	CHM 121 - Chemical Bonding
	CHM 125 - Chem Lab IB
Semester II	BIO 162 - Principles of Bio CHM 122 - Chemical Dynamics CHM 126 - Chem Lab IIB

Notes: Physics is normally taken in the junior year

Students lacking strong chemistry/math backgrounds should consider taking CHM 105 before CHM 121.

Chemistry, B.S.

Requirements for the Chemistry major \approx 59 cr

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

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Chemistry Core Courses (46 cr)
   _CHM 110 - The Chemistry Experience (1 cr)
    CHM 121 - Chemical Bonding (3 cr) **
    CHM 123 - Lab IA-Chemical Systems (1 cr)
    CHM 122 - Chemical Dynamics (3 cr)
    CHM 124 - Lab IIA-Experimental Quant. Analysis (3 cr)
    _CHM 221 - Modern Organic Chemistry I (3 cr)
    CHM 223 - Lab IIIA-Experimental Org. Techniques (1 cr)
   _CHM 222 - Modern Organic Chemistry II (3 cr)
    CHM 224 - Lab IVA-Qualitative Organic Analysis (3 cr)
  __CHM 301 - Biochemistry I (3 cr)
  __CHM 313 - Chemistry Seminar (1 cr)
  ___CHM 324 - Advanced Organic Lab (1 cr)
  ___CHM 363 - Physical Chemistry I (4 cr)
  __CHM 364 - Physical Chemistry II (4 cr)
    _CHM 371 - Analytical Chemistry (4 cr)
  __CHM 381 - Intermediate Inorganic Chemistry (3 cr)
   _CHM 481 - Advanced Inorganic Chemistry (4 cr)
Select one:
  __CHM 420 - Biochemistry II (3 cr)
  <u>OR</u>
  ___CHM 490 - Special Topics (3 cr)
Mathematics Requirements (8 cr)
    _MAT 211 - Calculus I (4 cr) **
  ___MAT 212 - Calculus II (4 cr)
Physics Requirements (8 cr)
   _PHY 205 - Intermediate Physics I (3 cr) **
    PHY 124 - Physics IB Lab (1 cr)
    PHY 206 - Intermediate Physics II (3 cr)
    PHY 126 - Physics IIB Lab (1 cr)
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Biology Requirements (4 cr) __BIO 161 - Prin. of Bio: Cell Str. & Funct. (4 cr) **

Computer Science Requirements (4 cr)

__CSC 110 - Computer Science I (4 cr)

Graduation Requirements: 120 cr Free Electives ≈ 16 cr GPA Needed to Declare: 2.0

To graduate with American Chemical Society certification, students must declare and complete the American Chemical Society (ACS) certification Minor.

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

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I		CHM 121 - Chemical Bonding
	CHM 123 - Lab IA	
	MAT 211 - Calculus I	
Semester II	CHM 122 - Chemical Dy CHM 124 - Lab IIA MAT 212 - Calculus II BIO 161 - Prin of Bio: Ce	rnamics ell Structure & Function
Semester III	PHY 205 - Intermediate	Physics I
	PHY 123 – Lab I	
	CHM 221 - Modern Org	anic Chem I
	CHM 223 - Lab IIIA	
Semester IV	PHY 206 - Intermediate	Physics II
	PHY 125 – Lab II	
	CHM 222 - Mod Organi	c Chem II
	CHM 224 - Lab IVA	
Chemistry mir	nor is available - 23-27 cr	
Biochemistry	minor is available - 24-28	cr
<u>Disclaimer:</u> Co	ourses may be subject to	change.

Chemistry, Biochemistry - B.S.

Requirements for Chemistry major with Biochemistry Concentration \approx 65 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Chemistry Requirements (46 cr)

_CHM 110 - The Chemistry Experience (1 cr) _CHM 121 - Chemical Bonding (3 cr) ** CHM 123 - Lab IA-Chemical Systems (1 cr) _CHM 122 - Chemical Dynamics (3 cr) CHM 124 - Lab IIA-Experimental Quant. Analysis (3 cr) __CHM 221 - Modern Organic Chemistry I (3 cr) CHM 223 - Lab IIIA-Experimental Org. Techniques (1 cr) __CHM 222 - Modern Organic Chemistry II (3 cr) CHM 224 - Lab IVA-Qualitative Organic Analysis (3 cr) __CHM 301 - Biochemistry I (3 cr) ___CHM 313 - Chemistry Seminar (1 cr) __CHM 324 - Advanced Organic Lab (1 cr) __CHM 363 - Physical Chemistry I (4 cr) ___CHM 364 - Physical Chemistry II (4 cr) __CHM 371 - Analytical Chemistry (4 cr) __CHM 381 - Intermediate Inorganic Chemistry (3 cr) ___CHM 420 - Biochemistry II (3 cr) __CHM 421 - Biochemistry Lab (1 cr) __CHM 496 - Introduction to Research III (1 cr)

Mathematics Requirements (8 cr)

___MAT 211 - Calculus I (4 cr) ** ___MAT 212 - Calculus II (4 cr)

Physics Requirements (8 cr)

PHY 205 - Intermediate Physics I (3 cr) ** PHY 124 - Physics IB Lab (1 cr) PHY 206 - Intermediate Physics II (3 cr) PHY 126 - Physics IIB Lab (1 cr)

Biology Requirements (14 cr)

__BIO 161 - Prin. of Bio: Cell Str. & Funct. (4 cr) ** __BIO 260 - Genetics (4 cr) __BIO 385 - Cell Biology (3 cr) __BIO 461 - Techniques in Biotechnology (3 cr)

Restricted Elective (3-4 cr)

Select one:

__CHM 481 - Advanced Inorganic Chemistry (4 cr) <u>OR</u> __BIO 220 - Microbiology (4 cr) <u>OR</u> __BIO 408 - Virology (3 cr) <u>OR</u> __BIO 409 - Immunology (3 cr)

Recommended Electives:

__CSC 110 Computer Science I (4 cr) **

___CHM 490 Special Topics (3 cr)

__BIO 418 - Molecular Biology (3 cr)

Graduation Requirements: 120 cr Free Electives ≈ 10 cr GPA Needed to Declare: 2.0

To graduate with American Chemical Society certification, students must declare and complete the American Chemical Society (ACS) certification Minor.

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

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I	CHM 121 - Chemical Bonding
	CHM 123 - Lab IA
	MAT 211 – Calculus I
Semester II	CHM 122 - Chemical Dynamics CHM 124 - Lab IIA
	MAT 212 - Calculus II
	BIO 161 - Prin. of Bio: Cell Structure & Function
Semester III	PHY 205 - Intermediate Physics I
	PHY 123 – Lab I
	CHM 221 - Modern Organic Chem I
	CHM 223 - Lab IIIA
	BIO 260 - Genetics
Semester IV	PHY 206 - Intermediate Physics II
	PHY 125 – Lab II
	CHM 222 - Mod Organic Chem II
	CHM 224 - Lab IVA

Chemistry, Forensics - B.S.

Requirements for Chemistry major with Forensics Concentration ≈ 65 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Chemistry Core Courses (43-44 cr)

__CHM 110 - The Chemistry Experience (1 cr) __CHM 121 - Chemical Bonding (3 cr) ** CHM 123 - Lab IA-Chemical Systems (1 cr) CHM 122 - Chemical Dynamics (3 cr) CHM 124 - Lab IIA-Experimental Quant. Analysis (3 cr) _CHM 221 - Modern Organic Chemistry I (3 cr) CHM 223 - Lab IIIA-Experimental Org. Techniques (1 cr) _CHM 222 - Modern Organic Chemistry II (3 cr) CHM 224 - Lab IVA-Qualitative Organic Analysis (3 cr) __CHM 301 - Biochemistry I (3 cr) __CHM 324 - Advanced Organic Lab (1 cr) __CHM 363 - Physical Chemistry I (4 cr) __CHM 364 - Physical Chemistry II (4 cr) __CHM 371 - Analytical Chemistry (4 cr) _CHM 381 - Intermediate Inorganic Chemistry (3 cr) _CHM 4xx - Chemistry Elective (3-4 cr)

Mathematics Requirements (8 cr)

___MAT 211 - Calculus I (4 cr)**

___MAT 212 - Calculus II (4 cr)

Physics Requirements (8 cr)

- __PHY 205 Intermediate Physics I (3 cr) ** PHY 124 - Physics IB Lab (1 cr) __PHY 206 - Intermediate Physics II (3 cr)
- PHY 126 Physics IIB Lab (1 cr)

Biology Requirements (8 cr)

__BIO 161 - Prin. of Bio: Cell Str. & Funct. (4 cr) ** __BIO 260 - Genetics (4 cr)

Criminal Justice Requirements (12 cr)

- __CRJ 100 Introduction to Criminal Justice (3 cr)
- _CRJ 261 Criminal Law and Procedures (3 cr)
- _CRJ 336 Introduction to Forensic Science (3 cr)
- __CRJ 456 Forensic Science: Evidence Analysis (3 cr)

Recommended Electives (9 cr)

__BIO 418 - Molecular Biology (3 cr) __BIO 461 - Techniques in Biotechnology (3 cr) __CRJ 321 - Criminal Investigation (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 10 cr GPA Needed to Declare: 2.0

To graduate with American Chemical Society certification, students must declare and complete the American Chemical Society (ACS) certification Minor.

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

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I	CHM 121 - Chemical Bonding CHM 123 - Lab IA MAT 211 - Calculus I
Semester II	CHM 122 - Chemical Dynamics CHM 124 - Lab IIA MAT 212 - Calculus II BIO 161 - Prin. of Bio: Cell Structure & Function
Semester III	PHY 205 - Intermediate Physics I PHY 123 - Lab I CHM 221 - Modern Organic Chem I CHM 223 - Lab IIIA BIO 260 - Genetics
Semester IV	PHY 206 - Intermediate Physics II PHY 125 - Lab II CHM 222 - Mod Organic Chem II CHM 224 - Lab IVA

Chemistry, Medical Sciences - B.S.

Requirements for Chemistry major with medical sciences concentration $\approx 62 \mbox{ cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

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Chemistry Core Courses (36-38 cr)
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___CHM 110 - The Chemistry Experience (1 cr)
    CHM 121 - Chemical Bonding (3 cr) **
    _CHM 123 - Lab IA-Chemical Systems (1 cr)
    _CHM 122 - Chemical Dynamics (3 cr)
    _CHM 124 - Lab IIA-Experimental Quant. Analysis (3 cr)
    _CHM 221 - Modern Organic Chemistry I (3 cr)
  __CHM 223 - Lab IIIA-Experimental Org. Techniques (1 cr)
   _CHM 222 - Modern Organic Chemistry II (3 cr)
  __CHM 224 - Lab IVA-Qualitative Organic Analysis (3 cr)
  __CHM 301 - Biochemistry I (3 cr)
  __CHM 313 - Chemistry Seminar (1 cr)
  __CHM 363 - Physical Chemistry I (4 cr)
  __CHM 381 - Intermediate Inorganic Chemistry (3 cr)
    _CHM 420 - Biochemistry II (3 cr)
Select one:
  ___CHM 497 - Introduction to Research II (2 cr)
Mathematics Requirements (8 cr)
  ___MAT 211 - Calculus I (4 cr) **
  __MAT 212 - Calculus II (4 cr)
Biology Requirements (18 cr)
   _BIO 161 - Prin. of Bio: Cell Str. & Funct. (4 cr) **
    _BIO 162 - Prin. of Bio: Organismal Diversity (4 cr)
    BIO 260 - Genetics (3 cr)
    _BIO 385 - Cell Biology (3 cr)
Select one:
    _BIO 350 - Human Physiology (4 cr)
  _BIO 351 - Animal Physiology (4 cr)
Physics Requirements (8 cr)
  __PHY 205 - Intermediate Physics I (3 cr) **
    PHY 124 - Physics IB Lab (1 cr)
    _PHY 206 - Intermediate Physics II (3 cr)
    PHY 126 - Physics IIB Lab (1 cr)
Restricted Electives (3-8 cr)
Select one or two:
  __BIO 220 - Microbiology (4 cr) OR
  __BIO 375 - Histology (3 cr) OR
    _BIO 408 - Principles of Virology (3 cr) <u>OR</u>
  __BIO 418 - Molecular Biology (3 cr) OR
  __BIO 461 - Techniques in Biotechnology (3 cr) OR
  __CHM 364 - Physical Chemistry II (4 cr) OR
  __CHM 371 - Analytical Chemistry (4 cr) OR
  ___CHM 421 - Biochemistry Lab (1 cr)
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Sociology and Psychology Requirements (6 cr)

__SOC 101 - Introduction to Sociology (3 cr) ** __PSY 101 - General Psychology (3 cr) **

Recommended Electives

__BIO 409 - Immunology (3 cr)

__CHM 324 - Advanced Organic Chemistry Lab (1 cr)

__CHM 481 - Advanced Inorganic Chemistry (4 cr)

__CHM 490 - Selected Topics in Chemistry (1-3 cr)

__CSC 110 - Computer Science I - Lecture & Lab (4 cr)

__SOC 369 - Medical Sociology (3 cr)

Graduation Requirements: 120 cr Free Electives ≈ 13 cr GPA Needed to Declare: 3.2

To enter into this concentration, students must have a GPA of 3.2. Students in this concentration must maintain a GPA of 3.2 or better.

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

Students that choose this concentration are not eligible for American Chemical Society Certification.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I	CHM 121 - Chemical Bonding
	CHM 123 - Lab IA
	MAT 211 - Calculus I
Semester II	CHM 122 - Chemical Dynamics
	CHM 124 - Lab IIA
	MAT 212 - Calculus II
	BIO 161 - Prin. of Bio: Cell Structure & Function
Semester III	PHY 205 - Intermediate Physics I
	PHY 123 – Lab I
	CHM 221 - Modern Organic Chem I
	CHM 223 - Lab IIIA
	BIO 162 - Prin. of Bio: Organismal Diversity
Semester IV	PHY 206 - Intermediate Physics II
	PHY 125 – Lab II
	CHM 222 - Mod Organic Chem II
	CHM 224 - Lab IVA

Chemistry, Pre-Pharmacy Concentration - B.S.

Requirements for Chemistry major with Pre-Pharmacy Concentration ≈ 62 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Chemistry Core Courses (43-44 cr)

- __CHM 110 The Chemistry Experience (1 cr) __CHM 121 - Chemical Bonding (3 cr) **
- __CHM 121 Chemical Bonding (5 Cr)
- __CHM 123 Lab IA-Chemical Systems (1 cr) __CHM 122 - Chemical Dynamics (3 cr)
- ____CHM 122 Chemical Dynamics (3 cr) ___CHM 124 - Lab IIA-Experimental Quant. Analysis (3 cr)
- __CHM 221 Modern Organic Chemistry I (3 cr)
- ____CHM 223 Lab IIIA-Experimental Org. Techniques (1 cr)
- ____CHM 222 Modern Organic Chemistry II (3 cr)
- __CHM 224 Lab IVA-Qualitative Organic Analysis (3 cr)
- __CHM 301 Biochemistry I (3 cr)
- ___CHM 324 Advanced Organic Lab (1 cr)
- ___CHM 363 Physical Chemistry I (4 cr)
- __CHM 364 Physical Chemistry II (4 cr)
- ___CHM 371 Analytical Chemistry (4 cr)
- __CHM 381 Intermediate Inorganic Chemistry (3 cr)
- ___CHM 4XX Chemistry Elective (3-4 cr)

Mathematics Requirements (11 cr)

- __MAT 117 Applied Statistics (3 cr) ** __MAT 211 - Calculus I (4 cr) **
- ____MAT 212 Calculus II (4 cr)

Physics Requirements (8 cr)

- ___PHY 205 Intermediate Physics I (3 cr) **
- __PHY 124 Physics IB Lab (1 cr)
- __PHY 206 Intermediate Physics II (3 cr)
- ___PHY 126 Physics IIB Lab (1 cr)

Biology Requirements (16 cr)

- __BIO 161 Prin. of Bio: Cell Str. & Funct. (4 cr)**
- __BIO 162 Prin. of Bio: Organismal Diversity (4 cr)
- __BIO 220 Microbiology (4 cr)
- Select one:

__BIO 350 - Human Physiology (4 cr) OR

____BIO 371 - Human Anatomy (4 cr)

Graduation Requirements: 120 cr Free Electives ≈ 13 cr GPA Needed to Declare: 2.0

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.

All chemistry majors will take a comprehensive examination in their junior year at a time and place designated by the department. To graduate with American Chemical Society certification, students must declare and complete the American Chemical Society (ACS) certification Minor.

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I	CHM 121 - Chemical Bonding
	CHM 123 – Lab IA
	MAT 211 - Calculus I
Semester II	CHM 122 - Chemical Dynamics
	CHM 124 – Lab IIA
	MAT 212 - Calculus II
	BIO 161 - Prin. of Bio: Cell Structure & Function
Semester III	PHY 205 - Intermediate Physics I
	PHY 123 – Lab I
	CHM 221 - Modern Organic Chem I
	CHM 223 - Lab IIIA
	BIO 162 - Prin. of Bio: Organismal Diversity
Semester IV	PHY 206 - Intermediate Physics II
	PHY 125 – Lab II
	CHM 222 - Mod Organic Chem II
	CHM 224 – Lab IVA

Chemistry, Secondary Education Certification - B.S.

Requirements for Chemistry major with Secondary Education Certification $\approx 78~\text{cr}$

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Chemistry Core Courses (39 cr)

_CHM 110 - The Chemistry Experience (1 cr)
_CHM 121 - Chemical Bonding (3 cr) **
_CHM 123 - Lab IA-Chemical Systems (1 cr)
_CHM 122 - Chemical Dynamics (3 cr)
_CHM 124 - Lab IIA-Experimental Quant. Analysis (3 cr)
_CHM 221 - Modern Organic Chemistry I (3 cr)
_CHM 223 - Lab IIIA-Experimental Org. Techniques (1 cr)
_CHM 222 - Modern Organic Chemistry II (3 cr)
_CHM 224 - Lab IVA-Qualitative Organic Analysis (3 cr)
_CHM 301 - Biochemistry I (3 cr)
_CHM 363 - Physical Chemistry I (4 cr)
_CHM 371 - Analytical Chemistry (4 cr)
_CHM 381 - Intermediate Inorganic Chemistry (3 cr)

Mathematics (8 cr)

___MAT 211 - Calculus I (4 cr) ** ___MAT 212 - Calculus II (4 cr)

Physics Requirements (8 cr)

PHY 205 - Intermediate Physics I (3 cr) **
PHY 124 - Physics IB Lab (1 cr)
PHY 206 - Intermediate Physics II (3 cr)
PHY 126 - Physics IIB Lab (1 cr)

<u>Biology (4 cr)</u>

__BIO 161 - Prin. of Bio: Cell Str. & Funct. (4 cr) **

Psychology Requirement (3 cr)

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___PSY 101 - General Psychology (3 cr) **
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College of Education and Human Services (33-36 cr)

- __TCH 207 Org. & Psych. Foundations (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- __EEC 423 Effective Instructional Strategies (3cr)
- __EDU 440 Teaching of Science in Secondary Schools (3 cr)
- __EDU 441 Curriculum & Evaluation in Secondary Sci (3 cr)
- __RDG 413 Teaching Reading to ELL (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EDU 495 Student Teaching & Practicum (12-15 cr)

Graduation Requirements: 123 cr Free Electives ≈ 0 cr GPA Needed to Declare: 3.0

To graduate with American Chemical Society certification, students must declare and complete the American Chemical Society (ACS) certification Minor.

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

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

HELPFUL HINTS FOR ADVISING:

Students should begin their math sequence in their 1st year.

Semester I		CHM 121 - Chemical Bonding
	CHM 123 - Lab IA	
	MAT 211 - Calculus I	
Semester II	CHM 122 - Chemical Dy	namics
	CHM 124 - Lab IIA	
	MAT 212 - Calculus II	
	PSY 101 - General Psych	ology
Semester III	PHY 205 - Intermediate F	Physics I
	PHY 123 - Lab I	
	CHM 221 - Modern Orga	anic Chem I
	CHM 223 - Lab IIIA	
	BIO 161 - Prin. of Bio: Ce	ell Structure & Function
Semester IV	PHY 206 - Intermediate F	Physics II
	PHY 125 – Lab II	
	CHM 222 - Mod Organic	Chem II
	CHM 224 - Lab IVA	

Civil Engineering, B.S.

Requirements for Civil Engineering major ≈ 88 cr

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Engineering Core (12 cr) ___ENGR 100 - Engineering Seminar I (1 cr) __ENGR 110 - Modeling & Simulation (3 cr) _ENGR 120 - Programming for Engineers (3 cr) _ENGR 200 - Engineering Seminar II (1 cr) _ENGR 300 - Engineering Seminar III (1 cr) _ENGR 310 - Statistical Process Control (3 cr) Mathematics Requirements (19 cr) ___MAT 211 - Calculus I (4 cr) ** _MAT 212 - Calculus II (4 cr) ** __MAT 213 - Calculus III (4 cr) ___MAT 322 - Differential Equations (3 cr) ___MAT 375 - Probability and Stats for Engineers (4 cr) Physical Science Requirements (11 cr) __PHY 205 - Intermediate Physics I Lecture (3 cr) ** ___PHY 124 - Intermediate Physics I Lab (1 cr) __PHY 206 - Intermediate Physics II Lecture (3 cr) __PHY 126 - Intermediate Physics II Lab (1 cr) __ESS 210 - Physical Geology (3 cr) ** _CHM 121 - Chemical Bonding (3 cr) ** __CHM 125 - LabIB-Chemical Systems (1 cr) Civil and Mechanical Engineering Requirements (50 cr) __MECH 200 - Statics (3 cr) __MECH 210 - Dynamics (4 cr) __MECH 220 - Fluids (4 cr) __CIVE110 - Measurements and CAD (3 cr) __CIVE200 - Mechanics of Materials (4 cr) __CIVE300 - Structural Analysis (3 cr) __CIVE320 - Construction Methods and Materials (3 cr) __CIVE330 - Environmental Engineering (3 cr) _CIVE331 - Hydraulic Engineering (4 cr) _CIVE340 - Design of Concrete Structures (3 cr) _CIVE350 - Soil Mechanics (4 cr) _CIVE410 - Foundation Engineering (3 cr) _CIVE420 - Transportation Engineering (3 cr) _CIVE460 - Highway Engineering and Design (3 cr) ___CIVE499 - Civil Engineering Capstone (3 cr) No Concentration (9 cr) CIVE310 - Design of Steel Structures (3 cr) _CIVE400 - Construction Project Management (3 cr) _CIVEXXX - Civil Engineering Elective (3 cr) Optional Environmental Concentration (12 cr) __CIVE436 - Engineering Hydrology (3 cr) _CIVE440 - Water and Wastewater Treatment (3 cr) _CIVE450 - Waste Management (3 cr) _CIVEXXX - Civil or GEO/ESS Elective (related to Environmental Concentration) (3 cr)

Graduation Requirements: 120+ cr Free Electives \approx 0 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Semester I	MAT 211 - Calculus I PHY 205/124- Intermediate Physics I ENGR 100 - Seminar I ENGR 110 - Modeling & Simulation
Semester II	MAT 212 - Calculus II PHY 206/126 - Intermediate Physics II ENGR 120 - Programming for Engineers

Communication, Journalism and Media - B.A.

Broadcast Media Production, Journalism & Public Relations Concentrations

Requirements for Communications, Journalism and Media majors $\approx 48 \mbox{ cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Communication/Journalism Core (15 cr)

- __COM 112 Media Writing (3 cr)
- __COM 284 Basic Media Production
- __COM 294 Social Media Strategy (3 cr)
- ___COM 345 Media Law (3 cr)
- ___COM 445 Media Ethics & Professionalism (3 cr)

Journalism Concentration (12 cr)

- __COM 285 Basic News Reporting (3 cr)
- __COM 293 News Editing & Design (3 cr)
- ___COM 375 Advanced News Reporting (3 cr)
- __COM 478 Digital Journalism (3 cr)

Broadcast Media Production Concentration (12 cr)

- __COM 224 Media Scriptwriting (3 cr)
- __COM 251 Media Studio Production (3 cr)
- ___COM 351 Media Field Production (3 cr)
- __COM 424 Media Producing & Performance (3 cr)

Public Relations Emphasis (12 cr)

- ___COM 201 Principles of Public Relations (3 cr)
- __COM 241 Public Relations Writing I (3 cr)
- __COM 342 Public Relations Writing II (3 cr)
- __COM 432 Public Relations Research & Campaigns (3 cr)

Communication/Journalism Electives (21 cr)

Students must select seven elective COM courses of which 3 must be from the 300/400 level.

<u>Mathematics Requirement (3 cr)</u> __MAT 117A/B - Applied Statistics (3 cr) ** ## B.A. students must 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 testing or CLEP testing.

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

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

A professional internship is <u>strongly</u> 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 may be counted as part of the major.

Graduation Requirements: 120 cr Free Electives ≈ 27 cr GPA needed to declare: 2.0

A Communication/Journalism minor is available - 18 cr. Transfer courses are not permitted to count toward the minor.

Computer Engineering - B.S.

Requirements for Computer Engineering major ≈ 70 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Engineering Core (12 cr)

- __ENGR 100 Engineering Seminar I (1 cr)
- __ENGR 110 Modeling & Simulation (3 cr)
- ___ENGR 120 Programming for Engineers (3 cr)
- ___ENGR 200 Engineering Seminar II (1 cr)
- _____ENGR 300 Engineering Seminar III (1 cr)
- ENGR 310 Statistical Process Control (3 cr)

Computer Science & Engineering Requirements (26 cr)

- __CMPE 220 Computer Organization (4 cr)
- ___CMPE 320 Operating Systems (4 cr)
- __CMPE 322 Microcontrollers & Interfaces (4 cr)
- ___CMPE 411 OS Design & Implementation (4 cr)
- __CMPE 420 Digital and Reconfigurable Computing (4 cr)
- __ELEC 220 Linear Circuit Analysis (4 cr)
- __CMPE 499 Engineering Design & Development (2 cr)

Elective Credits (12 cr)

(Must be taken at 300 c	or 400 level)	
CMPE	(4 cr)	
ENGR, CMPE, ELE	C or SWE	(4 cr)
ENGR, CMPE, ELE	C or SWE	(4 cr)

Mathematics Requirements (19 cr)

- ___MAT 211 Calculus I (4 cr)**
- ___MAT 212 Calculus II (4 cr)
- ___MAT 213 Calculus III (4 cr)
- ___MAT 225 Discrete Mathematics (4 cr)
- ___MAT 322 Differential Equations (3 cr)
- ___MAT 375 Probability & Stats for Engineers (4 cr)

Physics Requirements (12 cr)

__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)

Graduation Requirements: 120 cr Free Electives \approx 5 cr GPA Needed to Declare: 2.0

Students must be at a minimum math placement level of 6 to declare.

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

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

HELPFUL HINTS FOR ADVISING:

Semester I	ENGR 110 - Modeling ENGR 110 Engineering Seminar I MAT 211 - Calculus I PHY 205 - Intermediate Physics I PHY 123 - Physics I Lab
Semester II	ENGR 210 - Prog. for Engineers MAT 212 - Calculus II PHY 206 - Interm. Physics II PHY 125 - Physics II Lab

Computer Science - B.S.

Computer Graphics, Computer Applications, & Related Discipline Concentrations

Requirements for Computer Science major \approx 65 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Mathematics Core (15 cr)

- __MAT 211 Calculus I (4 cr) ** __MAT 225 - Discrete Mathematics (4 cr) __MAT 318 - Elementary Linear Algebra (3 cr) Select one: __MAT 217 - Statistics I (4 cr) <u>OR</u> __MAT 375 - Probability & Stats for Engineers (4 cr)
- Computer Science Core (32 cr)
- _CSC 110 Computer Science I-Lecture (4 cr) **
 _CSC 111 Computer Science II (4 cr)
 _SWE 200 Design Patterns (4 cr)
 _CMPE 220 Computer Organization (4 cr)
 _CSC 310 Design and Analysis of Algorithms (4 cr)
 _CMPE 320 Operating Systems (4 cr)
 _CSC 410 Theoretical Foundations of CS (4 cr)
 _CSC 498 Senior Research Methods (2 cr)
 _CSC 499 Senior Research and Development (2 cr)
- Science Requirement (7-8 cr)

Select any two:

- __BIO 161 Prin. of Bio: Cell Str. and Funct. (4 cr) ** <u>OR</u>
- __BIO 162 Prin. of Bio: Organismal Diversity (4 cr) ** <u>OR</u>
- __CHM 121 Chemical Bonding (3 cr) **
- CHM 125 Lab IB-Stoichiometry & Reactions (1 cr) <u>OR</u>
- __CHM 122 Chemical Dynamics (3 cr) **
- CHM 126 Lab IIB-Equilibrium & Instr (1 cr) <u>OR</u>
- __ESS 110 Intro to Geology (3 cr) <u>OR</u>
- ___PHY 205 Intermediate Physics I (3 cr)
- PHY 124 Physics I Lab (1 cr) ** <u>OR</u>
- __PHY 206 Intermediate Physics II (3 cr) PHY 126 - Physics II Lab (1 cr) **

<u>Artificial Intelligence Concentration (18-19 cr)</u> __CSC 462 - Artificial Intelligence (4 cr)

- __CSC 402 Big Data Analytics (4 cr)
- ____CSC 403 Machine Learning (4 cr)
- ____CSC, SWE, CMPE, or ELEC 4xx (3-4 cr)

Select one:

- __MAT 326 Mathematic Modeling (3 cr) <u>OR</u> __PSY 325 - Psychology of Human Cognition (3 cr)
- Computer Science Applications Concentration (18-20 cr)
- __CSC 371 Database Management Systems (4 cr)
- __CSC 431 Computer Networks (4 cr)
- ____CSC 462 Artificial Intelligence (4 cr)
- ___CSC, SWE, CMPE, or ELEC 3xx or 4xx (3-4 cr)
- Select one: __MIL 231 - Self/Team Dev (2 cr) AND
 - ___MIL 232 Indiv/Team Mil Tact (2 cr) OR

____MIS 344 - Bus Syst Analy Des (3 cr) OR

__MIS 399 - Intro Corp Cybersecurity (3 cr) OR MIS 442 - E-Commerce Tech Intg (3 cr) OR ___MAT 326 - Mathematic Modeling (3 cr) OR ___MAT 219 - Data Science I (3 cr) OR ___GEO 202 - GIS I: Intro to GIS (3 cr) OR _GEO 339 - Remote Sensing (3 cr) <u>OR</u> __ECO 333 - Res & Analysis Econ (3 cr) Computer Graphics Concentration (18-19 cr) __CSC 350 - Introduction to Computer Graphics (4 cr) __CSC 361 - Video Game Programming (4 cr) __CSC 451 - Computer Graphics Algorithms (4 cr) _CSC, SWE, CMPE, ELEC 3xx or 4xx (3-4 cr) Select one: __ART 217 - Computer Design I (3 cr) OR _GEO 202 - GIS I: Intro to Geographic Info Systems (3 cr) <u>OR</u> __GEO 339 - Remote Sensing (3 cr) CS w/ Secondary Field Concentration __major or minor in other discipline __CSC, SWE, CMPE, ELEC 3xx or 4xx (4 cr) _CSC, SWE, CMPE, ELEC 3xx or 4xx (4 cr) Select one: __CSC 361 - Video Game Programming (4 cr) __CSC 371 - Database Mgt Systems (4 cr) CSC 403 - Machine Learning (4 cr) _CSC 434 - Web Programming (4 cr) __CSC 451 - Comp Graph Algorithm (4 cr)

Graduation Requirements: 120 cr Free Electives ≈ 10 cr GPA Needed to Declare: 2.0

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

To declare this major a student must earn a 'C' or better in CSC 110 Computer Science I and be at a minimum math placement of level 4.

HELPFUL HINTS FOR ADVISING:

Semester I	CSC 110 - Computer Science I-Lecture
	MAT 211 - Calculus I
Semester II	CSC 111 - Computer Science II
	MAT 225 - Discrete Mathematics
Semester III	SWE 200 - Design Patterns
	CMPE 220 - Computer Organization
	BIO 161, CHM 121/123, ESS 110, or PHY 205/123
Semester IV	CSC 310 - Design& Analysis of Algorithms
	CMPE 320 - Operating Systems
	BIO 162, CHM 122/124, ESS 110 or PHY 206/125

A computer science minor is available - 20-21 cr <u>Disclaimer:</u> Courses may be subject to change.

Economics - B.S.

Requirements for Economics major \approx 41-55 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Economics Requirements (27 cr) __ECO 101 - Prin. of Macroeconomics (3 cr) ** ECO 102 - Prin. of Microeconomics (3 cr) ** _ECO 270 - Intermediate Macroeconomic Theory (3 cr) _ECO 280 - Managerial Economics (3 cr) Five additional 300+ Level ECO Electives Business Concentration (24-26 cr) Courses below fulfill requirements for business minor. __ACC 200 - Fundamentals of Financial Accounting (3 cr) ___FIN 311 - Financial Management (3 cr) __MGT 305 - Organization Behavior (3 cr) ___MKT 305 - Principles of Marketing (3 cr) FIN or ACC (3 cr) _Select 1 course from the College of Business (3 cr) Select one: __MAT 181 - Applied Calculus (3 cr) ** <u>OR</u> _MAT 211 - Calculus (4 cr) ** Select one: __MAT 117 - Applied Statistics (3 cr) ** OR ___MAT 217 - Statistics I (4 cr) ** OR ___SCM 200 - Statistical Applications in Bus. (3 cr) OR Data Science Concentration (23-27 cr) ___MAT 217 - Statistics I (4 cr) ** MAT 219 - Data Science I (3 cr) MAT 317 - Statistics II (3 cr) ___MAT 319 - Data Science II (3 cr) _ECO 333 - Research & Analysis in Economics (3 cr) Select one: ___MAT 181 - Applied Calculus (3 cr) ** OR _MAT 211 - Calculus I (4 cr) ** Select one: __CSC 104 - Programming in Python (3 cr) ** OR __CSC 110 - Computer Science I - Lecture (4 cr) ** OR __MIS 240 - Introduction to Programming Concepts (3 cr) Mathematics Concentration (20-23 cr) (300+ level) ECO ____MAT 211 - Calculus I (4 cr) ** ___MAT 212 - Calculus II (4 cr) ** _MAT 217 - Statistics I (3 cr) Select 3 of the following, 2 must be 300+: __MAT 213 - Calculus III (4 cr) __MAT 225 - Discrete Mathematics (4 cr) ** __MAT 317 - Statistics II (3 cr) ___MAT 318 - Elementary Linear Algebra (3 cr) ___MAT 322 - Differential Equations (3 cr) ___MAT 425 - Advanced Algebraic Structures (3 cr)

Political Science Concentration (24-28 cr) __PLS 100 - U.S. Government & Politics (3 cr) ** __PLS 201 - Foundations of Political Science (3 cr) __PLS 300 - Advanced American Government (3 cr) __PLS_ ___(300+ level) __PLS ___ (300+ level) Select one: ___PLS 301 - Political Science Research Methods (3 cr) <u>OR</u> _PLS 302 - Public Policy Analysis (3 cr) Select one: ___MAT 181 - Applied Calculus (3 cr) ** OR _MAT 211 - Calculus I (4 cr) ** Select one: ___MAT 117 - Applied Statistics (3 cr) OR _MAT 217 - Statistics I (4 cr) To fulfill the Political Science minor, also take the following: __PLS 141 - World Politics (3 cr) ** Public Administration Concentration (24-26 cr) __PLS 100 - U.S. Government & Politics (3 cr) ** __PLS 271 - Introduction to Public Administration (3 cr) __PLS 300 - Advanced American Government (3 cr) __PLS __ _____(3 cr) Select one: __PLS 371 - Public Management (3 cr) OR ___PLS 373 - Public Financial Administration (3 cr) Select one: ___MAT 181 - Applied Calculus (3 cr) ** <u>OR</u> _MAT 211 - Calculus I (4 cr) ** Select one: ___MAT 117 - Applied Statistics (3 cr) ** OR _MAT 217 - Statistics I (4 cr) ** Select one: __PLS 231 - State & Local Government (3 cr) OR __PLS 371 - Public Management (3 cr) OR __PLS 372 - Public Personnel Administration (3 cr) OR __PLS 374 - Public Service Ethics (3 cr) Social Science Concentration (24-28 cr) __PLS 100 - U.S. Government & Politics (3 cr) ** __PLS _ _(300+ level) __SOC 241 - Contemporary Social Problems (3 cr) _SOC_ _(300+ level) ___GEO 230 - Economic Geography (3 cr) GEO _(300+ level) Select one: ___MAT 117 - Applied Statistics (3 cr) <u>OR</u> __MAT 217 - Statistics I (4 cr) Select one: __MAT 181 - Applied Calculus (3 cr) ** OR ___MAT 211 - Calculus I (4 cr) ** Graduation Requirements: 120 cr GPA Needed to Declare: 2.0 Free Electives $\approx 20-34$ Economics minor available - 18-19 cr

Electrical Engineering - B.S.

Requirements for Electrical Engineering major ≈ 74 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Engineering Core (12 cr)

- __ENGR 100 Engineering Seminar I (1 cr)
- __ENGR 110 Modeling & Simulation (3 cr)
- __ENGR 120 Programming for Engineers (3 cr)
- __ENGR 200 Engineering Seminar II (1 cr)
- __ENGR 300 Engineering Seminar III (1 cr)
- ENGR 310 Statistical Process Control (3 cr)

Computer Engineering Requirements (14 cr)

- __CMPE 220 Computer Organization (4 cr)
- __CMPE 322 Microcontrollers & Interfaces (4 cr)
- ___CMPE 420 Digital and Reconfigurable Computing (4 cr)
- __CMPE 499 Engineering Design & Development (2 cr)

Electrical Engineering Requirements (20 cr)

- __ELEC 220 Linear Circuit Analysis (4 cr)
- __ELEC 300 Foundations of Electronic Systems (4 cr)
- __ELEC 310 Signals & Systems (4 cr)
- __ELEC 360 Communications Systems (4 cr)
- __ELEC, CMPE, ENGR, SWE _____(300+ level)
- Math Requirements (23 cr)
 - __MAT 211 Calculus I (4 cr)
 - __MAT 212 Calculus II (4 cr)
 - __MAT 213 Calculus III (4 cr)
 - ___MAT 225 Discrete Mathematics (4 cr)
 - ___MAT 322 Differential Equations (3 cr)
 - ___MAT 375 Probability & Stats for Engineers (4 cr)

Physics Requirements (20 cr)

- __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) **
- __PHY 311 Quantum I (3 cr)

___PHY 321 - Electricity & Magnetism I (4 cr)

Graduation Requirements: 120 cr Free Electives \approx 1 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

Semester IENGR 110 - Modeling
ELEC 100 - Engineering Seminar I
MAT 211 - Calculus I
PHY 123 - Physics I Lab
PHY 205 - Intermediate Physics ISemester IIENGR 210 - Programming for Engineers
MAT 212 - Calculus II (4 cr)
PHY 125 - Physics II Lab (1 cr)
PHY 206 - Intermediate Physics II (3 cr)

English, Literary Studies - B.A.

Requirements for English major \approx 42 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

English Core (9 cr)

- __ENG 130 Literary Studies for Eng. Major & Minor (3 cr)
- __ENG 213 Writing & Research About Literature (3 cr)
- __ENG 460 Senior Seminar (3 cr)

Required Survey Courses (9 cr)

Select one:

- ___ENG 233 American Literature I (3 cr) OR
- __ENG 236 British Literature I (3 cr)

Select one:

- __ENG 234 American Literature II (3 cr) OR
- ___ENG 237 British Literature II (3 cr)
- Select one:
 - __ENG 240 Global Literature (3 cr) OR
 - __ENG 239 Postcolonial Literature (3 cr)

Advanced Studies - Writing (3 cr)

- Select at least one:
 - __ENG 224 Introduction to Creative Writing (3 cr)
 - __ENG 229 Advanced Composition (3 cr)
 - __ENG 238 Technical/Professional Writing I (3 cr)
 - __ENG 307 Poetry Writing (3 cr)
 - __ENG 308 Fiction Writing (3 cr)
 - __ENG 323 Reviewing the Arts for Publication (3 cr)
 - __ENG 335 Creative Nonfiction Writing (3 cr)
 - __ENG 341 Teaching Writing in the Secondary Schools (3 cr)
 - __ENG 420 Selected Topics in Writing (3 cr)
 - __ENG 427 Advanced Poetry Workshop (3 cr)
 - __ENG 428 Advanced Fiction Workshop (3 cr)
 - __ENG 435 Advanced Creative Nonfiction (3 cr)
 - ___ENG 438 Technical Professional Writing II (3 cr)

Advanced Studies - Genres (3 cr)

Select at least one:

- __ENG 304 Literary Criticism (3 cr)
- __ENG 333 Cultural Studies (3 cr)
- ___ENG 336 Theories and Approaches (3 cr)
- __ENG 342 Mythology (3 cr)
- __ENG 360 Popular Genres (3 cr)
- __ENG 367 Studies in Drama (3 cr)
- __ENG 368 Studies in Fiction (3 cr)
- __ENG 369 Studies in Poetry (3 cr)
- __ENG 373 Studies in Creative Nonfiction (3 cr)
- __ENG 440 Special Topics in Genre (3 cr)

Advanced Studies - History and Movements (3 cr) Select at least one:

- __ENG 318 Studies in Eng. Renaissance (3 cr)
- __ENG 330 Shakespeare (3 cr)
- __ENG 337 Romanticism (3 cr)
- __ENG 344 Studies in Single Author (3 cr)
- __ENG 349 Victorian Literature (3 cr)
- __ENG 363 Modernism (3 cr)

- _ENG 364 Postmodernism (3 cr)
 _ENG 366 History & Structure of Eng Language (3 cr)
 _ENG 376 Studies in Medieval Literature (3 cr)
 _ENG 377 The Long 18th Century (3 cr)
 _ENG 380 19th Century Literature (3 cr)
 _ENG 383 Literature After 1900 (3 cr)
 _ENG 430 Special Topics in Lit History & Movements (3 cr)

 <u>Advanced Studies Identities (3 cr)</u>
 Select at least one:

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

Advanced Studies Electives (12 cr)

Choose 4 courses in Advanced Studies:

ENG _	
ENG _	
ENG	
ENG	

##B.A. students must 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 testing or CLEP testing.

Graduation Requirements: 120 cr Free Electives \approx 33 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

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

Semester I	ENG 130 - Literarv	Studies for English
Jennestern	LING 100 LICETURY	Studies for English

Semester II ENG 213 - Writing & Research

An English minor is available - 18 cr

English, Professional & Creative Writing - B.A.

Requirements for English major \approx 42 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

English Core (9 cr)

- __ENG 130 Literary Studies for Eng. Major & Minor (3 cr)
- __ENG 213 Writing & Research About Literature (3 cr)
- __ENG 460 Senior Seminar (3 cr)

Required Survey Courses (9 cr)

Select one:

- ___ENG 233 American Literature I (3 cr) OR
- __ENG 236 British Literature I (3 cr)
- Select one:
- ___ENG 234 American Literature II (3 cr) OR
- __ENG 237 British Literature II (3 cr)
- Select one:
 - __ENG 240 Global Literature (3 cr) <u>OR</u>
 - __ENG 239 Postcolonial Literature (3 cr)

<u>Writing (12 cr)</u>

- __ENG 229 Advanced Composition (3 cr)
- __ENG 238 Technical/Professional Writing I (3 cr)
- __ENG 323 Reviewing the Arts for Publication (3 cr)
- __ENG 307 Poetry Writing (3 cr)
- __ENG 308 Fiction Writing (3 cr)
- __ENG 323 Reviewing the Arts for Publication
- __ENG 335 Creative Nonfiction Writing (3 cr)
- __ENG 341 Teaching Writing in Secondary Schools (3 cr)
- __ENG 420 Special Topics in Writing (3 cr)
- __ENG 427 Advanced Poetry Workshop (3 cr)
- __ENG 428 Advanced Fiction Workshop (3 cr)
- __ENG 435 Advanced Creative Nonfiction (3 cr)
- __ENG 438 Technical/Professional Writing II (3 cr)

<u>Advanced Studies - Genres (3 cr)</u>

- Select at least one:
 - __ENG 304 Literary Criticism (3 cr)
 - __ENG 333 Cultural Studies (3 cr)
 - __ENG 336 Theories and Approaches (3 cr)
 - __ENG 342 Mythology (3 cr)
 - __ENG 360 Popular Genres (3 cr)
 - __ENG 367 Studies in Drama (3 cr)
 - __ENG 368 Studies in Fiction (3 cr)
 - __ENG 369 Studies in Poetry (3 cr)
 - __ENG 373 Studies in Creative Nonfiction (3 cr)
 - __ENG 440 Special Topics in Genre (3 cr)

<u>Advanced Studies - History and Movements (3 cr)</u> Select at least one:

- __ENG 318 Studies in Eng. Renaissance (3 cr)
- __ENG 330 Shakespeare (3 cr)
- __ENG 337 Romanticism (3 cr)
- __ENG 344 Studies in Single Author (3 cr)
- __ENG 349 Victorian Literature (3 cr)
- __ENG 363 Modernism (3 cr)
- __ENG 364 Postmodernism (3 cr)

_ENG 366 - History & Structure of Eng Language (3 cr)
_ENG 376 - Studies in Medieval Literature (3 cr)
_ENG 377 - The Long 18th Century (3 cr)
_ENG 380 - 19th Century Literature (3 cr)
_ENG 383 - Literature After 1900 (3 cr)
_ENG 430 - Special Topics in Lit History & Movements (3 cr)

Select at least one:

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

English Elective (3 cr)

Choose 1 course in Advanced Studies: __ENG _____(3 cr)

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

##B.A. students must 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 testing or CLEP testing.

F=Fall only class S=Spring only class

Graduation Requirements: 120 cr Free Electives \approx 33 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING:

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

Semester IENG 130 - Literary Studies for EnglishSemester IIENG 213 - Writing & Research

An English minor is available - 18 cr

English, Secondary Education Certification - B.A.

Requirements for English major with Secondary Cert. ≈ 75 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Psychology Requirement (3 cr)

__PSY 101 - General Psychology (3 cr) **

Math Requirements (6 cr)

_MAT except 185 (3 cr) [MAT 105, 107 & 117, recommended] ** __MAT except 185 (3 cr) [MAT 105, 107 & 117, recommended] **

English Core (15 cr)

- __ENG 130 Literary Studies for Eng. Major & Minor (3 cr)
- _ENG 213 Writing & Research About Literature (3 cr)
- __ENG 366 History & Structure of English Language (3 cr)
- __ENG 426 Teaching Adolescent Literature (3 cr)
- __ENG 460 Senior Seminar (3 cr)

Required Survey Courses (9 cr)

Select one:

ENG 233 - American Literature I (3 cr) OR
ENG 236 - British Literature I (3 cr)

Select one:

- __ENG 234 American Literature II (3 cr) OR
- __ENG 237 British Literature II (3 cr)

Select one:

- _ENG 240 Global Literature (3 cr) OR
- __ENG 239 Postcolonial Literature (3 cr)

Advanced Studies - Writing (3 cr)

Select at least one:

- __ENG 224 Introduction to Creative Writing (3 cr)
- _ENG 229 Advanced Composition (3 cr)
- __ENG 238 Technical/Professional Writing I (3 cr)
- _ENG 307 Poetry Writing (3 cr)
- _ENG 308 Fiction Writing (3 cr)
- __ENG 323 Reviewing the Arts for Publication (3 cr)
- _ENG 335 Creative Nonfiction Writing (3 cr)
- ENG 420 Selected Topics in Writing (3 cr)
- _ENG 427 Advanced Poetry Workshop (3 cr)
- ENG 428 Advanced Fiction Workshop (3 cr)
- ENG 435 Advanced Creative Nonfiction (3 cr)
- _ENG 438 Technical Professional Writing II (3 cr)

Advanced Studies - Genres (3 cr)

- _ENG 304 Literary Criticism (3 cr)
- ENG 333 Cultural Studies (3 cr)
- ENG 336 Theories and Approaches (3 cr)
- _ENG 342 Mythology (3 cr)
- _ENG 360 Popular Genres (3 cr)
- ENG 367 Studies in Drama (3 cr)
- __ENG 368 Studies in Fiction (3 cr)
- __ENG 369 Studies in Poetry (3 cr)
- __ENG 373 Studies in Creative Nonfiction (3 cr)
- __ENG 440 Special Topics in Genre (3 cr)

Advanced Studies - History and Movements (3 cr) Select at least one: __ENG 318 - Studies in Eng. Renaissance (3 cr) _ENG 330 - Shakespeare (3 cr) __ENG 337 - Romanticism (3 cr) __ENG 344 - Studies in Single Author (3 cr) __ENG 349 - Victorian Literature (3 cr) __ENG 363 - Modernism (3 cr) __ENG 364 - Postmodernism (3 cr) __ENG 366 - History & Structure of Eng Language (3 cr) __ENG 376 - Studies in Medieval Literature (3 cr) __ENG 377 - The Long 18th Century (3 cr) _ENG 380 - 19th Century Literature (3 cr) _ENG 383 - Literature After 1900 (3 cr) __ENG 430 - Special Topics in Lit History & Movements (3 cr) Advanced Studies - Identities (3 cr) Select at least one: _ENG 445 - Special Topics in Identities (3 cr) _ENG 385 - Studies in Postcolonial Literature (3 cr) __ENG 370 - Queer Studies (3 cr) _ENG 375 - African American Literature (3 cr) ENG 345 - Women's Literature (3 cr) _ENG 358 - Ethnic Literature (3 cr) __ENG 359 - Native American Literature (3 cr) __ENG 362 - Disability in Literature (3 cr) Advanced Studies Elective (3 cr) Select one additional course in Advanced Studies: ENG

Professional Education Requirements (33-36)

- ___TCH 207 Org. & Psych. Foundations (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- ___EEC 290 Introduction to English/Language Arts Ed (3 cr)

(3 cr)

- _EEC 423 Effective Instructional Strategies (3cr)
- _RDG 413 Teaching Reading to ELL (3 cr)
- __EDU 422 Methods of Teaching Eng in Secondary Ed (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

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

##B.A. students must 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 testing or CLEP testing.

Students must apply for "Professional Standing" the semester before ENG 422 to be admitted to the course. Students must not schedule any classes before noon the semester they take ENG 422.

Graduation Requirements: 120 cr Free Electives ≈ 3 cr GPA Needed to Declare: 3.0

French & French Secondary Certification - B.A.

Requirements for French major \approx 36 cr Requirements for French major with Secondary Cert. \approx 66 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

French Core (30 cr)

_FRN 202 - Intermediate Conversation (3 cr)
_FRN 204 - Ideas and Cultures from the French (3 cr)
_FRN 211 - Intermediate French Grammar (3 cr)
_FRN 300 - Advanced French Conversation (3 cr)
_FRN 308 - Diction et Comprehension (3 cr)
_FRN 309 - Advanced French Grammar (3 cr)
_FRN 316 - Composition and Stylistics (3 cr)
_FRN 330 - Masterpieces of French Literature (3 cr)
_FRN 340 - Genres Litteraires (3 cr)

French Electives (6 cr)

Select two, at least one at the 400-level:

- ___FRN 380 Aspects De La Civilisation FranÇaise (3 cr)
- ___FRN 392 French Cultural Studies Immersion (3 cr)
- ___FRN 400 Seminar: Advanced Studies in French (3 cr)
- ___FRN 411 Theory and Practice of Translation (3 cr)

__FRN 490 - Selected Topics in French (3 cr)

French majors and minors are strongly urged to take history, political science, and geography courses that deal with Francophone countries.

Secondary Education Certification

- __TCH 207 Organizational and Psych Foundations (3 cr)
- ____TCH 251 Elements of Middle Level Instruction (3 cr)
- ___EEC 273 Introduction to Exceptionalities (3 cr)
- __EEC 423 Effective Instructional Strategies (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EDU 426 Methods of Teaching Foreign Languages (3 cr)
- __EDU 495 Student Teaching & Professional Practicum (3 cr) Math requirement:

MAT	(except MAT 185)
MAT	(except MAT 185)

Literature requirement:

__ENG 190, ENG 243, ENG 248, OR ENG 250 (3 cr)

Optional Translation Specialization Courses

__FRN 320 - French for the Professions (3 cr)

- __FRN 380 Aspects de la Civilisation Francaise (3 cr)
- ___FRN 411 Theory & Practice of Translation (3 cr)

Select one:

____FRN 400 - Special Topics in French <u>OR</u>

__FRN____(300+ level)

Graduation Requirements: 120 cr Free Electives \approx 39 cr without Cert; 9 cr with Cert GPA Needed to Declare: 2.0 without Cert; 3.0 with Cert

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

<u>Dual Certification:</u> Students planning to teach French will find it to their advantage to work for dual certification in two languages: a language and English, or a 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 Global Languages and Cultures Department for details.

<u>ACTFL Oral Proficiency:</u> All French Secondary Education Certification student must pass the ACTFL Oral Proficiency Interview prior to graduation and reach an advanced low level minimum.

HELPFUL HINTS FOR ADVISING

Year I Any introductory language courses necessary.

French Certificate & Translation in French Certificate available. French Cultural Studies Minor & French Minor available.

Geoenvironmental Science - B.S.

Requirements for Geoenvironmental Science major ≈ 45+ cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Geoenvironmental Core

- ___ESS 111 Intro to Weather and Climate (3 cr)
- __ESS 110 Intro to Geology (3 cr)
- _GEO 202 GIS I: Intro to GIS (3 cr)
- _GEO 226 Hydrology (3 cr)
- __GEO 391 Geography Seminar (3 cr)

GEO/ESS Electives and Complex Systems (27+ cr)

Geography Electives (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 South and Southeast Asia (3 cr)
- ___GEO 317 Geography of East Asia (3 cr)
- __GEO 320 Historical Geography (3 cr)
- __GEO 322 Urban Geography (3 cr)
- __GEO 329 Economic Geography (3 cr)
- _GEO 415 Geography of Africa (3 cr)
- __GEO 450 Geography: Geology Field Studies (1-3 cr)

Geoenvironmental Electives (3+ cr)

- __ESS 212 Historical Geology (3 cr)
- _ESS 214 Geology of National Parks (3 cr)
- _ESS 220 Oceanography (3 cr)
- __GEO 203 Climate, Energy, and Sustainability (3 cr)
- __GEO 306 Geomorphology (3 cr)
- _GEO 397 Introduction to Research (1-3 cr)
- _GEO 450 Geography-Geology Field Studies (1-3 cr)
- _GEO 490 Selected Topics in Geography (1-3 cr)
- _Marine Science Consortium Course.

Technique Course Electives (3+cr)

- __GEO 339 Remote Sensing (3 cr)
- _GEO 352 Cartography (3 cr)
- _GEO 363 GIS II: Intermediate GIS (3 cr)
- _GEO 420 GIS III: Advanced GIS (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)

Geoenvironmental Complex System Electives (12+ cr)

- _ESS 404 Applied Human-Climate Interaction (3 cr)
- __ESS 410 Sedimentary Geology & Paleoenvironments (3 cr)
- _ESS 413 Mineral and Rock Resources (3 cr)
- _ESS 442 Environmental Geology (3 cr)
- __ESS 452 Coastal Environmental Oceanography (3 cr)
- __ESS 490 Selected Topics (1-3 cr)
- __GEO 301 Introduction to Biogeography (3 cr)
- __GEO 306 Geomorphology (3 cr)
- _GEO 402 Medical Geography (3 cr)
- __GEO 404 Hydrogeology (3 cr)

- ___GEO 421 Environmental Law (3 cr)
- __GEO 444 Environmental Land-Use Planning (3 cr)
- __GEO 446 Water Resources Management (3 cr)
- __GEO 450 Geography-Geology Field Studies (1-3 cr)
- __GEO 490 Selected Topics in Geography (1-3 cr)

Electives (6 cr)

Select two additional courses from the previous categories.

Internship (3 cr)

A junior status (60 cr) and 2.0 overall and major average required. ___GEO 360 - Internship in Geography I (3 cr)

Allied Sciences (10+ cr)

Biology (3 cr)

- __BIO 142 Intro to Ecology (3 cr)
- _BIO 208 Field Biology (3 cr) Recommended
- __BIO 210 Field Zoology (3 cr)
- __BIO 242 Ecology Recommended
- __BIO 442 Aquatic Ecology
- __BIO 448 Field Botany and Plant Tax (3 cr) Recommended

Chemistry/Physics (7 cr)

- ___CHM 121 Chemical Bonding (3 cr)
- ___CHM 125 Lab IB Stoichiometry and Reactions (1 cr)
- _CHM 122 Chemical Dynamics (3 cr)
- _CHM 126 Lab IIB Equilibrium and Instruments (1 cr)
- _PHY 121 Introductory Physics I Lecture (3 cr) Recommended PHY 123 - Physics I Laboratory (1 cr) Recommended

Graduation Requirements: 120 cr Free Electives ≈ 11 cr GPA Needed to Declare: 2.0

Geography, Geographic Information Systems Concentration - B.S.

Requirements for Geography, Geographic Information Systems Concentration ≈ 60

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

<u>Geography Core (15 cr)</u>

- __GEO 105 Physical Geography (3 cr)
- ___GEO 202 GIS I: Intro to Geographic Info Syst. (3 cr)
- ___GEO 329 Economic Geography (3 cr)
- ___GEO 391 Geography Seminar (3 cr)
- Select one:
 - ___GEO 322 Urban Geography (3 cr) OR
 - ___GEO 244 Land Use (3 cr)

Geographic Information Systems Concentration (24 cr) __GEO 339 - Remote Sensing (3 cr) _GEO 352 - Cartography (3 cr) __GEO 363 - GIS II: Intermediate HIS (3 cr) _GEO 420 - GIS III: Advanced GIS (3 cr) Select two: ___GEO 425 - Image Processing (3 cr) __GEO 440 - Field Techniques (3 cr) _GEO 441 - Qualitative Methods (3 cr) _GEO 463 - Applied Geophysical Imaging (3 cr) (400 level) _GEO 4_ Select one: ____GEO 244 - Land Use (3 cr) � <u>OR</u> _GEO 301 - Intro Biogeography (3 cr) <u>OR</u> _GEO 310 - Transport Geography (3 cr) OR _GEO 322 - Urban Geography (3 cr) 🔶 <u>OR</u> _GEO 427 - Sustainability (3 cr) OR __GEO 444 - Envir Land Use Plan (3 cr) If not taken in Geography Core.

Geography Internship

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A junior status (60 cr) and 2.0 overall and major average required.
__GEO 360, 361, 390, or 394 - Internship (3 cr)
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Social Sciences (12 cr)

- __PLS 100 U.S. Government & Politics (3 cr)
- __SOC 101 Intro to Sociology (3 cr)
- Select two:
 - __PHL 322 Ethical Issues & Computer Technology (3 cr)
 - __PLS 231 State and Local Government (3 cr)
 - __PLS 271 Introduction to Public Administration (3 cr)
 - __PLS 331 -Urban Politics & 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 Systems Electives (12-15 cr)
- ___CSC 104 Programming in Python (3 cr)
- Select 3:
 - __ART 217 Computer Design I (3 cr)

__CSC 110 - Computer Science I - Lecture (4 cr) ** __CSC 111 - Computer Science II (4 cr) _CSC _ (3-4 cr) __MIS 142 - Business Computer Systems (3 cr) ___MIS 240 - Introduction to Programming Concepts (3 cr) __MIS 300 - Info Technology & Business Operations (3 cr) __MIS 355 - Database Applications (3 cr) Math Requirement (3-4 cr) Select one: ___MAT 140A or B - College Algebra (3-4 cr) ** OR __MAT 175 - Precalculus (3 cr) ** OR _MAT 211 - Calculus I (4 cr) ** <u>OR</u> ___MAT 225 - Discrete Mathematics (4 cr) ** English Requirement (3 cr) __ENG 238 - Technical/Professional Writing (3 cr) Graduation Requirements: 120 cr Free Electives ≈ 15 cr GPA Needed to Declare: 2.0 A 12-credit Geographic Information (GIS) Certificate Program also offered. See department for details. Disclaimer: Courses may be subject to change.

History - B.A.

Requirements for History major ≈ 30 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

History Core (18 cr)

- __HIS 105 Historical Foundation of Global Cultures (3 cr) **
- __HIS 106 Thinking Historically in a Global Age (3 cr) **
- __HIS 201 Early History of the 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 (12 cr)

HIS	(American History 300+ level)
HIS	(European History 300+ level)
HIS	(Africa/Asia/Latin Am/Mid East 300+)
HIS	(Africa/Asia/Latin Am/Mid East 300+)

No Concentration (6 cr)

HIS _	(300+ level)
HIS_	(300+ level)

European History Requirements (12 cr)

Select 4:

- __HIS 320 Europe Middle Ages: 300 to 1270 (3 cr)
- ___HIS 321 Late Medieval Europe: 1270 to 1517 (3 cr)
- ___HIS 325 History of the Tsarist Russia (3 cr)
- ___HIS 326 History of the U.S.S.R. (3 cr)
- __HIS 330 History Modern Germany: 1919 to Present (3 cr)
- __HIS 331 History of Modern France: 1750 to Present (3 cr)
- __HIS 332 English History: 1066 to Present (3 cr)
- __HIS 334 Europe 1715-1815 (3 cr)
- __HIS 337 History of the Byzantine Empire (3 cr)
- ___HIS 348 The History of Ancient Rome (3 cr)
- __HIS 356 History of 19th Century Europe (3 cr)
- __HIS 357 History of Holocaust (3 cr)
- ___HIS 359 History of Western Political Thought (3 cr)
- __HIS 361 History of 20th Century Europe (3 cr)
- __HIS 362 Europe 1450-1715 (3 cr)
- ___HIS 386 History Research Seminar (3 cr)
- ____HIS 387, 389, 391 History Internship (3 cr)
- ___HIS 390, 394, 492, 496 Selected Topics in History (3 cr)
- __HIS 423 Issues in 20th-Century Europe (3 cr)

American History Requirements (12 cr)

Select 4:

- ___HIS 301 The West in American History (3 cr)
- ___HIS 302 American Business History (3 cr)

__HIS 304 - American Diplomatic History (3 cr)

- ___HIS 305 The Civil War Era (3 cr)
- __HIS 307 Contemporary U. S. History since 1945 (3 cr)
- ___HIS 309 History of the American Worker (3 cr)
- __HIS 314 History of Jacksonian America (3 cr)
- __HIS 318 History of U.S. Women (3 cr)
- HIS 319 Introduction to Public History (3 cr)
- __HIS 338 Colonial America (3 cr)
- ___HIS 341 African-American History (3 cr)

__HIS 342 - U.S. Immigration and Ethnicity (3 cr) __HIS 345 - Military History of the United States (3 cr) ___HIS 352 - The US and Vietnam (3 cr) ___HIS 358 - American Environmental History (3 cr) __HIS 385, 388, 394, 490, 496 - Selected Topics (3 cr) ____HIS 386 - History Research Seminar (3 cr) ____HIS 387, 389, 391 - History Internship (3 cr) HIS 402 - Revolutionary America (3 cr) ___HIS 413 - Pennsylvania History (3 cr) ___HIS 428 - Issues in Gilded Age & Progressive Era (3 cr) ___HIS 430 - U.S. Cultural History (3 cr) __HIS 433 - Oral History (3 cr) History, Asian & Middle Eastern History Requirements (12 cr) Select 4: __HIS 339 - The Central Islamic Lands, 500-1700 (3 cr) ____HIS 344 - History of the Modern Middle East (3 cr) ___HIS 350 - History of Modern Japan (3 cr) ___HIS 353 - Modern Southeast Asia (3 cr) HIS 354 - Traditional China (3 cr) ___HIS 355 - History of Modern China (3 cr) __HIS 382, 383, 394, 482, 483, 496 - Selected Topics (1-3 cr) ____HIS 386 - History Research Seminar (3 cr) ___HIS 387, 389, 391 - History Internship (3 cr) __HIS 454 - China and the Outside World (3 cr) __PHL 336 - Concepts in Buddhism (3 cr) Public History Concentration (12 cr) Public History Methods: __HIS 319 - Introduction to Public History (3 cr) Select one: __HIS 390 - Selected Topics in History (3 cr) ___HIS 413 - Pennsylvania History (3 cr) ___HIS 430 - U.S. Cultural History (3 cr) __HIS 433 - Oral History (3 cr) __HIS 460 - Archives and Public History (3 cr) ___HIS 490 - Selected Topics in History (1-3 cr) Required Internship: ___HIS 387, 389, 391 - History Internship I (3 cr) __HIS 387, 389, 391 - History Internship II (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 36 cr GPA Needed to Declare: 2.0

##B.A. students must 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 testing or CLEP testing.

HELPFUL HINTS FOR ADVISING

Year 1 HIS 105 - Historical Foundations of Global Cultures HIS 106 - Thinking Historically in a Global Age

History minor also available - 18 cr.

History/Social Studies - B.S.Ed.

Requirements for History, Comprehensive Social Studies major ≈ 69 cr

General Education requirements not listed here. Courses marked with the double asterisk ****** may count as general education requirements.

History Core (12 cr)

- __HIS 105 Historical Foundation of Global Cultures (3 cr) **
- __HIS 106 Thinking Historically in a Global Age (3 cr) **
- __HIS 201 Early History of the United States (3 cr) **
- ___HIS 202 Recent History of the United States (3 cr)

Restricted History Electives (12 cr)

- __HIS _____(American History 300+ level)
- __HIS _____(European History 300+ level)
- __HIS _____(Africa/Asia/Latin Am/Mid East 300+)
- __HIS _____(Africa/Asia/Latin Am/Mid East 300+)
- History Electives (6 cr)

__HIS _____(300+ level)

__HIS _____(300+ level)

Social Science Requirements (27 cr)

- __ECO 101 Principles of Macroeconomics (3 cr) ** __ECO 102 - Principles of Microeconomics (3 cr) __GEO 101 - World Geography (3 cr) ** __GEO 103 - Geography of the U.S. and Candada (3 cr) ** __PLS 100 - U.S. Government and Politics (3 cr) ** __PLS ______ [recommended 231, 251, or 300] __PSY 101 - General Psychology (3 cr) ** __SOC 101 - Introduction to Sociology (3 cr) ** Select one: __ANT 111 - Cultural Anthropology (3 cr) <u>OR</u> __INT 200 - Intro to International Studies (3 cr) <u>OR</u> __GEO ______ (200 or 300 level) <u>OR</u>
- __PLS _____(200 or 300 level) <u>OR</u>
- __PHL____

Math Requirement (6-8 cr)

MAT_	(except MAT 185) **
MAT_	(except MAT 185) **

- Recommended:
 - __MAT 117: Applied Statistics (3 cr) **

Literature Requirement (3 cr)

__ ENG 248 OR ENG 250 (3 cr) **

Professional Education Requirements (33 cr)

- __TCH 207 Org. & Psych. Foundations (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- __EEC 423 Effective Instructional Strategies (3cr)
- __RDG 413 Teaching Reading to ELL (3 cr)

___EEC 483 - Assessing Children with Exceptionalities (3 cr)

- __EDU 412 Teaching of Social Studies I (3 cr)
- __EDU 413 Teaching of Social Studies II (3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

Note: TCH 207 must be completed before EDU 412 and EDU 413. EDU 412 and EDU 413 must be taken simultaneously. A cumulative

GPA of 3.0 is required to enroll in EDU 412 and EDU 413. EEC 483 must be taken with EDU 495.

<u>PAPA examinations:</u> All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300 level classes.

<u>Required:</u> 50 Level I Field Experience hours and Portfolio due between 75 and 90 credits. See B.S. Ed. Advisor for details.

Graduation Requirements: 120+ cr Free Electives \approx 6 cr GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING:

Year 1 HIS 105 - Historical Foundations of Global Cultures HIS 106 - Thinking Historically in a Global Age GEO 103- Geography of U.S. and Canada

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

Requirements for Human Communication Studies major \approx 36 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

General Education Human Communications Offerings

__HCS 100 - Intro to Human Communications (3 cr) **

__HCS 125 - Survey of Human Communications (3 cr) **

Human Communications Core (15 cr)

__HCS 200 - Human Communication Theory (3 cr) ♦

- __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)

Rhetoric and Symbolism (3 cr)

Select at least one:

- __HCS 325 Rhetoric African-Am. Struggle & Progress (3 cr)
- __HCS 345 Environmental Communication (3 cr)
- __HCS 352 Argumentation & Debate (3 cr)
- __HCS 356 Persuasion (3 cr)
- __HCS 363 Political Rhetoric (3 cr)
- __HCS 365 Language and Meaning (3 cr)
- __HCS 375 Special Topics in Rhetoric and Symbolism (3 cr)

Organizational Communication (3 cr)

Select at least one:

- __HCS 230 Small Group Communication (3 cr)
- __HCS 260 Computer-Mediated Communication (3 cr)
- __HCS 350 Theories of Organizational Communication (3 cr)
- __HCS 351 Special Topics Organizational Comm (3 cr)
- __HCS 372 Communication for Training & Instruction (3 cr)
- __HCS 381 Profess. Comm & Multi-media Presentation (3 cr)

Cultural Perspectives (3 cr)

Select at least one:

- __HCS 270 Intergroup/Intercultural Communication (3 cr)
- __HCS 310 African-American Communication (3 cr)
- __HCS 315 Asian-American Communication (3 cr)
- __HCS 330 Special Topics in Cultural Perspectives (3 cr)
- __HCS 335 Popular Culture and Gender Construction (3 cr)
- __HCS 340 Gender and Communication (3 cr)
- __HCS 410 Feminist Perspectives on Comm. Theory (3 cr)

Interpersonal Communication (3 cr)

Select at least one:

- __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 349 Communication and Humor (3 cr)
- __HCS 349 Special Topics in Interpersonal Comm. (3 cr)
- __HCS 385 Resolving Conflict through Communication (3 cr)
- __HCS 430 Advanced Interpersonal Communication (3 cr)

<u>Free Human Communications Electives (9 cr)</u> Select 3 from Rhetoric and Symbolism, Organizational Communication, Cultural Perspectives, and/or Interpersonal Communication:



Recommended Internship

Department permission required __HCS 391 - Internship I (3 cr)

- __HCS 392 Internship II (3 cr)
- ____HCS 393 Internship III (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 39 cr GPA Needed to Declare: 2.0

##B.A. students must attain proficiency in a foreign language.

♦ Prerequisite for most upper-level courses.

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 testing or CLEP testing.

HELPFUL HINTS FOR ADVISING

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

Majors must select at least four HCS courses at 300 level or above.

Human Communication Studies Minor available - 18 cr.

Interdisciplinary Arts - B.A.

Requirements for Interdisciplinary Arts major \approx 42 cr

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Interdisciplinary Arts Core

__IAP 111 - Introduction to Interdisciplinary Arts (3 cr) **

- Select three (one to satisfy each Arts Concentration):
 - __ART 101 Art Appreciation (3 cr) **
 - __COM 111 Intro to Mass Communication (3 cr)
 - __ENG 243, 248, or 350 English Literature (3 cr) **
 - __MUS 121 Intro to Music (3 cr) **
 - ___THE 121 Intro to Theater (3 cr) **

Curriculum Track (42 cr)

Interdisciplinary Arts majors choose a primary concentration consisting of 5 courses (15 cr) and two secondary concentrations of 4 courses each (12 cr each). The primary concentration and at least one of the secondary concentrations must be in the arts, although one of the secondary concentrations can be in a discipline outside of the arts. Popular concentrations include communications, dance, art, English, music and theater.

In the curriculum track, majors are also required to take one course in each of the following three areas: History and Culture, Theory and Criticism, Arts Praxis and Professional Skills. See My Degree Audit for full list.

Primary Concentration (15 cr)



Secondary Concentration I (12 cr)

_____(300+ level)

Secondary Concentration II (12 cr)

_____(300+ level)

Senior Capstone (3 cr)

- __IAP 449 Interdisciplinary Arts Senior Thesis (3 cr) OR
- __IAP 451 Interdisciplinary Arts Showcase (3 cr) \underline{OR}
- __IAP 452 Interdisciplinary Arts Internship (3 cr) <u>OR</u>
- __IAP 453 Interdisciplinary Arts Internship (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 33 cr GPA Needed to Declare: 2.0

##B.A. students must 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 testing or CLEP testing.

International Studies - B.A.

Requirements for International Studies major \approx 42 cr

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

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International Studies (6 cr)
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_INT 200 - Intro to International Studies, Concepts and Methods (3 cr)

__INT 300 - International Studies Seminar (3 cr)

Requirements for Fall 2018 General Education (12 cr)

- __HIS 105 Historical Foundation of Global Cultures (3 cr) **
- __HIS 106 Modern World History (3 cr) **
- __PLS 141 World Politics (3 cr) **
- __GEO 140 Human Geography OR

__ECO 113 Principles of Economics ** (ECO 113 required for

Global Business Concentration)

Select one:

- __ANT 111 Cultural Anthropology (3 cr) <u>OR</u>
- ___GEO 101 World Geography (3 cr)

Foreign Language Requirement (9 cr)

 		_(200+ level)
 		 _(200+ level)
 		_(200+ level)

*9 credit hours at the 200-level or higher in Arabic, French, German, or Spanish. 9 credit hours at any level for other languages.

Study Abroad or Internship Requirement (3 cr)

Select one:

__Study Abroad _____OR

__Internship _____

Students must select two concentrations: 1) Global Perspectives concentration 2) Area Studies concentration.

Global Perspectives Concentration (12 cr)

Choose either Comparative Cultures, Political Relations, or Business & Economics:

_____(300+ level) _____(300+ level) _____(300+ level)

*courses must come from at least 2 different disciplines; 6 credits at 300-level or higher

Area Studies Concentration (12 cr)

Choose either Africa & Middle East, Asia, Europe, or Latin America & Caribbean:

_____(300+ level) _____(300+ level) _____(300+ level)

*courses must come from at least 2 different disciplines; 6 credits at 300-level or higher

Class list for concentrations available through My Degree Audit.

Graduation Requirements: 120 cr Free Electives ≈ 33 cr GPA Needed to Declare: 2.0

##B.A. students must attain proficiency in a foreign language.

International Studies majors complete the B.A. requirement in the course of completing the major's foreign language requirement. B.A. proficiency is 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 the B. A. requirement through AP testing or CLEP testing.

International Studies Minor and International Development Minor also available - 21 cr. each/

Mathematics, B.S.

Requirements for mathematics major $\approx 50 \text{ cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Students must take all courses. Beyond the core courses, students must complete a concentration and do *one* of the following: complete a minor, complete a second major, or take 3 allied electives*, at least 1 of which must be a non-MAT course.

Mathematics Core (30 cr)

Mathematics Core (50 cr)
MAT 185 - First Year Mathematics Seminar (Spring/1 cr)
MAT 211 - Calculus I (4 cr) **
MAT 212 - Calculus II (4 cr)
MAT 213 - Calculus III (4 cr)
MAT 217 - Statistics I (4 cr)
MAT 225 - Discrete Mathematics (4 cr) ** <i>Rtag</i>
MAT 318 - Elementary Linear Algebra (3 cr)
MAT 320 - Intro to Abstract Algebra (3 cr)
MAT 441 - Real Analysis I (Fall/3 cr)
OR
MAT 430 Complex Analysis (Spring/3 cr)
Required Computer Science (3-4 cr)
Select one:
CSC 104 - Programming in Python (3 cr) ** <i>Ttag</i> <u>OR</u>
CSC 180 - Microcomputer Basic (3 cr) ** <i>Ttag <u>OR</u></i>
CSC 110 - Computer Science I (4 cr) **
Applied Mathematics Concentration
MAT 322 - Differential Equations (3 cr)
MAT 326 - Mathematical Modeling (3 cr)
MAT 410 , 422, 476, or 491 (3 cr)
MAT(300+ level)
MAT(400 level)
Either complete a minor, complete a second major, or choose three
allied electives numbered 300 or above from ACC, BIO, CHM, CSC,
CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE:
(300+ level)
(300+ level)
(300+ level)

Statistics Concentration

MAT 317 -	 Statistics 	II	(3	cr)	
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__MAT 476 - Probability (3 cr)

MAT 486 - Mathe	matical Statistics (3 cr)
MAT	(300+ level)
MAT	(300+ level)

Either complete a minor, complete a second major, or choose three allied electives numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE:

, ЕСО, ЕЗЗ, FIIN, IVIAT, IVIIS, PПТ, З	CIVI, OF SVVE
 	(300+ level)
 	300+ level)

____(300+ level)

<u>Custom Concentration</u> (with advisement)

____MAT ______(300+ level)

MAT	(300+ level)
MAT	(300+ level)
MAT	(400 level)

__ MAT _____(400 level) Either complete a minor, complete a second major, or choose three

allied electives numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE:

 (300+ level)
 (300+ level)
 (300+ level)

Graduation Requirements: 120 cr Free Electives \approx 25 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING

Semester I	MAT 211 - Calculus I
Semester II	MAT 185 - First Year Math Seminar MAT 212 - Calculus II MAT 225 - Discrete Mathematics

Mathematics minor also available - 18-21 cr.

Mathematics, Secondary Education Certification - B.S.

Requirements for Mathematics Secondary Education Certification $\approx 74~cr$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Mathematics Core (42 cr)

MAT 185 - First Year Mathematics Seminar (3 cr) __MAT 211 - Calculus I (4 cr) ** *Qtag* __MAT 212 - Calculus II (4 cr) __MAT 213 - Calculus III (4 cr) __MAT 217 - Statistics I (4 cr) __MAT 225 - Discrete Mathematics (4 cr) ** *Rtag* __MAT 318 - Elementary Linear Algebra (3 cr) __MAT 320 - Intro to Abstract Algebra (3 cr) __MAT 441 - Real Analysis I (3 cr) <u>Required Computer Science (3-4 cr)</u> __CSC 104 - Programming in Python (3 cr) ** *Ttag QR* __CSC 180 - Microcomputer Basic (3 cr) ** *Ttag QR* __CSC 110 - Computer Science I (4 cr)

Secondary Education Concentration

- ___MAT 326 Mathematical Modeling (3 cr)
- ___MAT 333 Geometry (3 cr) ^{F, odd}
- __MAT 400 History of Mathematics (3 cr) ^{F, even}
- __MAT _____(400 level)

Professional Education Requirements (36 cr)

- __TCH 207 Org. & Psych. Foundations (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr) ** Dtag

__EEC 423 - Effective Instructional Strategies (3cr)

- ___RDG 413 Teaching Reading to ELL (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EDU 371 Technology in the Mathematics Classroom (3 cr)
- __EDU 434 Teaching of Mathematics I (Spring/3 cr)
- __EDU 435 Teaching of Mathematics II (Fall/3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

<u>Optional Mathematics and Special Education Certification (21 cr)</u> Take the following in addition to the courses above:

- __EEC 280 Best Practices in Collaboration (3 cr)
- __EEC 320 Interventions for Comm. Impairments (3 cr)
- __EEC 325 Interventions for Social, Emotional, Behav. (3 cr)

__EEC 330 - Teaching Students with Exceptionalities (3 cr)

__EEC 335 - Interventions for Cognitive or Physical (3 cr)

- __EEC 447 Special Education Processes (3 cr)
- __EEC 546 Transition for Students w/ Disabilities (3 cr)

<u>PAPA examinations:</u> All education majors must pass the first level of the PAPA assessments in reading, math, and writing between 48 and 60 credits of coursework. These basic skills tests must be passed before students are permitted to take any 300

Graduation Requirements: 120+ cr Free Electives \approx 1 cr GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING

Semester I	MAT 211 - Calculus I
Semester II	MAT 185 - First Year Mathematics Seminar MAT 212 - Calculus II MAT 225 - Discrete Mathematics

Mechanical Engineering - B.S.

Requirements for Mechanical Engineering major ≈ 82 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Math Requirements (19 cr.)

- ___MAT 211 Calculus I (4 cr) **
- ___MAT 212 Calculus II (4 cr) **
- ___MAT 318 Elementary Linear Algebra (3 cr)
- ___MAT 375 Probability & Statistics for Engineers (3 cr)
- ___MAT 322 Differential Equations (3 cr)

Science Requirements (20 cr)

- __CHM 121 Chemical Bonding (3 cr) **
- CHM 125 Lab IB-Stoichiometry & Reactions (1 cr)
- ___CHM 122 Chemical Dynamics (3 cr)
- CHM 126 Lab IIB-Equilibrium & Instrumentation (1 cr)
- ___PHY 205 Intermediate Physics I Lecture (3 cr) **
- PHY 123 Physics I Lab (1 cr)
- __PHY 206 Intermediate Physics II Lecture (3 cr) **
- PHY 125 Physics II Lab (1 cr)
- __PHY 331 Mechanics I (4 cr)

Engineering Core (12 cr)

- __ENGR 100 Engineering Seminar I (1 cr)
- __ENGR 110 Modeling and Simulation (3 cr)
- ___ENGR 120 Programming for Engineers (3 cr)
- ___ENGR 200 Engineering Seminar II (1 cr)
- ___ENGR 300 Engineering Seminar III (1 cr)
- ___ENGR 310 Statistical Process Control (3 cr)

Mechanical Engineering Requirements (35 cr)

- ___CMPE 499 Engineering Design & Development (2 cr)
- __ELEC 220 Linear Circuit Analysis (3 cr)
- __MECH 200 Statics (4 cr)
- __MECH 210 Dynamics (4 cr)
- __MECH 220 Fluids (4 cr)
- __MECH 230 Mechanics of Materials (4 cr)
- __MECH 300 Engineering Materials (4 cr)
- __MECH 310 Manufacturing Processes (4 cr)
- ___MECH 320 Machine Dynamics (4 cr)
- __MECH 410 Mechanics of Thermodynamics (4 cr)
- ___MECH 420 Machine Design (4 cr)
- __MECH 450 Thermal System Design (4 cr)

Engineering Elective (3-4 cr)

Select one:

- __CIV, COMPE, ELEC, ENGR, MECH ____(200+ level)
- __MAT 213 Calculus III (4 cr)
- ___MAT 410 Numerical Analysis (4 cr)

Graduation Requirements: 120+ cr Free Electives ≈ 0 cr GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING

Semester I MAT 211 - Calculus I PHY 205/123 - Physics I Lecture & Lab ENGR 100 - Seminar I ENGR 110 - Modeling & Simulation Semester II MAT 212 - Calculus II PHY 206/125 - Physics II Lecture & Lab

ENGR 120 - Programming for Engineers

Physics - B.S.

Requirements for Physics major ≈ 71-72 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Physics Core Requirements (32 cr)

__PHY 107 - Seminar for Physics Majors (2 cr)
__PHY 221 - Fundamentals of Physics I (5 cr) **
__PHY 222 - Fundamentals of Physics II (5 cr)
__PHY 301 - Mathematical & 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 Thermodynamics (4 cr)

Math Requirements (15 cr)

- __MAT 211 Calculus I (4 cr) ** __MAT 212 - Calculus II (4 cr) **
- ___MAT 213 Calculus III (4 cr)
- ___MAT 322 Differential Equations (3 cr)

<u>Chemistry Requirement (4 cr)</u>

__CHM 121 - Chemical Bonding (3 cr) ** CHM 125 - Lab IB-Stoichiometry & Reactions (1 cr)

<u>Computer Science/Engineering Requirement (3-4 cr)</u> Select one:

__CSC 110 - Computer Science I-Lecture (4 cr) ** OR

__ENGR 120 - Programming for Engineers (3 cr)

General Physics Concentration (29 cr)

Physics Electives (9-12 cr):

PHY	(300+ level)
PHY	(300+ level)
PHY	(300+ level)

Free Electives (20 cr):

12 credits must be taken at the 300 level or higher. A minor in another discipline is strongly encouraged.

Advanced Physics Concentration (28-32 cr)

CHM 122 - Chemical Dynamics (3 ci	r)

CHM 126 - Laboratory IIB (1 cr)

__PHY 411 - Quantum II (3 cr) __PHY 421 - Electricity & Magnetism II (3 cr)

__PHY 431 - Mechanics II (3 cr)

__PHY _____(300+ level)

	• •
PHY	(300+ level)

- __PHY _____(300+ level)
- __PHY _____(300+ level)

Select one:

___PHY 397 - Intro to Research (3 cr) <u>OR</u>

__PHY 389 - Research II (3 cr)

 Computational Physics Concentration (25-26 cr)

 __MAT 318 - Elementary Linear Algebra (3 cr)

 __MAT 410 - Numerical Analysis (3 cr)

 __CSC 111 - Computer Science II (4 cr)

 __CMPE 322 - Microcontrollers & Interfaces (4 cr)

 __PHY 471 - Computational Physics (4 cr)

 __PHY __________(300+ level)

 __PHY _________(300+ level)

 Select one:

 __CMPE 220 - Computer Organization (4 cr) <u>OR</u>

 __CSC 371 - Database Management Systems (4 cr)

 Graduation Requirements: 120 cr

 Free Electives ≈ 3-4 cr

GPA Needed to Declare: 2.0

HELPFUL HINTS FOR ADVISING

Semester I	MAT 211 - Calculus I PHY 107 - Seminar for Physics Majors
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.

Physics - B.S.Ed.

Requirements for Physics Education major \approx 82 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Physics Core (32 cr)

_PHY 107 - Seminar for Physics Majors (2 cr)
_PHY 221 - Fundamentals of Physics I (5 cr) **
_PHY 222 - Fundamentals of Physics II (5 cr)
_PHY 301 - Mathematical & 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 Thermodynamics (4 cr)

Physics Elective (3 cr) ___PHY _____

____(400 level)

Math Requirement (15 cr)

- __MAT 211 Calculus I (4 cr) ** __MAT 212 - Calculus II (4 cr) ** __MAT 213 - Calculus III (4 cr) __MAT 322 - Differential Equations (3 cr)
- <u>Chemistry Requirement (4 cr)</u>

__CHM 121 - Chemical Bonding (3 cr) ** CHM 125 - Lab IB-Stoichiometry & Reactions (1 cr)

Biology Requirement (4 cr)

__BIO 162 - Prin. of Bio: Organismal Diversity (4 cr) **

Earth-Space Sciences (3 cr)

Select one:

__ESS 110 - Introduction to Geology <u>OR</u>

__ESS 210 - Physical Geology (3 cr)

Computer Science/Engineering Requirement (3-4 cr) Select one:

__CSC 110 - Computer Science I (4 cr) **

<u>OR</u>

___ENGR 120 - Programming for Engineers (3 cr)

Professional Education Requirements (33 cr)

__TCH 207 - Organizational & Psych Foundations (3 cr)

__EDU 440 - Teaching of Science in Secondary Schools (3 cr)

__EDU 441 - Curriculum and Evaluation (3 cr)

__EEC 273 - Introduction to Exceptionalities (3 cr)

__EEC 423 - Effective Instructional Strategies (3 cr)

 $_$ EEC 483 - Assessing Children with Exceptionalities (3 cr)

__RDG 413 - Teaching Reading to ELL (3 cr)

__EDU 495 - Student Teaching & Practicum (9-15 cr)

<u>Literature Requirement (3 cr)</u> ____ENG 243, ENG 248, <u>OR</u> ENG 250 (3 cr) **

Graduation Requirements: 120+ cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

HELPFUL HINTS FOR ADVISING

Semester I	MAT 211 - Calculus I PHY 107 - Seminar for Physics Majors
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.

Political Science - B.A.

Requirements for Political Science major ≈ 36 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

General Education Recommendations:

- __MAT 117 Applied Statistics (3 cr) **
- __SOC 101 Introduction to Sociology ** (3 cr)
- Select one:
 - __ECO 101 Principles of Macroeconomics (3 cr) ** <u>OR</u>
 - __ECO 102 Principles of Microeconomics (3 cr) ** OR
 - __ECO 113 Principles of Economics (4 cr) **
- Select one:

__GEO 101 - World Geography (3 cr) ** OR

- __GEO 103 Geography of the U.S. & Canada ** (3 cr)
- Political Science Core (21 cr)
 - __PLS 100 U.S. Government & Politics (3 cr) **
 - __PLS 141 World Politics (3 cr) **
 - __PLS 201 Foundations of Political Science (3 cr)
 - __PLS 202 Applications in Public Affairs (3 cr)
 - __PLS 300 Advanced American Government (3 cr)
 - __PLS 301 Political Science Research Methods (3 cr)
 - __PLS 399 Senior Seminar (3 cr)

Experiential Learning (6 cr)

Select two:

- ___PLS 251 Introduction to Comparative Politics (3 cr)
- __PLS 252 Costa Rica: Politics, Economy & Society (3 cr)
- __PLS 307 Applied Research in Political Science (1-3 cr)
- __PLS 323 Campaigns, Elections & Political Parties (3 cr)
- $_PLS \; 333$ Applications in State & Local Public Policy (3 cr)
- __PLS 347 Applied Diplomacy (3 cr)
- __PLS 348 Applied Diplomacy (3 cr)
- __PLS 357 Comparative Revolutions (3 cr)
- ___PLS 358 European Political Economy & Security (3 cr)
- ___PLS 359 European Political Integration & Identity (3 cr)
- __PLS 395 Internship I (3 cr)
- ___Any Study Abroad course in any discipline.

In addition to the required core and experiential learning, students need to take courses in three other applied competency areas (see below). To meet this requirement, students need 15 credits in oral communication, written communication, and problem solving.

Oral Communication (3 cr):

Select at least one:

- __PLS 252 Costa Rica: Politics, Economy & Society (3 cr)
- __PLS 311 The Legislative Process (3 cr)
- __PLS 313 The Judicial Process (3 cr)
- __PLS 324 Women in American Politics (3 cr)
- __PLS 347 Applied Diplomacy (3 cr)
- __PLS 348 Applied Diplomacy (3 cr)
- __PLS 357 Comparative Revolutions (3 cr)
- __PLS 361 Political Theory from Ancient Times-19th C (3 cr)
- __PLS 373 Public Financial Administration (3 cr)

- Written Communication (3 cr): Select at least one: ___PLS 231 - State and Local Government (3 cr) _PLS 307 - Applied Research in Political Science (1-3 cr) __PLS 312 - The American Presidency (3 cr) __PLS 321 - Public Opinion and Political Media (3 cr) __PLS 322 - Interest Groups in American Society (3 cr) __PLS 324 - Women in American Politics (3 cr) __PLS 325 - African American Politics (3 cr) __PLS 341 - International Law & Organization (3 cr) __PLS 351 - European Politics (3 cr) __PLS 356 - Politics of Developing Regions (3 cr) ___PLS 363 - American Political Thought (3 cr) __PLS 365 - The Federal System (3 cr) _PLS 366 - First Amendment Freedoms (3 cr) _PLS 367 - Criminal Law & Equal Protections (3 cr) _PLS 371 - Public Management (3 cr) __PLS 372 - Public Personnel Administration (3 cr) __PLS 381 - Principles of Labor Relations (3 cr) Problem Solving (3 cr): Select at least one: __PLS 271 - Intro to Public Administration (3 cr)
 - ___PLS 325 African American Politics (3 cr)
 - ___PLS 331 Urban Politics & Administration (3 cr)
 - ___PLS 342 American Foreign Policy (3 cr)
 - __PLS 343 Global Economic and Political Conflict (3 cr)
 - __PLS 351 European Politics (3 cr)
 - __PLS 356 Politics of Developing Regions (3 cr)
 - __PLS 361 Political Theory from Ancient Times-19th C (3 cr)
 - __PLS 362 Contemporary Political Ideologies (3 cr)
 - ___PLS 365 The Federal System (3 cr)
 - ___PLS 366 First Amendment Freedoms (3 cr)
 - ___PLS 367 Criminal Law & Equal Protect. (3 cr)
 - __PLS 374 Public Service Ethics (3 cr)

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

Graduation Requirements: 120 cr Free Electives \approx 39 cr GPA Needed to Declare: 2.0

##B.A. students must 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 testing or CLEP testing.

Political Science, International Concentration - B.A.

Requirements for Political Science major with International Concentration \approx 36 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

General Education Recommendations:

- __MAT 117 Applied Statistics (3 cr) **
- __SOC 101 Introduction to Sociology ** (3 cr)
- Select one:
 - __ECO 101 Principles of Macroeconomics (3 cr) ** <u>OR</u>
 - __ECO 102 Principles of Microeconomics (3 cr) ** OR
 - __ECO 113 Principles of Economics (4 cr) **
- Select one:
 - ___GEO 101 World Geography (3 cr) **<u>OR</u>
 - __GEO 103 Geography of the U.S. & Canada ** (3 cr)
- Political Science Core (21 cr)
 - __PLS 100 U.S. Government & Politics (3 cr) **
 - __PLS 141 World Politics (3 cr) **
 - __PLS 201 Foundations of Political Science (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 & Organization (3 cr)
 - ___PLS 399 Senior Seminar (3 cr)

Experiential Learning (6 cr)

Select two:

- __PLS 252 Costa Rica: Politics, Economy & Society (3 cr)
- __PLS 307 Applied Research in Political Science (1-3 cr)
- __PLS 323 Campaigns, Elections & Political Parties (3 cr)
- __PLS 333 Applications in State & Local Public Policy (3 cr)
- __PLS 347 Applied Diplomacy (3 cr)
- __PLS 348 Applied Diplomacy (3 cr)
- __PLS 357 Comparative Revolutions (3 cr)
- __PLS 358 European Political Economy & Security (3 cr)
- __PLS 359 European Political Integration & Identity (3 cr)
- __PLS 395 Internship I (3 cr)
- _Any Study Abroad course in any discipline.

In addition to the required core and experiential learning, students need to take courses in three other applied competency areas (see below). To meet this requirement, students need 15 credits in oral communication, written communication, and problem solving.

Oral Communication (3 cr):

Select at least one:

- ___PLS 252 Costa Rica: Politics, Economy & Society (3 cr)
- __PLS 311 The Legislative Process (3 cr)
- __PLS 313 The Judicial Process (3 cr)
- __PLS 324 Women in American Politics (3 cr)
- __PLS 347 Applied Diplomacy (3 cr)
- __PLS 348 Applied Diplomacy (3 cr)
- __PLS 357 Comparative Revolutions (3 cr)
- __PLS 361 Political Theory from Ancient Times-19th C (3 cr)
- __PLS 373 Public Financial Administration (3 cr)

Written Communication (3 cr):

Select at least one:

- ___PLS 231 State and Local Government (3 cr)
- __PLS 307 Applied Research in Political Science (1-3 cr)

___PLS 312 - The American Presidency (3 cr) __PLS 321 - Public Opinion and Political Media (3 cr) __PLS 322 - Interest Groups in American Society (3 cr) __PLS 324 - Women in American Politics (3 cr) __PLS 325 - African American Politics (3 cr) __PLS 341 - International Law & Organization (3 cr) __PLS 351 - European Politics (3 cr) __PLS 356 - Politics of Developing Regions (3 cr) __PLS 363 - American Political Thought (3 cr) __PLS 365 - The Federal System (3 cr) __PLS 366 - First Amendment Freedoms (3 cr) __PLS 367 - Criminal Law & Equal Protections (3 cr) _PLS 371 - Public Management (3 cr) __PLS 372 - Public Personnel Administration (3 cr) _PLS 381 - Principles of Labor Relations (3 cr) Problem Solving (3 cr): Select at least one: _PLS 271 - Intro to Public Administration (3 cr) PLS 325 - African American Politics (3 cr) __PLS 331 - Urban Politics & Administration (3 cr) __PLS 342 - American Foreign Policy (3 cr) __PLS 343 - Global Economic and Political Conflict (3 cr) __PLS 351 - European Politics (3 cr) __PLS 356 - Politics of Developing Regions (3 cr) __PLS 361 - Political Theory from Ancient Times-19th C (3 cr) __PLS 362 - Contemporary Political Ideologies (3 cr) _PLS 365 - The Federal System (3 cr) _PLS 366 - First Amendment Freedoms (3 cr) _PLS 367 - Criminal Law & Equal Protect. (3 cr) ___PLS 374 - Public Service Ethics (3 cr)

International Concentration Electives (12 cr)

Select four:

- __PLS 252 Costa Rica: Politics, Economy & Society (3 cr)
- __PLS 307 Applied Research in Political Science (1-3 cr)
- ___PLS 342 American Foreign Policy (3 cr)
- ___PLS 343 Global Economic & 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 & Security (3 cr)
- __PLS 359 European Political Integration & Identity (3 cr)
- __PLS 394 Selected Topics in International Politics (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 39 cr GPA Needed to Declare: 2.0

##B.A. students must attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

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.

Psychology - B.A.

Requirements for Psychology major ≈ 42 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

<u>General Education Psychology Requirement (3 cr)</u> __PSY 101 - General Psychology (3 cr) **

Psychology Core (27 cr)

Scientific Methods:

- ___PSY 105 Research Design & Statistics I (3 cr) _PSY 205 - Research Design & Statistics II (3 cr) _PSY 301 - Experimental Psychology (3 cr) Select one from each category below: Developmental: _PSY 265 - Childhood & Adolescence (3 cr) <u>OR</u> _PSY 352 - Psychology of Adulthood & Aging (3 cr) Social/Personality: __PSY 240 - Psychology of Personality (3 cr) <u>OR</u> _PSY 270 - Social Psychology (3 cr) Abnormal: _PSY 330 - Abnormal Psychology (3 cr) <u>OR</u> PSY 355 - Child and Adolescent Psychopathology (3 cr) Neuroscience: _PSY 320 - Behavioral Neuroscience (3 cr) OR ___PSY 333 - Attention and Consciousness (3 cr) Cognition/S&P: PSY 323 - Sensation and Perception (3 cr) OR __PSY 325 - Psychology of Human Cognition (3 cr) Learning/Behavioral: __PSY 235 - Conditioning and Learning (3 cr) OR __PSY 383 - Social Learning in Infants and Children (3 cr) Psychology Electives (12 cr) Select at least two from each category below: Ethical & Social Responsibility in a Diverse World: _PSY 315 - Psych of Prejudice & 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 470 - Forensic and Legal Psychology (3 cr) Professional Development: __PSY 311 - Applied Behavior Analysis (3 cr) ___PSY 335 - Psychology of Social Influence (3 cr) __PSY 340 - Introduction to Clinical Psychology (3 cr)
 - ___PSY 340 Introduction to Clinical Psychology (3 cr)
 - __PSY 361 Psychology of Group Interaction (3 cr)
 - __PSY 384 Helping Skills for Human Services (3 cr) __PSY 432 - Psychology of Computers & the Internet (3 cr)
 - ___PSY 435 Psychopharmacology (3 cr)
 - ____PSY 450 Crisis Intervention (3 cr)
 - __PSY 475 Industrial and Organizational Psychology (3 cr)

Psychology Capstone (3 cr)

Select one:

__PSY 374 or 375 - Advanced Research in Psychology (3 cr)

- __PSY 379 Capstone Seminar in Psychology (3 cr)
- __PSY 385- Internship in Psychology I (1-4 cr)
- ___PSY 386 Internship in Psychology II (1-4 cr)
- ___PSY 440 History and Systems of Psychology (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 33 cr GPA Needed to Declare: 2.0

The remaining credits toward your 120 total should comprise a minor (minors are 18-21 credits), other courses of interest outside the major to broaden your higher educational experiences, and additional psychology courses.

Please note students must earn a grade of "C" or higher in all core courses.

##B.A. students must 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 testing or CLEP testing.

Internship - Up to 6 credits can count toward an internship; internship may fulfill the capstone requirement but the credits DO NOT count toward the psychology major.

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 (Helping Skills for Human Professionals) 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.

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
Psycholog	gy minor available - 18 cr

Public Service - B.S.

Requirements for Public Service major \approx 45 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Political Science Core (27 cr)

- ___PLS 100 U.S. Government and Politics (3 cr) **
- __PLS 202 Applications in Public Affairs (3 cr)
- ___PLS 231 State and Local Government (3 cr)
- PLS 271 Introduction to Public Administration (3 cr)

- _____PLS 372 Public Personnel Administration (3 cr)
- ___PLS 373 Public Financial Administration (3 cr)

Public Service Electives (6 cr)

Select 2 of the following:

- __PLS 307 Applied Research in Political Science (1-3 cr)
- __PLS 331 Urban Politics & Administration (3 cr)
- __PLS 332 Federal-State-Local Relations (3 cr)
- __PLS 333 Applications in State & Local Public Policy (3 cr)
- __PLS 365 Constitutional Law: The Federal System (3 cr)
- __PLS 374 Public Service Ethics (3 cr)
- PLS 381 Principles of Labor Relations (3 cr)
- ____PLS 389 Selected Topics in Public Administration (3 cr)
- __PLS 395 Internship I (3 cr)
- __PLS 396 Internship II (3 cr)
- __PLS 397 Internship III (3-6 cr)
- __PLS 431 Pennsylvania Local Government (3 cr)

Political Science Elective (3 cr)

__PLS ___

__PLS _____(300+ level)

Sociology Requirements (6 cr)

__SOC 101 - Introduction to Sociology (3 cr) ** Select one:

- ___SOC 241 Contemporary Social Problems (3 cr)
- __SOC 243 Minority Groups (3 cr)
- __SOC 258 Women's Roles and Status (3 cr)
- ___SOC 346 City and Community (3 cr)
- ___SOC 351 Race Relations (3 cr)
- __SOC 354 Social Movements & Social Change (3 cr)
- __SOC 363 Population Problems (3 cr)
- __SOC 365 Elites in Society (3 cr)
- __SOC 425 Sociology of Law (3 cr)

Graduation Requirements: 120 cr Free Electives ≈ 33 cr GPA Needed to Declare: 2.0

##B.A. students must 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 testing or CLEP testing.

Internship - The department strongly encourages students to complete an internship. To qualify for an internship, a student must have a 2.0 overall QPA and a 2.3 QPA in the public administration major. Students must have completed the following courses to be eligible for an internship: PLS 100, PLS 201, PLS 231, PLS 271, PLS 300, and PLS 301. A student can count a maximum of six internship credits toward the major.

Public Service minor available - 18 cr

Sociology - B.A.

Requirements for Sociology major \approx 36 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Sociology Core (21 cr)

- __SOC 101 Introduction to Sociology (3 cr) **
- __SOC 201 Sociological Practice (3 cr)
- __SOC 220 Social Inequality (3 cr)
- __SOC 311 Internship (3 cr)
- ___SOC 380 Classical Social Theory (3 cr)
- __SOC 385 Introduction to Social Research (3 cr)
- _SOC 415 Senior Seminar (3 cr)

Sociology Electives (15 cr)

SOC .	
_soc	
_soc	
_soc	
_soc	

<u> Allied Fields Requirements (6-7 cr)</u>

__ANT 111 - Cultural Anthropology (3 cr) ** OR __ANT 105 - Great Discoveries in Archeology (3 cr) AND __MAT 117A/B - Applied Statistics (3-4 cr) **

Possible special interest areas:

Cross Cultural Anthropology

- __ANT 111 Cultural Anthropology (3 cr) **
- __ANT 211 Comparative Cultures (3 cr)
- __ANT 312 Comparative Marriages & Family (3 cr)
- __ANT 351 Peoples & Cultures of Europe (3 cr)

Anthropology and Archaeology

__ANT 105 - Great Discoveries in Archeology (3 cr)

__ANT 330 - Mammoth Hunters & Mound builders (3 cr)

__ANT 360 - Aztec & Maya Archaeology (3 cr)

- Social Inequality & Diversity
- __SOC 220 Social Inequality (3 cr)
- __SOC 243 Race in America (3 cr)
- ___SOC 258 Gender, Culture & Power (3 cr)
- __SOC 320 Sociology of Disability (3 cr)
- __SOC 365 Elites in Society (3 cr) Culture and Social Change
 - ___SOC 265 Global Society (3 cr)
 - __SOC 363 Growth & Change of Human Populations (3 cr)
 - __SOC 370 Sociology of Music (3 cr)
 - ___SOC 375 Popular Culture (3 cr)

____SOC 354 - Social Movements & Social Change (3 cr)

Gender, Sexuality & Family

__SOC 257 - Family in Modern Society (3 cr)

__SOC 258 - Gender, Culture & Power (3 cr)

__SOC 363 - Growth & Change of Human Populations (3 cr)

__SOC 445 - Sexuality & Sexual Orientation (3 cr)

Deviance

SOC 244 - Criminology (3 cr)
SOC 345 - Deviance and Social Control (3 cr)
SOC 391 - Violence (3 cr)
Disability, Aging & Health
SOC 320 - Sociology of Disability (3 cr)
SOC 369 - Medical Sociology (3 cr)
SOC 371 - Social Dynamics of Aging (3 cr)
Social Institutions/Organizations
SOC 257 - Family in Modern Society (3 cr)
SOC 275 - Sociology of Religion (3 cr)
SOC 346 - City & Community (3 cr)
SOC 369 - Medical Sociology (3 cr)
SOC 435 - Gender, Organizations & Leadership (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 39 cr GPA Needed to Declare: 2.0

Free electives are to be taken in appropriate fields with advisement. They may be utilized to pursue various special interest areas in sociology or to develop the equivalent of a minor or a second concentration. Language or research tools may be alternative recommendations.

##B.A. students must 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 testing or CLEP testing.

<u>Internship</u> - Internships in sociology are highly recommended and may be taken for a total of 9 credits of which 6 credits can be applied to the major.

HELPFUL HINTS FOR ADVISING

- Year I SOC 101 Introduction to Sociology MAT 117A/B - Applied Statistics ANT 111 - Cultural Anthropology
- Year II SOC 201 Thinking Sociologically SOC 220 - Social Inequality
- Year III SOC 380 Classical Social Theory SOC 385 - Introduction to Social Research
- Year IV SOC 415 Senior Seminar

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

Software Engineering, B.S.

Requirements for Software Engineering major \approx 73 cr

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Engineering Core (12 cr)

- __ENGR 100 Engineering Seminar I (1 cr)
- __ENGR 120 Programming for Engineers (3 cr)
- __ENGR 200 Engineering Seminar II (1 cr)
- __ENGR 300 Engineering Seminar III (1 cr)
- __ENGR 310 Statistical Process Control (3 cr)

Software Engineering (20 cr)

- ___SWE 100 Intro to Software Engineering (3 cr)
- ___SWE 200 Design Patterns (4 cr)
- ____SWE 300 Crafting Quality Code (4 cr)
- ____SWE 400 Large Scale Architecture (4 cr)
- __SWE 415 Interdisciplinary Development (4 cr)

Computer Science (12 cr)

- __CSC 110 Computer Science I (4 cr)
- __CSC 310 Design & Analysis of Algorithms (4 cr)
- __CSC 371 Database Management Systems (4 cr)

Computer Engineering (8 cr)

- __CMPE 220 Computer Organization (4 cr)
- __CMPE 320 Operating Systems (4 cr)

Mathematics Requirements (9 cr)

- ___MAT 211 Calculus I (4 cr) **
- ___MAT 225 Discrete Mathematics (4 cr) **
- ___MAT 375 Probability and Stats for Engineers (4 cr)

Natural Science (8 cr)

Select two:

__BIO 161 - Prin. of Bio: Cell Str. and Funct. (4 cr) ** OR __CHM 121 - Chemical Bonding (3 cr) ** __CHM 125 - Lab IB-Stoichiometry & Reactions (1 cr) OR __PHY 205 - Intermediate Physics I (3 cr) __PHY 123 - Physics I Lab (1 cr) **

Allied Courses (12 cr)

Select 3-4 courses. At least 10 credits must be taken beyond the Natural Science requirements:

- __BIO 161 Prin. of Bio: Cell Str. and Funct. (4 cr) **
- __BIO 162 Prin. of Bio: Organismal Diversity (4 cr) **
- __CHM 121 Chemical Bonding (3 cr) ** AND
- __CHM 125 Lab IB-Stoichiometry & Reactions (1 cr)
- __CHM 122 Chemical Dynamics (3 cr) ** AND
- __CHM 126 Lab IIB-Equilibrium & Instrumentation (1 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) **
- __MAT 219 Data Science I (3 cr)
- ___MAT 317 Statistics I (4 cr)
- ___MAT 318 Elementary Linear Algebra (4 cr)
- ___MAT 319 Data Science II (3 cr)
- __MAT 320 Intro to Abstract Algebra (3 cr)
- __MAT 326 Mathematical Modeling (3 cr)
- __MAT 410 Numerical Analysis (3 cr)
- ___MAT 421 Number Theory and Cryptography (3 cr)
- ___MAT 450 Combinatorics (3 cr)

Elective (4 cr)

__CSC, CMPE, or SWE _____(300+ level) __CSC, CMPE, or SWE _____(300+ level)

Graduation Requirements: 120 cr Free Electives \approx 2 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 and be at a minimum math placement level of 4.

HELPFUL HINTS FOR ADVISING:

Semester I	SWE 100 - Intro to Software Engineeringl (4 cr) MAT 211 - Calculus I (4 cr)
Semester II	ENGR 120 - Programming (4 cr) MAT 225 - Discrete Math (4 cr)

Spanish & Spanish, Secondary Education Certification - B.A.

Requirements for Spanish major \approx 36 cr Requirements for Spanish major with Secondary Cert \approx 66 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Spanish Core Requirements (30 cr)

- ___SPN 202 Intermediate Conversation (3 cr)
- ____SPN 204 Ideas and Cultures from Spanish (3 cr)
- ___SPN 211 Intermediate Contextualized Grammar (3 cr)
- ____SPN 302 Advanced Spanish Conversation (3 cr)
- ____SPN 309 Spanish Phonetics (3 cr)
- ____SPN 312 Contextualized Grammar (3 cr)
- ____SPN 313 Advanced Composition and Stylistics (3 cr)
- ____SPN 343 Introduction to Literary Studies (3 cr)
- ____SPN 360 Masterpieces of Spanish Literature (3 cr)
- ___SPN 361 Masterpieces of Spanish-American Lit. (3 cr)

Spanish Electives (6 cr)

SPN _	(300+ level)
SPN _	(400 level)

Secondary Education Certification (33 cr)

- ___TCH 207 Organizational & Psych Foundations (3 cr)
- ____TCH 251 Elements of Middle Level Instruction (3 cr)
- ___EEC 273 Introduction to Exceptionalities (3 cr)
- ___EEC 423 Effective Instructional Strategies (3 cr)
- ___EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EDU 426 Methods of Teaching Foreign Languages (3 cr)

__EDU 495 - Student Teaching & Practicum (12 cr)

Math requirement:

MAT _	(except MAT 185) **
MAT _	(except MAT 185) **

Literature requirement:

__ ENG 243, ENG 248, <u>OR</u> ENG 250 (3 cr) ** Environmental requirement:

Optional Translation Specialization

____SPN 330 - Spanish for the Professions (3 cr)

_____SPN 420 - Theory and Practice of Translation (3 cr)

_____SPN 425 - Advanced Oral Interpreting (3 cr)

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

<u>Dual Certification:</u> 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.

<u>ACTFL Oral Proficiency</u>: All Spanish Secondary Education Certification student must pass the ACTFL Oral Proficiency Interview prior to graduation and reach an advanced low level minimum.

Graduation Requirements: 120 cr Free Electives with Education Cert \approx 9 cr Free Electives without Education Cert \approx 39 cr GPA Needed to Declare: 3.0

<u>Free Electives:</u> The advisor will suggest courses from other programs that pertain to the history and/culture of Spanish speaking countries. Or student may choose a second Major or other minors. Free Electives are courses not previously taken.

HELPFUL HINTS FOR ADVISING

Year I Any introductory language courses necessary.

Spanish Minor available - 18 cr

Sustainability, Environmental Conservation Concentration - B.S.

Requirements for Sustainability major with Environmental Conservation Concentration $\approx 60~\text{cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Sustainability Core (6 cr)

- __ESS 108 Introduction to Environmental Sustainability (3 cr) ** OR
- _____BIO 145 Environmental Biology (3 cr)
- ____GEO 427 Sustainability (3 cr)

Concentration Core (9 cr)

- __GEO 202 GIS I: Intro to GIS (3 cr)
- __GEO 329 Economic Geography (3 cr)
- ___GEO 391 Geography Seminar (3 cr)

Sustainable Systems Requirements (9 cr) Select three:

- ___GEO 203 Climate, Energy, & Sustainability (3 cr)
- ___ESS 214 Geology of National Parks (3 cr)
- ___GEO 301 Intro to Biogeography (3 cr)
- __ESS 404 Applied Human-Climate Interactions (3 cr)
- __ESS 413 Rock and Mineral Resources (3 cr)
- __ESS 442 Environmental Geology (3 cr)
- __ESS 451 Coastal Environmental Oceanography (3 cr)
- __GEO 406 Sustainable Food Systems (3 cr)
- __GEO 444 Environmental Land Use Planning (3 cr)
- ___GEO 446 Water Resources Management (3 cr)
- __GEO 450 Geography-Geology Field Studies (1-3 cr) Recommended

<u>Human Sustainability Requirements (6 cr)</u> Select two:

- __GEO 140 Human Geography (3 cr) **
- __GEO 244 Land Use (3 cr)
- __GEO 310 Transportation Geography (3 cr)
- __GEO 322 Urban Geography (3 cr)

<u>Technique Course Requirements (6 cr)</u> Select two:

- ___GEO 339 Remote Sensing (3 cr)
- __GEO 352 Cartography (3 cr)
- __GEO 363 GIS II: Intermediate GIS (3 cr)
- ___GEO 420 GIS III: Advanced GIS (3 cr)
- ___GEO 425 Image Processing (3 cr)
- __GEO 440 Field Techniques (3 cr)
- __GEO 441 Quantitative Methods (3 cr) Recommended
- __GEO 450 Geography-Geology Field Studies (1-3 cr) Recommended
- __GEO 463 Applied Geophysical Imaging (3 cr)

Biology Requirements (6 cr)

__BIO 162 - Principles of Bio: Organismal Diversity (4 cr) ** Select one:

- __BIO 205 Marine Biology (3 cr)
- __BIO 208 Field Biology (3 cr)
- __BIO 210 Field Zoology (3 cr)
- __BIO 230 Botany (3 cr)
- __BIO 242 Ecology (3 cr) Recommended
- __BIO 245 Marine Ecology (3 cr)
- __BIO 442 Aquatic Ecology (3 cr)
- __BIO 444 Conservation Biology (3 cr)

<u>Psychology and Sociology Requirements (9 cr)</u> Select one:

- __PSY 101 General Psychology (3 cr) ** <u>OR</u>
- _____SOC 101 Intro to Sociology (3 cr) **
- Select two:
 - ___PSY 350 Psych of Sustainability (3 cr) Recommended
 - __SOC 265 Global Society (3 cr)
 - __SOC 346 City and Community (3 cr)
 - __SOC 354 Social Movements and Social Change (3 cr)
- ___SOC 363 Population Problems (3 cr) ___SOC 404 - Global Leadership for Global Society (3 cr)

Economics and Business Requirements (6 cr)

__ECO 102 - Principles of Microeconomics (3 cr) Select one:

- __ECO 345 The Economics of Growth & Development (3 cr)
- _____ECO 355 Environmental Economics (3 cr) Recommended
- ___MGT 447 Business and Society (3 cr)
- __MIS 142 Business Computer Systems (3 cr)
- __MIS 242 Design & Development of User Info Syst. (3 cr)
- ___SCM 420 Global Logistics Systems (3 cr)

English, History, and Communication Requirements(6 cr) Select two:

- __ENG 238 Technical Writing (3 cr)
- ___ENG 359 Native American Literature (3 cr)
- ____ENG 438 Technical Professional Writing II (3 cr)
- __HIS 358 American Enviro. History (3 cr) Recommended

Graduation Requirements: 120 cr Free Electives ≈ 15 cr GPA Needed to Declare: 2.0



GROVE COLLEGE OF BUSINESS DEGREE PROGRAMS

B.S.B.A.

Accounting Entrepreneurship Finance Personal Financial Planning Management Management Human Resource Management International Management International Management Management Information Systems Marketing Marketing Management Digital Marketing and Analytics Supply Chain Logistics Management

SUGGESTED PLAN FOR B.S.B.A. STUDENTS

Fall Semester

UNIV 101 First Year Experience Academic Writing* College Algebra (A/B) General Education Elective Business Computer Systems* Foundations of Business Administration (2cr.)*

Fall Semester

Fund. of Financial Accounting Principles of Economics (4 crs.) or a General Education Elective American Legal Environment* Principles of Marketing* General Education Elective

Fall Semester

Financial Management* Organizational Behavior* General Education Elective Supply Chain Operations Mgt* or Gen. Ed. Elec. Major Course or Gen. Ed. Elec.

Fall Semester

Business and Society* Major Course Major Course General Education Elective Free Elective (Major course for ACC, MIS & PFP Majors)

FRESHMAN YEAR

Spring Semester

Human Comm Studies* Historical Foundation of Global Cultures* Applied Calculus I General Education Elective* Principles of Economics (4 crs.)* or a General Education Elective

SOPHOMORE YEAR

Spring Semester

Managerial Accounting Managerial Economics Statistical Applications in Business* General Education Elective General Education Elective

JUNIOR YEAR

Spring Semester

Major Course* Major Course* General Education Elective* Free Elective* Free Elective*

SENIOR YEAR

Spring Semester

Strategic Management* Major Course Free Elective/General Education Requirement Free Elective

*These courses can be interchanged between semesters within the specified year.

Courses in **bold** are part of the business core curriculum as shown in a prerequisite flow chart on the back of this sheet.

Please note that sequencing of courses may vary depending upon the specific requirements within a particular major. For example, Accounting, Management Information Systems, Management, Human Resource Management, International Management, and Entrepreneurship, majors should begin their major coursework during the first semester of their junior year.

Check with your advisor or departmental office for further information.



Accounting - B.S.B.A.

Requirements for Accounting major ≈ 62 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48 cr)

- __MAT 140A or MAT 140B College Algebra (3-4 cr) **
- __MAT 181 Applied Calculus (3 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)
- ___MGT 305 Organizational Behavior (3 cr)
- ____MGT 447 Business and Society (3 cr)
- ____MGT 497 Strategic Management (3 cr)
- _____MIS 142 Business Computer Systems (3 cr)
- _____MKT 205 Principles of Marketing (3 cr)
- _____SCM 200 Statistical Applications in Business (3 cr)
- __SCM 330 Supply Chain & Operations Management (3 cr)

<u>Mathematical Competency:</u> Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113, and completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

Accounting Core (18 cr)

- __ACC 306 Tax Accounting (3 cr)
- __ACC 310 Intermediate Accounting I (3 cr)
- __ACC 311 Intermediate Accounting II (3 cr)
- __ACC 312 Cost Determination and Analysis (3 cr)
- __ACC 404 Auditing (3 cr)
- _MIS 300 Info Technology & Business Operations (3 cr) [Students who double major in ACC and MIS take MIS 355 instead of MIS 300]
- Accounting Electives (3 cr)

Choose one:

- __ACC 401 Advanced Accounting (3 cr) <u>OR</u>
- __ACC 406 Advanced Tax Accounting (3 cr) <u>OR</u>
- __ACC 412 Advanced Cost Analysis and Control (3 cr) OR
- __ACC 490 Selected Topics in Accounting (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 13 cr GPA Needed to Declare: 2.0

Declare Accounting: 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.

F=Fall only S=Spring only

HELPFUL HINTS FOR ADVISING:

Semester I	BSN 101 - Foundations of Business
	MAT 140 - College Algebra
	MIS 142 - Business Computer Systems
Semester II	MAT 181 - Applied Calculus I
	ECO 113 - Principles of Economics
Semester III	ACC 200 - Fundamentals of Accounting
	BSL 261 - American Legal Environment
	MKT 205 - Principles of Marketing
Semester IV	ACC 201 - Managerial Accounting
	ECO 280 - Managerial Economics
	SCM 200 - Statistical Applications

Notes: MAT 140 is recommended before taking ECO 113.

MIS 142 Business Computer Systems is a prerequisite for SCM 200.

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Entrepreneurship - B.S.B.A.

Requirements for Entrepreneurship major \approx 59 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48-49 cr)

- ___MAT 140A or MAT 140B College Algebra (3-4 cr)
- ___MAT 181 Applied Calculus (3 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)
- __MGT 305 Organizational Behavior (3 cr)
- ___MGT 447 Business and Society (3 cr)
- ___MGT 497 Strategic Management (3 cr)
- __MIS 142 Business Computer Systems (3 cr)
- ___MKT 205 Principles of Marketing (3 cr)
- ___SCM 200 Statistical Applications in Business (3 cr)
- __SCM 330 Supply Chain & Operations Management (3 cr)

<u>Mathematical Competency:</u> Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113. Completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

Entrepreneurship Requirements (15 cr)

- __ENT 336 Product Design & Development (3 cr) ^F
- __ENT 337 Issues in Entrepreneurship (3 cr) ^s
- __ENT 431 Corporate Entrepreneurship (3 cr)
- __ENT 432 Entrepreneurship (3 cr) ^s
- __ENT 433 Small Business Management (3 cr) ^F

<u>Marketing and Management elective (3 cr)</u> Select one:

- ___MGT 340 Human Resource Management
- __MGT 342 Labor Relations & Collective Bargaining (3 cr)
- ___MGT 370 International Business (3 cr)
- __MGT 450 Negotiation (3 cr)
- ___MGT 470 International Management (3 cr)
- __MGT 490 Selected Topics in Management (3 cr)
- __MGT 498 Strategy Implementation (3 cr)
- __MKT 370 Services Marketing (3 cr)
- ___MKT 430 Marketing Research (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 16 cr GPA Needed to Declare: 2.0

Declare Entrepreneurship: 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.

F=Fall only S=Spring only

HELPFUL HINTS FOR ADVISING:

Semester I	BSN 101 - Foundations of Business MAT 140 - College Algebra MIS 142 - Business Computer Systems
Semester II	MAT 181 - Applied Calculus I ECO 113 - Principles of Economics MKT 205 - Principles of Marketing
Semester III	ACC 200 - Fundamentals of Accounting BSL 261 - American Legal Environment
Semester IV	ACC 201 - Managerial Accounting ECO 280 - Managerial Economics SCM 200 - Statistical Applications

Notes: MAT 140 is recommended before taking ECO 113.

MIS 142 - Business Computer Systems is a prerequisite for SCM 200.

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Finance - B.S.B.A

Requirements for Finance major ≈ 63 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48-49 cr)

__MAT 140A or MAT 140B - College Algebra (3-4 cr) __MAT 181 - Applied Calculus (3 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) __MGT 305 - Organizational Behavior (3 cr) __MGT 447 - Business and Society (3 cr) MGT 497 - Strategic Management (3 cr) __MIS 142 - Business Computer Systems (3 cr) ___MKT 205 - Principles of Marketing (3 cr) _SCM 200 - Statistical Applications in Business (3 cr) __SCM 330 - Supply Chain & Operations Management (3 cr)

<u>Mathematical Competency</u>: Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113, and completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

Finance Concentration (21 cr)

- __FIN 312 Investments (3 cr) F
- __FIN 313 Advanced Financial Management (3 cr) ^s
- ___FIN 314 Financial Institutions (3 cr) ^F
- ___FIN 333 Applied Company & Security Analysis (3 cr) ^s
- Select three of the following:
- __FIN 320 Risk Management and Insurance (3 cr)
- ___FIN 322 Estate Planning (3 cr)
- ___FIN 324 Retirement Planning and Employee Benefits (3 cr)
- ___FIN 340 Principles of Real Estate (3 cr)
- ___FIN 393 Selected Topics in Finance (1-3 cr)
- ___FIN 405 Real Estate Appraisal & Investment Analysis (3 cr)
- ___FIN 414 Bank Management (3 cr)
- ___FIN 421 Personal Financial Planning (3 cr)
- ___FIN 425 Global Financial Management (3 cr)
- __FIN 434 Investment Management Program (1-3 cr)
- __FIN 435 Investment Management Program (1-3cr)
- ___FIN 442 Derivatives Markets (3 cr)
- ___FIN 490 Selected Topics in Finance (1-3 cr)
- Personal Financial Planning Concentration (21 cr)
- __FIN 312 Investments (3 cr) F
- __FIN 320 Risk Management & Insurance (3 cr) $^{\rm S}$
- __FIN 322 Estate Planning (3 cr) $^{\scriptscriptstyle F}$
- __FIN 324 Retirement Planning & Employee Benefits (3 cr) $^{\rm s}$
- __FIN 333 Applied Company & Security Analysis (3 cr) ^s
- __FIN 421 Personal Financial Planning Capstone (3 cr) $^{\rm S}$

__ACC 306 - Tax Accounting (3 cr) ^s

Graduation Requirements: 120 cr Free Electives \approx 12 cr GPA Needed to Declare: 2.0

<u>Declare Finance</u>: 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 MAT 140 - College Algebra MIS 142 - Business Computer Systems
Semester II	MAT 181 - Applied Calculus I ECO 113 - Principles of Economics
Semester III	ACC 200 - Fundamentals of Accounting BSL 261 - American Legal Environment MKT 205 - Principles of Marketing
Semester IV	ACC 201 - Managerial Accounting ECO 280 - Managerial Economics SCM 200 - Statistical Applications

Notes: MAT 140 is recommended before taking ECO 113.

MIS 142 - Business Computer Systems is a prerequisite for SCM 200.

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300- 400-level business core courses during their junior and senior years, as listed below.

F=Fall only S=Spring only

Management - B.S.B.A.

Requirements for Management major \approx 59 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48-49 cr)

- __MAT 140A or MAT 140B College Algebra (3-4 cr) **
- __MAT 181 Applied Calculus (3 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)
- __MGT 305 Organizational Behavior (3 cr) **
- __MGT 447 Business and Society (3 cr)
- ___MGT 497 Strategic Management (3 cr)
- __MIS 142 Business Computer Systems (3 cr)
- ___MKT 205 Principles of Marketing (3 cr)
- ____SCM 200 Statistical Applications in Business (3 cr)
- __SCM 330 Supply Chain & Operations Management (3 cr)

<u>Mathematical Competency:</u> Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113, and completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

Management Concentration (18 cr)

- __ENT 431 Corporate Entrepreneurship (3 cr)
- __MGT 340 Human Resources Management (3 cr)
- ___MGT 370 International Business (3 cr)
- __MGT 394 Leadership & Decision-Making (3 cr)
- ___MGT 498 Strategy Implementation (3 cr)

Select one:

- __ENT 337 Issues in Entrepreneurship (3 cr)
- __ENT 432 Entrepreneurship (3 cr)
- __ENG 433 Small Business Management (3 cr)
- ___MGT 342 Labor Relations & Collective Bargaining (3 cr)
- __MGT 450 Negotiation (3 cr)
- ___MGT 470 International Management (3 cr)
- __MGT 490 Selected Topics in Management (3 cr)

International Management Concentration (30 cr)

- ___MGT 340 Human Resource Management (3 cr)
- __MGT 370 International Business (3 cr)
- ___MGT 470 International Management (3 cr) ^F
- ___MKT 360 International Marketing (3 cr) F

Select two:

- __ANT 220 Anthropology for International Studies (3 cr)
- __ECO 321 International Economics (3 cr)
- ___FIN 425 Global Fiancial Management (3 cr)
- __GEO 101 World Geography (3 cr) **
- __MGT 349 International Human Resource Mgmt (3 cr)
- __MGT 380 or 381 Global Bus Exploration I or II (3 cr)

__MGT 491 - Selected Topics in Mgt (3 cr) __PLS 141 - World Politics (3 cr) **

Modern Language Requirements (12 cr)

FRN, SPN, GER	(103+ level)
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FRN, SPN, GER	(10	3+	level)
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___FRN, SPN, GER _____(103+ level)

Select one:

___FRN 320 - French for the Professions (3 cr)

____SPN 330 - Spanish for the Professions (3 cr)

__GER 215 - German for the Professions (3 cr)

*Students must also pass ACTFL Oral Proficiency Interview at the intermediate level by mid-senior year. Language requirement does not include FRN 101, FRN 102, SPN 101, SPN 102, GER 101, GER 102, FRN 330, FRN 331, SPN 360, or SPN 361.

Human Resources Management Concentration (18 cr)

- ___MGT 340 Human Resources Management (3 cr)
- __MGT 342 Labor Relations & Collective Bargaining (3 cr) F
- __MGT 346 Human Resources Management Law (3 cr)^s
- __MGT 348 Compensation Administration (3 cr) ^s

Select two:

- __ENT 337 Issues in Entrepreneurship (3 cr)
- __ENT 431 Corporate Entrepreneurship (3 cr)
- __ENT 433 Small Business Management (3 cr)
- ___FIN 324 Retirement Planning & Employee Benefits (3 cr)
- __MGT 349 International Human Resource Mgmt (3 cr)
- ___MGT 370 International Business (3 cr)
- __MGT 394 Leadership & Decision-Making (3 cr)
- __MGT 450 Negotiation (3 cr)
- ___MIS 300 Information Tech & Business Operations (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 16 cr GPA Needed to Declare: 2.0

Declare Management: 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.

F=Fall only S=Spring only

<u>Notes:</u> MAT 140 is recommended before taking ECO 113. MIS 142 Business Computer Systems is a prerequisite for SCM 200.

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Management Information Systems (MIS) - B.S.B.A.

Requirements for MIS major ≈ 59 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48-49 cr)

- __MAT 140A or MAT 140B College Algebra (3-4 cr) **
- __MAT 181 Applied Calculus (3 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)
- ___MGT 305 Organizational Behavior (3 cr) **
- __MGT 447 Business and Society (3 cr)
- ___MGT 497 Strategic Management (3 cr)
- ___MIS 142 Business Computer Systems (3 cr)
- ____MKT 205 Principles of Marketing (3 cr)
- __SCM 200 Statistical Applications in Business (3 cr)
- __SCM 330 Supply Chain & Operations Management (3 cr)

<u>Mathematical Competency:</u> Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113, and completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

Management Information Systems Requirements (21 cr)

- ___MIS 240 Introduction to Programming Concepts (3 cr) F
- __MIS 340 Business Programming (3 cr) ^s
- __MIS 344 Business Systems Analysis and Design (3 cr) F
- ___MIS 355 Database Applications (3 cr) ^F
- __MIS 420 Telecomm & Distributed Processing (3 cr)^s
- ___MIS 446 Applied Project Management (3 cr) ^s

Select one:

- _MIS 242 Design & Development of User Info Syst. (3 cr) ^s
- __MIS 399 Introduction to Corporate Cybersecurity (3 cr) F
- __MIS 442 Electronic Commerce & Tech Integration (3 cr) ^s

Graduation Requirements: 120 cr Free Electives ≈ 16 cr GPA Needed to Declare: 2.0

Declare MIS: 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.

F=Fall only S=Spring only

HELPFUL HINTS FOR ADVISING:

Semester I	BSN 101 - Foundations of Business MAT 140 - College Algebra MIS 142 - Business Computer Systems
Semester II	MAT 181 - Applied Calculus I ECO 113 - Principles of Economics
Semester III	ACC 200 - Fundamentals of Accounting BSL 261 - American Legal Environment MKT 205 - Prinicples of Marketing
Semester IV	ACC 201 - Managerial Accounting ECO 280 - Managerial Economics SCM 200 - Statistical Applications

Notes: MAT 140 is recommended before taking ECO 113.

MIS 142 Business Computer Systems is a prerequisite for SCM 200.

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Marketing - B.S.B.A.

Requirements for Marketing Management major ≈ 69 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48-49 cr)

- ___MAT 140A or MAT 140B College Algebra (3-4 cr) **
- __MAT 181 Applied Calculus (3 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)
- ___MGT 305 Organizational Behavior (3 cr) **
- ___MGT 447 Business and Society (3 cr)
- ___MGT 497 Strategic Management (3 cr)
- __MIS 142 Business Computer Systems (3 cr)
- ____MKT 205 Principles of Marketing (3 cr)
- _____SCM 200 Statistical Applications in Business (3 cr)
- _____SCM 330 Supply Chain & Operations Management (3 cr)

Marketing Management Concentration (21 cr)

- ___MKT 206 Buyer Behavior (3 cr)^s
- ___MKT 325 Advertising and Promotional Strategy (3 cr)^F
- __MKT 360 International Marketing (3 cr)^F
- ___MKT 370 Services Marketing (3 cr)^s
- ___MKT 430 Marketing Research (3 cr)^F
- __MKT 495 Marketing Management (3 cr) ^s
- Select one:
 - __MKT 335 Digital Marketing (3 cr)^F
 - ___MKT 345 Social Media Marketing (3 cr)^s
 - ___MKT 352 Principles of Retailing (3 cr)
 - ___MKT 365 Relationship Marketing (3 cr)
 - ___MKT 380 Sports Marketing (3 cr)
 - __MKT 390 Selected Topics in Marketing Credits: (3 cr)
 - ___MKT 490 Selected Topics in Marketing Credits: (3 cr)
 - __ENT 337 Issues in Entrepreneurship (3 cr)
 - __ENT 433 Small Business Management (3 cr)
 - _____MIS 300 Information Tech. And Business Operations (3 cr)
 - ___MGT 450 Negotiation (3 cr)
 - ___FIN 340 Principles of Real Estate (3 cr)

Digital Marketing and Analytics Concentration (21 cr)

__MKT 206 - Buyer Behavior (3 cr)^S __MKT 330 - Marketing Analysis I (3 cr)^F __MKT 335 - Digital Marketing (3 cr)^F __MKT 345 - Social Media Marketing (3 cr)^S __MKT 430 - Marketing Research (3 cr)^F __MKT 495 - Marketing Management (3 cr) ^S Select one: __MKT 325 - Advertising and Promotional Strategy (3 cr)^F __MKT 352 - Principles of Retailing (3 cr) __MKT 360 - International Marketing (3 cr)^F __MKT 365 - Relationship Marketing (3 cr)

___MKT 370 - Services Marketing (3 cr)^s

__MKT 380 - Sports Marketing (3 cr)

- ___MKT 390 Selected Topics in Marketing Credits: (3 cr)
- __MKT 490 Selected Topics in Marketing Credits: (3 cr)
- __ENT 337 Issues in Entrepreneurship (3 cr)
- __MIS 240 Introduction to Programming Concepts (3 cr)
- __MGT 450 Negotiation (3 cr)
- ___SCN 380 Data Mining for Supply Chain Management (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 12 cr GPA Needed to Declare: 2.0

<u>Declare Marketing:</u> Students must have a 2.0 cumulative grade point average at Shippensburg University to declare a B.S.B.A. concentration. EXCEPTION: Those students with MSAT of 605+ or those testing at the advanced level in mathematics on the placement test.

<u>Mathematical Competency:</u> Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113, and completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

F=Fall only S=Spring only

HELPFUL HINTS FOR ADVISING:

Semester I	BSN 101 - Foundations of Business MAT 140 - College Algebra MIS 142 - Business Computer Systems
Semester II	MAT 181 - Applied Calculus I ECO 113 - Principles of Economics
Semester III	MKT 205 - Principles of Marketing ACC 200 - Fundamentals of Accounting BSL 261 - American Legal Environment
Semester IV	MKT 206 - Consumer Behavior ACC 201 - Managerial Accounting ECO 280 - Managerial Economics SCM 200 - Statistical Applications

<u>Notes:</u> See the Prerequisite Flow Chart for B.S.B.A Core Courses for prerequisites and other course flow recommendations for the B.S.B.A.

Supply Chain Management - B.S.B.A.

Requirements for major in Supply Chain Management \approx 59 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

B.S.B.A. Core (48-49 cr)

- __MAT 140A or MAT 140B College Algebra (3-4 cr) **
- ___MAT 181 Applied Calculus (3 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)
- ___MGT 305 Organizational Behavior (3 cr) **
- ____MGT 447 Business and Society (3 cr)
- ____MGT 497 Strategic Management (3 cr)
- _____MIS 142 Business Computer Systems (3 cr)
- ____MKT 205 Principles of Marketing (3 cr)
- _____SCM 200 Statistical Applications in Business (3 cr)
- __SCM 330 Supply Chain & Operations Management (3 cr)

<u>Mathematical Competency:</u> Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/B.

<u>Substitutions:</u> Completion of ECO 101 & ECO 102 will satisfy the requirement for ECO 113, and completion of MAT 117A/B if taken at Shippensburg University will satisfy the requirement for SCM 200.

Supply Chain Management Concentration (18 cr)

- __SCM 315 Strategic Procurement (3 cr)
- ___SCM 355 Managing Quality & Improvement (3 cr)
- ____SCM 370 Integrated Supply Chain Systems (3 cr)
- ____SCM 380 Data Mining for Supply Chain Mgmt (3 cr)
- ___SCM 420 Global Logistics Systems (3 cr)

Select one:

- __ACC 312 Cost Determination and Analysis (3 cr)
- __ECO 355 Environmental Economics (3 cr)
- ___FIN 320 Risk Management and Insurance (3 cr)
- ___FIN 340 Principles of Real Estate (3 cr)
- ___FIN 405 Real Estate Appraisal & Investment (3 cr)
- __GEO 202 GIS I: Intro to Geographic Info Systems (3 cr)
- __MGT 340 Human Resource Management (3 cr)
- __MGT 342 Labor Relations and Collective Bargaining (3 cr)
- __MGT 370 International Business (3 cr)
- __MGT 394 Leadership and Decision-Making (3 cr)
- __MGT 450 Negotiation (3 cr)
- ___MIS 240 Introduction to Programming Concepts (3 cr)
- __MIS 242 Design & Development User Info Systems (3 cr)
- __MIS 300 Info Technology & Business Operations (3 cr)
- __MIS 446 Applied Project Management (3 cr)
- __MKT 310 Personal Selling (3 cr)
- __MKT 342 B2B Marketing & Analysis (3 cr)
- __MKT 365 Relationship Marketing (3 cr)
- __MKT 370 Services Marketing (3 cr)
- __SCM 390 Strategic Warehouse Management (3 cr)

__SCM 410 - Distribution Systems in Supply Chains (3 cr)

Logistics Management Concentration (18 cr) __SCM 370 - Integrated Supply Chain Systems (3 cr) __SCM 390 - Strategic Warehouse Management (3 cr) s _SCM 410 - Distribution Systems in Supply Chains (3 cr) ^s _SCM 420 - Global Logistics Systems (3 cr) Select two: __ACC 312 - Cost Determination and Analysis (3 cr) __ECO 355 - Environmental Economics (3 cr) ___FIN 320 - Risk Management and Insurance (3 cr) ___FIN 340 - Principles of Real Estate (3 cr) ___FIN 405 - Real Estate Appraisal & Investment (3 cr) __GEO 202 - GIS I: Intro to Geographic Info Systems (3 cr) __MGT 340 - Human Resource Management (3 cr) ___MGT 342 - Labor Relations & Collective Bargaining (3 cr) __MGT 370 - International Business (3 cr) __MGT 394 - Leadership & Decision-Making (3 cr) __MGT 450 - Negotiation (3 cr) __MIS 240 - Introduction to Programming Concepts (3 cr) __MIS 242 - Design & Development User Info Systems (3 cr) __MIS 300 - Info Technology & Business Operations (3 cr) __MIS 446 - Applied Project Management (3 cr) ___MKT 310 - Personal Selling (3 cr) __MKT 342 - B2B Marketing & Analysis (3 cr) __MKT 365 - Relationship Marketing (3 cr) __MKT 370 - Services Marketing (3 cr) __SCM 315 - Strategic Procurement (3 cr) __SCM 355 - Managing Quality & Improvement (3 cr)

__SCM 380 - Data Mining for Supply Chain Mgmt (3 cr)

Graduation Requirements: 120 cr Free Electives ≈ 16 cr GPA Needed to Declare: 2.0

Declare Supply Chain Management: 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.

F=Fall only S=Spring only

Notes: MAT 140 is recommended before taking ECO 113.

MIS 142 Business Computer Systems is a prerequisite for SCM 200.

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.



COLLEGE OF EDUCATION & HUMAN SERVICES DEGREE PROGRAMS

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

FOR STUDENTS INTERESTED IN TEACHING PK-4 OR 4-8

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 qualify- ing the graduate for employment in any level pre-kindergarten through fourth grade. The dual Special Education/ PK-4 program leads to both PK-4 and special education certification. Those students choosing the

Elementary/Middle Level program will select either one or two subjects in which they will be certified for the fourth through eighth grade level. The subject areas are: Social Studies, Language Arts, Math or Science. If a student selects the option to be certified in two subjects, one of the subjects must be math or science. The curriculum for the programs can be divided into two parts: first, the university's General Education requirements; and secondly, the education certification course requirement which focus on the particular grade band that a student will be certified to teach. Students must successfully complete the PAPA by a designated point before being permitted to continue, and complete required coursework with grades of "C" or higher. They must also have a 3.0 grade point average before gaining entry into either program.

Students need to demonstrate initiative, patience, and empathy for children as they learn to plan and guide the child's program and to observe the child's application of skills and knowledge. Their program emphasizes knowing how and when to help the child learn using a reflective model of teaching. Through study, direct observation, and participation, students grow in understanding various methods of teaching and become skillful in the use of curriculum materials and specialized equipment. They critically ex- amine various courses of study and the newer techniques of measuring and assessing children's social and academic growth.

Source: Urbanowicz, M.J., Teacher Education. Shippensburg University, January, 1992. Hockersmith, P.E., School of Education and Human Services, June 2005. Updated: Royce, C., Teacher Education, Shippensburg University, July, 2009.

Entry Requirements

For admission into one of the program areas in the Department of Teacher Education, complete and submit the application on the next page. Data used in the selection process include: your completed application form which includes a Statement of Commitment, high school and college GPA. 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 of Commitment prior to submitting the application.
INTRA-CAMPUS TRANSFER

The screening procedures for students currently enrolled in programs at Shippensburg University who seek admission to programs within the Teacher Education Department.

- 1. Opportunity for transfer is provided throughout the fall and spring semesters. Applications will only be considered after a GPA of at least 15 credits is established. A completed hard-copy application must be delivered to the Teacher Education office.
- 2. Data used in the decision process are:
 - 1. Completed application form (submitted on time)
 - 2. University GPA 3.0 required
 - 3. Statement of Professional Commitment (Please respond to the following prompts)
 - 1. Why have you chosen this career?
 - 2. What abilities or qualities do you have to offer this profession?
 - 3. Why do you want to work with children?
 - 4. Communication Skills
 - 1. Basic Oral Communication
 - 2. College Writing
- 3. Print a copy of your transcript and attach to this application.
- 4. Additional requirements for applicants with 60 credits or enrolling in junior level classes:
 - 1. Passing scores on Basic Skills Test.
- 5. Before student teaching all D and F grades must be repeated in a face-to-face regular semester or summer class at Shippensburg University.

Applicants will be ranked and offered admission as space becomes available.

Last Name	First Name	SU#
Local Address		SU GPA
Local Address (City, State, Zip)		Current Major
Local Phone Number		Proposed Major
		If Mid-Level, Proposed Concentration
Email Address		Credits (as of date submitted)
Date Application Submitted		Current Advisor

FOR STUDENTS INTERESTED IN TEACHING SECONDARY EDUCATION

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 education programs.

Criminal Justice - B.S.

Requirements for Criminal Justice major ≈ 60 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements.

Social & Behavioral Science Requirements (9 cr)

- __PLS 100 U.S. Government & Politics (3 cr) **
- __PSY 101 General Psychology (3 cr) **
- __SOC 101 Introduction to Sociology (3 cr) **

Required Core (21 cr)

_CRJ 100 - Intro to Criminal Justice (3 cr)
_CRJ 221 - Policing a Democracy (3 cr)
_CRJ 241 - Survey of Corrections (3 cr)
_CRJ 261 - Criminal Law & Procedures (3 cr)
_CRJ 309 - Theories of Crime & Crime Control (3 cr)
_CRJ 310 - Research Methods (3 cr)
_CRJ 452 - Race, Ethnicity & Crime (3 cr)

Capstone Course (3 cr)

___CRJ 454 - Policy, Professionalism, and Ethics (3 cr)

Criminal Justice Electives (21 cr)

Select 7 of the following:

- __CRJ 321 Criminal Investigation (3 cr)
- __CRJ 326 Victimology: The Victim and the Law (3 cr)
- ___CRJ 336 Introduction to Forensic Science (3 cr)
- ___CRJ 342 Crime Prevention (3 cr)
- ___CRJ 345 Organization & Mgmt of CRJ Agencies (3 cr)
- __CRJ 351 Juvenile Justice (3 cr)
- __CRJ 356 Organized Crime (3 cr)
- __CRJ 363 Intimate Partner Violence (3 cr)
- __CRJ 365 White Collar Crime (3 cr)
- __CRJ 370 Mock Trial (3 cr)
- ____CRJ 377 Hate Crime (3 cr)
- __CRJ 381 Mental Health and the Criminal Justice System (3 cr)
- __CRJ 396 Selected Topics in Criminal Justice (3 cr)
- __CRJ 397 Selected Topics in Criminal Justice (3 cr)
- __CRJ 398 Selected Topics in Victimology (3 cr)
- __CRJ 411 Terrorism (3 cr)
- CRJ 433 Evidence Law (3 cr)
- __CRJ 440 Community Corrections (3 cr)
- ___CRJ 456 Forensic Science: Evidence Analysis (3 cr)
- __CRJ 461 Social Construction of Homicide (3 cr)
- __CRJ 463 Comparative Criminal Justice (3 cr)
- __CRJ 464 Popular Culture, Crime and Justice (3 cr)
- __CRJ 466 Women and Criminal Justice (3 cr)
- __CRJ 469 Victim Treatment and Services (3 cr)
- __CRJ 471 Internship in Criminal Justice I (3 cr)
- __CRJ 472 Internship in Criminal Justice II (3 cr)
- __CRJ 481 Independent Study (1-3 cr)

Each section of Internship is 3 crs & requires 120 hrs of agency work. Therefore, 3 credits = 120 hrs of work, 6 credits = 240 hrs and so on. **Departmental approval is required.**

Interdisciplinary Courses (15 cr)

Criminal Justice and Military Science courses will not fulfill this requirement.

 (at least 200 level)
 (at least 200 level)
 (at least 200 level)
 (at least 200 level)
(at least 200 level)

Graduation Requirements: 120 cr Free Electives \approx 15 cr GPA Needed to Declare: 2.6

Criminal Justice majors are limited to 45 credits of CRJ courses. CRJ courses cannot be used for Free Electives or for Interdisciplinary Courses.

A Criminal Justice minor is available - 18 cr

A certificate in Victimology and Victim Services is available - 12 cr

Early Childhood/Elementary Education: PK-4 - B.S.Ed.

Requirements for Early Childhood/Elementary Education major $\approx 75 \mbox{ cr}$

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elem: Early Childhood (PreK-4) Planning Sheet on Department of Teacher Education webpage for General Education requirements.**

Mathematics Requirement (6 cr)

- __MAT 110 Fundamentals of Math I (3 cr) **
- __MAT 111 Fundamentals of Math II (3 cr)

Professional Core (60 cr)

- __ECH 210 The Early Childhood Profession (3 cr)
- __ECO 220 Developmental Sci: Physical, Motor, Health(3 cr)
- __ECH 260 Developmental Sci: Cognitive & Language (3 cr)
- __ECH 320 Developmental Sci: Social & Emotional (3 cr)
- __ECH 333 Social Studies Methods for PK-4th Grade (3 cr)
- __ECH 343 Mathematics Methods I for Pre-K & K (3 cr)
- __ECH 370 Assessing Young Children (3 cr)
- __ECH 373 Science and Technology Methods in PK-4 (3 cr)
- __ECH 393 Mathematics Methods II, Grades 2-4 (2 cr)
- __ECH 394 Technology Instruction (1 cr)
- __ECH 415 Professional Practicum in PK-4 (3 cr)
- __ECH 440 Building Family & Community Partner (3 cr)
- __ECH 453 Integrated Curriculum Pre K-4 (3 cr)
- __ECH 480 Early Childhood Professional Seminar (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- ___EEC 423 Effective Instructional Strategies (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __RDG 323 Processes of Word/Text/Comprehension (3 cr)
- ___RDG 363 Reading and Writing in PK-4 (3 cr)
- ___RDG 383 English Language Learners in PK-4 (2 cr)
- __RDG 443 Reading Measures & Interventions in PK-4 (4 cr)

Student Teaching (12 cr)

___ECH 489 - Early Childhood Student Teaching (12 cr)

Optional Reading Minor (15 cr)

- __RDG 334 Classroom Literacy Assessment (Winter Online)
- __RDG 330 Content Area Reading (Summer Online)
- ___RDG 345 Teaching Language Arts (Summer F-to-F)
- __RDG 340 Seminar in Literacy Tutoring (Sumer F-to-F)
- __RDG 350 Text Accessibility & Compr (Summer Online)

Graduation Requirements: 120 cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING:

Semesters I & II General Education courses

Early Childhood & Special Education - B.S.Ed.

Requirements for Special Education & Early Childhood Education major \approx 90 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Early Childhood & Special Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

Mathematics Requirement (6 cr)

- __MAT 110 Fundamentals of Math I (3 cr) **
- ___MAT 111 Fundamentals of Math II (3 cr) **

Professional Core (75 cr)

- __ECH 210 The Early Childhood Profession (3 cr)
- __ECH 280 Physical, Language & Cognitive Develop. (3 cr)
- __ECH 320 Social & Emotional Basis (3 cr)
- __ECH 333 Social Studies Methods for PK-4th Grade (3 cr)
- __ECH 370 Assessing Young Children (3 cr)
- __ECH 373 Science and Technology Methods in PK-4 (3 cr)
- __ECH 393 Mathematics Methods II, Grades 2-4 (2 cr)
- __ECH 394 Technology Instruction (1 cr)
- __ECH 415 Professional Practicum in PK-4 (3 cr)
- __ECH 440 Building Family & Community Partner (3 cr)
- __ECH 453 Integrated Curriculum Pre K-4 (3 cr)
- __ECH 480 Early Childhood Professional Seminar (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- __EEC 280 Best Practices in Collaboration (3 cr)
- __EEC 320 Interventions for Comm. Impairments (3 cr)
- __EEC 325 Interventions for Social/Emotional (3 cr)
- __EEC 330 Teaching Students with Exceptionalities (3 cr)
- __EEC 335 Interventions for Cognitive and/or Physical (3 cr)
- __EEC 423 Effective Instructional Strategies (3 cr)
- __EEC 447 Special Education Processes (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __RDG 323 Processes of Word/Text/Comprehension (3 cr)
- __RDG 363 Reading and Writing in PK-4 (3 cr)
- __RDG 383 English Language Learners in PK-4 (2 cr)
- __RDG 443 Reading Measures & Interventions in PK-4 (4 cr)

Student Teaching (12 cr)

__ESC 489 - Student Teaching & Practicum (12 cr)

Graduation Requirements: 135 cr Free Electives ≈ 0 cr GPA Needed to Declare: 3.0

Elementary/Middle Level Education: Grades 4-8, English/Language Arts Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with English/Language Arts Concentration \approx 72 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

- <u>Required Psychology Course (3 cr)</u> __PSY 101 - General Psychology (3 cr) **
- Mathematics Requirements (9 cr)

__MAT 205 - Conceptual Mathematics for Middle-Level (3 cr) __MAT 140 A or B - College Algebra (3 cr) **

- Select one:
 - __MAT 117 Applied Stats (3 cr) [math placement 2-4] ** <u>OR</u>

___MAT 217 - Statistics I (3 cr) [math placement 5-6] **

Professional Core (36 cr)

- __TCH 206 Social Foundations of Middle Level Ed (3 cr)
- __TCH 261 Adolescent Development & Learning (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EEC 273 Intro to Exceptionalities (3 cr)
- ___EEC 423 Effective Instructional Strategies (3 cr)
- __RDG 232 Reading in the Elementary School (3 cr)
- __RDG 329 Reading in the Content Area (3 cr)
- __RDG 405 Writing in Elementary Classrooms (3 cr)
- __TCH 251 Elements of Middle Level Instruction (3 cr)
- __TCH 322 Teaching Middle Level Language Arts (3 cr)
- __TCH 345 Assessment & Evaluation (3 cr)
- __RDG 413 Teaching Reading to ELL (3 cr)

Concentration Area (15 cr)

- ___TCH 303 Books and Materials (3 cr)
- __ENG 224 Intro to Creative Writing (3 cr)
- __ENG 366 History and Str of English Language (3 cr)
- __ENG 426 Adolescent Literature (3 cr)

Select one:

- ___ENG 234 American Literature II (3 cr) OR
- __ENG 236 British Literature I (3 cr) <u>OR</u>
- __ENG 237 British Literature II (3 cr) <u>OR</u>
- __ENG 239 Postcolonial Literature (3 cr) OR
- __ENG 240 Global Literature (3 cr) <u>OR</u>
- __ENG 342 Mythology (3 cr) <u>OR</u>
- __ENG 345 Women's Literature (3 cr) <u>OR</u>
- ___ENG 349 Victorian Literature (3 cr) <u>OR</u>
- __ENG 358 Ethnic Literature (3 cr) <u>OR</u>
- __ENG 359 Native American Literature (3 cr) <u>OR</u>
- __ENG 362 Disability in Literature (3 cr) <u>OR</u>
- __ENG 375 African-American Literature (3 cr) <u>OR</u>
- __ENG 385 Studies in Postcolonial Literature (3 cr)

Student Teaching Requirement (15 cr)

- _EDU 409 Seminar Middle Lvl Student Teaching (3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

- Optional Special Education Concentration (18 cr)
 - __EEC 280 Best Practices in Collaboration (3 cr)
 - __EEC 320 Interventions (3 cr)
 - __EEC 325 Interventions (3 cr)
 - __EEC 330 Teaching Students with Exceptionalities (3 cr)
 - __EEC 335 Interventions (3 cr)
 - __EEC 447 Special Education Processes (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 3 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education

Elementary/Middle Level Education: Grades 4-8, Math and Language Arts Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education with Math and Language Arts Concentration \approx 76-79 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

```
Required Psychology Course (3 cr)
  ___PSY 101 - General Psychology (3 cr) **
Mathematics Concentration (19-20 cr)
  ___MAT 105 - Mathematics for Liberal Studies (3 cr)
  MAT 205 - Conceptual Mathematics for Middle-Level (3 cr)
   _MAT 225 - Discrete Mathematics (4 cr) **
Select one:
  ___MAT 181 - Applied Calculus (3 cr) ** OR
  ___MAT 175 - Pre-Calculus (3 cr) ** <u>OR</u>
   _MAT 211 - Calculus I (4 cr) **
Select one:
  ___MAT 333 - Geometry (3 cr) OR
  ___MAT 400 - History of Math (3 cr) OR
   _MAT 317 - Statistics II (3 cr)
Select one:
  ___MAT 117 - Applied Statistics (3 cr) ** OR
  MAT 217 - Statistics I (3 cr) **
Language Arts Concentration (12 cr)
   _ENG 250 - Literature and Society (3 cr) **
    _TCH 303 - Books and Materials (3 cr)
    _ENG 366 - History & Str. of English Language (3 cr)
  ENG 426 - Adolescent Literature (3 cr)
Professional Core (39 cr)
  __TCH 206 - Social Foundations of Middle Level Ed (3 cr)
  __TCH 261 - Adolescent Development & Learning (3 cr)
  __EEC 483 - Assessing Children with Exceptionalities (3 cr)
  EEC 273 - Intro to Exceptionalities (3 cr)
    _EEC 423 - Effective Instructional Strategies (3 cr)
    _RDG 232 - Reading in the Elementary School (3 cr)
    _RDG 329 - Reading in the Content Area (3 cr)
   _RDG 405 - Writing in Elementary Classrooms (3 cr)
  __TCH 251 - Elements of Middle Level Instruction (3 cr)
  __TCH 322 - Teaching Middle Level Language Arts (3 cr)
  __TCH 342 - Teaching Middle Level Math (3 cr)
  __TCH 345 - Assessment & Evaluation (3 cr)
  __RDG 413 - Teaching Reading to ELL (3 cr)
Student Teaching Requirement (15 cr)
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- __EDU 409 Seminar Middle Level Student Teaching (3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

Graduation Requirements: 120 cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Elementary/Middle Level Education: Grades 4-8, Math and Science Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education with Math and Science Concentration \approx 78-80 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

```
Required Psychology Course (3 cr)
  ___PSY 101 - General Psychology (3 cr) **
Mathematics Concentration (19-20 cr)
  ___MAT 105 - Mathematics for Liberal Studies (3 cr)
  MAT 205 - Conceptual Mathematics for Middle-Level (3 cr)
   _MAT 225 - Discrete Math (4 cr) **
Select one:
  ___MAT 181 - Applied Calculus (3 cr) ** <u>OR</u>
  ____MAT 175 - Pre-Calculus (3 cr) ** OR
   _MAT 211 - Calculus I (4 cr) **
Select one:
  ___MAT 333 - Geometry (3 cr) OR
  ___MAT 400 - History of Math (3 cr) OR
   _MAT 317 - Statistics II (3 cr)
Select one:
  ___MAT 117 - Applied Statistics (3 cr) ** OR
  MAT 217 - Statistics I (3 cr) **
Science Concentration (20 cr)
  __CHM 105 - An Observational Approach (3 cr)
    _ESS 110 - Intro to Geology (3 cr)
    _PHY 121 - Physics I Lecture (3 cr) **
    PHY 123 - Physics I Lab (1 cr)
    _ESS 111 - Intro to Atmosphere (3 cr) **
   _BIO 162 - Prin. of Bio: Organismal Diversity (4 cr) **
Select one:
  __BIO 100 - Basic Biology (3 cr) OR
  __BIO 142 - Intro to Ecology (3 cr) OR
    _BIO 145 - Environmental Biology (3 cr) <u>OR</u>
  ___ESS 210 - Physical Geology (3 cr)
Professional Core (27 cr)
  ___TCH 206 - Social Foundations of Middle Level Ed (3 cr)
    _TCH 261 - Adolescent Development & Learning (3 cr)
  __EEC 483 - Assessing Children with Exceptionalities (3 cr)
    _EEC 273 - Introduction to Exceptionalities (3 cr)
  __EEC 423 - Effective Instructional Strategies (3 cr)
  ___RDG 232 - Reading in the Elementary School (3 cr)
  ___RDG 329 - Reading in the Content Area (3 cr)
  __RDG 405 - Teaching Writing in 4-8 Classrooms (3 cr)
  TCH 345 - Assessment & Evaluation Strategies (3 cr)
  ___TCH 342 - Teaching Middle Level Math (3 cr)
   _TCH 366 - Teaching Science at the Middle Level (3 cr)
  __RDG 413 - Teaching Reading to ELL (3 cr)
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Student Teaching (15 cr)

__EDU 409 - Seminar Middle Level Student Teaching (3 cr) __EDU 495 - Student Teaching & Practicum (12 cr)

Graduation Requirements: 120 cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education

Elementary/Middle Level Education: Grades 4-8, Math and Social Studies Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with Math and Social Studies Concentration ≈ 76-78 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

Psychology Requirement (3 cr)

```
__PSY 101 - General Psychology (3 cr) **
Mathematics Concentration (19-20 cr)
  ___MAT 105 - Mathematics for Liberal Studies (3 cr)
  MAT 205 - Conceptual Mathematics for Middle-Level (3 cr)
   _MAT 225 - Discrete Mathematics (4 cr) **
Select one:
  __MAT 181 - Applied Calculus (3 cr) ** OR
  ___MAT 175 - Pre-Calculus (3 cr) ** OR
   _MAT 211 - Calculus I (4 cr) **
Select one:
  ___MAT 333 - Geometry (3 cr) OR
  ___MAT 400 - History of Math (3 cr) OR
   _MAT 317 - Statistics II (3 cr)
Select one:
  ___MAT 117 - Applied Statistics (3 cr) ** OR
  MAT 217 - Statistics I (3 cr) **
Social Studies Concentration (18 cr)
  __GEO 101 - World Geography (3 cr) **
    _ECO 101 - Principles of Macroeconomics (3 cr) **
    _PLS 100 - U.S. Government and Politics (3 cr) **
  __GEO 140 - Cultural Geography (3 cr) **
   _HIS 106 - Thinking Historically in a Global Age (3 cr) **
Select one:
  __ECO 345 - Economics of Growth & Development (3 cr)
  __PLS 311 - Legislative Process (3 cr)
  __PLS 312 The American Presidency (3 cr)
  PLS 313 - The Judicial Process (3 cr)
  ___PLS 342 - American Foreign Policy (3 cr)
  __PLS 356 - Politics of Developing Regions (3 cr)
  ___HIS 201 - Early History of the US (3 cr)
  ___HIS 202 - Recent History of the US (3 cr)
  __HIS 301 - The West in American History (3 cr)
  __HIS 302 - American Economic History (3 cr)
  ___HIS 304 - American Diplomatic History (3 cr)
  __HIS 305 - The Civil War (3 cr)
  ___HIS 306 - History of the South (3 cr)
  ___HIS 309 - History of the American Worker (3 cr)
  ___HIS 314 - Jacksonian America (3 cr)
  HIS 318 - History of US Women (3 cr)
  ___HIS 338 - Colonial America (3 cr)
  ___HIS 341 - African American History (3 cr)
  ____HIS 342 - US Immigration & Ethnicity (3 cr)
  ___HIS 345 - Military History of the US (3 cr)
  ___HIS 402 - Revolutionary America (3 cr)
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__HIS 413 - Pennsylvania History (3 cr)

Professional Core (39 cr) TCH 206 - Social Foundations of Middle Level Ed (3 cr) ___TCH 261 - Adolescent Development & Learning (3 cr) _EEC 483 - Assessing Children with Exceptionalities (3 cr) _EEC 273 - Intro to Exceptionalities (3 cr) __EEC 423 - Effective Instructional Strategies (3 cr) __RDG 232 - Reading in the Elementary School (3 cr) __RDG 329 - Reading in the Content Area (3 cr) __RDG 405 - Writing in Elementary Classrooms (3 cr) __TCH 251 - Elements of Middle Level Instruction (3 cr) ___TCH 342 - Teaching Middle Level Math (3 cr) __TCH 345 - Assessment & Evaluation (3 cr) TCH 348 - Teaching Middle Level Social Studies (3 cr) __RDG 413 - Teaching Reading to ELL (3 cr) Student Teaching (15 cr) __EDU 409 - Seminar Middle Level Student Teaching (3 cr) __EDU 495 - Student Teaching and Practicum (12 cr)

Graduation Requirements: 120 cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Elementary/Middle Level Education: Grades 4-8, Mathematics Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with Mathematics Concentration ≈ 67 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

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<u>Required Psychology Course (3 cr)</u>
__PSY 101 - General Psychology (3 cr) **
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Mathematics Concentration (22-24 cr) ___MAT 105 - Mathematics for Liberal Studies (3 cr) ** MAT 205 - Conceptual Mathematics for Middle-Level (3 cr) MAT 225 - Discrete Mathematics (4 cr) ** MAT _(200+ level) Select one: ___MAT 181 - Applied Calculus (3 cr) OR MAT 175 - Pre-Calculus (3 cr) OR _MAT 211 - Calculus I (4 cr) Select one: ___MAT 333 - Geometry (3 cr) OR _MAT 400 - History of Math (3 cr) OR _MAT 317 - Statistics II (3 cr) Select one: _MAT 117 - Applied Statistics (3 cr) ** OR MAT 217 - Statistics I (3 cr) ** Professional Core (36 cr) ___TCH 206 - Social Foundations of Middle Level Ed (3 cr) __TCH 261 - Adolescent Development & Learning (3 cr) __EEC 483 - Assessing Children with Exceptionalities (3 cr) __EEC 273 - Intro to Exceptionalities (3 cr) __EEC 423 - Effective Instructional Strategies (3 cr) __RDG 232 - Reading in the Elementary School (3 cr) _RDG 329 - Reading in the Content Area (3 cr) ___RDG 405 - Writing in Elementary Classrooms (3 cr) __TCH 251 - Elements of Middle Level Instruction (3 cr) __TCH 342 - Teaching Middle Level Math (3 cr)

__TCH 345 - Assessment & Evaluation (3 cr) __RDG 413 - Teaching Reading to ELL (3 cr)

<u>Student Teaching Requirement (15 cr)</u> EDU 409 - Seminar Middle Level Student Teaching (3 cr)

______EDU 495 - Student Teaching & Practicum (12 cr)

Optional Special Education Concentration (18 cr)

__EEC 280 - Best Practices in Collaboration (3 cr)

- __EEC 320 Interventions (3 cr)
- __EEC 325 Interventions (3 cr)
- __EEC 330 Teaching Students with Exceptionalities (3 cr)
- __EEC 335 Interventions (3 cr)
- __EEC 447 Special Education Processes (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 8 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Elementary/Middle Level Education: Grades 4-8, Science & Language Arts Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with Science & Language Arts Concentration ≈ 77-78 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

Required Psychology Course (3 cr) ___PSY 101 - General Psychology (3 cr)** Mathematics Requirements (10-11 cr) ___MAT 205 - Concepts of Middle Level Math (3 cr) __MAT 225 - Discrete Mathematics (4 cr) ** Select one: ___MAT 117 - Applied Statistics (3 cr) ** OR ___MAT 217 - Statistics I (4 cr) ** Science Concentration (20 cr) __CHM 105 - An Observational Approach (3 cr) _ESS 110 - Intro to Geology (3 cr) __PHY 121 - Physics I Lecture (3 cr) ** PHY 123 - Physics I Lab (1 cr) _ESS 111 - Intro to Atmosphere (3 cr) ** _BIO 162 - Prin. of Bio: Organismal Diversity (4 cr) ** Select one: ESS 210 - Physical Geography (3 cr) OR _ESS 220 - Oceanography (3 cr) <u>OR</u> ESS 355 - Meteorology (3 cr) OR __ESS 404 - Applied Meteorology & Climatology (3 cr) Language Arts Concentration (12 cr) __ENG 250 - Literature and Society (3 cr) ** __TCH 303 - Books and Materials (3 cr) __ENG 366 - History & Str. of English Language (3 cr) __ENG 426 - Adolescent Literature (3 cr)

Professional Core (27 cr)

- __TCH 206 Social Foundations of Middle Level Ed (3 cr)
- __TCH 261 Adolescent Development & Learning (3 cr)
- __EEC 483 Assessing Children with Exceptionalities (3 cr)
- __EEC 273 Introduction to Exceptionalities (3 cr)
- ___EEC 423 Effective Instructional Strategies (3 cr)
- __RDG 232 Reading in the Elementary School (3 cr)
- __RDG 329 Reading in the Content Area (3 cr)
- __RDG 405 Teaching Writing in 4-8 Classrooms (3 cr)
- __TCH 322 Teaching Middle Level Language Arts (3 cr)
- __TCH 351 Elements of Middle Level Instruction (3 cr)
- __TCH 345 Assessment & Evaluation (3 cr)
- __TCH 366 Teaching Science at the Middle Level (3 cr)
- __RDG 413 Teaching Reading to ELL (3 cr)

Student Teaching (15 cr)

- __EDU 409 Seminar Middle Level Student Teaching (3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

Graduation Requirements: 120 cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Elementary/Middle Level Education: Grades 4-8, Science & Social Studies Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with Science and Social Studies Concentration ≈ 77-78 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

Required Psychology Course (3 cr) ___PSY 101 - General Psychology (3 cr)** Mathematics Requirements (10 cr) ___MAT 205 - Conceptual Math for Middle-Level (3 cr) ___MAT 140A or B - College Algebra (3-4 cr) Select one: ___MAT 117 - Applied Statistics (3 cr) ** OR ___MAT 217 - Statistics I (3 cr) ** Science Concentration (31 cr) ESS 110 - Intro to Geology (3 cr) ** __ESS 111 - Intro to Atmosphere (3 cr) ** __BIO 162 - Prin. of Biology: Cell Str. & Funct. (4 cr) ___CHM 105 - An Observational Approach (3 cr) _PHY 121 - Physics I lecture (3 cr) ** PHY 123 - Physics I Lab (3 cr) Select one: _BIO 100 - Basic Biology (3 cr) OR _BIO 142 - Intro to Ecology (3 cr) <u>OR</u> _BIO 145 - Environmental Biology (3 cr) OR __ESS 210 - Physical Geography (3 cr) Social Studies Requirements (33 cr) __HIS 105 - Foundations of Global Cultures (3 cr) ** __HIS 106 - Thinking Historically in a Global Age (3 cr) ** __ECO 101 - Principles of Macroeconomics (3 cr) ** __PLS 100 - US Government & Politics (3 cr) ** __GEO 140 - Human Geography (3 cr) ** GEO 101 - World Geography (3 cr) ** __ECO 345 - Economics of Growth and Develop (3 cr) Professional Core (36 cr) ___TCH 206 - Social Foundations of Middle Level Ed (3 cr) _TCH 261 - Adolescent Development & Learning (3 cr) __EEC 483 - Assessing Children with Exceptionalities (3 cr) _EEC 273 - Introduction to Exceptionalities (3 cr) __EEC 423 - Effective Instructional Strategies (3 cr) ___RDG 232 - Reading in the Elementary School (3 cr) ___RDG 329 - Reading in the Content Area (3 cr)

- __RDG 405 Teaching Writing in 4-8 Classrooms (3 cr)
- __TCH 345 Assessment & Evaluation Strategies (3 cr)
- __TCH 348 Teaching Middle Level Social Studies (3 cr)
- __TCH 366 Teaching Science at the Middle Level (3 cr)
- __RDG 413 Teaching Reading to ELL (3 cr)

Student Teaching Requirements (15 cr)

- __EDU 409 Seminar Middle Level Student Teaching (3 cr)
- __EDU 495 Student Teaching & Practicum (12 cr)

Graduation Requirements: 120 cr Free Electives \approx 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Elementary/Middle Level Education: Grades 4-8, Science Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with Science concentration \approx 77-78 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

Required Psychology Course (3 cr) ___PSY 101 - General Psychology (3 cr)** Mathematics Requirements (10 cr) ___MAT 205 - Conceptual Mathematics for Middle-Level (3 cr) ___MAT 225 - Discrete Mathematics (4 cr) ** Select one: ___MAT 117 - Applied Statistics (3 cr) ** OR ___MAT 217 - Statistics I (3 cr) ** Science Concentration (31 cr) __ESS 110 - Intro to Geology (3 cr) ** __ESS 111 - Intro to Atmosphere (3 cr) ** __BIO 208 - Field Biology (3 cr) ** __BIO 161 - Prin. of Biology: Organismal Diversity (4 cr) __BIO 162 - Prin. of Biology: Cell Str. & Funct. (4 cr) CHM 105 - An Observational Approach (3 cr) PHY 121 - Physics I lecture (3 cr) PHY 123 - Physics I Lab (3 cr) Select one: _CHM 121 - Chemical Bonding (3 cr) <u>AND</u> CHM 125 - Cehmical Bonding Lab (1 cr) OR _PHY 122 - Physics II Lecture (3 cr) AND PHY 125 - Physics II Lab (1 cr) Select one: ___ESS 210 - Physical Geography (3 cr) OR __ESS 220 - Oceanography (3 cr) OR ESS 355 - Meteorology (3 cr) OR __ESS 404 - Applied Meteorology & Climatology (3 cr) Professional Core (36 cr) __TCH 206 - Social Foundations of Middle Level Ed (3 cr) _TCH 261 - Adolescent Development & Learning (3 cr) _EEC 483 - Assessing Children with Exceptionalities (3 cr) EEC 273 - Introduction to Exceptionalities (3 cr) __EEC 423 - Effective Instructional Strategies (3 cr) __RDG 232 - Reading in the Elementary School (3 cr)

- __RDG 329 Reading in the Content Area (3 cr)
- __RDG 405 Teaching Writing in 4-8 Classrooms (3 cr)
- __TCH 345 Assessment & Evaluation Strategies (3 cr)
- __TCH 251 Elements of Middle Level Instruction (3 cr)
- __TCH 366 Teaching Science at the Middle Level (3 cr) __RDG 413 - Teaching Reading to ELL (3 cr)

- <u>Student Teaching Requirements (15 cr)</u> __EDU 409 - Seminar Middle Level Student Teaching (3 cr)
 - __EDU 495 Student Teaching & Practicum (12 cr)

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Optional Special Education Concentration (18 cr)

__EEC 280 - Best Practices in Collaboration (3 cr)

__EEC 320 - Interventions (3 cr)

__EEC 325 - Interventions (3 cr)

__EEC 330 - Teaching Students with Exceptionalities (3 cr)

__EEC 335 - Interventions (3 cr)

__EEC 447 - Special Education Processes (3 cr)

Graduation Requirements: 120 cr
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Free Electives ≈ 0 cr GPA Needed to Declare: 3.0

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Elementary/Middle Level Education: Grades 4-8, Social Studies Concentration, B.S.Ed.

Requirements for Elementary/Middle Level Education major with Social Studies concentration \approx 77-78 cr

General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. **See Degree Audit or Elementary/Middle Level Education Planning Sheet on the Department of Teacher Education webpage for General Education requirements.**

Required Psychology Course (3 cr) __PSY 101 - General Psychology (3 cr)** Math Requirements (9-10 cr) ___MAT 205 - Concepts of Middle Level Math (3 cr) _MAT 140 A/B - College Algebra (3-4 cr) Select one: _MAT 117 - Applied Statistics (3 cr) ** <u>OR</u> ___MAT 217 - Statistics I (4 cr) ** Social Studies Requirements (33 cr) HIS 105 - Foundations of Global Cultures (3 cr) ** __HIS 106 - Thinking Historically in a Global Age (3 cr) ** __ECO 101 - Principles of Macroeconomics (3 cr) ** __PLS 100 - US Government & Politics (3 cr) ** __GEO 140 - Human Geography (3 cr) ** _GEO 101 - World Geography (3 cr) _ECO 345 - Economics of Growth and Develop (3 cr) Select one: __GEO 305 - Geography of Europe (3 cr) <u>OR</u> _GEO 308 - Geography of Latin America (3 cr) OR _GEO 313 - Geography of South & Southeast Asia (3 cr) <u>OR</u> _GEO 317 - Geography of East Asia (3 cr) OR GEO 415 - Regional Geographic Studies (3 cr) OR _GEO 450 - Geography-Geology Field Studies (1-3 cr) Select one: __HIS 201 - Early History of the U.S. (3 cr) OR ___HIS 202 - Recent History of the U.S. (3 cr) OR __HIS 301 - The West in American History (3 cr) OR HIS 302 - American Business History (3 cr) OR __HIS 304 - American Diplomatic History (3 cr) OR __HIS 305 - The Civil War Era (3 cr) OR ___HIS 309 - History of the American Worker (3 cr) OR ____HIS 314 - History of Jacksonian America (3 cr) OR __HIS 318 - History of U.S. Women (3 cr) OR __HIS 338 - Colonial America (3 cr) OR __HIS 341 - African-American History (3 cr) OR __HIS 342 - U.S. Immigration and Ethnicity (3 cr) OR ___HIS 345 - Military History of the United States (3 cr) OR ____HIS 402 - Revolutionary America (3 cr) OR _HIS 413 - Pennsylvania History (3 cr) Select one: __PLS 311 - The Legislative Process (3 cr) OR __PLS 312 - The American Presidency (3 cr) OR _PLS 313 - The Judicial Process (3 cr) <u>OR</u> _PLS 342 - American Foreign Policy (3 cr) <u>OR</u> __PLS 356 - Politics of Developing Regions (3 cr)

Professional Core 36 cr)		
TCH 206 - Social Foundations of Middle Level Ed (3 cr)		
TCH 261 - Adolescent Development & Learning (3 cr)		
EEC 483 - Assessing Children with Exceptionalities (3 cr)		
EEC 273 - Intro to Exceptionalities (3 cr)		
EEC 423 - Effective Instructional Strategies (3 cr)		
RDG 232 - Reading in the Elementary School (3 cr)		
RDG 329 - Reading in the Content Area (3 cr)		
RDG 405 - Writing in Elementary Classrooms (3 cr)		
TCH 251 - Elements of Middle Level Instruction (3 cr)		
TCH 345 - Assessment & Evaluation (3 cr)		
TCH 348 - Teaching Middle Level Social Studies (3 cr)		
RDG 413 - Teaching Reading to ELL (3 cr)		
Student Teaching Requirement (15 cr)		
EDU 409 - Seminar Middle Lvl Student Teaching (3 cr)		
EDU 495 - Student Teaching & Practicum (12 cr)		
Optional Special Education Concentration (18 cr)		
EEC 280 - Best Practices in Collaboration (3 cr)		
EEC 320 - Interventions (3 cr)		
EEC 325 - Interventions (3 cr)		
EEC 330 - Teaching Students with Exceptionalities (3 cr)		
EEC 335 - Interventions (3 cr)		
EEC 447 - Special Education Processes (3 cr)		
Graduation Paguiromonto: 120 cr		
Graduation Requirements: 120 cr		
CPA Needed to Declarge 2.0		
OFA MEEGEG TO DECIDE. 3.0		

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

HELPFUL HINTS FOR ADVISING

Semesters I & II General Education & Concentration

Exercise Science - B.S.

Requirements for Exercise Science major ≈ 54 cr General Education program not listed here. Courses marked with the double asterisk ** may count as general education requirements. Exercise Science Core (25 cr) ESC 150 - Introduction to Exercise Science (3 cr) __ESC 244 - Movement Science & Skill Analysis (3 cr) _ESC 260 - Principles of Nutrition (3 cr) _ESC 336 - Motor Behavior (3 cr) _ESC 340 - Prevention and Care of Athletic Injuries (3 cr) ESC 352 - Psychology of Physical Activity (3 cr) ESC 375 - Exercise Testing and Prescription (3 cr) _ESC 453 - Research Design & Statistics (4 cr) **Biology Requirements (8 cr)** __BIO 237 - Human Anatomy & Physiology I (4 cr) F ** __BIO 238 - Human Anatomy & Physiology II (4 cr) ^s Chemistry Requirements (3-4 cr) Select one: _CHM 103 - Chemistry: A Cultural Approach (3 cr) ** <u>OR</u> _CHM 105 - Chemistry: An Observational Approach (3 cr) ** <u>OR</u> _CHM 121 - Chemical Bonding (3 cr) ** <u>AND</u> CHM 125 - Lab IB-Stoichiometry & Reactions (1 cr) Physics Requirements (3-4 cr) Select one: _PHY 110 - Physics for Society (3 cr) ** <u>OR</u> _PHY 121 - Intro Physics I-Lecture (3 cr) F** <u>AND</u> PHY 123 - Physics I-Lab (1 cr) F Math Requirement (3-4 cr) Select one: _MAT 117A - Applied Statistics (3 cr) ** <u>OR</u> _MAT 117B - Applied Statistics (3 cr) ** <u>OR</u> ___MAT 217 - Statistics I (4 cr) ** Psychology Requirement (3 cr) __PSY 101 - General Psychology (3 cr) ** Allied Health Pre-Professional Concentration (25 cr) __ESC 278 - Medical Terminology (3 cr) _ESC 321 - Exercise Physiology I (4 cr) __ESC 333 - Biomechanics (4 cr) _ESC 420 - Clinical Exercise Physiology (4 cr) _ESC 421 - Exercise Physiology II (4 cr) _ESC 395 - Internship (3-12 cr) Select one: __ESC 207 - Stress Management (3 cr) OR

- ____ESC 213 Org & Admin Fit Sport Fac (3 cr) <u>OR</u>
- ___ESC 325 Sport Psychology (3 cr) <u>OR</u>
- __ESC 348 Group Exercise Tech & Lead (3 cr) OR

_ESC 350 - Nutrition Sport/Fit (3 cr) OR __ESC 360 - Sports Medicine (3 cr) OR _ESC 387 - Theory & Prac Power & Agility Tr (3 cr) <u>OR</u> _ESC 395 - Internship (3-12 cr) <u>OR</u> __ESC 425 - Ex Met & Wt Contr (3 cr) OR __ESC 452 - Psychology of Injury & Rehabilitation OR __ESC 475 - Ex Prescription for Special & Athletic Pop (3 cr) Human Performance & Fitness Concentration (25 cr) __ESC 343 - Foundations of Ex Phys (4 cr) __ESC 348 - Group Exercise Tech & Lead (3 cr) __ESC 350 - Nutrition Sport/Fit (3 cr) _ESC 387 - Theory & Prac Power & Agility Tr (3 cr) _ESC 475 - Ex Prescription for Special & Athletic Pop (3 cr) _ESC 495 - Internship (3-12 cr) Select two: __ESC 207 - Stress Management (3 cr) OR _ESC 213 - Org & Admin Fit Sport Fac (3 cr) <u>OR</u> __ESC 278 - Medical Terminology (3 cr) OR __ESC 325 - Sport Psychology (3 cr) OR __ESC 333 - Biomechanics (4 cr) OR __ESC 360 - Sports Medicine (3 cr) OR __ESC 425 - Ex Met & Wt Contr (3 cr) OR __ESC 452 - Psych of Injury & Rehab OR __ESC 495 - Internship (3-12 cr) Pre-Athletic Training Concentration (3 + 2 Program) Required courses: __ESC 278: Medical Terminology (3 cr) _ESC 333: Biomechanics (4 cr) __ESC 343: Foundations of Exercise Physiology (4 cr) Required general education courses: __CHM 121: Chemical Bonding (3 cr) __PHY 121: Introductory Physics I (3 cr) Elective options (10 credits - varies by graduate program): __BIO 161: Principles of Biology: Cell Structure & Function (4 cr) __BIO 162: Principles of Biology: Organismal Diversity (4 cr) __CHM 125: Laboratory IB - Stoichiometry and Reactions (1 cr) ___PHY 123: Physics I Laboratory (1 cr) __ESC 200: Lifestyle Management (3 cr) __ESC 325: Sport Psychology (3 cr) __ESC 348: Group Exercise Techniques & Leadership (3 cr) __ESC 350: Nutrition for Sport & Fitness (3 cr) __ESC 360: Sports Medicine (3 cr) __ESC 387: Theory & Practice of Power & Agility Training (3 cr) __ESC 395: Internship (1 - 12 credits) __ESC 420: Clinical Exercise Physiology (4 cr) __ESC 425: Exercise Metabolism & Weight Control (3 cr) __ESC 452: Psychology of Injury & Rehabilitation (3 cr) _ESC 475: Exer. Prescription for Special & Athletic Populations (3 cr) __HCS 225: Communication and Sport (3 cr) __MAT 175: Pre-Calculus (3 cr)

(Continued on next page)

Optional Coaching minor (9 cr) __ESC 220 - Fundamentals of Coaching (3 cr) __ESC 325 - Sport Psychology (3 cr) Select one: __ESC 213 - Org & Admin Fit Sport Fac (3 cr) <u>OR</u> __ESC 445 - Coaching Internship (3 cr) <u>OR</u> __HCS 225 - Communication & Sport (3 cr) <u>OR</u> __SOC 275 - Sociology of Sport & Leisure (3 cr) <u>Optional Power, Agility & Group Exercise Certificate Allied Health and</u> <u>Pre-AT concentrations only (6 cr)</u> __ESC 348 - Group Exercise Techniques & Leadership (3 cr)

__ESC 387 - Theory & Practice of Power & Agility (3 cr)

Graduation Requirements: 120 cr Free Electives \approx 19-20 GPA Needed to Declare: 2.0 - 2.5

Transfer students, both internal and external, are selected for admission based on the following criteria: Academic proficiency in college or university course work, including a GPA, credits and grades in select sciences. Selection is competitive and students will be selected from those who fulfill the above requirements.

It is strongly recommended that students complete (or are scheduled to complete) BIO 237: Anatomy & Physiology I and BIO 238: Anatomy & Physiology II (or their equivalents) with a grade of C or higher before transferring to Exercise Science. Please speak with the Exercise Science Department Chair if you have questions.

Allied Health Pre-Professional Concentration:

- Completion of at least 15 credits with a QPA of 2.50 or higher
- Completion of BIO 161, BIO 162, or BIO 237 with a grade of C or higher

Human Performance & Fitness Concentration

- Completion of at least 15 credits with a QPA of 2.00 or higher
- Completion of a Biology, Chemistry, or Physics course with a grade of C or higher

Pre-Athletic Training Concentration

- Completion of at least 15 credits with a QPA of 2.50 or higher
- Completion of BIO 161, BIO 162, or BIO 237 with a grade of C or higher

Social Work - B.S.W.

Requirements for Social Work major ≈ 55 cr

General Education requirements not listed here. Courses marked with the double asterisk ** may count as general education requirements.

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- __SWK 102 Social Work in Social Welfare (3 cr) _SWK 150 - Human Relations Lab (3 cr) _SWK 250 - Assessing Individuals in Social Enviro. (3 cr) _SWK 265 - Understanding Diversity for SW Practice (3 cr) _SWK 270 - Social Work Practice with Individuals (3 cr) _SWK 375 - Social Work Skills for Working w/ Groups (3 cr) _SWK 327 - Social Work Practice with Families (3 cr) _SWK 340 - Assessing Orgs. & Communities in Society (3 cr) _SWK 360 - Research Techniques for Social Workers (3 cr) _SWK 370 - SW Practice with Orgs. & Communities (3 cr) _SWK 420 - Gender Issues for Helping Professionals (3 cr) _SWK 450 - Social Welfare Policies and Services (3 cr) ___SWK 388 - Preparation for Practicum (1 cr) ____SWK 462 - Seminar in Social Work Methods (3 cr) ____SWK 460 - Field Work in Social Work I (6 cr) _____SWK 461 - Field Work in Social Work II (6 cr) Social Work Electives (3 cr) Select at least one: ____SWK 262 - Introduction to Child Welfare Practice (3 cr) _SWK 347 - Behavioral Health (3 cr) _SWK 348 - Substance Abuse (3 cr) _SWK 351 - Aging (3 cr) _SWK 356 - Intellectual & Develop. Disabilities (3 cr) _SWK 357 - Health Care (3 cr) ____SWK 358 - Schools (3 cr) _SWK 359 - Violence in Interpersonal Relationships (3 cr)
 - _____SWK 383 Selected Topics in Social Welfare (1-3 cr)
 - _____SWK 490 Selected Topics in Social Welfare (1-3 cr)

Allied Field Requirements (15-16 cr)

- __MAT 117A/B Applied Statistics (3-4 cr) **
- __PSY 101 General Psychology (3 cr) **

___BIO 150 - Human Biology (3 cr) **

_____SOC 101 - Introduction to Sociology (3 cr) **

___PLS 100 - U.S. Government and Politics (3 cr) **

Graduation Requirements: 120 cr

Free Electives \approx 20-21 cr

GPA Needed to Declare: 0-30 credits – 2.0 31-60 credits – 2.2 60+ credits – 2.3

It is recommended to meet with the department faculty to start Social Work courses if one's GPA does not meet the above requirements.

HELPFUL HINTS FOR ADVISING

Semester I	SWK 102 - Social Work in Social Welfare BIO 150 - Human Biology SOC 101 - Intro. to Soc. HIS 105 - Historical Foundations ENG 114 - Academic Writing	
Semester II	SWK 150 - Human Relations Lab PSY 101 - General Psych. HCS 100 - Human Comm.	
Semester III	SWK 250 - Assess. Ind. SWK 265 - Understanding Diversity PLS 100 - U. S. Government and Politics MAT 117 - Applied Statistics	
Semester IV	SWK 270 - SW Practice with Individuals SWK 360 - Research Techniques	
Disclaimer: Courses may be subject to change.		

A minor in Gerontology - 18 credits - is also available.