COMMITTEE: University Curriculum Committee

MEETING DATE: February 14, 2013

PERSONS PRESIDING: Donna Kain

REGULAR MEMBERS IN ATTENDANCE: Leigh Cellucci, Annette Greer, Donna Kain, Amy McMillan, Mark Richardson, and Angela Whitehurst

EX-OFFICIO MEMBERS IN ATTENDANCE: Linner Griffin, Jean-Luc Scemama, Katherine Swank, and Karen Vail-Smith

EXCUSED: Reece Allen

ABSENT: Jennifer Warren

SUPPORT: Kimberly Nicholson

OTHERS IN ATTENDANCE:
   College of Health and Human Performance: Mike Dawson, Tim Kelley, Susan McGhee and Michele Wallen
   Thomas Harriot College of Arts and Sciences: James Collins, Eli Hvastkovs, Mona Russell, Jean-Luc Scemama and Nancy Spalding

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ACTIONS OF MEETING

Agenda Item: I. Call to Order

   (1.) Minutes
      The 01-24-13 UCC minutes was distributed for an electronic vote then sent to the Faculty Senate for agenda placement.

      Discussion:

      NA

      Action Taken:

      NA

   (2.) Announcements

      Discussion:

      NA
Action Taken:
NA

Agenda Item: II. Old Business

(1.) Review of working 5000-level Standard Operating Procedure document

Discussion:

Dr. Kain reviewed the 5000-level Standard Operating Procedure working document. Dr. Kain has been collaborating with the GCC regarding 5000-level courses. Historically, the 5000-level courses have mixed graduate and undergraduate enrollment, and upon self-review and in consultation with SACS, it has been determined that the 5000-level courses require different sets of objectives, different assignments, and a different grading scale for undergraduate and graduate-level students. Consequently, these requirements, indicate a need for the UCC to provide oversight for undergraduate objectives and curricula in 5000-level courses.

Dr. Kain explained that the GCC proposals go through Graduate Council; UCC advises the Faculty Senate. Thus, the process remains different for the graduate/undergraduate components of 5000-level courses. The GCC will ensure that if the course expects to have undergraduates, it must have a different set of objectives. UCC will assess the information that pertains to the undergraduate students.

Dr. Richardson clarified: The GCC is responsible to ask if the course will have a majority of students who have graduate status. Dr. Kain noted that the administration will be watching the undergraduate enrollment in 5000-level courses because those courses should have predominantly graduate students.

The committee reviewed the 5000-level Standard Operating Procedure working document (see imported document on pg. 14).

Action Taken:

Dr. Vail-Smith moved to endorse the 5000-level Standard Operating Procedure working document. Dr. Scemama seconded. Motion passed.

Agenda Item: III. Thomas Harriot College of Arts and Sciences, Department of English - tabled

(1.) Revision of Undergraduate Objectives Within Existing 5000-level Course(s): ENGL 5150, 5280
Discussion:

These will be the first courses coming to UCC from the GCC with the addition of undergraduate curricula.

The Department of English did not submit the proposal.

Action Taken:

Ms. Whitehurst moved to table this agenda item. Dr. Richardson seconded. Motion passed.

(2.) Removal of 5000-level Courses from Undergraduate Catalog Previously Deleted by the GCC: ENGL 5060, 5125, 5160, 5165, 5250, 5260, 5275, 5770, 7065

Discussion:

The Department of English documents have not yet been submitted to the UCC mailbox by the GCC chair.

Action Taken:

Ms. Whitehurst moved to table this agenda item. Dr. Richardson seconded. Motion passed.

Agenda Item: IV. Thomas Harriot College of Arts and Sciences, Department of Chemistry

(1.) Prerequisite Revision of Existing Course(s): CHEM 1150, 1151

Discussion:

Dr. Hvastkovs presented.

Dr. Richardson asked what the “appropriate” score on math section of SAT/ACT means? Dr. Hvastkovs replied that it would be the average score of ECU students in Chemistry 1150 classes from 2008 to the present. This average will change over time to reflect the scores achieved from future students.

Action Taken:

Dr. Scemama moved that the proposal be accepted as proposed. Dr. Richardson seconded. Motion passed.
Agenda Item: V. Thomas Harriot College of Arts and Sciences, Department of History

(1.) Proposal of New Course(s): HIST 3680

Discussion:

Dr. Russell presented.

Ms. Whitehurst noted that information needed to be included for the expected future delivery method in the proposal.

Dr. Griffin noted that it should be noted if the faculty voted and approved this course. Dr. Russell said that the faculty had approved the course and will add this information to the proposal.

Ms. Whitehurst pointed out that information about whether the resources are adequate or not should be completed in the proposal.

Dr. Vail-Smith noted that WMST should read WOST.

Ms. Whitehurst asked about the objective “make the connection between” should be written as a measurable verb, such as “explain.” She also asked about the course topic outline, which is currently listed as Week 1, Week 2, etc. She recommended that the term be Unit 1, Unit 2, etc. as some semesters vary in number of weeks (e.g., summer).

Action Taken:

Ms. Whitehurst moved that the proposal be accepted as amended. Dr. Scemama seconded. Motion passed.

(2.) Revision of Existing Degree(s): BA in History

Discussion:

Dr. Russell presented.

Action Taken:

Ms. Whitehurst moved that the proposal be accepted as proposed. Dr. Scemama seconded. Motion passed

Agenda Item: VI. Thomas Harriot College of Arts and Sciences, Department of Political Science

(1.) Proposal of New Course(s): POLS 1050
Discussion:

Dr. Spalding presented.

Dr. Richardson noted that it should be included in the proposal that the faculty voted to approve this course.

Dr. Greer recommended that the objectives be consistent as typed (some are bolded, some are underlined, some are capitalized, some are not). Dr. Spalding said she would do this.

Action Taken:

Dr. Richardson moved that the proposal be accepted as amended. Dr. Scemama seconded. Motion passed.

(2.) Prerequisite Revision of Existing Course(s): POLS 3042, 3090, 3234, 3235, 3236, 3280, 3282, 3291, 3293

Discussion:

Dr. Spalding presented.

Action Taken:

Dr. Richardson moved that the proposal be accepted as proposed. Dr. Scemama seconded. Motion passed.

(3.) Removal of (FC:SO) designation from Existing Course(s): POLS 3013, 3033, 3035, 3042, 3204, 3232, 3270, 3297, 4310, 4360, 4384

Discussion:

Dr. Spalding presented.

Action Taken:

Dr. Richardson moved that the proposal be accepted as proposed. Dr. Scemama seconded. Motion passed.

(4.) Editorial Revision (term offered) of Existing Course(s): POLS 3041, 3042, 3045, 3090, 3144, 3204, 4310, 4384, 4551, 4552

Discussion:
Dr. Spalding presented.

Action Taken:

Dr. Richardson moved that the proposal be accepted as proposed. Dr. Scemama seconded. Motion passed.

(5.) Revision of Existing Degree(s): BS in Political Science

Discussion:

Dr. Spalding presented.

Dr. Richardson noted that the Electives had changed from 15 to 18 s.h. This should be noted in the “Electives in Political Science” in the catalog copy.

Action Taken:

Dr. Richardson moved that the proposal be accepted as amended. Dr. Scemama seconded. Motion passed.

Agenda Item: VII. College of Health and Human Performance, Department of Kinesiology

(1.) Prerequisite Revision of Existing Course(s): EXSS 3000, 3500, 3540, 3900, 4323

Discussion:

Mr. Dawson presented.

Dr. Vail-Smith noted that EXSS 3000 should be for declared majors, given it has the upper division designation. Dr. Dawson agreed.

EXSS 3900, 4323
Dr. Scemama recommended that the catalog copy read the following for clarity:

“with consent of BS in physical education degree director BS in . . .”

Action Taken:

Dr. McMillan moved that the proposal be approved as amended. Dr. Richardson seconded. Motion passed.

(2.) Deletion of Existing Course(s): EXSS 3510, 3520, 3530

Discussion:
Mr. Dawson presented.

Action Taken:

Dr. McMillan moved that the proposal be approved as proposed. Dr. Richardson seconded. Motion passed.

(3.) Revision of Existing Degree(s): BS in Physical Education

Discussion:

Mr. Dawson presented.

Action Taken:

Dr. McMillan moved that the proposal be approved as proposed. Dr. Richardson seconded. Motion passed.

Agenda Item: VIII. College of Health and Human Performance, Department of Health Education and Promotion

(1.) Proposal of New Course(s): EHST 4520, 4530

Discussion:

Dr. Kelley presented.

Dr. Vail-Smith complimented Dr. Kelley on the completeness and excellence of the submission.

EHST 4530
Dr. Vail-Smith said that three edits should be made: course credit of “3” should be noted, affected degrees should be included (B.S. in Public Health Studies), and be listed as a required course.

Action Taken:

Dr. Greer moved that the proposal be approved as amended. Ms. Whitehurst seconded. Motion passed.

(2.) Revision of Existing Course(s): EHST 2110, 2111
Discussion:

Dr. Kelley presented.

Action Taken:

Dr. Greer moved that the proposal be approved as proposed. Ms. Whitehurst seconded. Motion passed.

(3.) Deletion of Existing Course(s): EHST 2111

Discussion:

Dr. Kelley presented.

Action Taken:

Dr. Greer moved that the proposal be approved as proposed. Ms. Whitehurst seconded. Motion passed.

(4.) Removal of Active Graduate-level Courses from Undergraduate Catalog Only: EHST 5510, 5520, 5530, 5540

Discussion:

Dr. Kelley presented.

Action Taken:

Dr. Greer moved that the proposal be approved as proposed. Ms. Whitehurst seconded. Motion passed.

(5.) Revision of Existing Degree(s): BS in Athletic Training, BS in Public Health Studies

Discussion:

Dr. Kelley presented.

Action Taken:

Dr. Greer moved that the proposal be approved as proposed. Ms. Whitehurst seconded. Motion passed.

Agenda Item: IX. Thomas Harriot College of Arts and Sciences, Department of Biology
Proposal of New Course(s): BIOL 3030, 4205, 4250, 4880, 4890, 4891

Discussion:

Dr. Scemama presented.

BIOL 3030
Dr. Kain noted that the comment “3 lecture hours per week” need not be included in the course description because it is noted as a 3-hour course.

Dr. Scemama will add that the course is required and may be an elective.

BIOL 4205
Dr. Kain noted that the course proposal should be dated.

Dr. Scemama noted that the lecture is 3 hours per week.

Dr. Greer asked about the objective “make connections.” She recommended the phrase be changed to “articulate” or “explain.”

BIOL 4250
Dr. Greer recommended that the course topic outline delete the term “week” as the number of weeks varies depending upon when the course is offered.

BIOL 4880
Dr. Scemama noted that the lecture is 3 hours per week.

Dr. Kain recommended that all objectives have measurable verbs (i.e., replace demonstrate the understanding” to “explain”).

BIOL 4890
Dr. Kain recommended that all objectives have measurable verbs (i.e., replace demonstrate the understanding” to “explain”, “recognize” to “analyze,” and “make better” to “reflect on how”).

BIOL 4891
Dr. Kain recommended that all objectives have measurable verbs (i.e., replace demonstrate the understanding” to “explain”).

Dr. Griffin noted that the title of prerequisite courses do not need to be included; the prefix and number will suffice.

Dr. Kain recommended that the course description be shortened.

Action Taken:
Dr. Swank moved that the proposal be approved as amended. Dr. MacMillan seconded. Motion passed.

(2.) Prerequisite Revision of Existing Course(s): BIOL 2300

Discussion:

Dr. Scemama presented. He noted that he inadvertently put the information under 2800. He will change this to reflect that the changes are to made to 2300. The catalog copy will need to be changed to reflect this change (see Core section).

Action Taken:

Dr. Swank moved that the proposal be approved as amended. Dr. MacMillan seconded. Motion passed.

(3.) Revision of Existing Core Curriculum: Department of Biology

Discussion:

Dr. Scemama presented.

Dr. Griffin recommended “among” be replaced with “of” in the catalog text.

Action Taken:

Dr. Swank moved that the proposal be approved as amended. Dr. MacMillan seconded. Motion passed.

(4.) Proposal of New Concentrations in the BS in Biology, General: Biology, Ecology/Evolution, Molecular/Cell Biology

Discussion:

Dr. Scemama presented

Dr. Vail-Smith recommended that the phrase “mid-level lecture” be deleted when coupled with required courses.”

Dr. Griffin noted that the prerequisites need only be identified by their Prefix and Course Number. The name of each course need not be included.

Action Taken:
Dr. Swank moved that the proposal be approved as amended. Dr. MacMillan seconded. Motion passed.

(5.) Revision of Existing Degree(s): BS in Biology, General; BS in Biochemistry

Discussion:

Dr. Scemama presented.

Action Taken:

Dr. Swank moved that the proposal be approved as amended. Dr. MacMillan seconded. Motion passed.

Dr. Griffin noted that the fall and spring course designations in the proposal should match the course descriptions and prerequisites should be consistent throughout the submission.

Dr. Griffin noted that the research skills courses should be listed in alpha numeric order.

(6.) Revision of Existing Minor(s): Biology Minor

Discussion:

Dr. Scemama presented.

Action Taken:

Dr. Swank moved that the proposal be approved as presented. Dr. MacMillan seconded. Motion passed.

(7.) Revision of Existing Program(s): Biology Honors Program

Discussion:

Dr. Scemama presented.

Dr. Kain noted that the credit hours changes from 6 to 3.

Action Taken:

Dr. Swank moved that the proposal be approved as presented. Dr. MacMillan seconded. Motion passed.
Agenda Item: X. New Business

Discussion:

NA

Action Taken:

NA

Curricular Actions Reviewed at This Meeting:
New Courses: 10
Revised/Renumbered/Unbanked Courses (includes title/prereq./prefix): 40
New Degrees/Programs: 0
New Minors: 0
New Concentrations: 2
New Certificates: 0
Revised Existing Degrees/Concentrations/Departmental Text: 8
Deletion of Existing Degrees/Concentrations: 0
Revised Minors/Certificates: 1
Deletion of Existing Minors/Certificates: 0
Banked Courses: 0
Deletion of Existing /Banked Courses: 8

Curricular Actions Reviewed to Date (to include this meeting):
New Courses: 34
Revised/Renumbered/Unbanked Courses (includes title/prereq./prefix): 200
New Degrees/Programs: 0
New Minors: 0
New Concentrations: 6
New Certificates: 0
Revised Existing Degrees/Concentrations/Departmental Text: 31
Deletion of Existing Degrees/Concentrations: 8
Revised Minors/Certificates: 9
Deletion of Existing Minors/Certificates: 2
Banked Courses: 4
Deletion of Existing /Banked Courses: 16

NEXT MEETING: February 28, 2013

ITEMS TO BE DISCUSSED:
See agenda.

Dr. Vail-Smith moved to adjourn at 5:00 pm. Motion passed. Meeting adjourned.

Respectfully Submitted by

Leigh W. Cellucci
Secretary of the UCC
MEMORANDUM

TO Graduate Curriculum Committee
FROM Jim Decker
DATE 02-04-13
RE 5000-level course procedures

As instructed at the 01-16-13 GCC meeting I took action to establish a standard operating procedure for the review of 5000-level courses. Associate Provost Griffin, Dean Gemperline, and UCC Chairperson Kain and I met on 01-31-13. After discussion we present the following procedure for your consideration.

A. All 5000-level course proposals and deletions will be submitted to the GCC.

B. If a course (new or revised) is not intended for undergraduate student enrollment it must be clearly stated in Section 6 (Course description exactly as it should appear in the next catalog) in the Prerequisite section (e.g. graduate student standing). (It should be noted that such a course will not appear in the undergraduate catalog.) This course will be acted upon solely by the GCC (i.e. no UCC involvement).

C. If a course (new or revised) allows undergraduate student enrollment:
   1. Section 5 (justification) must clearly delineate why the 5000-level was selected (i.e., instead of a 4000-level course) and must affirm the intention to enroll a minority of undergraduate students.
   2. Section 16.b (course objectives for the course [student-centered, behavioral focus]) must include both graduate and undergraduate learning objectives.
   3. Section 16.d (list of course assignments, weightings of each assignment, and grading/evaluation system for determining a grade) must include both graduate and undergraduate course assignments and grading scales.
   4. If the proposal (new or revised) necessitates a change in the undergraduate catalog, undergraduate marked catalog copy must be provided.

D. The GCC will act on the course including the justification, graduate learning objectives and differentiation between graduate and undergraduate learning objectives, assignments and grade scale. Courses recommended for approval will be included in the GCC minutes for inclusion on a Graduate Council agenda (as per GCC procedures).

E. Once approved the GCC Chairperson will send to the UCC via cucsubmissions@ecu.edu the approved proposal and, if applicable, undergraduate marked catalog copy.

F. Upon receipt of information from the GCC regarding any 5000-level course that will enroll undergraduate students, the materials will be placed on the next possible UCC agenda for consideration. The UCC will review information pertaining only to undergraduate students (i.e., justification, learning objectives, assignments, grade scale, and marked catalog copy) and will make recommendations to the Faculty Senate. Faculty members submitting 5000-level course materials will not be required to appear at the UCC.
   1. If the UCC recommends any revision or requests any information about the undergraduate aspects of the course, the UCC will notify the submitting unit. The UCC will request that any revisions or responses be submitted within 7 calendar days after the meeting at which the course was considered (as per UCC procedures).
   2. Courses recommended for approval will be included in the UCC minutes for inclusion on a Faculty Senate agenda (as per UCC procedures).
3. Courses not approved by the UCC for Faculty Senate agenda placement will by default have a prerequisite of “graduate status” added to the course description by the GCC.

4. In cases where UCC approval is not granted, the UCC Chairperson will send notification to the GCC via gcc@ecu.edu so the GCC can initiate implementation of the prerequisite revision.

5. Units are responsible for additional notification of affected units in the event the course is not approved by the UCC for enrollment of undergraduate students or as deemed applicable by the UCC following recommended revisions.
Admission Requirements

Students enrolled at East Carolina University or transferring from other institutions who have a minimum 2.0 GPA and a minimum grade of C in CHEM 1150, 1151, 1160, 1161 and MATH 1065 may apply for admission as chemistry majors. Students who hold a baccalaureate degree qualify for admission to the chemistry degree program if they have completed comparable courses as described above with a minimum grade of C as part of their first degree.

BA in Chemistry

The BA program provides a flexible major designed to provide the student with a broad education in chemistry appropriate for further study in a wide range of fields, such as business, medicine, pharmacy, and law as well as careers dependent on a basic knowledge in chemistry. The BA in chemistry, in conjunction with two semesters of laboratory-based biology courses, satisfies the course requirements for application to most US medical schools. It is different than the BS degree in the required chemistry, math, and physics courses. Any of the required major courses or cognates, however, may be replaced by courses that cover the same topics at a more advanced level. For example, CHEM 3950, 3960 may be taken instead of CHEM 3850. It is the student’s responsibility to ensure that the prerequisites for such courses have been met. If a student successfully completes a higher-level cognate course after bypassing the lower-level prerequisite course(s), he/she may use free electives to substitute for the prerequisite hours. All students are required to take a departmentally administered assessment examination before graduation. Scores from this examination will not be included in the calculation of GPA for academic standing. The performance on this exam will be noted on the student’s transcript. Minimum degree requirement is **126 s.h.** of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum.*) - 42 s.h.
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2360)

2. Foreign language through level 1004. - 12 s.h.
3. Core. - 30 s.h.
   CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150.)
   CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150 with a minimum grade of C (2.0), 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
   CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
   CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
   CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
   CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
   CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
   CHEM 3450. Elementary Inorganic Chemistry (3) (F,S) (P: CHEM 2250, 2251; C: CHEM 3451)
   CHEM 3451. Elementary Inorganic Chemistry Laboratory (1) (WI) (F,S) (P: CHEM 2250, 2251; C: CHEM 3450 or 5550)
   CHEM 3850, 3851. Introduction to Physical Chemistry (4,1) (WI, WI) (F,S) (P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260, 1261)

4. Cognates. - 6-13 s.h.
   MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1077 with a minimum grade of C) and MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)
   or
   MATH 1083. Introduction to Functions (3) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C) or MATH 1085. Pre-Calculus Mathematics (5) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C) and MATH 2171. Calculus I (4) (F,S,SS) (FC:MA) (P: Minimum grade of C in any of MATH 1083 or 1085 or 2122) and MATH 2172. Calculus II (4) (F,S,SS) (FC:MA) (P: MATH 2171 with a minimum grade of C or MATH 2122 with consent of instructor)

5. Electives to complete requirements for graduation.
BS in Chemistry

The BS degree in chemistry is the appropriate program for students considering advanced degree programs in chemistry, biochemistry, and other related fields or a professional career in chemistry. Graduates of this program meet certification requirements of the American Chemical Society. Students are strongly encouraged to pursue undergraduate research with a faculty member. Up to 6 s.h. of undergraduate research may be applied toward degree requirements. Information regarding undergraduate research may be obtained from the director of undergraduate studies. Students completing the BS degree are encouraged to consider some of the following courses as electives: COMM 2410 or COMM 2420; ITEC 3290 or ENGL 3820; MATH 2228, 3256, 4331; CHEM 4515, 4516, 4517; advanced 5000-level courses in chemistry; and BIOL 5800 or 5810. If a student successfully completes a higher-level cognate course after bypassing the lower-level prerequisite course(s), he/she may use free electives to substitute for the prerequisite hours. All students are required to take a departmentally administered assessment examination before graduation. Scores from this examination will not be included in the calculation of GPA for academic standing. The performance on this exam will be noted on the student’s transcript. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum.)

   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
   PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2360)
   PHYS 2350, 2360. University Physics (4,4) (F,S,SS) (FC:SC) (P for 2350: MATH 2121, 2151, or 2171; P for 2360: PHYS 2350)

2. Core. - 45 s.h.

   CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150.)
   CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150 with a minimum grade of C (2.0), 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
   CHEM 2103. Introduction to Chemical Literature (1) (WI) (F) (P: CHEM 2750)
   CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
   CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
   CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
   CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
   CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
CHEM 2770. Biological Chemistry (3) (S) (P: CHEM 2650 or 2760)
CHEM 3451. Elementary Inorganic Chemistry Laboratory (1) (WI) (F,S) (P: CHEM 2250, 2251; C: CHEM 3450 or 5550)
CHEM 3950, 3951. Physical Chemistry and Laboratory I (4,1) (WI, WI) (S) (P: PHYS 1261, 2360; MATH 2173; CHEM 2250, 2251)
CHEM 3960, 3961. Physical Chemistry and Laboratory II (4,1) (WI, WI) (F) (P: CHEM 3950, 3951)
CHEM 4103. Seminar (1) (S) (P: Junior or senior standing; CHEM 2103)
CHEM 5350, 5351.Instrumental Analysis (3,1) (WI, WI) (P: CHEM 3960)
CHEM 5550. Advanced Inorganic Chemistry (4) (F) (P: CHEM 3950; C: CHEM 3451 [for BS chemistry majors only])

3. Elective labs (Choose a minimum of 2 s.h. from the following). - 2 s.h.

BIOL 5821. Principles of Biochemistry Laboratory (1) (F,S) (P/C: BIOL 5800 or 5810)
CHEM 2301. Teaching Laboratory Chemistry (2,0) (F,S) (P: Grade of B or higher in CHEM 1160 and CHEM 1161 or permission of instructor) May count only 1 s.h. toward the 2 s.h. lab requirement
CHEM 2771. Biological Chemistry Laboratory (1) (S) (C: CHEM 2770)
CHEM 3301. Practicum in Teaching (1) (F,S) (P: CHEM 2301 and consent of instructor)
CHEM 4515, 4516, 4517. Research Problems in Chemistry (1,2,3) (F,S,SS) (P: Consent of instructor)
CHEM 5993. Industrial Internship in Chemistry (3) (P: Selection by joint Chemistry department/industry screening committee; CHEM 2250, 2760, 3950)
PHYS 3700, 3701. Advanced Laboratory (3,0) (3700:WI) (S) (P: PHYS 2360)

4. Cognates. - 15-17 s.h.

MATH 1083. Introduction to Functions (3) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C) or MATH 1085. Pre-Calculus Mathematics (5) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C)
MATH 2171, 2172, 2173. Calculus I, II, III (4,4,4) (F,S,SS) (FC:MA) (P for 2171: minimum grade of C in any of MATH 1083, 1085 or 2122; P for 2172: MATH 2171 with a minimum grade of C or 2122 with consent of instructor; P for 2173: MATH 2172 with a minimum grade of C)

5. Electives to complete requirements for graduation.

Chemistry Minor

Minimum requirement for the chemistry minor is 25-26 s.h. of credit as follows:
Core. - 25-26 s.h.
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of
Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150.

CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150 with a minimum grade of C (2.0), 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)

CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)

CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)

CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)

CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)

CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)

CHEM 3450. Elementary Inorganic Chemistry (3) (F,S) (P: CHEM 2250, 2251; C: CHEM 3451) and CHEM 3451. Elementary Inorganic Chemistry Laboratory (1) (WI) (F,S) (P: CHEM 2250, 2251; C: CHEM 3450 or 5550) or CHEM 3850, 3851.

Introduction to Physical Chemistry (4,1) (WI, WI) (F,S) (P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260, 1261)

Chemistry Honors Program

The Department of Chemistry Honors Program provides an opportunity for outstanding chemistry majors to do intensive study and research in areas of special interest. A student desiring to enter the honors program must be a junior or senior majoring in chemistry, and possess a minimum GPA of 3.2 in all courses taken at East Carolina University as well as in all chemistry and cognate courses. Before participating in the honors program, students must notify the director of undergraduate studies chemistry and select a project supervisor from the chemistry faculty. Program participants are expected to select a topic mutual interest to both the student and project supervisor, research the topic through the scientific literature, and then conduct independent research on the topic. Upon completion of the research, the student must submit a detailed written research report and make an oral presentation on the honors project.

Course requirements: CHEM 4103; a minimum of 5 h. research and/or independent study from: CHEM 4505, 4506, 4507, 4515, 4516, 4517.

Bachelor of Science and Accelerated MS in Chemistry

Students working toward a BS degree in chemistry have the opportunity to earn an MS degree in two or three additional semesters of study. These students are encouraged to begin research projects as undergraduates and take advanced classes that can be used to waive some MS course requirements. As seniors they may be granted early admission to the MS program and would be eligible to receive paid teaching assistantships. To be enrolled in the MS program as a senior, a student must within 6 s.h. credit of completing all undergraduate degree requirements. Applications to the MS program should be submitted during the first semester of the senior year and must include GRE scores.
CHEM: Chemistry

0150. Preparation for College Chemistry (3) (F,S,SS)
May not count toward foundations curriculum science requirement. C: MATH 1065.
Intensive review and study of basic chemical laws and mathematical tools needed for
further study in general chemistry.

1020. General Descriptive Chemistry (4) (S) (FC:SC)
May not count toward foundations curriculum science requirement for science majors.
General chemistry for nonscience majors.

1021. General Descriptive Chemistry Laboratory (1) (S) (FC:SC)
3 lab hours per week. Chemistry lab for nonscience majors. P/C: CHEM 1020. Lab
experiences illustrate fundamental chemical principles and relevance of chemistry in
modern world. Topics include chemical measurements, acids, synthesis and purification
of biochemical substances and DNA fingerprinting.

1120. Introduction to Chemistry for the Allied Health Sciences (3) (F,S,SS) (FC:SC)
3 lecture and 1 recitation hours per week. May not count toward foundations curriculum
science requirement for science majors. Fundamental concepts of chemistry emphasizing
applications within the health professions.

1121. Basic General, Organic, and Biochemistry Laboratory I (1) (F,S) (FC:SC)
3 lab hours per week. C: CHEM 1120. Introduces lab techniques in general, organic, and
biochemistry.

1130. Organic and Biochemistry for the Allied Health Sciences (4) (F,S,SS) (FC:SC)
4 lecture hours per week. May not count toward foundations curriculum requirement for
science majors. P: CHEM 1120. Fundamentals of organic and biochemistry emphasizing
applications within the health professions.

1131. Basic General, Organic, and Biochemistry Laboratory II (1) (F,S,SS) (FC:SC)
3 lab hours per week. C: CHEM 1130. Continuation of CHEM 1121.

1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC)
For science majors. 3 lecture and 3 lab hours per week. P/C: MATH 1065. P: Appropriate score on math section of SAT/ACT or ECU Department of
Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150. Basic principles and laws of chemistry. Topics include
measurements, reactions and stoichiometry, thermochemistry, atomic structure,
periodicity, bonding and molecular structure, and states of matter.

1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC)
3 lecture and 3 lab hours per week. P: CHEM 1150 with a minimum grade of C (2.0),
1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085.
Continuation of CHEM 1150. Topics include solutions, kinetics, equilibrium, acid-base
theory, thermodynamics, and electrochemistry. Introduces organic, nuclear, and
coordination chemistry.
1500. Materials Chemistry I (3) (S)
Chemistry of elements and compounds, atomic structure, molecular geometry and intermolecular forces and their effect on the design and uses of materials. May not count toward chemistry major.

1510, 1511. Materials Chemistry II and Laboratory (1,1) (F)
1 hour lecture and 3 hours lab per week. P: CHEM 1500; C for CHEM 1510: CHEM 1511; C for CHEM 1511: CHEM 1510. Continuation of CHEM 1500. Chemistry of elements and compounds, equilibrium, thermodynamics and kinetics and their effect on the design and uses of materials. Lab experience demonstrates chemical properties of materials. May not count toward chemistry major.

2103. Introduction to Chemical Literature (1) (WI) (F)
P: CHEM 2750. Introduces methods used to search and access chemical literature. Development of technical writing skills.

2110. Scientific Glassblowing (1) (F,S,SS)
3 lab hours per week. P: Consent of instructor. Fundamentals of glassblowing with emphasis on the properties of glass and techniques commonly used in the construction and repair of specialized glassware in chemical laboratories.

2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S)
3 lecture and 4 lab hours per week. P: CHEM 1160, 1161; CHEM 2650 or 2750; C for 2250: CHEM 2251; C for 2251: CHEM 2250. Theories and techniques of classical quantitative and modern instrumental analysis.

2301. Teaching Laboratory Chemistry (2,0) WI) (F,S)
1 lecture and 3 lab hours per week. P: Grade of B or higher in CHEM 1160 and CHEM 1161 or permission of instructor. Instruction and supervised experience in methods and practice of teaching introductory chemistry lab.

2650. Organic Chemistry for the Life Sciences (4) (F)
May not count toward CHEM major or minor. May not substitute as a prerequisite for CHEM 2760. P: CHEM 1160, 1161. Principles of organic chemistry. Emphasis on biologically important topics.

2651. Organic Chemistry Lab for the Life Sciences (1) (F)
3 lab hours per week. May not count toward CHEM major or minor. May not substitute as a prerequisite for CHEM 2763. C: CHEM 2650. Organic lab techniques.

2750. Organic Chemistry I (3) (F,S,SS)
P: CHEM 1160, 1161; C: CHEM 2753. Classes of compounds and their typical reactions, mechanisms, stereochemistry, and instrumental methods in organic chemistry.

2753. Organic Chemistry Laboratory I (1) (F,S,SS)
3 lab hours per week C: CHEM 2750. Organic lab techniques.

2760. Organic Chemistry II (3) (F,S,SS)
P: CHEM 2750; C: CHEM 2763. Continuation of CHEM 2750.

2763. Organic Chemistry Laboratory II (1) (F,S,SS)
3 lab hours per week P: CHEM 2750, 2753; C: CHEM 2760. Continuation of CHEM 2753.

2770. Biological Chemistry (3) (S)
P: CHEM 2650 or 2760. Chemistry and intermediary metabolism of proteins, carbohydrates, lipids, and nucleic acids.

2771. Biological Chemistry Laboratory (1) (S)
3 lab hours per week. C: CHEM 2770. Applies chemical lab techniques to study of proteins, carbohydrates, lipids, and nucleic acids.

3301. Practicum in Teaching (1) (F,S)
3 lab hours per week. May be repeated for credit. May count maximum of 4 s.h. toward CHEM major. P: CHEM 2301 and consent of instructor. Supervised practicum in teaching introductory chemistry lab.

3450. Elementary Inorganic Chemistry (3) (WI) (F,S)
P: CHEM 2250, 2251; C: CHEM 3451. Survey of fundamental concepts and theories of inorganic chemistry, periodicity, descriptive chemistry of selected main group elements and transition metals, and their role in organometallic, bioinorganic, and industrial chemistry.

3451. Elementary Inorganic Chemistry Laboratory (1) (WI) (F,S)
P: CHEM 2250, 2251; C: CHEM 3450 or 5550. Inorganic laboratory techniques, physical methods, and the synthesis and characterization of inorganic and organometallic compounds.

3501, 3502, 3503. Special Topics in Chemistry (1,2,3)
May be repeated for maximum of 6 s.h. with change of topic. May not count toward foundations curriculum science credit. P: CHEM 1160; consent of instructor. Selected topics of contemporary interest.

3850, 3851. Introduction to Physical Chemistry (4,1) (WI, WI) (F,S)
4 lecture and 3 lab hours per week. P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260, 1261; C for 3850: CHEM 3851; C for 3851: CHEM 3850. Physical chemistry for students with limited mathematical background.

3950, 3951. Physical Chemistry and Laboratory I (4,1) (WI, WI) (F,S)
4 lecture and 3 lab hours per week. P: CHEM 2250, 2251; MATH 2173; PHYS 1261, 2360; C for 3950: CHEM 3951; C for 3951: CHEM 3950. Theoretical and mathematical treatment of fundamental laws and theories underlying science of chemistry.

4103. Seminar (1) (S)
P: Junior or senior standing; CHEM 2103. Discuss contemporary topics in chemistry, instruction on technical presentations, and submission of written and oral reports on approved topics. Requires attendance at selected departmental seminars.

4505, 4506, 4507. Independent Study (1,2,3) (F,S,SS)
May be repeated for credit. May count a maximum of 3 s.h. toward CHEM major. P: Consent of instructor and dept chair. Individual study in selected area of chemistry under immediate direction of faculty member.

4515, 4516, 4517. Research Problems in Chemistry (1,2,3) (F,S,SS)
May be repeated for credit. May count maximum of 6 s.h. toward CHEM major. P: Consent of instructor. Advanced problems in chemistry pursued under supervision of faculty member.

5350, 5351. Instrumental Analysis (3,1) (WI, WI)
3 lecture and 3 lab hours per week. P: CHEM 3960; C for 5350: CHEM 5351; C for 5351: CHEM 5350. Theory and practical uses of modern instrumental methods of chemical analysis.
5525, 5526, 5527. Special Topics (1,2,3)  
May be repeated for credit with change of topic. P: Consent of instructor. Selected topics of current interest in areas of analytical, inorganic, organic, and physical chemistry.

5550. Advanced Inorganic Chemistry (4) (F)  
P: CHEM 3950; C: CHEM 3451 (for BS chemistry majors only). Advanced treatment of atomic and molecular structure, molecular symmetry, group theory, MO theory, the solid state and ionic bonding, transition metal coordination and organometallic compounds, homogeneous catalysis, and acid-base, redox, and bioinorganic chemistry.

5570. Advanced Organic Chemistry (3)  
P: CHEM 2760; P/C: CHEM 3960. Physical organic topics, including aromaticity, acid/base chemistry, reactive intermediates, mechanisms of common organic reactions, and relationship between structure and reactivity.

5760. Organic Structure Elucidation (3)  
P: Consent of instructor. Applies modern instrumental methods to elucidation of structures of organic compounds, with particular regard to elucidation of complex structures from combined application of spectral tools.

5993. Industrial Internship in Chemistry (3)  
25-30 lab hours per week. May count maximum of 3 s.h. toward CHEM major. May be repeated. P: Selection by joint Department of Chemistry/Industry screening committee; CHEM 2250, 2760, 3950. Professional experience in industrial application of chemistry.

CHEM Banked Courses

1163. Introduction to Computer Techniques in Experimental Chemistry (1)
1500. Materials Chemistry I (3) (S)
1510, 1511. Materials Chemistry II and Laboratory (1,1) (F)
2110. Scientific Glassblowing (1) (F,S,SS)
2111. Applications of Molecular Modeling (1)
3860, 3861. Introduction to Instrument - Computer Interfacing (2,1)
5390. Bioanalytical Chemistry (2)
5450. Industrial Chemistry (3)
5560. Inorganic Reaction Mechanisms (2)
5950, 5951. Introduction to Nuclear Chemistry (2,1)
5970. Chemical Thermodynamics (2)

Agenda Item V

Thomas Harriot College of Arts and Sciences
Department of History

http://www.ecu.edu/cs-acad/ugcat/history.cfm
Thomas Harriot College of Arts and Sciences

Department of History

Gerald J. Prokopowicz, Chair, A-315 Brewster Building

Students may choose between the BA in history and the BS in public history. Students may also minor in either program.

BA in History

Minimum degree requirement is **126 s.h.** of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see [Liberal Arts Foundations Curriculum](#) - 42 s.h.
2. Foreign language through level 1004 - 12 s.h.
3. Core - 36 s.h.

   HIST 2000. Introduction to History (3) (F,S)
   HIST 4000. Senior Seminar (3) (P: HIST 2000; declared major in either history or public history, with senior standing or consent of instructor)

Choose 9 s.h. from the following:

   HIST 1030. World Civilizations to 1500 (3) (WI*) (F,S,SS) (FC:SO)
   HIST 1031. World Civilizations Since 1500 (3) (WI*) (F,S,SS) (FC:SO)
   HIST 1050. American History to 1877 (3) (WI*) (F,S,SS) (FC:SO)
   HIST 1051. American History Since 1877 (3) (WI*) (F,S,SS) (FC:SO)

   Choose a minimum of 21 s.h. of electives above 2999, at least one 3 s.h. course from each area as listed below (Minimum of 3 s.h. must be taken at the 4001-5999 level, excluding HIST 4531, 4532, 4533, 4550, 4551):

   **American History:**

   HIST 3010. Constitutional History of the United States to 1888 (3) (FC:SO)
   HIST 3011. Constitutional History of the United States Since 1888 (3) (FC:SO)
   HIST 3031. Economic History of the United States Since 1865 (3) (FC:SO)
   HIST 3100. North Carolina History (3) (F,S) (FC:SO)
   HIST 3110. History of African-Americans (3) (FC:SO)
   HIST 3121. American Military History to 1900 (3) (FC:SO)
   HIST 3122. American Military History Since 1900 (3) (FC:SO)
   HIST 3140. Women in American History (3) (FC:SO)
   HIST 3170. History of Native Americans (3) (FC:SO)
   HIST 3200. Diplomatic History of the United States (3) (WI*) (FC:SO)
   HIST 3205. History of American Urban Life (3) (FC:SO)
   HIST 3210. Colonial American to 1763 (3) (WI*) (FC:SO)
   HIST 3215. American Revolution and the Federal Era, 1763-1800 (3) (WI*) (FC:SO)
   HIST 3225. The Era of Sectionalism and Civil War, 1848-1877 (3) (FC:SO)
   HIST 3230. The Birth of Modern America, 1865-1892 (3) (WI*) (FC:SO)
HIST 3235. The Era of Populism and Progressivism in American History, 1892-1919 (FC:SO)
HIST 3240. The Age of Franklin Roosevelt, 1919-1945 (3) (WI*) (FC:SO)
HIST 3245. The United States Since 1945 (3) (WI*) (FC:SO)
HIST 3260. The United States and the Middle East (3) (FC:SO)
HIST 3300. History of American Rural Life (3) (F) (FC:SO)
HIST 3920. Social History of American Medicine (3) (S) (FC:SO)
HIST 5122. Social and Cultural History of the United States Since 1865 (3)
HIST 5125. American Political Development in the Nineteenth Century (3)
HIST 5140. The Old South (3)
HIST 5141. The South Since 1877 (3) (WI*)
HIST 5220. Selected Topics in US Women's History (3)
HIST 5230. Themes in African-American History (3)
HIST 5520. Maritime History of the Western World Since 1815 (3)
HIST 5960. Introduction to Oral History (3)

European History:
HIST 3405. History of Ancient Greece to 146 BC (3) (FC:SO)
HIST 3406. War and Society in Ancient Greece and Rome (3) (F)
HIST 3410. History of Ancient Rome (3) (F) (FC:SO)
HIST 3412. A History of Christianity to 1300 (3) (FC:SO)
HIST 3413. A History of Christianity, 1300 to Present (3) (FC:SO)
HIST 3414. The Celtic World, 700 BC - 1601 AD (3)
HIST 3415. The Middle Ages (3) (F) (FC:SO)
HIST 3420. Early Modern Europe to 1648 (3) (F) (FC:SO)
HIST 3430. History of Europe, 1815-1914 (3) (F) (FC:SO)
HIST 3435. History of Europe Since 1914 (3) (FC:SO)
HIST 3444. Old Regime and Revolutionary France (3) (FC:SO)
HIST 3445. Modern France, 1815 to Present (3) (FC:SO)
HIST 3460. Germany, 1790-1914 (3) (FC:SO)
HIST 3461. Germany Since 1914 (3) (FC:SO)
HIST 3480. Britain to 1688 (3) (FC:SO)
HIST 3482. Britain, 1688-1832 (3) (FC:SO)
HIST 3484. Britain from 1832 (3) (FC:SO)
HIST 3551. Medieval Russia, 862 - 1682 (3)
HIST 3552. Imperial Russia, 1682-1917 (3)
HIST 3553. Soviet Russia, 1917-1991 (3)
HIST 4400. Science and Religion in Europe and America, 1600-1900 (3)
HIST 4445. The European Enlightenments (3)
HIST 4470. The Great War: Experience, Memory and Legacy (3)
HIST 4500. Political Culture and Community in Eighteenth-Century Britain (3)
HIST 5310. Intellectual History of Europe (3)
HIST 5350. The Renaissance in European History (3)
HIST 5360. The Reformation, 1450-1598 (3)
HIST 5440. Twentieth Century England (3)
HIST 5450. Tudor-Stuart England (3)
HIST 5470. History of Soviet Russia Since 1917 (3)
HIST 5480. Weimar and the Rise of Hitler (3)
HIST 5505. Maritime History of the Western World to 1415 (3)
HIST 5555. Constitutionalism and Kingship in Early Modern Europe (3)
HIST 5660. Imperialism in Theory and Practice, 1800 to the Present (3) (WI*)
HIST 5670. A Diplomatic History of Europe, 1815 to the Present (3)
World History:
HIST 3610. History of East Asia to 1600 (3) (FC:SO)
HIST 3611. History of East Asia Since 1600 (3) (FC:SO)
HIST 3615. History of Traditional Japan (3) (FC:SO)
HIST 3620. History of Modern Japan (3) (F) (FC:SO)
HIST 3625. Field Study in Japanese Historical Culture (3) (FC:SO)
HIST 3626. Field Study in Japanese Historical Texts (3) (FC:SO)
HIST 3627. History of Japanese Buddhism (3) (FC:SO)
HIST 3629. History of Traditional China (3) (FC:SO)
HIST 3630. History of Modern China (3) (FC:SO)
HIST 3669. History of the Middle East, 600-1500 (3) (FC:SO)
HIST 3670. History of the Middle East Since 1500 (3) (WI*) (FC:SO)
HIST 3680. Women and Gender in the Middle East (3) (FC:SO)
HIST 3710. Introduction to Latin-American History: Colonial Period (3) (WI*) (FC:SO)
HIST 3711. Introduction to Latin-American History: Since 1808 (3) (WI*) (FC:SO)
HIST 3780. Mexico and Central America (3) (WI*) (FC:SO)
HIST 3810. History of Africa (3) (WI*) (FC:SO)
HIST 3820. History of South Africa (3) (WI) (FC:SO)
HIST 3830. Africa and Islam (3) (WI) (FC:SO)
HIST 4610. History of Southeast Asia (3) (FC:SO)
HIST 5300. Comparative History of Non-Western Civilizations (3) (WI*)
HIST 5340. The Ancient Near East (3)
HIST 5680. Diplomatic History of Modern Asia (3)
HIST 5765. Latin-America: 1492 to the Present (3) (WI*)
The following courses vary in content and will be classified according to topic:
HIST 3005. Selected Topics in History (3) (WI*)
HIST 3333. Biography and History (3)
HIST 3350. War and Society (3) (FC:SO)
HIST 4531, 4532, 4533. Directed Readings in History (1,2,3) (FC:SO) (P: Consent of dept chair)
HIST 4550, 4551. Honors (3,3) (F,S)
HIST 5005. Selected Topics in History (3) (WI*)

BS in Public History

Minimum degree requirement is **126 s.h.** of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum*) - 42 s.h.
2. Foreign language through level 1004 - 12 s.h.
3. Core - 36 s.h.
HIST 2000. Introduction to History (3) (F,S)
HIST 4000. Senior Seminar (3) (P: HIST 2000; declared major in either history or public history, with senior standing or consent of instructor)
Choose 9 s.h. from the following:
HIST 1030. World Civilizations to 1500 (3) (WI*) (F,S,SS) (FC:SO)
HIST 1031. World Civilizations Since 1500 (3) (WI*) (F,S,SS) (FC:SO)
HIST 1050. American History to 1877 (3) (WI*) (F,S,SS) (FC:SO)
HIST 1051. American History Since 1877 (3) (WI*) (F,S,SS) (FC:SO)
Choose a minimum of 21 s.h. of HIST courses above 2999, including a minimum of one course each in American, European, and other world areas. (See BA degree for course area designations.)

4. Professional courses - 24 s.h.

Required public history courses - 12 s.h.
HIST 3900. Introduction to Public History (3)
HIST 3993. Approaches to Historical Objects (3)
HIST 5910. Introduction to the Administration of Archives and Historical Manuscripts (3)
HIST 5920, 5921. Techniques of Museum and Historic Site Development (3,0)
Public history electives - 6-9 s.h.
Choose from the following:
HIST 3980. Shipwreck Archaeology (3) (F, S)
HIST 3985. History of American Architecture (3)
HIST 5930, 5931. Field and Laboratory Studies in Museum and Historic Site Development (3,0)
HIST 5950. Introduction to Quantitative History (2) (P: 20 s.h. of undergraduate history)
HIST 5951. Directed Readings and Research in Quantitative History (1) (C: HIST 5950)
HIST 5960. Introduction to Oral History (3)
HIST 5970. Living History (3)
HIST 5985. Historic Preservation Planning (3)
Internship - 3-6 s.h.
Choose from the following:
HIST 4940, 4941, 4942. Internship in Archives and Historical Records Administration (3,6,9) (F,S,SS) (P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor)
HIST 4943, 4944, 4945. Internship in Museum Administration (3,6,9) (F,S,SS) (P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor)
HIST 4946, 4947, 4948. Internship in Historic Site Administration (3,6,9) (F,S,SS) (P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor)
Maximum of 6 s.h. may count toward the requirement.

5. Cognates (Choose from the following.) - 6 s.h.
ACCT 2101. Survey of Financial and Managerial Accounting (3) (F,S) (P: MATH 1065 or 1066)
ANTH 2000. Archaeology Around the World (3) (FC:SO)
ANTH 3077. Archaeological Methods (3) (P: ANTH 2000 or consent of instructor)
ART 1906. Art History Survey (3) (F,S) (FC:FA) (P: ART 1905 or 1910)
ART 1907. Art History Survey (3) (F,S) (FC:FA) (P: ART 1905 or 1910)
ART 2905. Masterpieces in the Visual Arts and Literature (3) (FC:FA)
ART 4948. Art of the United States (3)
ENGL 3870. Introduction to Editing and Abstracting (3) (WI) (F,S) (P: ENGL 1200)
IDSN 2700. Historic Interiors I: 3000 BC Through Mid-Nineteenth Century (3) (WI) (F)
IDSN 2750. Historic Interiors II: Late Nineteenth and Twentieth Centuries (3) (WI) (S)
MGMT 3202. Fundamentals of Management (3) (F,S,SS)
MUSC 2227. Introduction to American Music from Colonial Times to the Present (3)
(FC:FA)
PHIL 2275. Professional Ethics (3) (WI*) (F,S,SS) (FC:HU)

6. Electives to complete requirements for graduation.

**History Minor**

The minor requires **24 s.h.** credit. History courses used for the minor may not be counted toward history major.

1. Required HIST courses (Choose from the list below.) - 9 s.h.
   
   HIST 1030. World Civilizations to 1500 (3) (WI*) (F,S,SS) (FC:SO)
   HIST 1031. World Civilizations Since 1500 (3) (WI*) (F,S,SS) (FC:SO)
   HIST 1050. American History to 1877 (3) (WI*) (F,S,SS) (FC:SO)
   HIST 1051. American History Since 1877 (3) (WI*) (F,S,SS) (FC:SO)

2. HIST electives above 2999 - 15 s.h.

**Public History Minor**

The minor requires **24 s.h.** credit. History courses used for the minor may not be counted toward history major.

1. Required HIST courses - 6 s.h.
   
   HIST 3900. Introduction to Public History (3)
   HIST 3993. Approaches to Historical Objects (3)

2. HIST electives (Choose from the following.) - 9 s.h.
   
   HIST 3980. Shipwreck Archaeology (3) (F, S)
   HIST 3985. History of American Architecture (3)
HIST 4940, 4941, 4942. Internship in Archives and Historical Records Administration (3,6,9) (P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor)

HIST 4943, 4944, 4945. Internship in Museum Administration (3,6,9) (P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor)

HIST 4946, 4947, 4948. Internship in Historic Site Administration (3,6,9) (P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor)

HIST 5910. Introduction to the Administration of Archives and Historical Manuscripts (3)

HIST 5920, 5921. Techniques of Museum and Historic Site Development (3,0)

HIST 5930, 5931. Field and Laboratory Studies in Museum and Historic Site Development (3,0)

HIST 5960. Introduction to Oral History (3)

HIST 5970. Living History (3)

HIST 5985. Historic Preservation Planning (3)

3. Cognates - 9 s.h.

ANTH 2000. Archaeology Around the World (3) (FC:SO)

ART 1906. Art History Survey (3) (F,S) (FC:FA) (P: ART 1905 or 1910)

ART 1907. Art History Survey (3) (F,S) (FC:FA) (P: ART 1905 or 1910)

ART 2905. Masterpieces in the Visual Arts and Literature (3) (FC:FA)

ART 4948. Art of the United States (3)

ENGL 3870. Introduction to Editing and Abstracting (3) (WI) (F,S) (P: ENGL 1200)

IDSN 2700. Historic Interiors I (3) (WI)

IDSN 2750. Historic Interiors II: Late Nineteenth and Twentieth Centuries (3) (F)

History Honors Program

A student desiring to enter the honors program in history must be a second semester junior majoring in history; possess a minimum cumulative and major 3.0 GPA; and have a minimum of 20 s.h. in history (exceptions may be made at the discretion of the dept chair). Furthermore, a student engaged in the history honors program shall be enrolled as a part of the regular curriculum in HIST 4550 and 4551, starting the sequence the spring semester of the junior year and concluding at the end of the first semester of the senior year. Upon completion of the two courses, the student will receive 6 s.h. credit in advanced history.

Each honors scholar will carry out an extensive program of carefully supervised reading and research in one of nine areas of history: Colonial America; Nineteenth-Century America; Twentieth-Century America; Ancient and Medieval; Europe, 1500- 1815; Europe, 1815 to Present; Asia; Latin America; Africa.

A history honors award is given annually to the history honors program student who completes and defends the most outstanding honors paper.
HIST: History
1030. World Civilizations to 1500 (3) (WI*) (F,S,SS) (FC:SO)
    May receive credit for one of HIST 1030, 1552. Evolution of world civilizations from
    prehistory to 1500.
1031. World Civilizations Since 1500 (3) (WI*) (F,S,SS) (FC:SO)
    May receive credit for one of HIST 1031, 1553. World civilizations since 1500 and their
    economic, social, cultural, and political development.
1050. American History to 1877 (3) (WI*) (F,S,SS) (FC:SO)
    May receive credit for one of HIST 1050, 1550. History of US from discovery of
    America in 1492 to end of Reconstruction.
1051. American History Since 1877 (3) (WI*) (F,S,SS) (FC:SO)
    May receive credit for one of HIST 1051, 1551. History of US from Reconstruction to
    present.
1550. Honors, American History to 1877 (3) (F) (FC:SO)
    May receive credit for one of HIST 1050, 1550. P: By invitation or consent of instructor.
    History of US from discovery of America in 1492 to end of Reconstruction.
1551. Honors, American History Since 1877 (3) (WI*) (S) (FC:SO)
    May receive credit for one of HIST 1051, 1551. P: By invitation or consent of instructor.
    History of US from Reconstruction to present.
1552. Honors, World History to 1500 (3) (F) (FC:SO)
    May receive credit for one of HIST 1030, 1552. P: By invitation or consent of instructor.
    Evolution of world civilizations from prehistory to 1500.
1553. Honors, World History Since 1500 (3) (S) (FC:SO)
    May receive credit for one of HIST 1031, 1553. P: By invitation or consent of instructor.
    World civilizations since 1500 and their economic, social, cultural, and political
    development.
2000. Introduction to History (3) (WI) (F,S)
    Introduction to the discipline of history and to historical research, writing, and
    methodology.
2012. American Business History (3) (WI*) (F) (FC:SO)
    History of business in America. Emphasis on evolution of business structure and
    function.
2222. Western Europe Since 1500 (3) (F) (FC:SO)
    History of Western Europe from Age of Discovery to present. Emphasis on development
    and growth of nation state system using Spain, France, England, and Germany as
    examples.
2444. The History of Sports in Western Society (3) (F) (FC:SO)
    Role of sports from ancient Greeks to twentieth century. Focus on how sports mirror
    historical developments and social and cultural trends.
3000. History: Its Nature and Method (3) (WI) (F,S)
    P: 6 s.h. in HIST. Designed for students in the HIED program. Introduction to historical
    thought and method and varieties and uses of history. May not count toward the “above
2999” HIST major requirement in the BA in history or the BSP in public history. May not count toward the history or public history minor.

3005. Selected Topics in History (3) (WI*)
    May be repeated for credit with change of topic. May count 3 s.h. toward HIST major or minor. Selected topics from historical perspective.

3010. Constitutional History of the United States to 1888 (3) (FC:SO)
    Constitutional development of US from colonial period through Waite Court.

3011. Constitutional History of the United States Since 1888 (3) (FC:SO)
    Constitutional evolution of US. Emphasis on Supreme Court’s response to industrial developments, politics, war, and civil liberties.

3031. Economic History of the United States Since 1865 (3) (FC:SO)
    Economic development of US since Civil War.

3100. North Carolina History (3) (F,S) (FC:SO)
    Political, social, and economic developments in NC from colonial era to present.

3110. History of African-Americans (3) (F) (FC:SO)

3121. American Military History to 1900 (3) (F) (FC:SO)
    History of military thought and institutions in US from era of American Revolution through nineteenth century. Emphasis on interrelationship between war and society by study of political, economic, and social aspects of military affairs.

3122. American Military History Since 1900 (3) (S) (FC:SO)
    American military thought and institutions since 1900. Emphasis on interrelationship between war and society by study of political, economic, and social aspects of military affairs.

3130. Problems in American History (3)
    Principal turning points in American history. Emphasis on varying interpretations.

3140. Women in American History (3) (FC:SO)
    Variety of women’s experience in American history. Role of women in nation’s social, economic, political, and cultural development.

3170. History of Native Americans (3) (FC:SO)
    Historical approach to understanding the socio-economic, political, legal, and cultural changes experienced by Native Americans focusing on the territory that is now the United States.

3200. Diplomatic History of the United States (3) (WI*) (FC:SO)
    American diplomatic history from 1776 to present. Emphasis on major episodes, policies, and personalities.

3205. History of American Urban Life (3) (FC:SO)
    May receive credit for one of HIST 3205, 5210. Historical assessment of importance of the American city in US history.

3210. Colonial America to 1763 (3) (WI*) (FC:SO)

3215. American Revolution and the Federal Era, 1763-1800 (3) (WI*) (FC:SO)
Military and political history of War for Independence, problem of constructing a new nation as a union of states, making and ratification of Federal Constitution, and rise of political parties during Federal Era.

3225. The Era of Sectionalism and Civil War, 1848-1877 (3) (FC:SO)
Rise of sectionalism and events of Civil War and Reconstruction.

3230. The Birth of Modern America, 1865-1892 (3) (WI*) (FC:SO)
Major historical trends in US from end of Civil War to 1890s.

3235. The Era of Populism and Progressivism in American History, 1892-1919 (3) (FC:SO)
US history from 1892 to 1919. Compares Populist and Progressive movements and shows emergence of US as a world power.

3240. The Age of Franklin Roosevelt, 1919-1945 (3) (WI*) (FC:SO)
US politics and society of 1920s, Great Depression, New Deal, and background and impact of World War II.

3245. The United States Since 1945 (3) (WI*) (F) (FC:SO)
Economics, politics, and society of US from Truman years to present.

3260. The United States and the Middle East, 1783 to the Present (3) (FC:SO)
History of American interests and involvement in Middle East since 1783.

3300. History of American Rural Life (3) (F) (FC:SO)
Rural America from pre-contact to present. Major themes include regional development of agricultural economy, agrarian ideology, myths and realities of family farms, farm protest and public policy, and representations of American rural life in literature, music, and film.

3333. Biography and History (3)
May be repeated for credit with change of topic. May count maximum of 3 s.h. may count toward HIST major or minor. Selected influential people and their impact on society.

3350. War and Society (3) (F) (FC:SO)
Survey of interrelationship between society and warfare from dawn of civilization to present.

3405. History of Ancient Greece to 146 BC (3) (FC:SO)
Political, social, and cultural developments in Greece from 800 BC to 146 BC.

3406. War and Society in Ancient Greece and Rome (3)
Military and social history of Ancient Greece and Rome.

3410. History of Ancient Rome (3) (F) (FC:SO)
Examines political, social, and cultural developments in Rome from 753 BC to 476 AD.

3412. A History of Christianity to 1300 (3) (FC:SO)
Formation and evolution of institutional church and its role in society from its origins to Renaissance. Emphasis on historical interaction between Mediterranean and trans-Alpine cultures.

3413. A History of Christianity 1300-present (3) (FC:SO)

3414. The Celtic World, 700 BC-1601 AD (3)
Institutional and cultural developments of Celtic-speaking polities on the Continent and British Isles until seventeenth century.

3415. The Middle Ages (3) (F) (FC:SO)
Major aspects of political, social, economic, and cultural history of Middle Ages from third to sixteenth centuries.

3420. Early Modern Europe to 1648 (3) (F) (FC:SO)
Political, social, and intellectual transformation that marked beginnings of modern European history.

3430. History of Europe, 1815-1914 (3) (F) (FC:SO)
Europe from Congress of Vienna to outbreak of first world war. Emphasis on political, social, and economic developments of period.

3435. History of Europe Since 1914 (3) (FC:SO)
Transformations in European society and institutions from outbreak of first world war to present.

3444. Old Regime and Revolutionary France (3) (FC:SO)
RP: HIST 1031. Major themes in politics, society and culture from the “Old Regime” to Napoleon’s defeat (1660-1815).

3445. Modern France, 1815-present (3) (FC:SO)
RP: HIST 1031 and/or HIST 3444. The history of French culture, politics and society from the defeat of Napoleon to the present day.

3460. Germany, 1790-1914 (3) (FC:SO)
RP: HIST 1031. Political, social, economic, and cultural development of Germany from late eighteenth century to World War I. Not open to students who have successfully completed HIST 3450.

3461. Germany Since 1914 (3) (FC:SO)
RP: HIST 1031. Political, social, economic, and cultural development of Germany from World War I to the present. Not open to students who have successfully completed HIST 3450.

3480. Britain to 1688 (3) (FC:SO)
Social, political, and cultural development of the British Isles to 1688, with particular emphasis on methods of historical research.

3482. Britain, 1688-1832 (3) (FC:SO)
Social, political and cultural development of British Isles from 1688 to 1832, with particular emphasis on historiography.

3484. Britain from 1832 (3) (FC:SO)
Social, political and cultural development of British Isles from 1832, with particular emphasis on collective memory.

3551. Medieval Russia, 862-1682 (3)
History of Russia from its legendary foundation in 862 to reign of Peter the Great. Emphasis on religious history as well as impact of nationalism on historical writing.

3552. Imperial Russia, 1682-1917 (3)
Political, social, cultural and intellectual history of Russia under Romanovs from Peter I to October Revolution.

3553. Soviet Russia, 1917-1991 (3)
Politics, society, and ideology of Soviet experiment from October Revolution to collapse of communism.

3610. History of East Asia to 1600 (3) (FC:SO)
Contrasting religions, life-styles, and institutions of major civilizations of traditional Asia. Emphasis on China and Japan.
3611. History of East Asia Since 1600 (3) (FC:SO)
Main themes of modern Asian history. Emphasis on revolutionary impact of the West on civilizations of China, Japan, and Southeast Asia (including Vietnam).

3615. History of Traditional Japan (3) (FC:SO)
Japanese history from ancient times to 1600. Emphasis on foundations of traditional patterns, in politics, society, religion, philosophy, and art.

3620. History of Modern Japan (3) (F) (FC:SO)
Transformation of Japanese culture under influence of West. Emphasis on causes and consequences of modernization.

3625. Field Study in Japanese Historical Culture (3) (FC:SO)
Field study of traditional Japanese culture and history, based in former imperial capital (794-1868) of Japan, Kyoto.

3626. Field Study in Japanese Historical Texts (3) (FC:SO)
Field study of traditional Japanese historical texts produced in former imperial capital (794-1868) of Japan, Kyoto.

3627. History of Japanese Buddhism (3) (FC:SO)
History of Japanese Buddhism from its introduction in mid-sixth century, through modern times.

3629. History of Traditional China (3) (FC:SO)
History of China before 1600, focusing primarily on main forces operative within intellectual history of China, Confucianism, Daoism, Mohism, Legalism, various schools of Buddhism, and Neo-Confucianism.

3630. History of Modern China (3) (FC:SO)
Factors responsible for collapse of China’s traditional Confucian culture and triumph of communism. Emphasis on role of West in this revolutionary transformation.

3669. History of the Middle East, 600-1500 (3) (FC:SO)
Social, political, economic, and religious developments of the Middle East, as well as Islamic Empires in Europe and Central Asia.

3670. History of the Middle East Since 1500 (3) (WI*) (FC:SO)
People, land, and religious groups of Middle East. Emphasis on Islam and imperialism.

3680. Women and Gender in the Middle East (3) (FC:SO)
Women’s roles in Middle Eastern societies from pre-Islamic times to the present day.

3710. Introduction to Latin-American History: Colonial Period (3) (WI*) (FC:SO)
Establishment and administration of Spanish and Portuguese colonies in New World, 1492-1808.

3711. Introduction to Latin-American History: Since 1808 (3) (WI*) (FC:SO)
Wars of Independence. Latin-American nations since independence. Emphasis on growth of republican institutions, social organizations, and economic and cultural developments.

3760. The ABC Powers: Argentina, Brazil, Chile (3) (FC:SO)
Major developments in Republics of Argentina, Brazil, and Chile since independence. Emphasis on conservative-liberal struggle, development of democratic institutions, and economic changes.

3780. Mexico and Central America (3) (WI*) (F) (FC:SO)
Major developments in history of Mexico and Central American republics.

3810. History of Africa (3) (WI) (F) (FC:SO)
Emphasis on pre-colonial African societies, interactions between African societies and Europeans during colonial era, and African quest for independence.

3820. History of South Africa (3) (WI) (FC:SO)
Examination of pre-colonial, colonial, and post-colonial South African history. Emphasis on post-1800 South Africa.

3830. Africa and Islam (3) (WI) (FC:SO)
Examination of relationship between Africans and Islam. Emphasis on the impact of Islam on African societies, especially in North, West, and East Africa.

3900. Introduction to Public History (3) (F)
May not count toward BS in HIST. Meaning and various aspects and practices of public history. Emphasis on reading, discussion, and fieldwork projects.

3920. Social History of American Medicine (3) (S) (FC:SO)
Development of medical ideas, practices, and healing professions. Emphasis on changing interactions between medicine and society.

3980. Shipwreck Archaeology (3) (F, S)
Introduction to the field of maritime archaeology using archaeological and historical case studies from around the world.

3985. History of American Architecture (3)
Introduction to American architectural styles and techniques, within the broader context of American social and technological history. Emphasis on vernacular architecture and basic concepts of historic preservation.

3993. Approaches to Historical Objects (3)
Social, cultural, political, and intellectual implications of classifying, conserving, and displaying historical objects. Topics include artifacts, archives, monuments, cultural policy, commercial history, and historical memory.

4000. Senior Seminar (3)(WI*)
P: HIST 2000; declared major in either history or public history, with senior standing or consent of the instructor. Capstone course in undergraduate study of history.

4400. Science and Religion in Europe and America, 1600-1900 (3)
Examines debate between intellectuals who believed that scientific discovery and religious faith were compatible and those who did not. Primary and secondary sources.

4444. Studies in French History (3)
May be repeated with change of topic. May count maximum of 3 s.h. toward HIST major or minor. Varied selected topics in French history from Middle Ages to present day.

4445. The European Enlightenments (3)
RP: A 3000-level course in history, political science, philosophy and/or classical studies. History and major texts of period and process called Enlightenment, including its critics and legacy in modern history and politics.

4470. The Great War: Experience, Memory and Legacy (3)

4500. Political Culture and Community in Eighteenth-century Britain (3)
RP: HIST 3480, or 3482 or 3484. Dimensions of British political culture during long eighteenth century, 1688 to 1832.

4531, 4532, 4533. Directed Readings in History (1,2,3) (F,S) (FC:SO)
P: Consent of dept chair. Intensive examination of specific field in student’s area of interest. May be repeated once with change of topic and permission of the director of undergraduate studies and the department chair.

4550, 4551. Honors (3,3) (F,S)
Independent reading and research program under direction of major area professor.

4610. History of Southeast Asia (3) (FC:SO)
Evolution of modern Southeast Asia. Emphasis on transformation of traditional cultures under impact of western colonial rule.

4940, 4941, 4942. Internship in Archives and Historical Records Administration (3,6,9) (F,S)
140 hours for 3 s.h., 280 hours for 6 s.h., 420 hours for 9 s.h. Maximum of 3 s.h. in HIST 4940-4948 may count toward HIST requirement for BS or minor in public history. May not count toward HIST major or minor elective requirements above 2999. P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor. Practical field experience under supervision in archival and manuscript agencies.

4943, 4944, 4945. Internship in Museum Administration (3,6,9) (F,S)
140 hours for 3 s.h., 280 hours for 6 s.h., 420 hours for 9 s.h. May not count toward HIST major or minor elective requirements above 2999. Maximum of 3 s.h. in HIST 4940-4948 may count toward HIST requirement for BS or minor in public history. P: Senior standing; minimum cumulative 2.2 GPA; minimum 2.5 GPA in HIST; consent of instructor. Practical field experience under supervision.

5005. Selected Topics (3) (WI*)
May be repeated with change of topic. May count maximum of 3 s.h. toward graduate or undergraduate HIST major or minor. Intensive study of selected topics from historical perspective.

5122. Social and Cultural History of the United States Since 1865 (3)
Selected main currents in American thought. Social and intellectual activity since 1865.

5125. American Political Development in the Nineteenth Century (3)
Evolution of major political party conflict from mellowing of first party system to 1890s realignment.

5130. Comparative History of New World Slavery and Race Relations (3) (WI*)
Origin and development of slavery and race relations in US and various societies in Western Hemisphere.

5135. Problems in North Carolina History (3) (WI*)
P: HIST 1050, 1051; or consent of instructor. Process by which NC evolved from isolated English colony into part of modern US. Emphasis on bibliographic work. Research in archival and manuscript sources.

5140. The Old South (3) (F)
Development of southern US to outbreak of Civil War.

5141. The South Since 1877 (3) (WI*)
Development of southern US from end of Civil War to recent years.

5220. Selected Topics in US Women’s History (3) (S)
In-depth exploration of topics. Analysis of major themes, documents, and theoretical work.

5230. Themes in African American History (3) (S)
Intensive examination of pivotal themes and writings.

5300. Comparative History of Non-Western Civilizations (3) (WI*)
May not count toward 3 s.h. 5000- level requirement for undergraduate HIST majors.
Evolution of major civilizations of Asia, Africa, and Middle East. Emphasis on comparative cultural foundations of civilizations.

5310. Intellectual History of Europe (3)
Major themes of modern European thought. Analysis of selected readings from representative nineteenth- and twentieth-century thinkers.

5340. The Ancient Near East (3)
Civilizations from lower paleolithic age to conquest of Persia by Alexander the Great.

5350. The Renaissance in European History (3) (S)
Cultural and intellectual developments of western Europe from about 1300 to about 1600.

5360. The Reformation, 1450-1598 (3)
European history from 1450 to 1598. Renaissance materials as background.

5440. Twentieth-Century England (3)

5450. Tudor-Stuart England (3)
Emergence of England into world leadership. Internal developments which shaped its political, economic, and social life in sixteenth, seventeenth, and early eighteenth centuries.

5470. History of Soviet Russia Since 1917 (3)
Russian revolutions of 1917 and rise of Soviet Union to superpower status.

5480. Weimar and the Rise of Hitler (3)
Society, culture, and politics of Germany during Weimar Republic. Failure of democracy and establishment of Nazi state.

5505. Maritime History of the Western World to 1415 (3)
Designated as European history. Maritime activities from classical antiquity through Middle Ages. Emphasis on development of maritime commerce, piracy, and naval warfare.

5520. Maritime History of the Western World Since 1815 (3)
Designated as American history. Impact of maritime activities on political, diplomatic, economic, and military affairs. Emphasis on technology.

5530. Field School in Maritime History and Underwater Research (2) (S)
20 classroom/lab hours per week. P: Scientific diving certification; consent of instructor. Early field experience.

5555. Constitutionalism and Kingship in Early Modern Europe (3)
Royal absolutism as dominant philosophy in seventeenth-century state building. Role of Continental political ideologies in development of English constitutional government.

5660. Imperialism in Theory and Practice, 1800 to the Present (3) (WI*)
Theoretical and empirical perspectives on European expansion, primarily in Africa and Asia. Political, economic, social, and non-European origins of imperialism.

5670. Diplomatic History of Europe, 1815 to the Present (3)
   Survey of international relations of great European powers.

5680. Diplomatic History of Modern Asia (3)
   Role of diplomacy. Emphasis on conflict between East and West since 1800.

5765. Latin America, 1492 to the Present (3) (WI*)

5910. Introduction to the Administration of Archives and Historical Manuscripts (3)
   Undergraduates may not count toward 3 s.h. 5000-level HIST major requirement. Background, preservation, and use of archives and historical manuscripts. Emphasis on historical evolution of archival profession and administration of archives and manuscript repositories.

5920, 5921. Techniques of Museum and Historic Site Development (3,0) (F)
   Undergraduates may not count toward 3 s.h. 5000-level HIST major requirement. History and theory of museology and techniques of museum and historic site management.

5930, 5931. Field and Laboratory Studies in Museum and Historic Site Development (3,0)
   Undergraduates may not count toward 3 s.h. 5000-level HIST major requirement. Develop practical methods for operation and management of history museums and historic sites.

5950. Introduction to Quantitative History (2)
   P: 20 s.h. of undergraduate history. Categories of quantitative history. Role of computer and techniques of its implementation in historical research.

5951. Directed Readings and Research in Quantitative History (1)
   P: HIST 5950. Intensive examination of special historical field in area of student’s interest. Research projects limited to quantitative assessments of historical eras.

5960. Introduction to Oral History (3)
   Theory and methodology of oral history interviewing and interpretation of oral history materials. Emphasis on fieldwork projects.

5970. Living History (3)
   P: Consent of instructor. Interpretations of past events. Focus on seventeen- through nineteenth century event specifics, world view, clothing, and accouterments.

5985. Historic Preservation Planning (3) Same as PLAN 5985
   Historic preservation planning. Examination of theoretical, legal, historical, and design bases of preservation planning.

HIST Banked Courses
3030. Economic History of the United States to 1865 (3)
3220. Continental Expansion of the United States, 1800-1848 (3)
3486. Constitutional History of England (3)
3910. History of Science (3)
3915. History of Western Medical Thought (3)
4450. History of Eastern Europe (3)
BA in Political Science

Minimum degree requirement is **126 s.h.** of credit as follows:

1. **Foundations curriculum** (See Section 4, Foundations Curriculum Requirements for all Baccalaureate Degree Programs.) ......................................................... **42 s.h.**
2. **Foreign language through level 1004** ............................................................... **12 s.h.**
3. **Core** ............................................................................................................... **36 s.h.**
   - POLS 1010. National Government (3) (F,S,SS) (FC:SO)
   - POLS 2010. Introduction to Comparative Government and Politics (3) (WI) (F,S) (FC:SO)
   - POLS 2020. Introduction to International Relations (3) (F,S) (FC:SO)
   - Choose one from the following:
     - POLS 2070. Introduction to Political Theory (3) (F,S) (FC:SO)
     - POLS 3031. Research Design for Political Science (3) (F)
     - POLS 3042. American Politics Through Music (3) (FC:SO) (**RP: POLS 1010**)
   - POLS 3050. The Theory and Politics of Social and Protest Movements in the United States (3) (S) (FC:SO)
   - Choose a minimum of 24 s.h. of POLS above 2999 to total 36 s.h.
4. **Minor and electives to complete requirements for graduation.**

BS in Political Science

Minimum degree requirement is **126 s.h.** of credit as follows:

1. **Foundations curriculum** (See Section 4, Foundations Curriculum Requirements for all Baccalaureate Degree Programs.) ......................................................... **42 s.h.**
2. **Core**: Specific required courses and elective courses in each of the following categories, with a minimum of 27 s.h. above 2999. (Courses may count for only one category. No course counted for the major may count for the minor. 15 s.h. are free POLS electives. A maximum of 6 s.h. from POLS 4501, 4502, 4521, 4522, 4981, 4982, 4991, 4992 may count toward any degree program offered by the political science department.) ........... **51 s.h.**

American Government and Politics (9 s.h.):
- POLS 1010. American National Government (3) (F,S,SS) (FC:SO)
- POLS 3240. State and Local Government (3) (F,S) (FC:SO)
- Choose 3 s.h. from:
  - POLS 3033. Voting Behavior and Public Opinion (3) (F) (FC:SO)
  - POLS 3035. American Political Parties and Politics (3) (F) (FC:SO)
  - POLS 3037. Campaigns and Elections (3) (S)
  - POLS 3039. Black Politics in America (3) (F) (FC:SO)
  - POLS 3040. Women in Politics (3)
  - POLS 3045. Humor in American Politics (3)
  - POLS 3090. Religion and American Politics (3) (S) (**RP: POLS 1010**)
  - POLS 3202. The American Legislature (3) (S) (FC:SO)
POLS 3203. The American Executive (3) (F) (FC:SO)
POLS 3204. The American Judiciary (3) (F) (FC:SO) (P: POLS 1010 or consent of instructor)
POLS 3223. Constitutional Powers (3) (S) (P: POLS 1010 or consent of instructor)
POLS 3224. Civil Liberties (3) (S) (P: POLS 1010 or consent of instructor)
POLS 3241. Urban Political Systems (3) (S)
POLS 3243. Comparative State Politics (3) (SS)
POLS 3244. North Carolina Politics (3) (F) (FC:SO)
POLS 4321. Contemporary Southern Politics (3) (S)
POLS 5000. American Government and Politics (3)

Comparative Government and International Politics (9 s.h.):
POLS 2010. Introduction to Comparative Government and Politics (3) (WI) (F,S) (FC:SO)
POLS 2020. Introduction to International Relations (3) (F,S) (FC:SO)
Choose 3 s.h. from:
POLS 3140. Politics of Globalization (3)
POLS 3144. American Foreign Policy (3) (S) (RP: POLS 2020)
POLS 3155. National Security Policy (3) (S) (FC:SO)
POLS 3232. The European Union (3) (S) (FC:SO) (P: POLS 2010 or 2020 or consent of instructor)
POLS 3234. West European Political Systems (3) (F) (FC:SO) (RP: POLS 2010)

POLS 3235. East European Political Systems (3) (F) (FC:SO) (RP: POLS 2010)
POLS 3236. Russian Politics (3) (S) (FC:SO) (RP: POLS 2010)
POLS 3260. Middle Eastern Political Systems (3) (FC:SO)
POLS 3265. African Political Systems (3) (S) (FC:SO)
POLS 3270. Latin American Political Systems (3) (FC:SO) (S)
POLS 3290. Conflict and Peace in the Post-Cold War Era (3) (S)
POLS 3291. Politics of Genocide in the Twentieth Century (3) (SS) (RP: POLS 2010 or 2020)
POLS 3293. International Organizations (3) (F) (RP: POLS 2020)
POLS 3295. International Law (3) (S) (P: POLS 2020 or consent of instructor)
POLS 3297. International Political Economy (3) (FC:SO) (P: POLS 2020 or consent of instructor)
POLS 4000. Political Leadership (3) (S) (P: 12 s.h. in POLS or consent of instructor)
POLS 4107. Topics in Comparative Politics (3) (S) (P: 12 s.h. in comparative government or politics or consent of instructor)
POLS 4360. Politics of Developing Areas (3) (F) (FC:SO)
POLS 4380. Topics in International Politics (3) (F) (P: POLS 2020 or consent of instructor)
POLS 4382. Politics of Terrorism (3) (S)
POLS 4383. War in the Modern Age (3) (F)
POLS 4384. Inter-American Relations (3) (SOY) (FC:SO)

Political Theory, Methods, and Skills (9 s.h.):
POLS 3031. Research Design for Political Science (3) (F)
POLS 3032. Statistical Methods for Political Science (3) (S) (RP: POLS 3031)
Choose 3 s.h. from:
POLS 2070. Introduction to Political Theory (3) (F,S) (FC:SO)
POLS 3042. American Politics Through Music (3) (FC:SO) (RP: POLS 1010)
POLS 3050. The Theory and Politics of Social and Protest Movements in the United States (3) (S) (FC:SO)

Public Administration and Public Policy (9 6 s.h.):
Choose 3 s.h. from:
POLS 3252. Public Administration (3) (SS) (FC:SO)
POLS 3255. Domestic Public Policy (3) (S)
Choose 6- 3 s.h. from
POLS 3041. Women and Public Policy (3) (S) (FC:SO)
POLS 3242. Municipal Policy and Administration (3) (F)
POLS 3252. Public Administration (3) (SS) (FC:SO)
POLS 3253. Government Fiscal Administration (3) (S) (RP: POLS 1010)
POLS 3255. Domestic Public Policy (3) (S)
POLS 3256. Environmental Politics (3) (F)
POLS 3257. International Environmental Policy (3) (S)
POLS 4310. Public Policy and the Media (3) (S) (FC:SO)

Electives in Political Science (15-18 s.h.)
Choose 15-18 s. h. from any of the fields above and from the following:
- POLS 1050. Politics and Global Understanding (3) (FC:SO)
POLS 3011. Political Issues (3) (FC:SO)
POLS 3012. Politics Through Film (3) (S) (FC:SO)
POLS 3013. Decision Making in the United Nations (3) (F) (FC:SO)
POLS 3080. Security and Weapons of Mass Destruction (3) (S)

Independent Study, Directed Readings, Internships, and Honors:
Choose a maximum of 6 s.h. from one of the following course groups:
POLS 4501, 4502. Independent Study in Political Science (1,2) (WI, WI) (F,S,SS) (P: Consent of dept chair)
POLS 4521, 4522. Directed Readings in Political Science (1,2) (F,S,SS) (P: Consent of dept chair)
POLS 4981, 4982. Internship in Practical Politics (1,2) (F,S,SS)
POLS 4991, 4992. Internship in Public Administration (1,2) (F,S,SS)
(only 3 hours of internships will count toward degree; see dept. chair for possible waiver to 6 hours)
Or choose a maximum of 6 s.h. of honors from:
POLS 4551. Honors (3) (WI) (F,S,SS) (Open to POLS majors who have been invited to participate in the Honors Program)
POLS 4552. Honors (3) (WI) (F,S,SS) (Open only to POLS majors who have a minimum grade of B in POLS 4551)

3. Cognates (Choose from the following.) ................................................................. 3 s.h.
ENGL 3820. Scientific Writing (3) (WI) (F,S) or ENGL 3880. Writing for Business and Industry (3) (F,S,SS)

4. Minor.......................................................................................................................... 24 s.h.
Communication; computer science; management information systems; economics; ethnic studies; geography; history; industrial technology; information processing; international studies; recreation and leisure studies; military science; planning; psychology; public history; sociology; statistics; women's studies; or any other appropriate minor with consent of the dept chair.

5. General Electives to 126 hours.

Public Administration Minor
Minimum requirement for public administration minor is 24 s.h. credit. Courses counted toward this minor may not count toward the requirements for a major in political science.

1. Core .......................................................................................................................... 9 s.h.
MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (P: MATH 1065 or equivalent) or ENGL 3880. Writing for Business and Industry (3) (F,S,SS)
MIS 2223. Introduction to Computers (3) (F,S,SS) (Formerly DSCI 2223)
POLS 3252. Public Administration (3) (SS) (FC:SO)

2. Electives (Choose from the following.) ................................................................. 15 s.h.
GEOG 2410. Fundamentals of GIS (3)
GEOG 3430. Geographic Information Systems I (3) (F,S) (P: GEOG 2410 or equivalent)
PLAN 3032. Planning Legislation and Administration (3) (WI) (S)
PLAN 3051. Introduction to GIS in Planning (3) (F)
POLS 3031. Research Design for Political Science (3) (F)
POLS 3041. Women and Public Policy (3) (FC:SO) (P: POLS 1010 or consent of instructor)
POLS 3240. State and Local Government (3) (FC:SO) (P: POLS 1010 or consent of instructor)
POLS 3241. Urban Political Systems (3) (S)
POLS 3242. Municipal Policy and Administration (3)
POLS 3253. Government Fiscal Administration (3) (S) (RP: POLS 1010)
POLS 3255. Domestic Public Policy (3) (S)
POLS 3256. Environmental Politics (3) (F)
POLS 3257. International Environmental Policy (3) (S)
POLS 4310. Public Policy and the Media (3) (S) (FC:SO)
POLS 4991. Internship in Public Administration (1) (F,S,SS) (P: Consent of instructor)
POLS 4992. Internship in Public Administration (2) (F,S,SS) (P: Consent of instructor)
PSYC 3241. Personnel and Industrial Psychology (3) (F,S,SS) (FC:SO)

Political Science Minor
Minimum requirement for political science minor is 24 s.h. of credit as follows:
1. Core.................................................................................................................................................. 9 s.h.
POLS 1010. National Government (3) (F,S,SS) (FC:SO)
POLS 2010. Introduction to Comparative Government and Politics (3) (WI) (F,S,SS) (FC:SO)
POLS 2020. Introduction to International Relations (3) (F,S,SS) (FC:SO)
2. Choose from the following..................................................................................................................... 3 s.h.
POLS 2070. Introduction to Political Theory (3) (F,S) (FC:SO)
POLS 3031. Research Design for Political Science (3) (F)
POLS 3042. American Politics Through Music (3) (FC:SO) (RP: POLS 1010)
POLS 3050. The Theory and Politics of Social and Protest Movements in the United States (3) (S) (FC:SO)
3. POLS electives above 2999.................................................................................................................. 12 s.h.

Comparative Government and International Relations Minor
Minimum requirement for comparative government and international relations minor is 24 s.h. of credit. Courses counted toward this minor may not count toward the requirements for a major in political science.
1. Core.................................................................................................................................................. 6 s.h.
POLS 2010. Introduction to Comparative Government and Politics (3) (WI) (F,S,SS) (FC:SO)
POLS 2020. Introduction to International Relations (3) (F,S,SS) (FC:SO)
2. Electives (Choose from the following.)............................................................................................... 18 s.h.
POLS 3013. Decision Making in the United Nations (3) (F) (FC:SO)
POLS 3140. Politics of Globalization (3)
POLS 3144. American Foreign Policy (3) (S) (RP: POLS 2020)
POLS 3155. National Security Policy (3) (FC:SO)
POLS 3232. The European Union (3) (S) (FC:SO) P: POLS 2010 or 2020 or consent of instructor.
POLS 3234. West European Political Systems (3) (F) (FC:SO) (RP: POLS 2010)
POLS 3235. East European Political Systems (3) (F) (FC:SO) (RP: POLS 2010)
POLS 3236. Russian Politics (3) (S) (FC:SO) (RP: POLS 2010)
POLS 3260. Middle Eastern Political Systems (3) (FC:SO)
POLS 3265. African Political Systems (3) (S) (FC:SO)
POLS 3270. Latin American Political Systems (3) (FC:SO) (S)
POLS 3280. South Asian Political Systems (3) (SS)
POLS 3290. Conflict and Peace in the Post-Cold War Era (3)  **(S)**
POLS 3291. Politics of Genocide in the Twentieth Century (3) (SS)  **(RP: POLS 2010 or 2020)**
POLS 3295. International Law (3)  **(P: POLS 2020 or consent of instructor)**
POLS 3297. International Political Economy (3)  **(FC:SO)**  **(RP: POLS 2020 or consent of instructor)**
POLS 4107. Topics in Comparative Politics (3)  **(S)**  **(P: 12 s.h. in comparative government and politics courses or consent of instructor)**
POLS 4360. Politics of Developing Areas (3)  **(F)**  **(FC:SO)**
POLS 4380. Topics in International Politics (3)  **(F)**  **(P: POLS 2020 or consent of instructor)**
POLS 4382. Politics of Terrorism (3)  **(S)**
POLS 4383. War in the Modern Age (3)  **(F)**
POLS 4384. Inter-American Relations (3)  **(SOY) (FC:SO)**

http://www.ecu.edu/cs-acad/ugcat/CoursesP.cfm#pols

**POLS: Political Science**

   Basic concepts, structure, powers, procedures, and problems of American government.

1050. Politics and Global Understanding (3)  **(FC:SO)**
   Virtual exchange with a variety of countries to explore the interrelationship between political culture and perspectives, institutions of government, political processes, and policy outcomes.

2010. Introduction to Comparative Government and Politics (3)  **(WI) (F,S) (FC:SO)**
   May receive credit for one of POLS 2010, 2107. Comparative analysis of political systems. Examines foundations of structures and governments.

2020. Introduction to International Relations (3)  **(F,S) (FC:SO)**
   May receive credit for one of POLS 2020, 2106. Basic concepts and principles of functioning of international system. War and peace, economics, diplomacy, arms control, and threats to peace.

2070. Introduction to Political Theory (3)  **(F,S) (FC:SO)**
   May receive credit for one of POLS 2070, 2108. Selected literature and thinkers addressing political life and problems.

3011. Political Issues (3)  **(FC:SO)**
   Current foreign and domestic issues facing American national government.

3012. Politics Through Film (3)  **(S) (FC:SO)**
   Themes, issues, and processes of politics through in-depth study of selected films.

3013. Decision Making In the United Nations (3)  **(F)  (FC:SO)**
   Development of debate and decision-making skills regarding issues before the United Nations, and practiced through administering a model United Nations conference.

3031. Research Design for Political Science (3)  **(F)**
   Concepts and theories essential to research design, kinds of data, and measurement use to address political questions.

3032. Statistical Methods for Political Science (3)  **(S)**
   RP: POLS 3031. Application of scientific method to political and social problems.

   Factors which affect development and expression of public opinion, voter turnout, partisanship, and electoral choices.
3035. American Political Parties and Politics (3) *(FC:SO)*
Politics, parties, and pressure groups. Consideration of recent research findings in many aspects of political behavior.

3037. Campaigns and Elections (3)
Detailed analysis of campaigns and elections in the US, from prior to primaries to general election, including candidates, parties, media, and voting behavior.

3039. Black Politics in America (3) *(FC:SO)*
Investigates political goals of Black Americans.

3040. Women in Politics (3)
Status and influence of women in American political system. Cross-national comparisons.

3041. Women and Public Policy *(S) (FC:SO)* (3)
Public policies that affect women in American society.

3042. American Politics Through Music (3) *(S) (FC:SO)*
*RP: POLS 1010.* 3 lecture hours per week plus 3 lab hours per semester. Study of political expression through and qualitative research about various genres of music.

3045. Humor and American Politics *(S)* (3)
Political Humor, especially in television and the new media, as it relates to elections, political attitudes, public opinion.

3050. Theory and Politics of Social and Protest Movements in the United States *(S) (FC:SO)* (3)
Major social and protest movements, including women’s suffrage, civil rights, and the rise of the religious right.

3080. Security and Weapons of Mass Destruction (3) *(S)*
Chemical, biological, radiological, nuclear weapons, their potential use, and the challenges governments face at all levels as they prepare to counter these threats.

3090. Religion and American Politics *(S)* *(FC:SO)*
*RP: POLS 1010.* The role of religious groups in the American political system, including both elite and mass behavior, and denominational differences.

3140. Politics of Globalization (3)
Sources, consequences, processes of globalization; topics include economic liberalization, spread of democracy, multicultural global civil society, international conflict, economic development, human rights.

3144. American Foreign Policy *(S) (FC:SO)* (3)
*RP: POLS 2020.* Principles and policies which characterize America’s recent and contemporary foreign relations.

3155. National Security Policy (3)
Overview of processes, forces, and influences which determine contemporary national security policy in United States. Examine contemporary issues, including transnational threats, multinational and coalition defense strategies, force modernization, recruitment and retention, and homeland security.

3202. The American Legislature *(FC:SO)* (3)
Organization, powers, and role of legislature in American political process.

3203. The American Executive *(FC:SO)* (3)
Organization, powers, and role of executive in American political process.

3204. The American Judiciary *(F) (FC:SO)*
P: POLS 1010 or consent of instructor. Organization, powers, and role of judiciary in American political process.

3223. Constitutional Powers (3)
P: POLS 1010 or consent of instructor. Constitutional issues related to powers of Congress, the presidency, courts, and state governments in American political system.

3224. Civil Liberties (3)
P: POLS 1010 or consent of instructor. Contemporary civil liberties issues confronting American political system.

3232. The European Union (3) (S) (FC:SO)
P: POLS 2010 or 2020 or consent of instructor. Major theoretical issues and political problems surrounding evolution of major institutions of European Union.

3234. West European Political Systems (3) (F) (FC:SO)
RP: POLS 2010. Comparative analysis of political structures and institutions in Great Britain, France, Germany, and selected West European nations.

3235. East European Political Systems (3) (FC:SO)

3236. Russian Politics (3) (FC:SO)

3240. State and Local Government (3) (F,S) (FC:SO)
May receive credit for one of POLS 2102, 3240. P: POLS 1010 or consent of instructor. Structures, principles, and policies of subnational government in US.

3241. Urban Political Systems (3)
Issues confronting US urban areas.

3242. Municipal Policy and Administration (3)
Decision-making process in urban governments. Survey of selected policy areas.

3243. Comparative State Politics (3)
Major state political institutions, political context within which they function, and processes by which they work. Comparative analysis rather than detailed account of a particular state government.

3244. North Carolina Politics (3) (FC:SO)
Forces that shaped NC politics and public policy. Survey of NC government.

3252. Public Administration (3) (F,S) (FC:SO)
Federal government administration and role of administrative agencies in formulation and implementation of public policy.

3253. Government Fiscal Administration (3)

3255. Domestic Public Policy (3) (F,S)
American policy-making process and major issues in several public policy areas.

3256. Environmental Politics (3)
Energy and environmental policies, especially governmental responses to conflicting goals of clean environment and energy sufficiency.

3257. International Environmental Policy (3)
Structures and processes used in formulation and implementation of international environmental treaties and agreements. Focus on international environmental policy, law, and cooperation.

3260. Middle Eastern Political Systems (3) (FC:SO)
Comparative study of government and politics in selected countries of Middle East.

3265. African Political Systems (3) (FC:SO)
Comparative study of government and politics in selected countries in Africa.

3270. Latin-American Political Systems (3) (FC:SO)
Selected Latin-American governments. Emphasis on internal processes and systems.
3280. South Asian Political Systems (3)  
   **RP: POLS 2010.** Comparative analysis of development and change in India, Pakistan, Ceylon, and Burma.

3282. East Asian Political Systems (3) (FC:SO)  
   **RP: POLS 2010.** Comparative analysis of political structures and institutions in East Asia with particular attention to China, Japan, and other selected countries.

3290. Conflict and Peace in the Post-Cold War Era (3)  
   Political, economic, socio-cultural, and ecological issues in post-Cold War international system that structure nature of conflict and prospects for future cooperation and peace.

3291. Politics of Genocide in the Twentieth Century (3) (SS)  
   **RP: POLS 2010 or 2020.** Domestic, international, political, legal, socio-cultural issues which structure government atrocities since 1900; prevention, punishment.

3293. International Organizations (3)  

3295. International Law (3)  
   P: POLS 2020 or consent of instructor. Basic survey of international law.

3297. International Political Economy (3) (FC:SO)  
   P: POLS 2020 or consent of instructor. Major theoretical issues and political problems surrounding interaction of international politics and international economics.

4000. Political Leadership (3)  
   P: 12 s.h. in POLS or consent of instructor. Theoretical analysis of leadership as defined, developed, and practiced in diverse political settings.

4107. Topics in Comparative Politics (3)  
   May be repeated for maximum of 6 s.h. with change of topic. P: 12 s.h. in comparative government and politics courses or consent of instructor. Selected topics and issues include executive-legislative relations, ethnicity and nationalism, revolutions, etc.

4310. Public Policy and the Media (3) (FC:SO)  
   Role of media in formulation and analysis of public policies primarily in US, also comparisons with other nations.

4321. Contemporary Southern Politics (3)  
   Comprehensive study of southern regional politics. Emphasis on role of mass movements, power structures, political parties, and factionalism. Underlying cultural and economic factors.

4360. Politics of Developing Areas (3) (FC:SO)  
   Major theoretical issues and political problems central to processes of modernization and socioeconomic development in Third World.

4380. Topics in International Politics (3)  
   May be repeated for maximum of 6 s.h. with change of topic. P: POLS 2020 or consent of instructor. Selected topics and issues in contemporary international politics.

4382. Politics of Terrorism (3)  
   Explores phenomenon of terrorism throughout world with particular focus on characteristics of terrorism, reasons why groups choose terrorist action, and issues in counter terrorism.

4383. War in the Modern Age (3)  
   Broad-ranging study of politics of modern war. Causes, weaponry and strategy, and effects. Arms control issues and analysis of potential for armed conflict in post-Cold War era.

4384. Inter-American Relations (3) (SOY) (FC:SO).
International politics among the countries of the Western Hemisphere.

4501, 4502. Independent Study in Political Science (1,2) (WI, WI) (F,S,SS)
May count maximum of 6 s.h. of POLS 4501, 4502, 4521, 4522, 4981, 4982, 4992
toward any degree offered by the political science dept. P: Consent of dept chair.
Individualized program developed through student initiative in consultation with
professor of choice as an extension of material offered through formal courses in
departmental curriculum. Available only as extended study program when regular
course offerings in a particular field of discipline have been exhausted and student is
interested in additional study in that field.

4521, 4522. Directed Readings in Political Science (1,2) (F,S,SS)
May count maximum of 6 s.h. of POLS 4501, 4502, 4521, 4522, 4981, 4982, 4992
toward any degree offered by the political science dept. P: Consent of dept chair.
Advanced students read basic literature in field.

4551, 4552. Honors (3,3) (WI, WI) (F,S,SS)
P for 4551: POLS major; invitation to participate in honors program; P for 4552:
POLS 4551 with a minimum grade of B.

4981, 4982. Internship in Practical Politics (1,2) (F,S,SS)
3 hours per week for 4981; 6 hours per week for 4982. May be taken concurrently.
May count maximum of 6 s.h. of POLS 4501, 4502, 4521, 4522, 4981, 4982, 4992
toward any degree offered by the political science dept. P: Consent of internship
director and dept chair. Experiential learning under academic supervision in political
setting.

4991, 4992. Internship in Public Administration (1,2) (F,S,SS)
3 hours per week for 4991; 6 hours per week for 4992. May be taken concurrently.
May count maximum of 6 s.h. of POLS 4501, 4502, 4521, 4522, 4981, 4982, 4991,
4992 toward any degree offered by the political science department. P: Consent of
internship director and dept. chair. Experiential learning under academic supervision
in public agency setting.

4996. Capitol Experience (9) (F,S,SS)
P: Admission to approved legislative internship program and consent of dept chair.
Participation in organized legislative internship program with state legislature or U.S.
national government. Experiential learning under academic supervision in political or
public agency setting.

5000. American Government and Politics (3)
May not count toward POLS major or minor or MPA degree. P: Consent of instructor.
Introductory survey of readings in American national government and politics for
students interested in graduate work, but who have no undergraduate background in
political science or public administration.

POLS Banked Courses
3145. Russian Foreign Policy (3)
3282. East Asian Political Systems (3)
3370. American Political Thought (3)
4305. Public Administrative Theory (3)
4306. Intergovernmental Relations in the United States (3)
4307. Comparative Public Administration (3)
4371. Western Political Thought I: Moses to Montesquieu (3)
4373. Western Political Thought II: Rousseau to Camus (3)
Agenda Item VII

College of Health and Human Performance

Department of Kinesiology

http://www.ecu.edu/cs-acad/ugcat/ExerSport.cfm

BS in Physical Education

A minimum cumulative 2.5 GPA, documented scores for Praxis I Series (PPST, CBT or documented scores on SAT/ACT), successful completion of the EXSS majors' fitness test, and successful completion of the computer competency requirement are required to declare a major in the BS in physical education degree. A minimum grade of C is required in all EXSS courses for successful completion of the degree. See Section 8, Academic Programs, College of Education, Licensure, for NC teacher licensure requirements. Minimum degree requirement is 128 s.h. of credit as follows: Note: These degree requirements are subject to change beginning Fall 2010 pending NC State Board of Education approval of revised licensure program requirements. Students should consult their departmental advisor for specific program information.

1. Foundations curriculum and special requirements for students preparing to teach and for certification (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

   BIOL 1050, 1051. General Biology and Laboratory (3,1) (F,S,SS) (FC:SC) or BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   PHYS 1250. General Physics (3) (F,S,SS) (FC:SC) (P: MATH 1065)
   PHYS 1251. General Physics Laboratory (1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350)

2. Core - 44 s.h.

   EXSS 2122. Motor Development (2) (F,S) (P: BIOL 2130; EXSS 2850)
   EXSS 2202. Motor Learning and Performance (3) (F,S,SS)
   EXSS 2323. Principles of Physical Education (2) (F,S,SS)
   EXSS 2500. Dance in the Schools (2) (F,S,SS) (P: EXSS 1000 or 1001)
   EXSS 2600. Movement Education (3) (F,S,SS) (P: EXSS 1000 or 1001)
   EXSS 2850. Structural Kinesiology (1) (F,S,SS)
   EXSS 2900. Teaching Skillful Movement (3) (F,S,SS) (P: EXSS 2323; P/C: EXSS 2202)
   EXSS 3000. Curriculum in Physical Education (2) (F) (P: Upper division standing; declared EXSS major)
   EXSS 3510. Lifetime Activities (1) (F,S,SS) (P: Declared EXSS major; EXSS 1000 or 1001)
   EXSS 3520. Team Sports (1) (F,S,SS) (P: Declared EXSS major; EXSS 1000 or 1001)
EXSS 3530. Field Sports (1) (F,S,SS) (P: Declared EXSS major; EXSS 1000 or 1001)
EXSS 3500. Secondary Content in Physical Education (3) (F,S,SS) (P: Upper division standing; declared EXSS major; EXSS 1000 or 1001)
EXSS 3540. Fitness Education (2) (F,S,SS) (P: Upper division standing; declared EXSS major)
EXSS 3805. Physiology of Exercise (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2150; EXSS 2850)
EXSS 3850. Introduction to Biomechanics (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140; EXSS 2850; PHYS 1250, 1251; or consent of instructor)
EXSS 3900. Elementary School Instruction in Physical Education (3) (F,S) (P: Upper-division standing; EXSS 2122, 2500, 2600, 2900; with consent of BS in physical education degree director BS in health education majors and Physical Education Alternative Licensure students may enroll)
EXSS 3906. Physical Education for Special Populations (3) (WI) (F,S,SS) (P: Upper division standing; EXSS 2323; SPED 2000; or consent of instructor)
EXSS 3910. Diversity Issues in Teaching Physical Education (3) (F,S) (P: EDUC 3200 or any 2123 early experience course in a teacher education program area)
EXSS 4400. Creating Positive Learning Environments in Physical Education (3) (F,S) (P: Upper division standing)
EXSS 4804. Measurement and Evaluation in Exercise and Sport Science (3) (F,SS) (P: Upper division standing; EXSS 2323; MATH 1065; health and human performance major or minor or consent of dept chair)

3. Cognates - 4 s.h.

BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (P: BIOL 1050, 1051; or 1100, 1101)

4. Professional studies - 26 s.h.

EDTC 4001. Technology in Education (2) (F,S,SS) (P: BITE 2000 or BITE 2000 bypass exam or BITE 2112 or MIS 2223 or other Council for Teacher Education approved technology course)
EDUC 3200. Foundations of American Education (3) (WI) (F,S,SS) (P: Early experience course or consent of instructor)
EDUC 4400. Foundations of School Learning, Motivation, and Assessment (3) (F,S) (P: Admission to upper division; C: Senior I semester) or PSYC 4305. Educational Psychology (3) (F,S,SS) (P: PSYC 2201 or 2240 or 3206 or 3240 or equivalent)
EXSS 2123. Early Experiences for the Prospective Teacher (1) (F,S)
EXSS 4323. Middle and High School Instruction in Physical Education (3) (F,S) (P: Upper division standing; EXSS 3500, 3510, 3520, 3530, 3540, 3900; P/C: EXSS 4804; with consent of BS in physical education degree director BS in health education majors and Physical Education Alternative Licensure students may enroll)
EXSS 4324. Internship in Exercise and Sport Science (9) (F,S) (P: Upper division standing; completion of upper-division courses, except READ 3990, EXSS 4325; C: EXSS 4325)
EXSS 4325. Internship Seminar: Issues in Physical Education (1) (F,S) (P: Upper division standing; C: EXSS 4324)
READ 3990. Teaching Reading in the Content Areas in the Secondary School (2) (F,S,SS) or READ 5317. Reading in the Junior and Senior High School (3)
SPED 2000. Introduction to Exceptional Children (2) (F,S,SS)

5. Academic concentration (See College of Education, Academic Concentration. A maximum of 6 s.h. may count toward foundations curriculum requirements.) - 18 s.h.

http://www.ecu.edu/cs-acad/ugcat/CoursesE.cfm#exss

EXSS: Exercise and Sport Science

2000. Introductory Exercise and Sport Science (3) (F,S,SS)
   General survey of the methods of study of physical activity. Introduction, justification, terminology, history, methods of study, and professional and academic applications.
2020. Physical Activity and Disease Prevention (3) (S)
   P: BIOL 1050,1051 or BIOL 1100, 1101; EXSS 1000; HLTH 1000. Survey of adaptations caused by regular physical activity that have a positive influence on disease prevention.
2050. Computer Applications in Exercise and Sport Science (3)
   Introduction to computer applications in exercise and sport science.
2122. Motor Development (2) (F,S)
   P: BIOL 2130; EXSS 2850. Foundation for planning appropriate motor ability programs throughout life span. Emphasis on birth through adolescence. Observational skills and assessment tools.
2123. Early Experiences for the Prospective Teacher (1) (F,S)
   For prospective teachers. Minimum of 16 clock hours of directed observations and planned participation in appropriate school environments and 8 clock hours of seminar class instruction in the teaching area. May not count toward major or minor for the BA degree.
2202. Motor Learning and Performance (3) (F,S,SS)
   Introduces fundamental principles involved in learning and performing motor skills in variety of contexts.
2278. Basic Scuba Diving (3)
   For beginners. 2 classroom and 3 lab hours per week. P: Satisfactory performance on the NAUI Swimming Test; a notarized statement releasing the instructor and the university from all liability; a satisfactory medical history and medical examination. Basic instruction in fundamental skills and safety patterns. NAUI certification upon satisfactory completion of course.
2323. Principles of Physical Education (2) (F,S,SS)
Basic introduction to physical education. Philosophical, historical, biological, physiological, sociological, and political foundations of physical education.

2500. Dance in the Schools (2) (F,S,SS)
1 lecture and 3 lab hours per week. P: EXSS 1000 or 1001. Introduces Laban's educational dance framework. Creative, folk, and social dance and methods for presenting in schools.

2600. Movement Education (3) (F,S,SS)
P: EXSS 1000 or 1001. Content knowledge and learning experiences in educational games, gymnastics, and fitness for children K-6.

2700. Gymnastics in the Schools (2)
For physical education majors. 4 lab hours per week. P: EXSS 1000 or 1001. Comprehensive gymnastics. Educational gymnastics (grades K-6) and skills for Olympic gymnastics (grades 7-12).

2704. Tutoring (1)
Assignment to activity classes for training and experience in actual conduct of class work.

2727. Sports Officiating: Football, Touch and Flag Football (2)
4 lecture/lab hours per week for 10 weeks. Football and touch and flag football rules and interpretations. Emphasis on proper mechanics, techniques, and responsibilities in officiating.

2730. Sports Officiating: Baseball and Softball (1)
4 lecture/lab hours per week for 5 weeks. Baseball and softball rules and interpretations. Emphasis on proper mechanics, techniques, and responsibilities in officiating.

2777. Lifeguard Training (2)
Two 1-1/2 hours sessions per week. P: Proficiency in basic swimming skills needed in lifesaving. Aquatic skills and lifesaving techniques for certification by American Red Cross.

2788. Water Safety Instructors Training Course (3)
6 hours per week of integrated lecture and lab work. P: EXSS 2777 or consent of instructor. Preparation for teaching swimming courses (beginning through advanced levels) for individuals of all ages and for operating and maintaining pools.

2850. Structural Kinesiology (1) (F,S,SS)
Structural principles of skeletal, muscular, nervous, cardiovascular, and respiratory systems. Emphasis on contributions of systems to human movement.

2900. Teaching Skillful Movement (3) (F,S,SS)
2 lecture and 2 lab hours per week. P: EXSS 2323; P/C: EXSS 2202. Introduces teaching of motor skills. Design and presentation of effective learning experiences for psychomotor skill development through lesson development for peer teaching.

3000. Curriculum in Physical Education (2) (F)
P: Upper division standing; declared EXSS major. Planning curriculum and implementing instruction through physical education curriculum models.

3278. Skin and Scuba Diving Leadership (3)
For experienced, knowledgeable, and certified divers. 6 hours per week. P: EXSS 2278 or consent of instructor; minimum age of 18 by completion of the course; 1 year of diving experience with appropriate dives and hours logged; verification of good physical
condition as indicated by a recent medical examination; personal diving equipment suitable for open water; a completed standard application with a clear, recent photograph. Preparation for teaching skin and scuba diving and/or attaining dive-master certification.

3300. Applied Sports Psychology (3) (F)
P: PSYC 1000. Psychomotor theory as applied to athletic performance and coaching. Focus on understanding and enhancement of psychomotor skills related to optimal athletic performance.

3301. Physical Education and Sport in Modern Society (3) (F,SS)
P: Health and human performance major or minor; or consent of instructor. May not count toward foundations curriculum requirement. Social organization of sport and its relationship to basic aspects of institutional structure, cultural patterns, and dynamics of American society.

3500. Secondary Content in Physical Education (3) (F,SS)
2 lecture hours and 4 lab hours per week. P: Upper division standing; declared EXSS major; EXSS 1000 or 1001. Content knowledge and learning experiences in target, net/wall, territory, and fielding games.

3510. Lifetime Activities (1) (F,SS,SS)
2 lab hours per week. P: Declared EXSS major and EXSS 1000 or 1001. Basic skills and knowledge in archery, golf, badminton, and racquet sport variations.

3520. Team Sports (1) (F,SS)
2 lab hours per week. P: Declared EXSS major and EXSS 1000 or 1001. Basic skills and knowledge in basketball, softball, and volleyball.

3530. Field Sports (1) (F,SS)
2 lab hours per week. P: Declared EXSS major and EXSS 1000 or 1001. Basic skills and knowledge in flag football, soccer, speed ball, and other field sport variations.

3540. Fitness Education (2) (F,SS)
P: Upper division standing; declared EXSS major. Provides practical knowledge and skills to develop, organize and administer age-appropriate health-related fitness education programs for K-12 students.

3545. Practices and Procedures in Physical Education for Elementary Schools (2)
Satisfies EXSS requirement for elementary education. Not open to EXSS majors. P: Elementary education major or consent of instructor. Emphasis on selection of materials and presentation methods to be utilized with physical education in grades K-6.

3600. Coaching Theories (2)
Coaching as profession. Ramifications for coaching responsibilities.

3700. Essentials of Strength and Conditioning (3) (F,S)
P: EXSS 3805. Theory and application of strength training.

3802. Obesity Prevention and Treatment (3) (S)
P: BIOL 1050,1051 or 1100,1101; EXSS 1000 or 1001; HLTH 1000 or 1050; or consent of instructor. Introduction to the development of obesity and different intervention methods used for prevention and treatment.

3803. Physical Activity and Cancer (3) (F)
P: BIOL 1050/1051 or 1100/1101; or consent of instructor. Introduction to the study of physical activity and cancer from primary prevention to rehabilitation.

3804. Measurement of Physical Activity and Fitness (3) (F,SS)
2 lecture hours and 1 lab hour per week. P: BITE 2112 or MIS 2223 or EXSS 2050; EXSS 2000; or consent of instructor. Practical methods for measuring physical activity and fitness. Application of data management and analysis to these measures.

3805. Physiology of Exercise (3) (F,S,SS)
P: BIOL 2130 or BIOL 2140, 2150; EXSS 2850. Effect of exercise on physical and chemical processes of the human body.

3806. Physiology of Exercise Laboratory (1) (F,S,SS)
One 2-hour lab per week. P/C: EXSS 3805. Assessment and measurement of the effect of exercise on physical and chemical processes of the human body.

3850. Introduction to Biomechanics (3) (F,S,SS)
Two 2-hour lecture/lab classes per week. P: BIOL 2130 or BIOL 2140; EXSS 2850; PHYS 1250, 1251; or consent of instructor. Fundamentals of neuromuscular function and biomechanics of human movement in healthy, injured, and diseased populations.

3880. Personal Fitness Training (3) (F,S,SS)
2 lecture and 1 lab hour per week. P: Declared major or consent of instructor. Fundamentals of personal training.

3900. Elementary School Instruction in Physical Education (3) (F,S)
Extensive supervised practicum required. One lecture and 3 lab hours per week. P: Upper-division standing; EXSS 2122, 2500, 2600, 2900; with consent of BS in physical education degree director BS in health education majors and Physical Education Alternative Licensure students may enroll. Skills and knowledge for teaching motor skills to children K-6.

3906. Physical Education for Special Populations (3) (WI) (F,S,SS)
P: Upper-division standing; EXSS 2323; SPED 2000; or consent of instructor. Procedures and techniques in physical education for special populations.

3910. Diversity Issues in Teaching Physical Education (3) (F,S)
P: EDUC 3200 or any 2123 early experience course in a teacher education program area. Teacher candidates enhance their sensitivity to, and appreciation of, diversity of others within physical education.

4001, 4002, 4003. Special Topics In Exercise and Sport Science (1,2,3)
May be repeated for a maximum of 6 s.h. with change of topic. New or advanced topics vary by current faculty applied research.

4115. Physical Activity and Public Health (3) (F)
P: EXSS 1000; HLTH 1000. Introduction to understanding the role physical activity has in public health settings.

4278. Scuba Diving Instructor Training Course (3)
Minimum of 80-hour training program. 3 2-hour sessions per week. P: EXSS 3278; minimum age of 18 to be reached on or before completion of the course; a minimum of 1 year of diving experience since receiving open water diving certification with a total of at least 50 logged dives with 25 hours of bottom time; good physical condition for scuba diving as verified by a medical examination within the past year; certification in first aid, diving rescue techniques, or lifesaving and cardiopulmonary resuscitation; a completed NAUI waiver release and indemnity agreement and a NAUI instructor training course statement of understanding; own diving equipment. National Association of Underwater Instructor training course to train and evaluate candidates for certification as NAUI instructors.
4300. Program Development and Management in Physical Education and Sports (3)
P: Health and human performance major or minor; EXSS 2000 or 2323; or consent of instructor.

4301. Comparative Sport and Physical Education: International Aspects (3) (WI) (S,SS)
P: Health and human performance major or minor; EXSS 3301. Cultural, social, and political importance of sport and physical education around the world.

4323. Middle and High School Instruction in Physical Education (3) (F,S)
For preservice physical education teachers. Two lecture and 2 lab hours per week. P: Upper-division standing; EXSS 3500 3510, 3520, 3530, 3540, 3900; P/C: EXSS 4804; with consent of BS in physical education degree director BS in health education majors and Physical Education Alternative Licensure students may enroll. Teaching skills appropriate for middle and high school instruction in physical education. Supervised teaching practicum and preparation for internship semester. Must pass with a minimum grade of C.

4324. Internship in Exercise and Sport Science (9) (F,S)
Full-time, semester-long internship. P: Upper-division standing; completion of upper-division courses, except READ 3990, EXSS 4325; C: EXSS 4325. Observation and supervised teaching in assigned physical education public school classroom.

4325. Internship Seminar: Issues in Physical Education (1) (F,S)
P: Upper-division standing; C: EXSS 4324. Individualized study of problems or issues pertinent in physical education pedagogy and the development of the Senior II Teaching Portfolio.

4333. Sport and Fitness Marketing (3) (S, SS)
P: EXSS 4300; or consent of instructor. Theories, concepts, and practical applications in current marketing techniques relating to the sport and fitness enterprise.

4400. Creating Positive Learning Environments in Physical Education (3) (F,S)
2 lecture hours and 2 lab hours per week. P: Upper-division standing. Teacher candidates apply student behavior management, learning environment design, and critical observation in physical education.

4500, 4501, 4502. Independent Study in EXSS (1,2,3) (WI)
P: Consent of instructor. Individualized program developed through student initiative in consultation with designated instructor.

4700. Internship in Sports Studies (12)
P: Satisfactory completion of all other degree requirements or consent of dept chair. Supervised field experience to develop applied competence in exercise and sport leadership.

4800. Internship in Health Fitness (12) (F,S,SS)
Supervised field experience. 480 hours per semester. P: Satisfactory completion of all other degree requirements or consent of dept chair. Develop applied competence in physical activity and fitness leadership.

4804. Measurement and Evaluation in Exercise and Sport Science (3) (F,S,SS)
2 lecture and 2 lab hours per week. P: Upper-division standing; EXSS 2323; MATH 1065; health and human performance major or minor or consent of dept chair. Develop competencies needed for evaluation in exercise and sport science. Emphasis on basic statistics, selection, and administration of standardized tests, test construction, planning for evaluation programs, and appropriate microcomputer applications.
Agenda Item VIII

College of Health and Human Performance

Department of Health Education and Promotion

http://www.ecu.edu/cs-acad/ugcat/HealthEd.cfm

Department of Health Education and Promotion

BS in Athletic Training

The athletic training degree program is a Commission on Accreditation of Athletic Training Education (CAATE) accredited undergraduate program based on a minimum of 126 s.h.: 42 s.h. of foundations curriculum courses, 72 s.h. in the major area, and elective hours which can result in an approved minor or prepare one for further graduate study in an allied health profession, or provide the option of teacher licensure with additional coursework. Upon successful completion of this degree, the student will be eligible to sit for the Board of Certification exam. There is a strong clinical aspect of the program involving a minimum of 800 supervised hours under a certified athletic trainer. Admission to the university does not guarantee admission to the athletic training degree, as it is restricted by an imposed student-to-clinical instructor ratio. Candidates are required to submit a separate application process, and it is due August 15 just prior to the beginning of the fall semester you wish to begin your degree. See program web site for details. Competitive admission is based upon assessments of the applicant’s academic abilities, knowledge, dedication to the profession, and commitment to the health care of others. Following the 2-semester candidacy period (fall and spring consecutively), eligible applicants to the major must have a minimum cumulative and semester 2.0 GPA, completed ATEP 1800, 2810, 2811 with a minimum grade of C, current cardiopulmonary resuscitation (CPR) and first aid certification from an approved provider, successfully completed a two-semester (fall and spring consecutively) candidacy period, passed a health screening/physical examination, a letter of formal application on file, and an interview with the athletic training faculty and staff. There are written technical standards for admission that can be found in the Athletic Training Student Handbook and the program’s web site. Athletic training students are required to earn a minimum course grade of C in all athletic training courses. A minimum semester and cumulative GPA of 2.0 must be sustained throughout the program. All students in the degree are required to maintain current CPR certification, TB status, varicella immunization, hepatitis B immunization (or waiver), and liability insurance for the duration of their involvement in the curriculum. Verification of CPR certification and liability insurance are required each academic year. Specific requirements are stated in the Athletic Training Student Handbook. The athletic training degree requires a minimum of 800 practical, supervised clinical hours under the direction of a certified athletic trainer. The candidacy period does not count toward the total hours required. Transfer students must meet the above criteria. No transfer athletic training classes will be accepted, but other course work may be allowed on an individual basis. Minimum degree requirement is 126 s.h. of credit as follows:

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BS in Environmental Health

A minimum GPA of 2.0 in all 1000 level basic science and math courses, a minimum cumulative GPA of 2.0 on at least 30 s.h., and completion of EHST 2110 are required for admission to the professional phase of the environmental health sciences curriculum. Environmental health majors must pass all environmental health courses with a minimum grade of C. A student earning a D in any of these courses must petition the environmental health sciences faculty for probationary continuation. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations Curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.
   **Required:**
   - BIOL 1050, 1051. General Biology and Laboratory (3,1) (F,S,SS) (FC:SC)
   - BIOL 2130. Survey of Human Anatomy (4) (F,S,SS) (P: BIOL 1050, 1051; or 1100, 1101)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)

**Recommended**
COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)
HIST 1051. American History Since 1877 (WI*) (3) (F,S,SS) (FC:SO)
PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)
RCLS 2601. Leisure in Society (3) (F,S,SS) (FC:SO)
SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)

2. **Common Core - 42 s.h.**

**Select from the following with advisor approval:**
EHST 2110. Introduction to Environmental Health Sciences and Laboratory (3,0) (F,S)
EHST 3003. Environmental Epidemiology (3) (P)
EHST 3200. Food Sanitation Principles (3) (S: Consent of instructor; C: EHST 3201)
EHST 3201. Food Sanitation Principles Laboratory (1) (S: Consent of instructor; C: EHST 3200)
EHST 3350. Safe Water (4) (F: BIOL 2110, 2111; CHEM 1160, 1161, C: EHST 3351)
EHST 3351. Safe Water Laboratory (1) (F: BIOL 2110, 2111; CHEM 1160, 1161, C: EHST 3350)
EHST 3370. Waste Water Management (3) (S: EHST 3350, 3351; C: EHST 3371)
EHST 3371. Waste Water Management Laboratory (1) (S: EHST 3350, 3351; C: EHST 3370)
EHST 3600. Air Pollution (3) (F: EHST 2110 or consent of instructor) EHST 3700. Industrial Hygiene (3) (S: 8 s.h. of general science lab courses or consent of program directors; C: EHST 3701)
EHST 3701. Industrial Hygiene Laboratory (1) (S: Consent of instructor; C: EHST 3700)
EHST 4010. Toxicological Foundations of Risk Assessment (3) (S: BIOL 2130; CHEM 2650, 2651)
EHST 4200. Environmental Health Management and Law (3) (W: EHST major or minor)
EHST 4300, 4301. Institutional and Recreational Sanitation and Laboratory (3,0) (F: EHST 2110, 3003, 3200, 3201, 3350, 3351, 3370, 3371; or consent of instructor)
EHST 4350, 4351. Vector Borne Disease Ecology and Laboratory (3,0) (F: EHST 2110, 3003, 3350, 3351, 3370, 3371; or consent of instructor)
EHST 4990. Environmental Health Internship (3) (P: EHST major; 13 s.h. in EHST or consent of program director)
EHST 5001. Environmental Health Seminar (1) (May be taken more than once)
EHST 5800, 5801. Solid and Hazardous Waste Management and Laboratory (3,0) (P: CHEM 1160, 1161 or consent of instructor)

3. **Cognates - 30 s.h.**

**Required Cognates (24 s.h.):**
BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC) (P for 2110: CHEM 1120, 1130 or BIOL 1100 and CHEM 1150; 2.75 GPA or consent of instructor; RP for 2110; BIOL 1050, 1051 or 1100, 1101; C for 2110: CHEM 2110)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S) (FC:SC) (P/C: MATH 1065; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
CHEM 2650, 2651. Organic Chemistry for the Life Sciences (4,1) (F: CHEM 1150, 1161)
PHYS 1250, 1251. General Physics and Laboratory (3,1) (F,S) (FC:SC) (P: MATH 1065 or equivalent) or BIOS 1500. Introduction to Biostatistics (3) (P: MATH 1065 or equivalent or consent of instructor)

**Recommended Cognates (select at least 6 s.h.)**
MIS 2223. Introduction to Computers (3) (F,S) PHYS 1260, 1261. General Physics and Laboratory (3,1) (P: PHYS 1250)
GEOG 3220. Soil Properties, Surveys, and Applications (3) (F: GEOG 2250) or GEOL 5710, 5711. Ground Water Hydrology (3,0) (P: GEOL 1500, 1501 or consent of instructor)
MATH 2119. Elements of Calculus (3) (F,S) (FC:MA) (P: Minimum grade of C in MATH 1065 or MATH 1066)
MATH 2121. Calculus for the Life Sciences (3) (F,S) (FC:MA) (P: MATH 1065 with a minimum grade of C)

4. **Electives to complete requirements for graduation** Choose at least 6 s.h. of EHST electives from the 3000 level and above.
BS in Public Health Studies

Students entering the public health studies degree program choose one of three concentrations: community health, prehealth professions, or worksite health promotion. The community health concentration requires a minimum cumulative GPA of 2.5 for entry and thereafter the student must maintain a minimum 2.0 GPA in the required cognates and pass all health education core courses with a minimum grade of C. A student earning a D in any of these courses must petition the Department of Health Education and Promotion for probationary continuation. No student on probation may enroll for HLTH 4991, Health Education and Promotion Internship. Students entering the worksite health promotion concentration must have a minimum cumulative 2.0 GPA and a minimum 2.5 GPA calculated on three courses: ECON 2113; HLTH 2000; PSYC 3241. Students entering the prehealth professions concentration must have a minimum cumulative 2.0 GPA and a minimum 2.75 GPA calculated on the following courses: BIOL 1100, 1101, 1200, 1201; CHEM 1150, 1151, 1160, 1161. Prehealth professions students must complete an interview with health education faculty. Minimum degree requirement is 126 s.h. as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below for all options as well as additional foundations curriculum requirements for each option - 42 s.h.

   All concentrations:
   HLTH 1000. Health in Modern Society (2) (F,S,SS) (FC:HL)
   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
   PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)

   Community Health:
   BIOL 1050. General Biology (3) (F,S,SS) (FC:SC)
   BIOL 1051. General Biology Laboratory (1) (F,S,SS) (FC:SC)
   BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC) (P: BIOL 1050, 1051; or 1100, 1101)
   COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)
   SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)

   Prehealth Professions:
   BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)

   Worksite Health Promotion:
   BIOL 1050. General Biology (3) (F,S,SS) (FC:SC)
   BIOL 1051. General Biology Laboratory (1) (F,S,SS) (FC:SC)
   BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (P: BIOL 1050, 1051; or 1100, 1101)
   PSYC 3241. Personnel and Industrial Psychology (3) (F,S,SS) (FC:SO)

2. Common core - 24 s.h.

   BIOS 1500. Introduction to Biostatistics (3) (F,S) (P: MATH 1065 with a grade of C or better or equivalent or consent of instructor) or MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or equivalent)
   EHST 2110-2111. Introduction to Environmental Health Sciences and Laboratory (3,4) (F,S)
   HLTH 2000. Principles of Public Health (3) (P: HLTH 1000)
   HLTH 3010. Health Problems I (3) (F,S,SS) (P: BIOL 2130 or 2140; HLTH 1000 or 1050; or consent of instructor)
   HLTH 3011. Introduction to Epidemiology in Health Education and Promotion (3) (F,S,SS)
   HLTH 3020. Health Disparities (3) (F,S,SS) (P: HLTH 1000 or 1050; 3010 or consent of instructor)
   HLTH 3030. Health Behavior (3) (WI) (F,S,SS) (P: HLTH 1000 or 1050; PSYC 1000)
HLTH 3050. Public Health Systems and Policy (3) (P: HLTH 1000 or 1050)

3. Concentration (Choose one option.) - 37-49 s.h.

**Community Health (37 s.h.):**
- BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC) (P/C: BIOL 2130)
- HLTH 3000. Theory and Practice in Community Health Education (3) (S)
- HLTH 3002. Women's Health Across the Lifespan (3) (P: HLTH 3010)
- HLTH 3520. Introduction to Global Health (3) (S) (P: HLTH 1000 or 1050; or consent of instructor)
- HLTH 4605. Community Strategies for Health Education (3) (F,SS) (WI*) (P: HLTH 3000 or consent of instructor)
- HLTH 4609. Needs Assessment and Program Planning (3) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050; or consent of instructor)
- HLTH 4611. Program Evaluation (3) (P: HLTH 4609)
- HLTH 4880. Capstone: Applied Principles of Health Education and Promotion (3) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 4609, 4611; or consent of instructor)
- HLTH 4991. Health Education and Promotion Internship (12) (F,SS) (P: Completion of all other major requirements)
- NUTR 1000. Contemporary Nutrition (3) or NUTR 2105. Nutrition Science (3)

**Prehealth Professions (41-49 s.h.)**

**Basic Science Requirements:**
- BIOL 2140, 2141. Human Physiology and Anatomy (3,1) (P: CHEM 1120 or 1150; 2.75 GPA or consent of instructor; C for 2140: BIOL 2141; C for 2141: BIOL 2140)
- BIOL 2150, 2151. Human Physiology and Anatomy (3,1) (P: BIOL 2140; 2.75 GPA or consent of instructor; C for 2150: BIOL 2151; P for 2151: BIOL 2141; C for 2151: BIOL 2150)
- CHEM 1150, 1151. General Chemistry and Laboratory (3,1) (FC:SC) (P/C: MATH 1065; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
- CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
- HIMA 3000. Medical Terminology for Health Professionals (3) (F,SS) or ATEP 2800. Medical Nomenclature for Human Performance (2) (F,SS)

Choose either:
- CHEM 2750, 2753. Organic Chemistry I and Laboratory (3,1) (F,SS) (P: CHEM 1160, 1161) and CHEM 2760, 2763. Organic Chemistry II and Laboratory (3,1) (F,SS) (P: CHEM 2750) and/or PHYS 1250, 1251. General Physics and Laboratory (3,1) (F,SS) (FC:SC) (P: MATH 1065) and PHYS 1260, 1261. General Physics II and Laboratory (3,1) (F,SS) (FC:SC)

**Health Education Requirements:**
- HLTH 3300. Introduction to Patient Education (3) (P: HLTH 3010 or consent of instructor)

Choose 12 s.h. from the following:
- ANTH 3252. Medical Anthropology (3) (P: ANTH 1000 or 2010 or 2200)
- BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC) (P for 2110: CHEM 1120, 1130 or BIOL 1100 and CHEM 1150; 2.75 GPA or consent of instructor; RP for 2110; BIOL 1050, 1051 or 1100, 1101; P/C for 2111: BIOL 2110)
- BIOL 2300. Genetics (3) (P: BIOL 1100, 1200)
- BIOL 3310, 3311. Cellular Physiology (4,0) (F,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
- BIOL 4220. Microbes and Immunity (3)(WI*)(S, SS) (P: BIOL 2110, 2111; or 3220, 3221)
- BIOS 5010. Epidemiology for Health Professionals (3) (P: BIOS 1500 or consent of instructor) BIOL 5800, 5821. Principles of Biochemistry and Laboratory (3,1) (P: for 5800: BIOL 3310, 3311; or consent of instructor; CHEM 2760, 2763; P/C for 5821 for undergraduate students: BIOL 5800 or 5810)
- BIOL 5810. Principles of Biochemistry II (3) (P: BIOL 3310, 3311; or consent of instructor; CHEM 2760, 2763)
CHEM 2770, 2771. Biological Chemistry and Lab (3,1) (S: CHEM 2650 or 2760)
EXSS 2850. Structural Kinesiology (1) (F,S,SS)
EXSS 3802. Obesity Prevention and Treatment (3) (S: BIOL 1050,1051 or 1100,1101; EXSS 1000 or 1001; HLTH 1000 or 1050; or consent of instructor)
EXSS 3805. Physiology of Exercise (3) (P: BIOL 2130 or 2140, 2150; EXSS 2850)
HLTH 3515. AIDS HIV Disease in Modern Society (3) (P: HLTH 1000 or 1050 or consent of instructor)
HLTH 4001. Stress Management: Principles and Practices (3) (S)
HLTH 4901, 4902. Prehealth Professions Clinical Field Experience (3,3) (F,S,SS) (P: HLTH 3010, 3020 and consent of instructor)
HLTH 4910. Prehealth Professions Internship (6) (F,S,SS) (P: Completion of all major requirements and consent of program director) or other HLTH electives at the 3000 level or higher
HLTH 5310. Education for Human Sexuality (3) (P: Health education major or consent of instructor)
HPRO 2100. Perspectives in Health Care (2)
HPRO 5000. Seminar in Human Sexual Dysfunctions (3)
NUTR 2105. Nutrition Science (3)
PHIL 3281. Introduction to Philosophical Ethics in the Health Care Profession (3) (WI*) (FC:HU)
PSYC 3310. Introduction to Neuroscience (3) (F,S,SS) (P: PSYC 1000 or 1060)
PSYC 3311. Neuropsychology (3) (F,S,SS) (P: PSYC 1000 or 1060)
SOCI 3327. Introductory Medical Sociology (3) (FC:SO) (P: SOCI 2110 or consent of instructor)
SOCI 5200. Seminar in Sociology of Health (3) (P: SOCI 2110 or consent of instructor)

Worksite Health Promotion (48 s.h.):
BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC) (P/C: BIOL 2130)
EHST 3900. Introduction to Occupational Health (3) (F) (P: 6 s.h. in BIOL, including BIOL 2130; 8 s.h. of general CHEM; or consent of instructor) or ITEC 3292. Industrial Safety (3) (F,S) (P: Junior standing)
EXSS 2850. Structural Kinesiology (1) (F,S,SS)
EXSS 3805. Physiology of Exercise (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2150; EXSS 2850)
EXSS 4805. Exercise Evaluation and Prescription Laboratory (1) (F,S,SS) (C: EXSS 4806)
EXSS 4806. Exercise Evaluation and Prescription (3) (WI) (F,S,SS) (P: Health and human performance major or minor; EXSS 3805; or consent of instructor; C: EXSS 4805)
FINA 2244. Legal Environment of Business (3) (F,S,SS)
HLTH 4006. Health Promotion in the Workplace (3) (F)
HLTH 4609. Needs Assessment and Program Planning (3) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050; or consent of instructor)
HLTH 4611. Program Evaluation (3) (P: HLTH 4609)
HLTH 4700. Practicum Seminar in Worksite Health Education (3) (S) (P: HLTH 4200)
HLTH 4880. Capstone: Applied Principles of Health Education and Promotion (3) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050, 4609, 4611; or consent of instructor)
HLTH 4991. Health Education and Promotion Internship (12) (F,S,SS) (P: Completion of all other major requirements)
GMT 3202. Fundamentals of Management (3) (F,S,SS) (P: ECON 2113)
NUTR 1000. Contemporary Nutrition (3) or NUTR 2105. Nutrition Science (3)

4. Electives: It is recommended that courses be taken which reinforce content in the physical, social, and behavioral sciences, or provide the student with a community health specialty area such as gerontology, environmental health, or health promotion. Number of elective hours varies by concentration.

Environmental Health Minor

Minimum requirement for environmental health minor is 24 s.h. to be selected from:

EHST 2110, 2111. Introduction to Environmental Health Sciences and Laboratory (3,0) (F,S)
EHST 3003. Environmental Epidemiology (3) (F)
EHST 3200, 3201. Food Sanitation Principles (3,1) (S) (P: Consent of instructor)
EHST 3350. Safe Water (4) (F) (P: BIOL 2110, 2111; CHEM 1160, 1161; C: EHST 3351)
EHST 3351. Safe Water Laboratory (1) (F) (P: BIOL 2110, 2111; CHEM 1160, 1161; C: EHST 3350)
EHST 3370. Waste Water Management (3) (S) (P: EHST 3350, 3351; C: EHST 3371)
EHST 3371. Waste Water Management Laboratory (1) (S) (P: EHST 3350, 3351; C: EHST 3370)
EHST 3600. Air Pollution (3) (F) (P: EHST 2110 or consent of instructor)
EHST 3700, 3701. Industrial Hygiene and Laboratory (3,1) (S) (P: 8 s.h. of general science lab courses or consent of program director)
EHST 3900. Introduction to Occupational Health (3) (F) (P: 6 s.h. of BIOL, including BIOL 2130; 8 s.h. of general chemistry; or consent of instructor)
EHST 4010. Toxicological Foundations of Risk Assessment (3) (S) (P: BIOL 2130; CHEM 2650, 2651)
EHST 4100, 4101. Institutional and Recreational Sanitation and Laboratory (3,0) (F) (P: EHST 2110, 3003, 3200, 3201, 3350, 3351, 3370, 3371; or consent of instructor)
EHST 4350, 4351. Vector Borne Disease Ecology and Laboratory (3,0) (F) (P: EHST 2110, 3003, 3350, 3351, 3370, 3371; or consent of instructor)
EHST 5800, 5801. Solid and Hazardous Waste Management and Laboratory (3,0) (S) (P: CHEM 1160, 1161 or consent of instructor)

http://www.ecu.edu/cs-acad/ugcat/CoursesE.cfm#ehst

EHST: Environmental Health

2110. 2111. Introduction to Environmental Health Sciences and Laboratory (3,0) (F,S) 2 lecture and 2 lab hours per week.
Principles of environmental health practices. along with lab and field techniques with an emphasis on air quality, safe water, food safety, industrial hygiene, radiation, vectors, and solid and hazardous waste disposal.
3000. Environmental Health Practice Seminar (1) (S)
2 classroom or lab hours per week P: Major or intended major in EHST. Variety of environmental health practice settings in government, industry, and elsewhere.
3003. Environmental Epidemiology (3) (F)
Science of epidemiology and biostatistics required to understand epidemiological studies. Topics include longitudinal and case control studies; risk and relative risk; collection, tabulation, and analysis of data.
3060, 3061. Environmental Issues in Construction (4,0) (F,S)
3 lecture and 2 lab hours per week P: GEOL 1500, 1501. Comprehensive overview of environmental impact of construction processes, including legislative and regulatory requirements.
3200. Food Sanitation Principles (3) (S)
P: Consent of instructor; C: EHST 3201. Food composition, engineering principles, processing and preservation methods, food-borne diseases, and food regulatory programs.
3201. Food Sanitation Principles Laboratory (1) (S)
3 lab hours per week. P: Consent of instructor; C: EHST 3200. Practical experience in procedures for evaluating food, milk products, and sanitizing agents.
3350. Safe Water (4) (F)
P: BIOL 2110, 2111; CHEM 1160, 1161; C: EHST 3351. Fundamentals of safe water and principles of drinking water treatment and supply
3351. Safe Water Laboratory (1) (F)
P: BIOL 2110, 2111; CHEM 1160, 1161; C: EHST 3350. Practical aspects of drinking water treatment and supply.
3370. Waste Water Management (3) (S)
P: EHST 3350, 3351; C: EHST 3371. Fundamentals of waste water production, collection, treatment, and safe disposal.
3371. Waste Water Management Laboratory (1) (S)
P: EHST 3350, 3351; C: EHST 3370. Practical aspects of waste water characteristics and safe disposal.
3500, 3501, 3502. Problems in Environmental Health (1,2,3) (F,S)
Hours required vary with individual student assignment and/or project. 14 classroom hours for 1 s.h. credit. P: EHST major. Specific topic, area, or problem not adequately covered in current curriculum.

3600. Air Pollution (3) (F)
P: EHST 2110 or consent of instructor. Evaluation and monitoring of air pollutants, effects of air pollutants, survey of control procedures and legislation, and lab procedures in air quality investigations.

3700. Industrial Hygiene (3) (S)
P: 8 s.h. of general science lab courses or consent of program director; C: EHST 3701. Health problems encountered in business, industrial, and other work places. Emphasis on recognition and evaluation of occupational stresses and disease prevention methods.

3701. Industrial Hygiene Laboratory (1) (S)
3 lab hours per week. P: Consent of instructor; C: EHST 3700. Practical experience and methods for evaluating work environment.

3900. Introduction to Occupational Health (3) (F)
P: 6 s.h. in BIOL, including BIOL 2130; 8 s.h. of general CHEM; or consent of instructor. Occupational diseases in terms of occupational health hazards and associated health effects.

3910. Introduction to Injury Prevention (3) (F,S,SS)
Personal protection issues including injury prevention and mitigation.

3926. Construction Safety (3) (F,S)
Technical aspects of construction safety. Scaffolding, trenching and shoring, excavations, and building codes.

4010. Toxicological Foundations of Risk Assessment (3) (S)
P: BIOL 2130; CHEM 2650, 2651. Undesirable biological responses to physical and chemical agents. Mechanisms of action at the molecular, cellular, and organ levels.

4200. Environmental Health Management and Law (3) (WI) (S)
P: EHST major or minor. Processes involved in planning, facilitating, executing, evaluating, and controlling environmental health services.

4300, 4301. Institutional and Recreational Sanitation and Laboratory (3,0) (F)
2 lecture and 2 Lab hours per week. P: EHST 2110, 3003, 3200, 3201, 3350, 3351, 3370, 3371; or consent of instructor. Environmental Health practices and sanitation in institutions and recreational facilities. North Carolina Rules Governing the Sanitation of Institutions and Recreational Facilities are discussed and evaluated.

4350, 4351. Vector Borne Disease Ecology and Laboratory (3,0) (F)
2 lecture and 2 lab hours per week. P: EHST 2110, 3003, 3350, 3351, 3370, 3371; or consent of instructor. Introduction to vector borne diseases, their vectors and their ecology in humans and the environment.

4520. Biological and Chemical Health Hazards (3)
Basic concepts and principles of environmental and occupational health related to biological and chemical health hazards.

4530. Physical and Radiological Health Hazards (3)
Basic concepts and principles of environmental and occupational health related to physical health hazards, including radiation.

4990. Environmental Health Internship (3) (F,S,SS)
120 hours of supervised learning experience in an approved clinical/environmental health facility. P: EHST major; minimum of 13 s.h. in EHST; or consent of program director.

4991. Environmental Health Internship (3) (F,S,SS)
120 hours of supervised learning experience in an approved clinical/environmental health facility. P: EHST major; minimum of 13 s.h. in EHST courses or consent of program director.

5001. Seminar in Environmental Health (1)
May be taken more than once. Student, staff, and guest speakers on current research.

5010, 5011. Principles of Toxicology and Laboratory (3,1)
For EHST majors but other majors accepted. P: Senior or graduate standing; 8 s.h. of general chemistry; 6 s.h. of biology, including BIOL 2130; or consent of instructor. Basics of toxicology such as physiological response and environmental sources as well as specifics of major toxins.

5020. Environmental Toxicology (3)
P: EHST 5010, 5011; or consent of instructor. Effect of anthropogenic and naturally occurring toxins on environment. Toxin sources, distribution, and bioaccumulation. Covers pesticides, metals, solvents, radioactive isotopes, food additives, air pollutants, and natural plant/animal toxins.

5164. Radiological Health Field Operation (1)
P: Consent of instructor. Field observation of radiological health physics, practices at nuclear fuel cycle facilities,
and government nuclear facilities.

5165. Advanced Radiological Laboratory (1)
P: Consent of instructor. Intensive radiological lab training at Oak Ridge Associated Universities. Tour of research facilities.

5510. Physical Safety (2) (F)
Practical application of physical safety principles in living and work environments.

5520. Biological Safety (2) (S) Formerly EHST 6120.
Practical application of biological safety principles in living and work environments.

5530. Chemical Safety (2) (S)
Practical application of chemical safety principles in living and work environments.

5540. Radiation Safety (2) (F)
Practical application of radiation safety principles in living and work environments.

5580, 5801. Solid and Hazardous Waste Management and Laboratory (3,0)
2 lecture and 2 lab hours per week. P: CHEM 1160, 1161 or consent of instructor. Problems associated with collection, treatment, and disposal of municipal solid waste and hazardous wastes in the United States.

EHST Banked Courses
5710, 5711. Topics in Health Physics I (3,0)
5720, 5721. Topics in Health Physics II (3,0)

http://www.ecu.edu/cs-acad/ugcat/CoursesH.cfm#hlth

HLTH: Health
(course listing) . . .

4605. Community Strategies for Health Education (3) (WI) (F,S,SS)
P: HLTH 3000 or consent of instructor. Skills in community interventions for health educators based on principles of community organization. Both classroom instruction and field exposure will be utilized. Additionally, case studies and real life experiences used to greatest extent possible.

4609. Needs Assessment and Program Planning (3) (F,S)
P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050; or consent of instructor. Needs assessment, design, planning, and implementation of public health education and promotion programs.

4611. Program Evaluation (3) (F,S)
P: HLTH 4609. Theory, design, and techniques to evaluate public health practice.

4700. Practicum Seminar in Worksite Health Education (3) (F,S)
P: HLTH 4006 and consent of instructor. Private sector health promotion programs. Based on needs and operations of local sites, student will be assigned individual projects.

4800. Field Study in International Health (6) (SS)
May be repeated once for course credit with change of host country. P: Consent of instructor. Public health and health care delivery systems in international host countries.

4880. Capstone: Applied Principles of Health Education and Promotion (3) (F,S)
P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050, 4609, 4611; or consent of instructor.

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Agenda Item IX

Thomas Harriot College of Arts and Sciences
Department of Biology

http://www.ecu.edu/cs-acad/ugcat/biology.cfm

Department of Biology

Jeffrey S. McKinnon, Chairperson, BN-108 Howell Science Complex
Jean-Luc Scemama, Director of Undergraduate Studies, BN-105 Howell Science Complex

Admission Requirements

In order to declare a major in biology or biochemistry, a student must satisfy foundations curriculum requirements as stated in the catalog for transfer to departments in the Thomas Harriot College of Arts and Sciences and must have a minimum cumulative 2.0 GPA in all biology and chemistry courses below the 3000 level.

Core Curriculum

The core curriculum in biology is intended to give all biology majors a background in molecular biology, biodiversity, cell biology, diversity, evolution, ecology, and genetics, molecular biology, and physiology. BIOL 1100, 1101, 1200, 1201, 2250, 2251, and 2300 constitute the core curriculum. A choice of electives of three concentrations (biology, ecology/evolution and molecular/cell biology) permits a student to pursue in depth an area or areas of particular interest. Each concentration provides the requirements for entrance to most professional programs, while allowing for students to concentrate in a particular area of interest. Emphasis is also placed upon the foundation of the scientific process, experimental design principles and the development of critical thinking skills. Lecture courses having laboratory components that carry independent credit may or may not be required as corequisites (see appropriate catalog descriptions). Laboratory components carrying no credit are corequisites. All students must take a departmentally administered assessment examination before graduation. Scores from this examination will not be used in the calculation of GPA or for academic standing. Minimum degree requirement is 126 s.h. of credit.

BS in Biology, General

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum.) - 42 s.h.

CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
2. Core. - 15 s.h.
   BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
   BIOL 2250. Ecology (3) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201)
   BIOL 2251. Ecology Laboratory (1) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201; C: BIOL 2250)
   BIOL 2300. Principles of Genetics (3) (F,S,SS) (P: BIOL 1100, 1200; or BIOL 1150, 1151)

3. Concentrations (Choose one of the following areas of concentration.)

   **Biology (30 s.h.):**
   **Required lecture courses (12 s.h.):**
   - BIOL 2250. Ecology (3) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201)
   - BIOL 3030. Principles of Physiology (3) (F) (P: BIOL 1100, 1101, 1200, 1201; or consent of instructor)
   - BIOL 3260. Cell and Developmental Biology (3) (P: BIOL 2300)
   - BIOL 3620. Biological Evolution (3) (F) (P: MATH 1065 or equivalent; BIOL 2300 or consent of instructor)

   **Electives (18 s.h.):**
   - Choose at least one elective from the ecology/evolution concentration specific electives list.
   - Choose at least one elective from the molecular/cell biology concentration specific electives list.
   - Choose at least one laboratory course.
   - Choose 10-12 s.h. of biology electives including 2 classes at the 3000 or 4000 level.

   **Ecology/Evolution (31s.h.):**
   **Required lecture courses (10 s.h.):**
   - BIOL 2250. Ecology (3) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201)
   - BIOL 2251. Ecology Laboratory (1) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201; C: BIOL 2250)
   - BIOL 3030. Principles of Physiology (3) (F) (P: BIOL 1100, 1101, 1200, 1201; or consent of instructor) or BIOL 3260. Cell and Developmental Biology (3) (P: BIOL 2300)
   - BIOL 3620. Biological Evolution (3) (F) (P: MATH 1065 or equivalent; BIOL 2300 or consent of instructor)

   **Electives (21 s.h.):**
   - Choose 12 s.h. from the ecology/evolution concentration specific electives list (choose at least one course in organismal diversity and one course in ecological/evolutionary processes).
Choose 3 s.h. from the molecular/cell biology concentration specific electives list.
Choose 6 s.h. of any biology electives (at least one class must be at the 3,000 or 4,000 level).

Molecular/Cell Biology (30 s.h.):
Required lecture courses (9 s.h.)
BIOL 2250. Ecology (3) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201)
or BIOL 3620. Biological Evolution (3) (F) (P: MATH 1065 or equivalent; BIOL
2300 or consent of instructor)
BIOL 3030. Principles of Physiology (3) (F) (P: BIOL 1100, 1101, 1200, 1201; or
consent of instructor)
BIOL 3260. Cell and Developmental Biology (3) (P: BIOL 2300)

Electives (21 s.h.):
Choose at least 12 s.h. from the molecular/cell biology concentration specific
electives list.
Choose 3 s.h. from the ecology/evolution concentration specific electives list.
Choose 6 s.h. of any biology electives (at least one class must be at the 3,000 or 4,000 level).

4. Concentration Specific Electives

Ecology/Evolution:
a. Organismal Diversity
BIOL 3070, 3071; BIOL 3150; BIOL 3230, 3231; BIOL 3240, 3241; BIOL 4400,
4500; BIOL 5070, 5071; BIOL 5150, 5151; BIOL 5200, 5201; BIOL 5220, 5221;
BIOL 5230, 5231; BIOL 5550, 5551; BIOL 5640, 5641; BIOL 5950, 5951

b. Ecological/Evolutionary Processes
BIOL 3660, 3661; BIOL 3740, 3741; BIOL 4130; BIOL 4200, 4201; BIOL 4205,
4240, 4250; BIOL 4300, 4301; BIOL 4320; BIOL 4740, 4741; BIOL 5260, 5261;
BIOL 5270, 5351; BIOL 5600, 5601; BIOL 5680, 5730, 5731; GEOL 5300

Molecular/Cell Biology:
BIOL 2100, 2101; BIOL 3220, 3221; BIOL 3310, 3311; BIOL 3320, 3321; BIOL
4040; BIOL 4050, 4051; BIOL 4060, 4061; BIOL 4130, 4170, 4205, 4220, 4230,
4650, 4800, 4880, 4890, 4891; BIOL 5260, 5261; BIOL 5870, 5890; CHEM 2770

5. Recommended electives. — 25 s.h.

The following elective areas are recommended to guide students in choosing biology electives consistent with their academic goals. Students may concentrate in one of the specified areas, below, or choose a more general course of study. A maximum of 6 s.h. of
BIOL 3504, 3550, 4504, 4514, 4550, 5995 may count toward biology electives without consent of dept. chair or director of undergraduate studies.

Ecology/Environmental Biology:

BIOL 3070, 3071. Survey of Plants and Fungi (4,0) (P: BIOL 1050, 1051 or 1060, 1061 or 1200, 1201)
BIOL 3230, 3231. Field Botany (4,0) (F,S,SS) (P: BIOL 1050, 1051 or 1100, 1101; C for 3230: 3231; C for 3231: 3230)
BIOL 3240, 3241. Field Zoology (4,0) (F) (P: BIOL 1060 or 2250)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 3320. Principles of Animal Physiology (3) (F,S,SS) P: CHEM 2650 or 2750 or 2770)
BIOL 3321. Principles of Animal Physiology Laboratory (1) (C: BIOL 3320)
BIOL 3660. Introduction to Marine Biology (3) (F,S,SS) (P/C: BIOL 2250, 2251)
BIOL 4200, 4201. Population and Community Ecology (4,0) (W) (P: BIOL 2250, 2251, 2300; CHEM 1150, 1151; RP: CHEM 2160, 2161; MATH 2121 or 1 statistics course)
BIOL 4300, 4301. Ecosystem Ecology (4,0) (F) (P: BIOL 2250, 2251)
BIOL 4320. Ecological Responses to Global Climate Change (3) (S) (P: BIOL 2250, 2251)
BIOL 4504, 4514. Research Problems in Biology (2,2) (W, W) (F,S,SS) (P: Consent of instructor)
BIOL 5070, 5071. Ornithology (4,0) (F) (P: 8 s.h. in BIOL)
BIOL 5150, 5151. Herpetology (4,0) (S) (P: 8 s.h. in BIOL)
BIOL 5200, 5201. Invertebrate Zoology (4,0) (F) (P: 6 s.h. in BIOL)
BIOL 5220, 5221. Limnology (4,0) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5230, 5231. Phycology (4,0) (P: BIOL 1200, 1201)
BIOL 5260, 5261. Microbial Ecology (4,0) (S) (P: BIOL 2250, 2251, 3220, 3221; or consent of instructor)
BIOL 5270. Marine Community Ecology (3) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5351. Biological Processes and the Chemistry of Natural Water (2) (S) (P: BIOL 2250, 2251; 2 CHEM courses; or consent of instructor)
BIOL 5550, 5551. Ichthyology (4,0) (F)
BIOL 5640, 5641. Entomology (4,0) (F) (P: 12 s.h. in BIOL)
BIOL 5730, 5731. Animal Physiological Ecology (4,0) (S) (P: BIOL 2250, 2251; 3310, 3311 or 3320, 3321 or 5800; or consent of instructor)
BIOL 5950, 5951. Taxonomy of Vascular Plants (4,0) (F) (P: 12 s.h. in biology or consent of instructor; RP: BIOL 2250, 2251)

Marine Biology:

BIOL 3660. Introduction to Marine Biology (3) (F,S,SS) (P/C: BIOL 2250, 2251)
BIOL 3661. Introduction to Marine Biology Laboratory (1) (F,S) (C: BIOL 3660)
BIOL 4504, 4514. Research Problems in Biology (2,2) (W, W) (F,S,SS) (P: Consent of instructor)
BIOL 5200, 5201. Invertebrate Zoology (4,0) (F) (P: 6 s.h. in BIOL)
BIOL 5220, 5221. Limnology (4,0) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5230, 5231. Phycology (4,0) (P: BIOL 1200, 1201)
BIOL 5270. Marine Community Ecology (3) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5351. Biological Processes and the Chemistry of Natural Water (2) (S) (P: BIOL 2250, 2251; 2 CHEM courses; or consent of instructor)
BIOL 5550, 5551. Ichthyology (4,0) (F)
BIOL 5600, 5601. Fisheries Techniques (3,0) (F,S) (F) (P: BIOL 2250, 2251; or equivalent)
BIOL 5680. Current Topics in Coastal Biology (2) (S) (P: Consent of instructor)
GEOL 1550. Oceanography (4) (S) (FC:SC)
GEOL 5300. Geology of Coastal Processes and Environments (3) (S) (P: GEOL 1550, 4010, 4011; or consent of instructor)
Microbiology:
BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 4130. Astrobiology (3) (WI) (F) (P: BIOL 2250, 2300 RP: BIOL 3220)
BIOL 4170. Immunology I (3) (F) (P: BIOL 2300 or consent of instructor)
BIOL 4220. Microbes and Immunity (3) (WI) (S, SS) (P: BIOL 2110, 2111 or 3220, 3221)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5260, 5261. Microbial Ecology (4,0) (P: BIOL 2250, 2251, 3220, 3221; or consent of instructor)
BIOL 5800. Principles of Biochemistry I (3) (F,S) (P: CHEM 2760, 2763, BIOL 3310, 3311) or
BIOL 5810. Principles of Biochemistry II (3) (F,S) (P: CHEM 2760, 2763, BIOL 3310, 3311)
BIOL 5821. Principles of Biochemistry Laboratory (1) (F,S) (P/C: BIOL 5800 or 5810)
BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2300)
BIOL 5890. Virology (3) (S,SS) (P: BIOL 3220, 3221; or consent of instructor)
Molecular Biology and Biotechnology:
BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 4170. Immunology I (3) (F) (P: BIOL 2300; or consent of instructor)
BIOL 4240. Genome Evolution (3) (P: BIOL 2300 or consent of instructor)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5260, 5261. Microbial Ecology (4,0) (S) (P: BIOL 2250, 2251, 3220, 3221; or consent of instructor)

BIOL 5510, 5511. Transmission Electron Microscopy (4) (S) (P: Senior standing as BIOL major or consent of instructor)

BIOL 5520, 5521. Scanning Electron Microscopy and X-Ray Analysis (2.0) (F,SS) (P: Senior standing as BIOL major or consent of instructor)

BIOL 5800, 5810. Principles of Biochemistry I, II (3,3) (F,S) (P: CHEM 2760, 2763, BIOL 3310, 3311)

BIOL 5821. Principles of Biochemistry Laboratory (1) (F,S) (P/C: BIOL 5800 or 5810)

BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2100, 2101, 5870; consent of instructor; RP: BIOL 5810)

BIOL 5890. Virology (3) (S,SS) (P: BIOL 3220, 3221; or consent of instructor)

CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)

CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)

CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)

CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)

MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1077 with a minimum grade of C)

MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)

PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)

PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2260)
7-6. Research skills (Choose one area.) – 8-9 6 s.h.

BIOS 1500. Introduction to Biostatistics (3) (F, S) (P: MATH 1065 with a grade of C (2.0) or better or equivalent or consent of instructor) or MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or equivalent) or MATH 2283. Statistics for Business (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1066 or equivalent)

ENGL 3820. Scientific Writing (3) (WI) (F, S) (P: ENGL 1200)

Students contemplating graduate school should consider admission requirements before selecting a research skills area.

a. Foreign language through level 1003.
b. Quantitative and Communication Skills (1 course each in scientific writing, statistics, and computer programming.)

Recommended courses:
ENGL 3820. Scientific Writing (3) (WI) (F,S) (P: ENGL 1200) or ITEC 3290. Technical Writing (3) (WI) (F,S,SS)(P: ENGL 1200) or a course in scientific writing
MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (P: MATH 1065 or equivalent)
MIS 2223. Introduction to Computers (3) (F,S,SS) or ACCT 2401. Financial Accounting (3) (F,S,SS) (P: MATH 1065 or 1066 or 2119 or 2121 or 2171)

c. Relevant cognate area courses chosen to meet this requirement must be planned through consultation with a faculty advisor and approved in advance by the dept chair and the dept director of undergraduate studies.
d. Recommended for microbiology and molecular biology/biotechnology:  
CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
MIS 2223. Introduction to Computers (3) (F,S,SS)

8. Electives to complete requirements for graduation.

BS in Biochemistry

Minimum degree requirement is 126 s.h. of credit as follows:
1. Foundations (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum.) - 42 s.h.
   CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
   CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160:
   CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)

2. Core. - 40 45 s.h.
Biology:
BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
BIOL 2300. Principles of Genetics (3) (F,S,SS) (P: BIOL 1100, 1200, or BIOL 1150, 1151)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 5800, 5810. Principles of Biochemistry I, II (3,3) (P: CHEM 2760, 2763)
BIOL 5821. Principles of Biochemistry Laboratory I (1) (P/C: BIOL 5800 or 5810)

Chemistry:
CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 2250, 2251; C: CHEM 2753)
CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
CHEM 3950, 3951. Physical Chemistry and Laboratory I (4,1) (WI, WI) (F,S) (P: PHYS 1261, 2360; MATH 2173; CHEM 2250, 2251) and CHEM 3960, 3961. Physical Chemistry and Laboratory II (4,1) (WI, WI) (F) (P: CHEM 3950, 3951; C for 3960: CHEM 3961; C for 3961: 3960) or CHEM 3850, 3851.
Introduction to Physical Chemistry (4,1) (WI, WI) (F) (P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260, 1261; C for 3850: CHEM 3851; C for 3851: CHEM 3850) and 5 hours of research in biology or chemistry (BIOL 3550, 4504, 4514, 4550; CHEM 4505, 4506, 4507, 4515, 4516, 4517)

3. Cognates. - 25-27 s.h.

MATH 1083. Introduction to Functions (3) (F, S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C) or
MATH 1085. Pre-Calculus Mathematics (5) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C)
MATH 2171, 2172, 2173. Calculus I, II, III (4,4,4) (F,S,SS) (FC:MA) (P for 2171: minimum grade of C in any of MATH 1083, 1085, or 2122; P for 2172: MATH 2171 with minimum grade of C or 2122 with consent of instructor; P for 2173: MATH 2172 with minimum grade of C)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2260)
PHYS 2350, 2360. University Physics (4,4) (F,S,SS) (FC:SC) (P: for 2350: MATH 2121, 2151, 2171; P for PHYS 2360: PHYS 2350)

4. Electives (Choose from the following.) - 6 s.h.

BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 5510, 5511. Transmission Electron Microscopy (4) (P: Senior standing as a BIOL major or consent of instructor)
BIOL 5520, 5521. Scanning Electron Microscopy and X-Ray Analysis (2,0) (P: Senior standing as a BIOL major or consent of instructor)
BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2300)
BIOL 5900, 5901. Biotechniques and Laboratory (2,3) (P: BIOL 2100, 2101, 5870; consent of chair or instructor; RP: BIOL 5810)
CHEM 3960, 3961. Physical Chemistry and Laboratory II (4,1) (WI, WI) (F) (P: CHEM 3950, 3951) or all of the following: BIOL 3550. Biology Honors (1) (WI) (F,S,SS) (P: Faculty invitation), BIOL 4550, Biology Honors (2) (WI) (F,S,SS) (P: Faculty invitation) and BIOL 4514. Research Problems in Biology (2) (WI) (F,S,SS) (P: Consent of instructor)
MATH 4331. Introduction to Ordinary Differential Equations (3) (F,S) (P: MATH 2173)
5. Electives to complete requirements for graduation.

**Biology Minor**

Minimum requirement for biology minor is **24 s.h.** of credit as follows:

1. **Core.** 15 s.h.

   - BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (P/C for 1101: BIOL 1100)
   - BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (P/C for 1201: BIOL 1200)
   - BIOL 2250, 2251. Ecology and Ecology Laboratory (3,1) (F,S,SS)
   - BIOL 2300. Principles of Genetics (3) (F,S,SS) (P: BIOL 1100, 1200 or BIOL 1150, 1151)
   - **BIOL 3030. Principles of Physiology (3) (F) (P: BIOL 1100, 1101, 1200, 1201 or consent of instructor)**
   - BIOL 3260. Cell and Developmental Biology (3) (P: BIOL 2300)
   - BIOL 3620. Biological Evolution (3) (F) (P: MATH 1065 or equivalent; BIOL 2300 or consent of instructor)

2. **BIOL electives.** 9 s.h.

Minor programs consisting of course sequences in particular areas that include a minimum of 24 s.h. can be arranged with the approval of the biology undergraduate curriculum committee.

**Biology Honors Program**

Biology majors who maintain a minimum GPA of 3.5 may participate in the department’s honors program. This program is designed for exceptional students wishing to use their creative abilities to pursue in-depth inquiries (research, co-teaching, field work, internships, etc.) into the biological sciences, the topic of inquiry being determined by the student in consultation with a faculty mentor/sponsor. Participation in the program is by mutual agreement between the student and the faculty mentor, and requires enrollment in a minimum of 6 s.h. of credit selected from BIOL 3550, 4550, 4504, 4514, 5995. While grades will be awarded independently for each research/honors course in which the student enrolls, graduation with honors requires the student to submit the final product of activity for critical review by the departmental honors review board. (Students should note that no more than 6 s.h. of credit in honors or research courses may be counted for biology elective credit.)

[http://www.ecu.edu/cs-acad/ugcat/CoursesB.cfm#biol](http://www.ecu.edu/cs-acad/ugcat/CoursesB.cfm#biol)

**BIOL: Biology**

1010. Biodiversity of Coastal North Carolina (3) (F,S)
   
   Survey of major terrestrial and aquatic ecosystems from the coastal plain to the continental shelf, with emphasis on their flora and fauna. Self-guided coastal plain trip required to one of several nature centers or museums at student’s expense.

1030. Plants and Human Affairs (3) (F,S) (FC:SC)
   
   May not count toward BIOL major or minor. BIOL 1051 may be taken as a lab complement. Biology of plants and their related organisms and importance throughout history.

1050. General Biology (3) (F,S,SS) (FC:SC)
   
   May not count toward BIOL major or minor. Molecular basis of biology, bioenergetics, control systems, reproduction and development, genetics, diversity, evolution, communication, and behavior ecosystems.
1051. General Biology Laboratory (1) (F,S,SS) (FC:SC)
   1 3-hour lab per week. May not count toward BIOL major or minor. C: BIOL 1030 or 1050. Practical applications of biological principles.

1060. Environmental Biology (4) (F,S,SS) (FC:SC)
   May not count toward BIOL major or minor. Interrelationships of organisms with each other and with their environment and human factors. Basic ecological problems, principles, and solutions.

1061. Environmental Biology Laboratory (1) (F,S) (FC:SC)
   1 3-hour lab or field excursion per week. May not count toward BIOL major or minor. Optional lab or field course offered to provide a more in-depth look at habitats.

1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC)
   3 lecture and 3 lab hours per week. P/C for 1101: BIOL 1100. Molecular biology, bioenergetics, cellular structure, and physiology. Molecular basis of inheritance and control of gene expression.

1150, 1151. Principles of Biology: A Human Approach (4,0) (FC:SC)
   3 lecture and 2 discussion hours per week. May not count toward the BIOL major or minor. Nature of biological science, molecular biology, bioenergetics, cell structure and function, cell physiology, overview of human tissue and organ systems, and human population and disease dynamics.

1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC)
   3 lecture and 3 lab hours per week. P/C for 1201: BIOL 1200. Five living kingdoms and diversity that prevails in natural systems. Principles of evolution, ecology, and behavior, particularly in context of diversity.

2015. Introduction to Biological Anthropology (3) (WI*) (F,S) (FC:SC) Same as ANTH 2015

2016. Biological Anthropology Laboratory (1) (F,S) (FC:SC) Same as ANTH 2016

2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) Formerly BIOL 3100, 3101
   1 lecture and 4 laboratory hours per week. P: BIOL 1100, 1101; MATH 1065, CHEM 1020, 1021 or 1120, 1121 or 1150, 1151. Practical basic training in laboratory techniques generally applicable to molecular and cell biology, genetics, biochemistry, microbiology and forensics.

2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC)
   3 lectures and 2 2-hour labs per week. May not count toward BIOL major or minor. CHEM P for 2110: CHEM 1120, 1130 or BIOL 1100 and CHEM 1150; 2.75 GPA or consent of instructor; RP for 2110; BIOL 1050, 1051 or 1100, 1101. P/C for 2111: BIOL 2110. General study of microorganisms and their importance to humans. Emphasis on fundamental life processes, including a brief introduction to epidemiology and immunology.

2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC)
   A maximum of 4 s.h. of 2000-level human physiology and anatomy coursework may count toward the BIOL major or minor. P: BIOL 1050, 1051; or 1100, 1101. Functional anatomy and normal physiology of human organ systems.

2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC)
   3 lab hours per week. May not count toward BIOL major or minor. P/C: BIOL 2130. Principles and review of anatomy of human organ systems.

2140, 2150. Human Physiology and Anatomy (3,3)
   Two-semester integrated course. A maximum of 4 s.h. of 2000-level human physiology and anatomy coursework may count toward the BIOL major or minor. P: CHEM 1120 or 1150; 2.75 GPA or consent of instructor; P for 2150: BIOL 2140; 2.75 GPA or consent of instructor; C for 2140: BIOL 2141; C for 2150: BIOL 2151. Normal physiology and functional anatomy of human organ systems.

2141, 2151. Human Physiology and Anatomy Laboratory (1,1)
   3 lab hours per week. Two-semester integrated labs. A maximum of 4 s.h. of 2000-level human physiology and anatomy coursework may count toward the BIOL major or minor. P for 2141: BIOL 2140; C for 2141: BIOL 2140; C for 2151: BIOL 2150. Application of anatomical and physiological concepts.

2250. Ecology (3) (F,SS)
P: BIOL 1100, 1101, 1200, 1201. Structure and function of ecosystems. Relationships of environmental factors operating in different habitats to floral and faunal composition of each community.

2251. Ecology Laboratory (1) (F,S,SS)
3 lab hours per week. P: BIOL 1100, 1101, 1200, 1201; C: BIOL 2250. Field experiences and lab methods used to determine structure and function of ecosystems.

2300. Principles of Genetics (3) (F,S,SS)
P: BIOL 1100, 1200, or BIOL 1150, 1151. Emphasis on modern genetics and its application.

2800. Biological Instruction (2) (F, S)
1 lecture and 3 lab hours per week. Open to biology or biochemistry majors by invitation only. P: BIOL 1100, 1101, 1200, 1201; or consent of instructor. Instruction and supervised experience in methods and practice of teaching introductory biology.

3030. Principles of Physiology (3) (F)
P: BIOL 1100, 1101, 1200, 1201 or consent of instructor.
Function in living systems. Mechanisms through which organisms, organ systems, organs, cells, and biomolecules carry out the functions that occur in a living system.

3070, 3071. Survey of Plants and Fungi (4,0)
P: BIOL 1050, 1051 or 1060, 1061 or 1200, 1201. Plants and fungi with emphasis on evolutionary patterns in structure, reproduction, and ecological function.

3150. Plant Biology (3) (S)
P: BIOL 2250 or 2300 or consent of instructor. Plant structure, function and diversity, including physiology, metabolism, reproduction, genetics, evolution, ecology and human use.

3220, 3221. Microbiology (4,0) (F)
3 lectures and 2 2-hour labs per week. P: BIOL 1200, 1201; CHEM 2650 or 2750. Structure, physiology, disease, environmental relationships, and molecular biology of microbes.

3230, 3231. Field Botany (4,0) (F,S,SS)
P: BIOL 1050, 1051 or 1100, 1101; C for 3230: 3231; C for 3231: 3230. Plant identification and interactions of plants with their chemical, physical, and living environments. Emphasis on recognition of common vascular elements of local flora and major plant communities of coastal NC.

3240, 3241. Field Zoology (4,0) (F)
P: BIOL 1060 or 2250. Methods and principles in zoological field study. Focus on local NC vertebrate fauna.

3260. Cell and Developmental Biology (3) Formerly BIOL 2260
P: BIOL 2300. Cellular and developmental topics such as gene expression, cell signaling and invertebrate and vertebrate development.

3310, 3311. Cellular Physiology (4,0) (F,S,SS)
3 lectures and 1 3-hour lab per week. P: CHEM 1120 and 1130, or 2650 or 2750 or 2770. Structure and function of cells. Emphasis on physico-chemical aspects. Current status of major problems such as gene function, photosynthesis, contraction, active transport, and nerve cell function.

3320. Principles of Animal Physiology (3) (F,S,SS)
P: CHEM 2650 or 2750 or 2770. Introduces concepts of animal physiology.

3321. Principles of Animal Physiology Laboratory (1) (F,S,SS)
C: BIOL 3320. Lab to accompany BIOL 3320.

3400, 3401. Biological Field Studies of the Coastal Plain (3,0)
2 lecture and 3 lab hours per week. P: BIOL 1100, 1200 or 2 from: GEOL 1500, 1550, 1600 and 1700. Current status and change initiated by nature and man. Field trips and field projects important.

3504. Research in Biology (1) (WI) (F,S,SS)
2 hours of research-related work per week. May be repeated for a maximum of 6 s.h. P: Consent of instructor. Independent research project in collaboration with a faculty mentor.

3550. Biology Honors (1) (WI) (F,S,SS)
Conferences with staff as needed. May be repeated once for a maximum of 2 s.h. Student taking this course will normally be expected to take BIOL 4550. P: Faculty invitation. Seminar and research.

3620. Biological Evolution (3) (F)
P: MATH 1065 or equivalent; BIOL 2300 or consent of instructor. Evolution from a biological standpoint. Relationships of evolutionary theory and reciprocal impact on ecology, genetics, diversity, and biogeography. Speciation, selection and populations.

3621. Biological Evolution Laboratory (1) (F)
C: BIOL 3620. 3 lab hours per week. Hands-on experience with computer-based molecular evolutionary analyses, student discussions and presentations of course material.

3660. Introduction to Marine Biology (3) (F,S,SS)
Coastal field trip, at student’s expense, required. P/C: BIOL 2250, 2251. Ocean habitats and marine plants and animals that comprise various marine ecosystems.

3661. Introduction to Marine Biology Laboratory (1) (F,S)
3 lab hours per week. C: BIOL 3660. Exercises examine physical and chemical properties of ocean waters and representative marine organisms.

3740, 3741. Animal Behavior (4.0) (F) (WI*)
3 lecture and 2 discussion hours per week. P: BIOL 1100, 1200; RP: BIOL 2250. Introduction to animal behavior with emphasis on experimental approaches. Topics include evolution and development of behavior, neural mechanisms, instinct, communication, foraging and reproductive behavior, and sociobiology.

3820. Plant Biotechnology (3)
P: BIOL 2300 or consent of instructor. Methods and principles for creating transgenic plants and their applications in agriculture, pharmaceuticals and industry and their effects on the environment; benefits and risks of genetically modified organisms.

4040. Human Genetics (3)

4050, 4051. Comparative Anatomy (4.0) (F)
2 lectures and 2 3-hour labs per week. P: BIOL 1100, 1200. Structure and relationship of vertebrate animals. Emphasis on phylogeny of organ systems.

4060, 4061. Embryology (4,0)
3 lectures and 1 3-hour lab per week. P: BIOL 2300. Early developmental processes of anatomical and physiological significance. Emphasis on developmental stages of frog, chick, and mammalian embryos.

4071. Human Gross Anatomy (4)
3 conference/demonstration and 3 lab hours per week. May not count toward foundations curriculum science requirement. P: BIOL 4050, 4051; or consent of instructor. Dissection-based regional study of human cadaver.

4130. Astrobiology (3) (WI) (F)

4150. Pestilence, Politics and Conquest (3) (S)
P: BIOL 1050 or 1100 or consent of instructor. Pathology of infectious diseases and the impact that they had, or may have, on world events, past, present and future.

4170. Immunology I (3) (F)
P: BIOL 2300 or consent of instructor. Structure, function, and genetic organization of body’s defense system. Interactions of immunocompetent cells and their role in infection, disease, and autoimmunity.

4200, 4201. Population and Community Ecology (4,0) (4200:WI) (S)
P: BIOL 2250, 2251, 2300; CHEM 1150, 1151; RP: CHEM 1160, 1161; MATH 2121 or statistics course. Organization of populations and communities. Emphasis on interactions among organisms and their environments and how these structure populations and communities.

4205. Population Genetics (3) (F, S)

4210. Phylogenetic Theory (3) (F)
P: BIOL 2250, 2251, 2300. Theory and practice of modern phylogenetic methods. Topics include basic evolutionary concepts, reconstructing evolutionary relationships using molecular and other data, and statistical methods for assessing reliability of phylogenetic analyses. Emphasis on hands-on experience with phylogenetic computer programs.

4220. Microbes and Immunity (3) (WI*) (S,SS)
P: BIOL 2110, 2111; or 3220, 3221. Interaction of pathogenic microbes such as bacteria, viruses, fungi, and parasites with human defense system.

4230. Concepts in Cell Biology (3) (S)
4240. Genome Evolution (3) (S)
   P: BIOL 2300 or consent of instructor. Recent advances in comparative genomics, focusing on the evolution of more complex eukaryotic genomes. Course includes lectures and seminar discussions of current research publications.

4250. Biological Oceanography (3) (S)
   Overview of biological oceanography including oceanography, nutrient dynamics, organismal ecology and current topics in biological oceanographic research.

4300, 4301. Ecosystem Ecology (4,0) (WI) (F)
   P: BIOL 2250, 2251. In-depth examination of ecosystem processes. Primary production, decomposition, and nutrient cycling as influenced by biotic and environmental controls in terrestrial, aquatic, and wetland ecosystems.

4320. Ecological Responses to Global Climate Change (3) (S)
   P: BIOL 2250, 2251. Theory and practical examination of effects of climate change. Predicted and present environmental influences on ecosystems, communities, populations and organisms.

4400. Terrestrial Field Ecology (4) (SS)
   2 lecture and 6 lab or fieldwork hours per week. Field and lab work at an off-campus research site may involve additional costs. P: BIOL 2250, 2251; BIOS 1500 or MATH 2228 or 2283; consent of instructor (by application). Research skills and techniques used by ecologists in freshwater and terrestrial systems in preparation for ecological research at graduate level.

4500. Marine Field Ecology (4) (SS)
   2 lecture and 6 lab and/or fieldwork hours per week at an off-campus research site or field station. May involve additional costs. P: BIOL 3660, 3661; P: BIOS 1500 or MATH 2228 or 2283; consent of instructor (by application). Research skills and techniques used by marine ecologists in preparation for marine and oceanographic research at graduate level.

4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F, S, SS)
   4 hours of research-related work per week. May be repeated for maximum of 4 s.h. P: Consent of instructor. Designed to meet individual needs and interests of well-qualified undergraduate students.

4550. Biology Honors (2) (WI) (F, S, SS)
   Conferences with staff as needed. May be repeated for maximum of 4 s.h. P: Faculty invitation. Seminar and research.

4650. Biology of Cancer (3) (S)
   P: BIOL 2300, 3310; or consent of instructor. Comprehensive study of the molecular basis of cancer with emphasis on the development and treatment of specific cancers.

4740, 4741. Behavioral Ecology (4,0)

4800. Topics in Biology (3)
   May be repeated once with a change of topic. P: BIOL 2300 or 2250 or consent of instructor. Special topics of contemporary interest.

4880. Principles of Biochemistry I (3) (F)
   P: BIOL 3310, 3311; CHEM 2760, 2763; or consent of instructor. Structure and evolution of proteins, lipids, carbohydrates and nucleic acids. Enzymatic activity, kinetics and regulation. Energy metabolism including glycolysis, TCA cycle, oxidative phosphorylation and photosynthesis.

4890. Principles of Biochemistry II (3) (S)
   P: BIOL 3310, 3311, 4880; CHEM 2760, 2763; or consent of instructor. Intermediary metabolism including the pentose phosphate and Entner-Doudoroff pathways, glycogen and fatty acid metabolism, biosynthesis of amino acids, nucleotides, and lipids. DNA replication and repair, RNA synthesis and processing and protein synthesis and degradation. Signal transduction and the control of gene expression.

4891. Principles of Biochemistry Laboratory (1) (F, S)
   P: BIOL 3310, 3311; P/C: BIOL 4880 or 4890. General biochemistry laboratory.

4991, 4992, 4993. Internship (1,2,3) (F, S, SS)
   May be repeated by permission for a maximum of 6 s.h. Must earn a C or better to count toward BIOL electives. P: Consent of instructor. Lab or field experiences under the supervision of a member of the
biology faculty in conjunction with a bioscience professional in a private sector, government or biomedical laboratory, field site, or workplace.

4995. Biology Honors Thesis (2) (WI)
P: Consent of the instructor; minimum GPA 3.0. Independent student research project with defended thesis product.

5070, 5071. Ornithology (4,0)
3 lecture hours and 1 3-hour lab per week. Field trips to observe native birds in natural surroundings required. P: 8 s.h. in BIOL. Survey of birds of the world. Emphasis on ecology, evolution, and behavior: adaptive radiation, migration, flight mechanics, morphology, taxonomy, bird song, reproduction, population biology, and conservation of birds.

5150, 5151. Herpetology (4,0)
3 lectures and 1 3-hour lab per week. P: 8 s.h. in BIOL. Taxonomy, anatomy, physiology, distribution, phylogeny, natural history, and ecology of reptiles and amphibians of the world. Emphasis on species of NC and Atlantic Coastal Plain.

5200, 5201. Invertebrate Zoology (4,0)
3 lectures and 1 3-hour lab per week. P: 6 s.h. in BIOL. General comparative anatomical and physiological aspects of invertebrate groups. Emphasis on similarities, differences, and evolution.

5220, 5221. Limnology (4,0)
3 lectures and 1 3-hour lab per week. P: BIOL 2250, 2251; or consent of instructor. Physical, chemical, and biological factors of inland waters and their influence on aquatic organisms.

5230, 5231. Phycology (4,0)
3 lectures and 1 3-hour lab per week. P: BIOL 1200, 1201. Systematic survey of algae. Emphasis on their role in aquatic ecosystems. Lab employs techniques for studying algae and use of systematic keys.

5260, 5261. Microbial Ecology (4,0)
3 lectures and 2 2-hour labs per week. P: BIOL 2250, 2251, 3220, 3221; or consent of instructor. Interactions between microorganisms and their physical, chemical, and biological environment. Microbial involvement in energy flow, nutrient cycling, and intra/inter-specific interactions. Introduces statistical analyses of biological and ecological data.

5270. Marine Community Ecology (3)
P: BIOL 2250, 2251; or consent of instructor. Advanced examination of ecology of marine and brackish water communities based on principles of population biology and community ecology. Emphasis on current hypotheses concerning the processes structuring major communities.

5351. Biological Processes and the Chemistry of Natural Water (2)
6 lab hours per week. P: BIOL 2250, 2251; 2 CHEM courses; or consent of instructor. Interactions of water quality and biological processes in aquatic ecosystems.

5370. Biological Effects of Radiation (3) Same as RONC 5370
P: BIOL 1100, 1101, 1200, 1201; or consent of instructor. Biological effects resulting from interactions of radiation and matter for scientifically and technically-oriented students.

5400. Wetland Ecology and Management (3)
P: BIOL 2250, 2251; or consent of instructor. Marshes, swamps, bogs, fens, and other intermittently flooded ecosystems. Emphasis on classification, ecosystem processes, structure, and management of freshwater and saltwater wetlands.

5401. Wetland Ecology Laboratory (1)
P: BIOL 2250, 2251; C: BIOL 5400. Application of methods to measure ecological properties, assess the functioning, identify plant communities, and understand landscape interaction of wetland ecosystems.

5450, 5451. Histology (4,0)
2 lectures and 2 2-hour labs per week. P: 4 BIOL courses. Organization of cells, tissues, and organs at microscopic level.

5480, 5481. Cytology (2,2)
2 lectures and 2 2-hour labs per week. P: BIOL 1100, 2300, 3310. Function and structural components of eukaryotic cells.

5510, 5511. Transmission Electron Microscopy (4,0)
2 lecture and 6 lab hours per week. P for undergraduate students: Senior standing as BIOL major or consent of instructor. Introduces theory, design, and use of transmission electron microscope and to preparation of biological materials for its use.

5520, 5521. Scanning Electron Microscopy and X-Ray Analysis (2,0)
1 lecture and 4 lab hours per week. P for undergraduate students: Senior standing as a BIOL major or consent of instructor. Introduction to theory and techniques of scanning electron microscopy and X-Ray analysis and preparation of materials for both.

5550, 5551. Ichthyology (4,0)
2 lectures and 2 3-hour labs per week. Evolution and biology of major fish groups of the world. Emphasis on NC species.

5600, 5601. Fisheries Techniques (3,0)
For biology majors interested in marine biology. Field trips and field studies are integral. 2 lectures and 1 3-hour lab or field excursion per week. P: BIOL 2250, 2251; or equivalent. Practical training in field and lab experimental methods in fisheries techniques.

5630, 5631. Comparative Animal Physiology (4,0)
3 lectures and 1 3-hour lab per week. P: 2 BIOL and 2 organic CHEM courses. Principles of function of organ systems of major groups of animals. Nutrition, digestion, respiration, skin and temperature control, blood and circulatory systems, excretion, the muscular-skeletal system, nervous coordination, and endocrine system.

5640, 5641. Entomology (4,0)
3 lectures and 1 3-hour lab per week. P: 12 s.h. BIOL. General anatomy, physiology, ecology, and classification of insects.

5680. Current Topics in Coastal Biology (3)
P: Consent of instructor. Seminar on environmental issues in coastal biology presented by directed reading, lecture, and discussion.

5730, 5731. Animal Physiological Ecology (4,0)
3 lectures and 1 3-hour lab per week. P: BIOL 2250, 2251; 3310, 3311 or 3320, 3321 or 5800, 5821; or consent of instructor. Physiological adjustments and responses of animals to their environment. Considers mechanisms involved, and invertebrate, vertebrate, aquatic, and terrestrial animals.

5740, 5741. Behavioral Ecology (4,0)
3 lecture and 2 discussion hours per week. P: BIOL 4200, 4201. Animal behavior from an evolutionary perspective. Readings from current scientific literature and weekly discussions.

5750, 5751. Introduction to Regional Field Ecology (2,0) (5750:WI)
For science and environmental studies teachers. 20 hours of lecture and 32 hours of field trips. May not count toward MS in BIOL or molecular biology/biotechnology. Major regional ecosystems.

5800. Principles of Biochemistry I (3)
3 lecture hours per week. P: BIOL 3310, 3311; or consent of instructor; CHEM 2760, 2763. Intermediary metabolism, metabolic processes, and metabolic regulation of major groups of compounds in living cells.

5810. Principles of Biochemistry II (3)
May be taken before BIOL 5800. P: BIOL 3310, 3311; or consent of instructor; CHEM 2760, 2763. Protein biochemistry. Structure and function of amino acids and proteins, including protein biosynthesis and kinetics. Structures illustrated using computer-modeling techniques.

5821. Principles of Biochemistry Laboratory (1)
Required for biochemistry majors; recommended for biology majors. P/C for undergraduate students: BIOL 5800 or 5810. General biochemistry lab designed to complement BIOL 5800, 5810.

5870. Molecular Biology of the Gene (3)
P: BIOL 2300. Genetics of prokaryotic and eukaryotic organisms at molecular level. Structure and function of nucleic acids; replication, recombination, and repair; control of gene expression; and other related topics.

5890. Virology (3)
P: BIOL 2100, 2101; or 5870; 3220, 3221. Plant, animal, and bacterial viruses. Emphasis on distinctive features of viruses as related to parasitism, disease, and basic research.

5900, 5901. Biotechniques and Laboratory (2,3)
2 1-hour lectures and 2 4-hour labs per week. P: BIOL 2100, 2101, 5870; consent of instructor; RP: BIOL 5810, 5821; C for 5901: BIOL 5900. Theory and practice of modern genetic engineering technology. Topics include DNA purification, electrophoresis, restriction mapping, use of DNA modifying enzymes, basic cloning in plasmid vectors, and strain construction by conjugation and transduction.

5930, 5931. Microcomputer Applications in Molecular Biology (2,0)
1 lecture and 1 3-hour lab per week. P: BIOL 3310, 3311; or 5810, 5821; or 5870. Techniques for analysis of biological characteristics of nucleic acid and protein molecules using BASIC with microcomputers.

5950, 5951. Taxonomy of Vascular Plants (4,0)
1 2-hour lecture and 1 4-hour lab per week. P: 12 s.h. BIOL or consent of instructor; RP: BIOL 2250, 2251. Plant importance, identification, classification, and evolution as well as how plants interact with living and nonliving environments. Field experiences emphasize major communities and dominant floral elements of coastal NC.

5995. Internship (1)  
3 hours per week. May be repeated once for a maximum of 2 s.h. P: Consent of instructor. Lab experiences under direct supervision of a member of biology faculty.

BIOL Banked Courses
1070, 1071. General Botany (5,0)  
1080, 1081. General Zoology (5,0)  
3301. Principles of Genetics Laboratory (1)  
4480, 4481. Cytology (2,2)  
4720. Principles of Biology II (2)  
4999. Senior Topics (1)  
5000, 5001. Radio Tracer Techniques in Biology (3,0)  
5020, 5021. Animal Parasitology (4,0)  
5040, 5041. Mycology (4,0)  
5050. Applied Ecology (3)  
5080, 5081. Plant Anatomy and Morphology (4,0)  
5110, 5111. Plant Growth and Development (4,0)  
5678. Biology of Aging (3)  
5850, 5851. Biometry (3,0)  
5860, 5861. Biological Applications of Digital Computers (3,0)  
5880, 5881. Microbial Physiology (4,0)  
5910, 5911. Vascular Plant Systematics (4,0)  
5920, 5921. Vertebrate Systematics (4,0)
Thomas Harriot College of Arts and Sciences

Interdisciplinary Programs

Security Studies

Alethia H. Cook, Director, A-134 Brewster Building

The security studies minor is designed to provide an interdisciplinary overview of security-related issues, policies, and infrastructure that has developed in response to security challenges. The program is designed to accommodate students from a broad spectrum of degree programs within the university who have a desire to apply their majors to the growing security community, whether it be at local, state, and federal governments, or in the private or non-profit sectors.

The minor program, coordinated through the Thomas Harriot College of Arts and Science, requires 24 s.h. credit.

1. Core - 15 s.h.

SECS 1000. Introduction to Security Studies (3) (F) (FC:SO)
SECS 4000. Senior Seminar in Security Studies (3) (S) (P: SECS 1000 and consent of the instructor)
Choose three of the following:
POLS 3155. National Security Policy (3) (F,S)
POLS 4382. Politics of Terrorism (3) (F,S)
EHST 2110. Introduction to Environmental Health Science Sciences (3) (F,S)
PLAN 4015. Emergency Planning Management (3) (F,SS)

2. Electives - 9 s.h.
Choose 3 of the following. POLS majors may not choose POLS electives. Courses used for the core may not be used for electives. Other appropriate courses may be considered for inclusion as electives change or review by the director.

EHST 2110. Introduction to Environmental Health Science Sciences (3) (F,S)
GEOG 3003. Political Geography (3) (WI) (S) (FC:SO)
GEOG 2410. Fundamentals of GIS (3) (F,S)
HIST 3260. U.S. and the Middle East, 1783 to the Present (3)
ICTN 2900, 2901. Fundamental Network Security (3,0) (P: ICTN 2150)
JUST 1000. Criminal Justice Systems (3) (F,S,SS)
ITEC 3800. Cost and Capital Project Analysis (3) (S) (P: MATH 1065; ITEC 2000 or 3000 or MIS 2223)
PLAN 1900. Planning for the Human Environment (3) (F,S,SS)
PLAN 3051. Introduction to GIS in Planning (3) (F,S) (P: GEOG 2410 or consent of Instructor)
PLAN 4015. Emergency Planning Management (3) (F,SS)
POLS 3144. American Foreign Policy (3) (S) (RP: POLS 2020)
POLS 3155. National Security Policy (3) (F,S)
POLS 3290. Conflict and Peace in the Post Cold War Age (3) (S)
POLS 3293. International Organizations (3) (RP: POLS 2010)
POLS 4380. Topics in International Politics (3) (P: POLS 2020 or Consent of Instructor)
POLS 4382. Politics of Terrorism (3) (S)
POLS 4383. War in the Modern Age (3)

http://www.ecu.edu/cs-acad/ugcat/geography.cfm

Thomas Harriot College of Arts and Sciences

Department of Geography

Burrell Montz, Chair, A-227 Brewster Building

BS in Urban and Regional Planning

Jerry Weitz, Program Director, A-215 Brewster Building

Students entering the Planning Program are encouraged to declare their major as soon as possible in accordance with university requirements. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum.) - 42 s.h.

   COMM 2410. Public Speaking (3) (F,S,SS) (FC:FA) or COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)

2. Core - 33 s.h.

   PLAN 3020. Environmental Planning (3) (F)
   PLAN 3021. Introduction to Planning Techniques (3) (F)
   PLAN 3022. History and Theory of Planning (3) (WI) (F)
   PLAN 3030. Urban and Regional Planning (3)
   PLAN 3031. Quantitative Analysis in Planning (3) (S) (P: PLAN 3021 or consent of instructor)
   PLAN 3032. Planning Legislation and Administration (3) (WI) (S)
PLAN 3051. Introduction to GIS in Planning (3) (F)
PLAN 4003. Urban Form and Design (3) (F)
PLAN 4096. Planning Studio (3) (F,S) (P: PLAN 3022; PLAN 3051; or consent of instructor)
PLAN 4099. Practicum in Planning (3) (F,S) (WI)
GEOG 2400. Spatial Data Analysis (3) (F,S); or MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (P: MATH 1065 or equivalent); or MATH 2283. Statistics for Business (3) (F,S,SS) (P: MATH 1065 or MATH 1066 or equivalent)

3. Area of emphasis (In consultation with the planning advisor, choose one area from the following.) - 9 s.h.

Coastal Planning and Development
PLAN 4015. Emergency Management Planning (3) (F,SS)
PLAN 5025. Coastal Area Planning and Management (3) (P: Consent of instructor)
PLAN 5045. Environmental Resources Planning and Management (3) or PLAN 5065. Land Use Planning (3) (F)
Community Planning and Development:
PLAN 3015. Planning for Circulation (3) (S) or PLAN 5985. Historic Preservation Planning (3)
PLAN 4025. Housing and Neighborhood Planning (3) (F)
PLAN 5065. Land Use Planning (3) (F).

4. Electives – (Choose any additional 6 s.h. from the following)

PLAN 1900. Planning for the Human Environment (3) (F, S, SS)
PLAN 3015. Planning for Circulation (3) (S)
*PLAN 3018, 3028, 3038. Planning Internship (1,2,3) (F,S,SS) (P: Completion of a minimum of 9 s.h. of planning courses and consent of internship coordinator.
PLAN 3041. Computer Applications in Planning (3) (F)
PLAN 4015. Emergency Management Planning (3) (F,SS)
PLAN 4021. Advanced GIS Applications in Planning (3) (S) (P: PLAN 3051 or GEOG 2410 or consent of instructor)
PLAN 4041. GPS Applications in Planning (3) (S,SS) (P: PLAN 3051 or consent of instructor)
PLAN 4046. Planning and Design Studio (3) (F,S)
PLAN 4050. World Architecture and Urbanism (3) (S)
PLAN 4270. Water Resources Management and Planning (3) (P: PLAN 1900; or GEOG 1000 or 1250)
PLAN 4305. Ecological Landscape Planning (3) (P: GEOG 2410 or PLAN 3051 or consent of instructor)
PLAN 5025. Coastal Area Planning and Management (3) (P: Consent of instructor)
PLAN 5045. Environmental Resources Planning and Management (3)
PLAN 5065. Land Use Planning (3) (F)
*PLAN 5121. Problems in Planning (2,3) (P: Consent of instructor)
*PLAN 5131. Problems in Planning (2,3) (WI) (P: Consent of instructor)
PLAN 5985. Historic Preservation Planning (3)
*May count a maximum of 3 s.h. from PLAN 3018, 3028, 3038, and a maximum of 3 s.h. from 5121, 5131 toward the degree.

5. Minor or concentration area (In consultation with the planning advisor, choose a minor from another discipline or two concentration areas from below, with a minimum of 9 s.h. chosen from each of the two areas.). 24 s.h.

Accounting and Public Finance:
ACCT 2101. Survey of Financial and Managerial Accounting (3) (F,S) (P: MATH 1065 or 1066)
ECON 4214. Public Finance (3) (P: ECON 2133, 3144)
FINA 3004. Survey of Financial Management (3) (F,S) (P: ACCT 2101 or 2401; ECON 2113; MATH 2283)
POLS 3242. Municipal Policy and Administration (3)
POLS 3253. Government Fiscal Administration (3) (S) (RP: POLS 1010)

Coastal Resources:
BIOL 3660. Introduction to Marine Biology (3) (F,S,SS) (P/C: BIOL 2250, 2251)
BIOL 3661. Introduction to Marine Biology Laboratory (1) (F,S) (C: BIOL 3660)
GEOG 3002. Coastal Geography (3) (WI) (S) (P: GEOG 1200 or 3200 or consent of instructor)
GEOL 1550. Oceanography (4) (S) (FC:SC)
HIST 5520. Maritime History of the Western World Since 1815 (3)
SOCI 3410. Introduction to Maritime Sociology (3) (FC:SO) (P: ANTH 1000 or SOCI 2110)

Community Health:
EHST 2110. Introduction to Environmental Health Sciences (3) (F,S)
EHST 3600. Air Pollution (3) (F) (P: EHST 2110 or consent of instructor)
EHST 5800. Solid and Hazardous Waste Management (3) (P: CHEM 1160, 1161)
HLTH 3030. Health Behavior (3) (WI) (S) (P: PSYC 1000)
HPRO 4300. Survey of the Allied Health Professions (2)

Decision Science:
MIS 2223. Introduction to Computers (3) (F,S,SS)
MIS 3063. Introduction to Management Information Systems (3) (F,S,SS) (P: MIS 2223)
MIS 4103. Decision Support Systems (3) (F,S) (P: MIS 3063)
OMGT 3123. Operations and Supply Chain Management (3) (F,S,SS) (P: MATH 2228 or 2283; MIS 2223)
OMGT 3223. Business Decision Modeling (3) (F,S,SS) (P: Minimum grade of C in MIS 2223, MATH 1066 2119 or 2121 or 2171, 2283)

Economic Development:
ECON 3144. Intermediate Microeconomics (3) (F,S) (P: ECON 2113)
ECON 3244. Intermediate Macroeconomics (3) (F,S) (P: ECON 2133)
ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)
ECON 4020. Industrial Organization (3) (WI) (S) (P: ECON 3144)
ECON 4850. Resource Economics (3) (P: ECON 2133, 3144)

Environmental Resources:
BIOL 1060. Environmental Biology (4) (F,S,SS) (FC:SC)
ECON 4850. Resource Economics (3) (P: ECON 2133, 3144)
GEOG 2300. Geography of Environmental Resources (3) (F)
GEOL 1700. Environmental Geology (4) (F,S) (FC:SC)
PHYS 1050. Physics and the Environment (4) (F,S,SS) (FC:SC)
POLS 3256. Environmental Politics (3) (F)

Historic Preservation and Design:
CMGT 2210, 2211. Construction and Civil Materials (3,0) (F,S) (P: Minimum overall GPA of 2.0; majors and minors only; P/C: MATH 1065 or 1066)
HIST 3205. History of American Urban Life (3)
HIST 5920. Techniques of Museum and Historic Site Development (3)
HIST 5985. Historic Preservation Planning (3)
IDSN 2700. Historic Interiors I: 3000 BC Through Mid-Nineteenth Century (3) (WI) (S)
IDSN 2750. Historic Interiors II: Late Nineteenth and Twentieth Centuries (3) (WI) (F)
IDSN 4750. Interior Design for Adaptive Reuse (3) (WI) (S) (P: IDSN 3600, 3700)

International Development:
ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)
ECON 4373. International Trade (3) (S) (P: ECON 2133, 3144)
GEOG 2003. Geography of the Global Economy (3) (F,S) (FC:SO)
POLS 4360. Politics of Developing Areas (3) (FC:SO)

Land Use and Real Estate:
ANTH 4260. Cultural Ecology (3) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
FINA 3554. Principles of Real Estate (3) (F,S) (P: ACCT 2401; ECON 2133)
FINA 4564. Real Estate Appraisal (3) (F) (P: FINA 3554)
POLS 3241. Urban Political Systems (2) (S)
SOCI 3225. Urban Sociology (3) (FC:SO) (P: SOCI 2110)

Personnel Management and Administration:
MGMT 3202. Fundamentals of Management (3) (F,S,SS) (P: ECON 2113)
MGMT 4342. Organizational Change and Development (3) (F) (P: MGMT 3202 or 3302)
MGMT 4402. Human Resource Management (3) (F,S) (P: MGMT 3202 or 3302)
POLS 3242. Municipal Policy and Administration (3) (RP: POLS 3241)
POLS 3252. Public Administration (3) (F) (FC:SO)

Recreation:
GEOG 2019. Geography of Recreation (3) (F) (FC:SO)
RCLS 2000. Foundations of Recreation, Parks, and Tourism Studies (3) (F,S,SS)
RCLS 2601. Leisure in Society (3) (FC:SO)
RCLS 3300. Outdoor Recreation Programming (3) (S)

Societal Issues and Policies:
ANTH 2005. Environmental Anthropology (3) (S) (FC:SO)
SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)
SOCI 2111. Modern Social Problems (3) (F,S,SS) (FC:SO) (P: SOCI 2110)
SOCI 3225. Urban Sociology (3) (FC:SO) (P: SOCI 2110)
SOCI 3289. Community Organization (3) (S) (FC:SO) (P: SOCI 2110)
SOCl 4345. Racial and Cultural Minorities (3) (F) (FC:SO) (P: ANTH 1000 or SOCI 2110)
SOCl 4347. Social Inequality (3) (S) (FC:SO) (P: SOCI 2110)

6. Electives to complete degree requirements for graduation.

NOTE: Excluding foundations curriculum requirements, no one course may be used to fulfill two or more degree requirements.

http://www.ecu.edu/cs-acad/ugcat/education.cfm

College of Education
Linda A. Patriarca, Dean, 154 Speight Building
John A. Swope, Associate Dean, 154 Speight Building
Vivian M. Covington, Director of Teacher Education, 105 Speight Building

Academic Concentrations

Interdisciplinary Human Studies (18 s.h.)
Choose 9 s.h. from the following:
EXSS 2900. Teaching Skillful Movement (3) (F,S,SS) (P: EXSS 2323; P/C: EXSS 2202)
EXSS 3300. Applied Sports Psychology (3) (F) (P: PSYC 1000)
EXSS 3301. Physical Education and Sport in Modern Society (3) (F,SS) (P: Health and human performance major or minor, or consent of instructor)
EXSS 3900. Elementary School Instruction in Physical Education (3) (F,S) (P: Upper division status; EXSS 2122, 2500, 2600, 2900; with consent of BS in physical education degree director BS in health education majors and Physical Education Alternative Licensure students may enroll)
HLTH 3020. Health Disparities (3) (F,S,SS) (P: HLTH 1000 or 1050; 3010 or consent of instructor)
HLTH 3030. Health Behavior Theory (3) (WI) (S) (P: HLTH 1000 or 1050; PSYC 1000)
HLTH 4001. Stress Management: Principles and Practices (3) (S)
HLTH 5310. Education for Human Sexuality (3)
PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)
PSYC 4350. Psychology of Sexual Behavior (3) (F,S) (P: 6 s.h. of PSYC to include PSYC 1000 or 1060)
REHB 2003. Alcohol and Drug Abuse: Health and Social Problems (3) (F,S)
SOCI 1025. Courtship and Marriage (3) (F,S)
SOCI 3325. Sociology of Human Sexuality (3) (F,S,SS) (FC:SO) (P: SOCI 2110 or consent of instructor)
Choose 9 s.h. from the following:
BIOL 2130. Human Anatomy and Physiology (4) (F,S,SS) (FC:SC) (P: BIOL 1050, 1051; or 1100, 1101)
EHST 2110. Introduction to Environmental Health (3) (F, S)
EXSS 2202. Motor Learning and Performance (3) (F,S,SS)
EXSS 3805. Exercise Physiology (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2150; EXSS 2805)
EXSS 3850. Introduction to Biomechanics (3) (F, S, SS) (P: BIOL 2130 or BIOL 2140; EXSS 2850; PHYS 1250, 1251; or consent of instructor)
EXSS 3906. Physical Education for Special Populations (3) (F, S, SS) (P: Upper division status; EXSS 2323; SPED 2000; or consent of instructor)
EXSS 4804. Measurement and Evaluation in Exercise and Sport Science (3) (F,S,SS) (P: Upper division status; EXSS 2323; MATH 1065; health and human performance major or minor or consent of chair)
EXSS 4805. Exercise Evaluation and Prescription Laboratory (1) (F,S,SS) (C: EXSS 4806)
EXSS 4806. Exercise Evaluation and Prescription (3) (WI) (F,S,SS) (P: Health and human performance major or minor; EXSS 3805; or consent of instructor; C: EXSS 4805)
HLTH 2125, 2126. First Aid and CPR (3,0) (F,S,SS) (P: HLTH 1000 or 1050; C for 2125: HLTH 2126; C for 2126: HLTH 2125)
HLTH 3010. Health Problems I (3) (F,S,SS) (P: BIOL 2130 or 2140; HLTH 1000 or 1050; or consent of instructor)
NUTR 1000. Contemporary Nutrition (3) or NUTR 2105. Nutrition (3)

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College of Education
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Vivian M. Covington, Director of Teacher Education, 105 Speight Building

Academic Concentrations

Chemistry (44 s.h.)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: MATH 1065; P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
CHEM 2650. Organic Chemistry for the Life Sciences (4) (F) (P: CHEM 1160, 1161)
CHEM 2651. Organic Chemistry Lab for the Life Sciences (1) (F) (C: CHEM 2650)
CHEM 3450. Elementary Inorganic Chemistry (3) (F,S) (P: CHEM 2250, 2251; C: CHEM 3451)
CHEM 3451. Elementary Inorganic Chemistry Laboratory (1) (WI) (F,S) (P: CHEM 2250, 2251; C: CHEM 3450 or 5550)
CHEM 3850, 3851. Introduction to Physical Chemistry (4,1) (WI, WI) (F,S) (P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260, 1261)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1077 with a minimum grade of C)
MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: PHYS 1260 or 2260)
Choose recommended electives above 2999

http://www.ecu.edu/cs-acad/ugcat/biology.cfm

Thomas Harriot College of Arts and Sciences

Department of Biology

Jeffrey S. McKinnon, Chairperson, BN-108 Howell Science Complex
Jean-Luc Scemama, Director of Undergraduate Studies, BN-105 Howell Science Complex

Admission Requirements

In order to declare a major in biology or biochemistry, a student must satisfy foundations curriculum requirements as stated in the catalog for transfer to departments in the Thomas Harriot College of Arts and Sciences and must have a minimum cumulative 2.0 GPA in all biology and chemistry courses below the 3000 level.

Core Curriculum

The core curriculum in biology is intended to give all biology majors a background in molecular biology, diversity, evolution, ecology, and genetics. BIOL 1100, 1101, 1200, 1201, 2250, 2251, 2300 constitute the core curriculum. A choice of electives permits a student to pursue in depth an area or areas of particular interest. Lecture courses having laboratory components that carry independent credit may or may not be required as corequisites (see appropriate catalog descriptions). Laboratory components carrying no credit are corequisites. All students must take a departmentally administered assessment examination before graduation. Scores from this examination will not be used in the calculation of GPA or for academic standing. Minimum degree requirement is 126 s.h. of credit.

BS in Biology, General
1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum.) - 42 s.h.

CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)

2. Core. - 15 s.h.

BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
BIOL 2250. Ecology (3) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201)
BIOL 2251. Ecology Laboratory (1) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201; C: BIOL 2250)
BIOL 2300. Principles of Genetics (3) (F,S,SS) (P: BIOL 1100, 1200)

3. Recommended electives. - 25 s.h.

The following elective areas are recommended to guide students in choosing biology electives consistent with their academic goals. Students may concentrate in one of the specified areas, below, or choose a more general course of study. A maximum of 6 s.h. of BIOL 3504, 3550, 4504, 4514, 4550, 5995 may count toward biology electives without consent of dept. chair or director of undergraduate studies.
Ecology/Environmental Biology:
BIOL 3070, 3071. Survey of Plants and Fungi (4,0) (P: BIOL 1050, 1051 or 1060, 1061 or 1200, 1201)
BIOL 3230, 3231. Field Botany (4,0) (F,S,SS) (P: BIOL 1050, 1051 or 1100, 1101; C for 3230: 3231; C for 3231: 3230)
BIOL 3240, 3241. Field Zoology (4,0) (F) (P: BIOL 1060 or 2250)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 3320. Principles of Animal Physiology (3) (F,S,SS) P: CHEM 2650 or 2750 or 2770)
BIOL 3321. Principles of Animal Physiology Laboratory (1) (C: BIOL 3320)
BIOL 3660. Introduction to Marine Biology (3) (F,S,SS) (P/C: BIOL 2250, 2251)
BIOL 3661. Introduction to Marine Biology Laboratory (1) (F,S) (C: BIOL 3660)
BIOL 4200, 4201. Population and Community Ecology (4,0) (4200:WI) (S) (P: BIOL 2250, 2251, 2300; CHEM 1150, 1151; RP: CHEM 1160, 1161; MATH 2121 or 1 statistics course)
BIOL 4300, 4301. Ecosystem Ecology (4,0) (WI) (F) (P: BIOL 2250, 2251)
BIOL 4320. Ecological Responses to Global Climate Change (3) (S) (P: BIOL 2250, 2251)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5070, 5071. Ornithology (4,0) (F) (P: 8 s.h. in BIOL)
BIOL 5150, 5151. Herpetology (4,0) (S) (P: 8 s.h. in BIOL)
BIOL 5200, 5201. Invertebrate Zoology (4,0) (F) (P: 6 s.h. in BIOL)
BIOL 5220, 5221. Limnology (4,0) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5230, 5231. Phycology (4,0) (P: BIOL 1200, 1201)
BIOL 5260, 5261. Microbial Ecology (4,0) (S) (P: BIOL 2250, 2251, 3220, 3221; or consent of instructor)
BIOL 5270. Marine Community Ecology (3) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5351. Biological Processes and the Chemistry of Natural Water (2) (S) (P: BIOL 2250, 2251; 2 CHEM courses; or consent of instructor)
BIOL 5550, 5551. Ichthyology (4,0) (F)
BIOL 5640, 5641. Entomology (4,0) (F) (P: 12 s.h. in BIOL)
BIOL 5730, 5731. Animal Physiological Ecology (4,0) (S) (P: BIOL 2250, 2251; 3310, 3311 or 3320, 3321 or 5800; or consent of instructor)
BIOL 5950, 5951. Taxonomy of Vascular Plants (4,0) (F) (P: 12 s.h. in biology or consent of instructor; RP: BIOL 2250, 2251)

Marine Biology:
BIOL 3660. Introduction to Marine Biology (3) (F,S,SS) (P/C: BIOL 2250, 2251)
BIOL 3661. Introduction to Marine Biology Laboratory (1) (F,S) (C: BIOL 3660)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5200, 5201. Invertebrate Zoology (4,0) (F) (P: 6 s.h. in BIOL)
BIOL 5220, 5221. Limnology (4,0) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5230, 5231. Phycology (4,0) (P: BIOL 1200, 1201)
BIOL 5270. Marine Community Ecology (3) (S) (P: BIOL 2250, 2251; or consent of instructor)
BIOL 5351. Biological Processes and the Chemistry of Natural Water (2) (S) (P: BIOL 2250, 2251; 2 CHEM courses; or consent of instructor)
BIOL 5550, 5551. Ichthyology (4,0) (F)
BIOL 5600, 5601. Fisheries Techniques (3,0) (F,S) (P: BIOL 2250, 2251; or equivalent)
BIOL 5680. Current Topics in Coastal Biology (2) (S) (P: Consent of instructor)
GEOL 1550. Oceanography (4) (S) (FC:SC)
GEOL 5300. Geology of Coastal Processes and Environments (3) (S) (P: GEOL 1550, 4010, 4011; or consent of instructor)
Microbiology:
BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 4130. Astrobiology (3) (WI) (F) (P: BIOL 2250, 2300 RP: BIOL 3220)
BIOL 4170. Immunology I (3) (F) (P: BIOL 2300 or consent of instructor)
BIOL 4220. Microbes and Immunity (3) (WI*) (S, SS) (P: BIOL 2110, 2111 or 3220, 3221)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5260, 5261. Microbial Ecology (4,0) (P: BIOL 2250, 2251, 3220, 3221; or consent of instructor)
BIOL 5800. Principles of Biochemistry I (3,0) (P: CHEM 2760, 2763, BIOL 3310, 3311)
BIOL 5810. Principles of Biochemistry II (3,0) (P: CHEM 2760, 2763, BIOL 3310, 3311)
BIOL 5821. Principles of Biochemistry Laboratory (1) (F,S) (P/C: BIOL 5800 or 5810)
BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2300)
BIOL 5890. Virology (3) (S,SS) (P: BIOL 3220, 3221; or consent of instructor)
Molecular Biology and Biotechnology:
BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 4170. Immunology I (3) (F) (P: BIOL 2300; or consent of instructor)
BIOL 4240. Genome Evolution (3) (P: BIOL 2300 or consent of instructor)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5260, 5261. Microbial Ecology (4,0) (S) (P: BIOL 2250, 2251, 3220, 3221; or consent of instructor)
BIOL 5510, 5511. Transmission Electron Microscopy (4) (S) (P: Senior standing as BIOL major or consent of instructor)
BIOL 5520, 5521. Scanning Electron Microscopy and X-Ray Analysis (2,0) (F,SS) (P: Senior standing as BIOL major or consent of instructor)
BIOL 5800, 5810. Principles of Biochemistry I, II (3,3) (F,S) (P: CHEM 2760, 2763, BIOL 3310, 3311)
BIOL 5821. Principles of Biochemistry Laboratory (1) (F,S) (P/C: BIOL 5800 or 5810)
BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2300)
BIOL 5890. Virology (3) (S,SS) (P: BIOL 3220, 3221; or consent of instructor)
BIOL 5900, 5901. Biotechniques and Laboratory (2,3) (S) (P: BIOL 2100, 2101, 5870; consent of instructor; RP: BIOL 5810)
Physiology, Anatomy, and Cell Biology:
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
BIOL 3320. Principles of Animal Physiology (3) (F,S,SS) P: CHEM 2650 or 2750 or 2770)
BIOL 3321. Principles of Animal Physiology Laboratory (1) (F,S,SS) (C: BIOL 3320)
BIOL 4040. Human Genetics (3) (S) (P: BIOL 2300)
BIOL 4050, 4051. Comparative Anatomy (4,0) (F) (P: BIOL 1100, 1200)
BIOL 4060, 4061. Embryology (4,0) (P: BIOL 2300)
BIOL 4170. Immunology I (3) (F) (P: BIOL 2300 or consent of instructor)
BIOL 4504, 4514. Research Problems in Biology (2,2) (WI, WI) (F,S,SS) (P: Consent of instructor)
BIOL 5450, 5451. Histology (4,0) (F) (P: 4 BIOL courses)
BIOL 5630, 5631. Comparative Animal Physiology (4,0) (S) (P: 2 BIOL and 2 organic chemistry courses)
BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2300)

4. Cognates. - 22 s.h.

CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1077 with a minimum grade of C)
MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2260)

5. Research skills (Choose one area.) - 8-9 s.h.
Students contemplating graduate school should consider admission requirements before selecting a research skills area.

1. Foreign language through level 1003.
2. Quantitative and Communication Skills (1 course each in scientific writing, statistics, and computer programming.)

Recommended courses:
ENGL 3820. Scientific Writing (3) (WI) (F,S) (P: ENGL 1200) or ITEC 3290. Technical Writing (3) (WI) (F,S,SS)(P: ENGL 1200) or a course in scientific writing
MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (P: MATH 1065 or equivalent)
MIS 2223. Introduction to Computers (3) (F,S,SS) or ACCT 2401. Financial Accounting (3) (F,S,SS) (P: MATH 1065 or 1066 or 2119 or 2121 or 2171)
3. Relevant cognate area courses chosen to meet this requirement must be planned through consultation with a faculty advisor and approved in advance by the department chair and the department director of undergraduate studies.

4. Recommended for microbiology and molecular biology/biotechnology:

   CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
   MIS 2223. Introduction to Computers (3) (F,S,SS)

6. Electives to complete requirements for graduation.

**BS in Biochemistry**

Minimum degree requirement is 126 s.h. of credit as follows:

1. **Foundations** (For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum*.) - 42 s.h.

   CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
   CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test test or math section of the SAT/ACT)

2. **Core.** - 40 s.h.

   Biology:
   BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
   BIOL 2300. Principles of Genetics (3) (F,S,SS) (P: BIOL 1100, 1200)
   BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 1120 and 1130, or 2650 or 2750 or 2770)
   BIOL 5800, 5810. Principles of Biochemistry I, II (3,3) (P: CHEM 2760, 2763)
   BIOL 5821. Principles of Biochemistry Laboratory I (1) (P/C: BIOL 5800 or 5810)

   Chemistry:
   CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI, WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
   CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
   CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
CHEM 3950, 3951. Physical Chemistry and Laboratory I (4,1) (WI, WI) (F,S) (P: PHYS 1261, 2360; MATH 2173; CHEM 2250, 2251) or CHEM 3850, 3851. Introduction to Physical Chemistry (4,1) (WI, WI) (F) (P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260, 1261; C for 3850: CHEM 3851; C for 3851: CHEM 3850)

3. Cognates. - 25-27 s.h.

MATH 1083. Introduction to Functions (3) (F, S, SS) (FC:MA) (P: MATH 1065 with a minimum grade of C) or
MATH 1085. Pre-Calculus Mathematics (5) (F, S, SS) (FC:MA) (P: MATH 1065 with a minimum grade of C)
MATH 2171, 2172, 2173. Calculus I, II, III (4,4,4) (F, S, SS) (FC:MA) (P for 2171: minimum grade of C in any of MATH 1083, 1085, or 2122; P for 2172: MATH 2171 with minimum grade of C or 2122 with consent of instructor; P for 2173: MATH 2172 with minimum grade of C)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F, S, SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2260)
PHYS 2350, 2360. University Physics (4,4) (F, S, SS) (FC:SC) (P: for 2350: MATH 2121, 2151, 2171; P for PHYS 2360: PHYS 2350)

4. Electives (Choose from the following.) - 6 s.h.

BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F, SS) (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
BIOL 3220, 3221. Microbiology (4,0) (F) (P: BIOL 1200, 1201; CHEM 2650 or 2750)
BIOL 5510, 5511. Transmission Electron Microscopy (4) (P: Senior standing as a BIOL major or consent of instructor)
BIOL 5520, 5521. Scanning Electron Microscopy and X-Ray Analysis (2,0) (P: Senior standing as a BIOL major or consent of instructor)
BIOL 5870. Molecular Biology of the Gene (3) (F) (P: BIOL 2300)
BIOL 5900, 5901. Biotechniques and Laboratory (2,3) (P: BIOL 2100, 2101, 5870; consent of chair or instructor; RP: BIOL 5810)
CHEM 3960, 3961. Physical Chemistry and Laboratory II (4,1) (WI, WI) (F) (P: CHEM 3950, 3951) or all of the following: BIOL 3550. Biology Honors (1) (WI) (F, S, SS) (P: Faculty invitation), BIOL 4550. Biology Honors (2) (WI) (F, S, SS) (P: Faculty invitation) and BIOL 4514. Research Problems in Biology (2) (WI) (F, S, SS) (P: Consent of instructor)
MATH 4331. Introduction to Ordinary Differential Equations (3) (F, S) (P: MATH 2173)

5. Electives to complete requirements for graduation.
BS in Applied Atmospheric Science

Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum.) - 42 s.h.

   - MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
   - PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2360)
   - PHYS 2350, 2360. University Physics (4,4) (F,S,SS) (FC:SC) (P: MATH 2121 or 2171; P for PHYS 2360: PHYS 2350)

2. Core - 38 s.h.

   - GEOG 1300. Weather and Climate (4) (F, S)
   - GEOG 2250. Earth Surface Systems (3) (F)
   - GEOG 2400. Spatial Data Analysis (3) (F,S)
   - GEOG 2410. Fundamentals of GIS (3) (F,S) (Formerly GEOG 3410)
   - GEOG 3230. Global Climates (3) (S) (P: GEOG 1300, MATH 1065; or consent of instructor)
   - GEOG 3420. Remote Sensing of the Environment I (3) (F) (P: GEOG 2410 or equivalent)
   - GEOG 3510. Physical Meteorology (3) (F) (P: GEOG 1300, MATH 1065; or consent of instructor)
   - GEOG 3520. Dynamic Meteorology (3) (S) (P: GEOG 1300, MATH 2172; PHYS 2360; or consent of instructor)
   - GEOG 3550. Principles of Synoptic Meteorology (3) (F) (P: GEOG 3520; or consent of instructor)
   - GEOG 4510. Meteorological Instruments and Observations (3) (F) (P: GEOG 1300, MATH 1065; or consent of instructor)
   - GEOG 4525. Dynamic Meteorology II (3) (F) (P: GEOG 3520, MATH 4331; or consent of instructor)
   - GEOG 4550. Applied Synoptic Meteorology: Analyses and Forecasting (3) (S) (P: GEOG 3550; or consent of instructor)
   - GEOG 4999. Geography Professional Seminar (1) (P: Consent of instructor)
3. Math Cognates - 18-20 s.h.

MATH 1083. Introduction to Functions (3) (F,S,SS) (FC:MA) (May not be taken by students who have successfully completed MATH 1074 or MATH 1085) (P: MATH 1065 with a minimum grade of C) or MATH 1085. Pre-Calculus Mathematics (5) (F,S,SS) (FC: MA) (May not be taken by students who have successfully completed MATH 1074) (P: MATH 1065 with a minimum grade of C)

MATH 2171. Calculus I (4) (F,S,SS) (FC:MA) (P: Minimum grade of C in any of MATH 1083, 1085, or 2122)

MATH 2172. Calculus II (4) (F,S,SS) (FC:MA) (P: MATH 2171)

MATH 2173. Calculus III (4) (F,S,SS) (FC:MA) (P: MATH 2172)

MATH 4331. Introduction to Ordinary Differential Equations (3) (F,S) (P: MATH 2173)

4. Geospatial Technologies Electives: (Choose from the following) - 6 s.h.

GEOG 3430. Geographic Information Systems I (3) (S) (P: GEOG 2410 or equivalent)

GEOG 3450. Introduction to the Global Positioning System (3) (F,S) (P: GEOG 2410 or equivalent)

GEOG 3460. GIS Applications Programming (3) (F) (P: GEOG 2410; BITE 2212 or CSCI 1610 or MIS 2223 or consent of instructor)

GEOG 4150. Advanced Spatial Analysis (3) (F) (Formerly GEOG 3400) (P: GEOG 2400, 2410; or consent of instructor)

GEOG 4410. Advanced Cartographic Design and Production (3) (F,S) (P: GEOG 2410 or equivalent experience)

GEOG 4420. Remote Sensing II (3) (S) (P: GEOG 3420 or consent of instructor)

GEOG 4430. Geographic Information Systems II (3) (S) (P: GEOG 3430 or consent of instructor)

GEOG 4440. Coastal Applications of GIS (3) (F,S) (P: GEOG 2250, 2410; or consent of instructor)

GEOG 4450. GIScience, Society, and Technology (3) (S) (P: GEOG 2410, 3420, 3430; or consent of instructor)

GEOG 4460. Digital Terrain Analysis (3) (F) (P: GEOG 2250, 2410; or consent of instructor)

5. Atmospheric Science Electives (Choose from the following) - 6 s.h.

CHEM 1150,1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)

GEOG 4520. Boundary Layer Meteorology (3) (S) (P: GEOG 1300; or consent of instructor)

GEOG 4530. Micrometeorology (3) (F) (P: GEOG 1300; or consent of instructor)

GEOG 4540. Coastal Storms (3) (F) (P: GEOG 1300; or consent of instructor)

GEOG 4560. Urban Climatology (3) (F) (P: GEOG 1300; or consent of instructor)
GEOG 4570. Hydrometeorology (3) (P: GEOG 1300; or consent of instructor)
GEOG 4580. Radar and Satellite Meteorology (3) (P: GEOG 1300, GEOG 3420; or consent of instructor)
GEOG 4590. Tropical Meteorology (3) (F) (P: GEOG 1300; or consent of instructor)

6. Geography Electives (Choose from the following) - 6 s.h.

GEOG 2350. Climate Change: Science and Society (3) (FC:SO)
GEOG 3220. Soil Properties, Surveys, and Applications (3) (F) (P: GEOG 2250)
GEOG 3250. Environmental Hazards (3) (F) (P: GEOG 1300 or 2250)
GEOG 4210. Fluvial and Hydrological Processes (3) (S) (P: GEOG 1300, 2250; or consent of instructor)
GEOG 4220. Coastal Geography (3) (WI) (S) (P: GEOG 1300, 2250; or consent of instructor)
GEOG 4230. Earth Surface Processes (3) (WI) (F) (P: GEOG 1300, 2250; or consent of instructor)
GEOG 4270. Water Resources Management and Planning (3) (Same as PLAN 4270) (P: GEOG 1000 or 1250; or PLAN 1900)
GEOG 4801, 4802, 4803. Geography Internship (1,2,3) (F,S,SS) (P: Consent of director of geography internships; consent should be obtained during the semester prior to internship)

7. General electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/geology.cfm

Thomas Harriot College of Arts and Sciences

Department of Geological Sciences

Stephen J. Culver, Chair, 101 Graham Building

BS in Geology

Geology majors have the opportunity to specialize in one of three concentration areas: coastal and marine, environmental, general geology. Minimum degree requirement is **126 s.h.** of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see [Liberal Arts Foundations Curriculum.](#)) - 42 s.h.
2. Core - 42 s.h.

GEOL 1500. Dynamic Earth (3) (F,S,SS) (FC:SC) and GEOL 1501. Dynamic Earth Laboratory (1) (F,S,SS) (FC:SC)
GEOL 1600. Earth and Life Through Time (4) (F,S) (FC:SC)
GEOL 2000. Quantitative Methods in the Geological Sciences (3) (P: MATH 1065)
GEOL 3050, 3051. Mineralogy and Petrology I (4,0) (F) (P: A 1000-level GEOL course; RP: CHEM 1150, 1151; GEOL 1500, 1501)
GEOL 3150, 3151. Mineralogy and Petrology II (4,0) (S) (P: GEOL 3050, 3051; P/C: CHEM 1150, 1151)
GEOL 3200, 3201. Introduction to Field Methods (2,0) (F) (P: GEOL 1600)
GEOL 3300, 3301. Structural Geology (4,0) (S) (P: GEOL 3200, 3201)
GEOL 4000. Summer Field Course in Geology (6) (SS) (P: GEOL 3050, 3051, 3300, 3301)
GEOL 4010, 4011. Sedimentology (4,0) (WI) (F) (P: GEOL 1600, 3050, 3051)
GEOL 4020, 4021. Stratigraphy (3,0) (WI) (S) (P: GEOL 1600)
GEOL 4200, 4201. Paleontology (4,0) (4200:WI) (S) (P: GEOL 1600)

3. Concentration areas (Choose one.) - 7 s.h.

Coastal and Marine Geology (Choose 7 s.h. from the following.):
GEOL 1550. Oceanography (4) (F,S) (FC:SC)
GEOL 5300. Geology of Coastal Processes and Environments (3) (P: GEOL 1550, 4010, 4011; or consent of instructor)
GEOL 5350. Marine Geology (3) (P: GEOL 1550, 4010, 4011; or consent of instructor)
Or other approved GEOL courses
Environmental Geology (Choose 7 s.h. from the following.):
GEOL 1700. Environmental Geology (4) (F,S) (FC:SC)
GEOL 5150. The Geologic Component of Environmental Science (3) (P: Introductory GEOL course or consent of instructor)
GEOL 5450. Introduction to Aqueous Geochemistry (3) (P: CHEM 1150, 1151, 1160, 1161)
GEOL 5710, 5711. Ground-Water Hydrology (3,0) (P: GEOL 1500, 1501; or consent of instructor.
Or other approved GEOL courses
General Geology:
Choose 7 s.h. from any combination of GEOL courses. At least one course must be above 2999.

4. Cognates - 25 s.h.

CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
Choose 6 s.h. of approved courses in calculus, statistics, and/or computer applications
Choose 8 s.h. of approved BIOL, CHEM, and/or PHYS courses

5. Electives to complete requirements for graduation.

NOTE: Students who plan to pursue graduate degrees in geology should complete a year of physics and a year of calculus.

http://www.ecu.edu/cs-acad/ugcat/math.cfm

Thomas Harriot College of Arts and Sciences

Department of Mathematics

Johannes H. Hattingh, Chair, 124 Austin Building

BS in Mathematics

Credit toward a mathematics major will not be given in any MATH course with a grade less than C- (1.7). Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) - 42 s.h.
2. Common mathematics core - 37 s.h.

MATH 2171, 2172, 2173. Calculus I, II, III (4,4,4) (F,S,SS) (FC:MA) (P for 2171: MATH 1083, 1085, 2122 with minimum grade of C; P for 2172: MATH 2171 or 2122 with consent of instructor; P for 2173: MATH 2172)
MATH 2300. Transition to Advanced Mathematics (3) (WI) (P: MATH 2171)
MATH 3256. Linear Algebra (3) (F,S,SS) (P: MATH 2172)
MATH 3263. Introduction to Modern Algebra (3) (WI) (F,S) (P: MATH 2300, 3256)
MATH 3307. Mathematical Statistics I (3) (F,S) (P: MATH 2152 or MATH 2172)
MATH 3308. Mathematical Statistics II (3) (F) (P: MATH 3307)
MATH 4101. Advanced Calculus I (3) (P: MATH 2173, 2300, or consent of instructor)
MATH 4331. Introduction to Ordinary Differential Equations (3) (F,S) (P: MATH 2173)
CSCI 2310, 2311. Algorithmic Problem Solving and Programming Laboratory (4,0) (P: MATH 1065; C for 2310: CSCI 2311; C for 2311: CSCI 2310)

3. Concentration area (Choose one area.) - 13-33 s.h.

Mathematics (27-33 s.h.):
MATH 4110. Elementary Complex Variables (3) (S) (P: MATH 2173)
Minor (24-30 s.h.)
Science (27-28 s.h.)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P\text{C:} \text{CHEM 1065})  
P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160, CHEM 1161; C for 1161: CHEM 1160; R/C: MATH 1083 or 1085)
MATH 4110. Elementary Complex Variables (3) (S) (P: MATH 2173)
PHYS 2350, 2360. University Physics (4,4) (F,S,SS) (FC:SC) (P for 2350: MATH 2121, 2151, 2171; P for PHYS 2360: PHYS 2350)
Choose one of the following:
BIOL 1100, 1101. Principles of Biology I (4,0) (F,S,SS) (FC:SC) and BIOL 1200, 1201. Principles of Biology II (4,0)(F,S,SS) (FC:SC)
A combination of any 3 courses numbered above 1999 in Chemistry or numbered above 3999 in Physics.
Statistics (21 s.h.)
ENGL 3880. Writing for Business and Industry (3) (WI) (F,S,SS) (P: ENGL 1200)
MATH 4031. Applied Statistical Analysis (3) (WI) (P: MATH 2228 or 2283 or 3308; MATH 3256 or MATH/CSCI 3584; or equivalent; or consent of instructor)
MATH 4201. Introduction to Stochastic Processes (3) (P: MATH 3307 or equivalent or consent of instructor) or MATH 5000. Introduction to Sampling Design (3) (F) (P: MATH 3308 or 3229 or consent of instructor)
MATH 4774. Programming for Research (3) (P: MATH 2228 or MATH 2283 or equivalent)
MATH 4801. Probability Theory (3) (P: MATH 2173 or 3307)
MATH 4999. Capstone and Statistical Consulting (3) (P: MATH 4031)
PHIL 2274. Business Ethics (3) (F,S,SS) (FC:HU)
Computer Science (13 s.h.)
CSCI/EENG 2410. Digital Electronics (3) (Same as EENG 2410) (P: ENGR 1014 or 1016, and 2050; or CSCI 2310, 2311) or CSCI 3675. Organization of Programming Language (3) (P: CSCI 3200 or 3310) or MATH 4110. Elementary Complex Variables (S) (P: MATH 2173)
CSCI 3300. Introduction to Algorithms and Data Structures (4) (P: CSCI 2300, 2310, 2427)
CSCI 3310. Advanced Data Structures and Data Abstraction (3) (P: CSCI 3300)
CSCI 3650. Analysis of Algorithms (3) (P: CSCI 3200 or 3300; CSCI 2427)

4. Specified electives

Mathematics (9 s.h.):
Choose 9 additional s.h. in consultation with advisor from MATH 3174, 3233, 3273, 3301, 3573, 4201, 4264, 4801, 5000, 5002, 5021, 5102, 5121, 5122, 5131, 5132, 5311, 5322, or 5551.
Science (3 s.h.)
Choose 3 additional s.h. in consultation with advisor from MATH 3174, 3233, 3273, 3301, 3573, 4201, 4264, 4801, 5000, 5002, 5021, 5102, 5121, 5122, 5131, 5132, 5311, 5322, or 5551.
Statistics (9 s.h.)
Choose 3 additional s.h. from MATH 4201, 5000, 5132; OMGT 4493; ECON 3343, 4430.
Choose 6 additional s.h. from MATH 3174, 3233, 3273, 3301, 3573, 4110, 4264, 5002, 5021, 5102, 5121, 5122, 5131, 5132, 5311, 5322 or 5551.

Computer Science (15 s.h.)
Choose 3 s.h. from MATH 3174, 3233, 3273, 3301, 3573, 4201, 4264, 4801, 5000, 5002, 5021, 5102, 5121, 5122, 5131, 5132, 5311, 5322 or 5551.
Choose 12 s.h. of CSCI electives numbered above 1999, 2310/2311, 2610, 2611, 3300, 3310, 3510, 3584, 3601, 3650.

5. Electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/physics.cfm

Thomas Harriot College of Arts and Sciences

Department of Physics

John Sutherland, Chair, S-209 Howell Science Complex

BS in Physics

The BS is a traditional physics program designed for students interested in graduate study in physics or engineering. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

   CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150

   CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)

   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT) or equivalent

2. Core - 40 s.h.
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: PHYS 1260 or 2360)
PHYS 2350, 2360. University Physics (4,4) (FC:SC) (P for 2350: MATH 2121, 2151 or 2171; P for 2360: PHYS 2350)
PHYS 3700, 3701. Advanced Laboratory (3,0) (3700:WI) (F) (P: PHYS 2360)
PHYS 4120. Thermodynamics (3) (S-OY) (P: PHYS 2360)
PHYS 4226. Mechanics I (3) (F) (P: MATH 2173; PHYS 2360)
PHYS 4310. Modern Optics (3) (F-EY) (P: PHYS 2360)
PHYS 4326. Electricity and Magnetism I (3) (F) (P: PHYS 2360)
PHYS 4416. Modern Physics I (3) (F) (P: PHYS 2360)
PHYS 4417. Modern Physics II (3) (S) (P: PHYS 4416)
PHYS 4560. Mathematical Methods for Physics (3) (S) (P: MATH 2173; PHYS 2360)
PHYS 4610. Electronics (3) (F-OY) (P: PHYS 2021, 2360)
Choose 3 s.h. of PHYS electives above 2999

3. Cognates - 18 s.h.

MATH 1083. Introduction to Functions (3) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C)
MATH 2171, 2172, 2173. Calculus I, II, III (4,4,4) (F,S,SS) (FC:MA) (P for 2171: minimum grade of C in any of MATH 1083, 1085, 2122; P for 2172: MATH 2171 with a minimum grade of C or 2122 with consent of instructor; P for 2173: MATH 2172 with a minimum grade of C)
MATH 4331. Introduction to Ordinary Differential Equations (3) (F,S) (P: MATH 2173)

4. Electives to complete requirements for graduation.

BSAP (BS in Applied Physics)

The BSAP is designed for students interested in employment in technical fields or in graduate study in engineering, business, public health, medicine, environmental science, and related technical fields depending on elective choices. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT) or equivalent

2. Core - 28 s.h.

PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: PHYS 1260 or 2360)
PHYS 2350, 2360. University Physics (4,4) (FC:SC) (P for 2350: MATH 2121, 2151 or 2171; P for 2360: PHYS 2350)
PHYS 3700, 3701. Advanced Laboratory (3,0) (3700:WI) (F) (P: PHYS 2360)
PHYS 4310. Modern Optics (3) (P: PHYS 2360)
PHYS 4416. Modern Physics I (3) (F) (P: PHYS 2360)
PHYS 4417. Modern Physics II (3) (S) (P: PHYS 4416)
PHYS 4610. Electronics (3) (F-OY) (P: PHYS 2021, 2360)
Choose 3 s.h. of PHYS electives above 2999

3. Cognates - 18 s.h.

MATH 1083. Introduction to Functions (3) (F,S,SS) (FC:MA) (P: MATH 1065 with a minimum grade of C)
MATH 2171, 2172, 2173. Calculus I, II, III (4,4,4) (F,S,SS) (FC:MA) (P for 2171: minimum grade of C in any of MATH 1083, 1085, 2122; P for 2172: MATH 2171 with a minimum grade of C or 2122 with consent of instructor; P for 2173: MATH 2172 with a minimum grade of C)
MATH 4331. Introduction to Ordinary Differential Equations (3) (F,S) (P: MATH 2173)

4. Electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/clinicalallab.cfm

College of Allied Health Sciences

Department of Clinical Laboratory Science

Kathleen M. Schulman, Interim Chair, 3410E, Health Sciences Building

BS in Clinical Laboratory Science

A minimum cumulative 2.0 GPA in biology and chemistry courses is required for admission into the professional phase of the curriculum. Majors must maintain a minimum cumulative 2.0 GPA in all clinical laboratory science (CLSC) courses during the professional phase of the curriculum. A student earning a D (1.0) in any of the CLSC courses must petition the Department of Clinical Laboratory Science for probationary continuation. Minimum degree requirement is 131 s.h. of credit as follows:
1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below. - 42 s.h.

CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
Recommended:
PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)
PSYC 2101. Psychological Statistics (4) (F,S,SS) (FC:SO) (P: MATH 1065 or MATH 1066)

2. Core - 67 s.h.

CLSC 3410. Hematology I (3) (F) (P: CLSC major)
CLSC 3411. Hematology I Laboratory (1) (F) (P: CLSC major; C: CLSC 3410)
CLSC 3420. Hematology II (3) (S) (P: CLSC major; CLSC 3410, 3411; or consent of instructor)
CLSC 3421. Hematology II Laboratory (1) (S) (P: CLSC major; CLSC 3410, 3411; or consent of instructor)
CLSC 3430. Clinical Immunology (2) (F) (P: Consent of instructor)
CLSC 3440, 3441. Clinical Microscopy and Serology Lecture and Laboratory (2,1) (SS) (P: CLSC 3430)
CLSC 4210, 4211. Immunohematology Lecture and Laboratory (3,1) (SS) (P: CLSC 3430; consent of instructor)
CLSC 4430, 4431. Clinical Chemistry I (2,1) (F) (P: 4 courses in CHEM; PSYC 2101 or other statistics course; P for nonmajor: consent of instructor)
CLSC 4440, 4441 Clinical Chemistry II (4,2) (S) (P: CLSC 4430, 4431; P for nonmajor: consent of instructor)
CLSC 4460, 4461. Clinical Microbiology I (4,2) (F) (P: BIOL 2110, 2111; or 3220, 3221; or consent of instructor)
CLSC 4470, 4471. Clinical Microbiology II (3,2) (S) (P: CLSC 4460, 4461; or consent of instructor)
CLSC 4480, 4481. Clinical Microbiology III (2,1) (SS) (P: Consent of instructor)
CLSC 4491. Molecular Diagnostics in Clinical Laboratory Science I (1) (F) (P: Consent of instructor)
CLSC 4492. Molecular Diagnostics in Clinical Laboratory Science II (1) (S) (P: CLSC 4491; consent of instructor)
CLSC 4801. Professional Practice Issues I (3) (WI) (F) 3 lecture hours per week. P: CLSC major.
CLSC 4802. Professional Practice Issues II (4) (S) 4 lecture hours per week. P: CLSC major.
CLSC 4803. Introduction to Clinical Laboratory Information Systems (2) (S) (P: CLSC major or consent of instructor)
**CLSC 4992. Clinical Education–Hematology, Coagulation, Urinalysis (4) (F,S) (P: CLSC 3420, 3421)
**CLSC 4993. Clinical Education–Chemistry (4) (F,S) (P: CLSC 4440, 4441)
**CLSC 4994. Clinical Education–Blood Bank and Serology (4) (F,S) (P: CLSC 4210, 4211)
**CLSC 4997. Clinical Education–Microbiology (4) (F,S) (P: CLSC 4470, 4471)

3. Cognates - 22 s.h.

BIOL 1150, 1151. Principles of Biology: A Human Approach (4,0) (FC:SC)(3 lecture and 2 discussion hours per week)
BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC) P for 2110: CHEM 1120, 1130 or BIOL 1100 and CHEM 1150; 2.75 GPA or consent of instructor; RP for 2110; BIOL 1050, 1051 or 1100, 1101; P/C for 2111: BIOL 2110)
BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC) (P: BIOL 1050, 1051; or 1100, 1101)
CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
CHEM 2650. Organic Chemistry for the Life Sciences (4) (F) (P: CHEM 1160, 1161)
CHEM 2651. Organic Chemistry Lab for the Life Sciences (1) (F) (C: CHEM 2650)

*Students must complete CLSC 4801, 4802 to satisfy the 3 s.h. requirement of writing intensive courses in the major.

**Affiliated hospitals for CLSC 4992, 4993, 4994, 4997 include Cape Fear Valley Medical Center, Fayetteville; CarolinaEast Medical Center, New Bern; Lenoir Memorial Hospital, Kinston; Nash Health Care System, Rocky Mount; Pitt County Memorial Hospital, Greenville; Wayne Memorial Hospital, Goldsboro; Wilson Medical Center, Wilson; and Federal Medical Center at Federal Correction Complex, Butner, NC.

http://www.ecu.edu/cs-acad/ugcat/mathSciEd.cfm

College of Education

Department of Mathematics, Science, and Instructional Technology Education

Susan Ganter, Chair, 342-A Flanagan Building

BS in Science Education
The science education degree prepares and develops professionals in science education by offering classroom instruction and research opportunities in programs for students whose career goals are teaching science in the elementary, middle, and secondary schools, and in higher education. Undergraduate areas of preparation include the methods and processes of teaching the biological, physical, and earth sciences. Minimum degree requirement is 128 s.h. of credit as follows:

1. Foundations curriculum and special requirements for certification (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

   BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   GEOL 1500. Dynamic Earth (3) (F,S,SS) (FC:SC)
   GEOL 1501. Dynamic Earth Laboratory (1) (F,S,SS) (FC:SC) (C: GEOL 1500)
   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
   PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)
   Council for Teacher Education Approved Diversity Course
   Choose a literature course (FC:HU)

2. Teaching area concentration (Choose one from the following.) - 55 s.h.

   Biology
   BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
   BIOL 2100, 2101. Basic Laboratory Methods for Biotechnology (3,0) (F,SS) (FC:SC)
   (Formerly BIOL 3100, 3101) (P: BIOL 1100, 1101; MATH 1065; CHEM 1020, 1021 or 1120, 1121 or 1150, 1151)
   BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC) (P: for 2110: CHEM 1120, 1130 or CHEM 1150, 1160; RP for 2110: BIOL 1050, 1051 or 1100, 1101; P/C for 2111: BIOL 2110)
   BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC) (P: BIOL 1050, 1051; or 1100, 1101) and BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC) (P/C: BIOL 2130) or BIOL 4050, 4051. Comparative Anatomy (4,0) (F) (P: 6 s.h. in BIOL)
   BIOL 2250. Ecology (3) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201)
   BIOL 2251. Ecology Laboratory (1) (F,S,SS) (P: BIOL 1100, 1101, 1200, 1201; C: BIOL 2250)
   BIOL 2300. Principles of Genetics (3) (F,S,SS) (P: BIOL 1100, 1200, or BIOL 1150, 1151)
   BIOL 3230, 3231. Field Botany (4,0) (F,S,SS) (P: 3 s.h. of general BIOL with a lab) or BIOL 3150. Plant Biology (3) (S) (P: 2000-level BIOL course or consent of instructor)
   BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: Organic chemistry or biochemistry course)
BIOL 3620. Biological Evolution (3) (F) (P: MATH 1065 or equivalent; BIOL 2300 or consent of instructor)
CHEM 1120. Introduction to Chemistry for the Allied Health Sciences (3,0) (F,S,SS) (FC:SC)
CHEM 1121. Basic General, Organic, and Biochemistry Laboratory I (1) (F,S) (FC:SC) (C: CHEM 1120)
CHEM 1130. Organic and Biochemistry for the Allied Health Sciences (4,0) (F,S,SS) (FC:SC) (P: CHEM 1120)
MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1077 with a minimum grade of C)
MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251. General Physics Laboratory (1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350)
SCIE 3604. Investigations in Life and Environmental Science (4) (F,S,SS)
Chemistry
BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) (P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
CHEM 2250, 2251. Quantitative and Instrumental Analysis (3,2) (WI) (F,S) (P: CHEM 1160, 1161; CHEM 2650 or 2750)
CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
CHEM 3450. Elementary Inorganic Chemistry (3) (F,S) (P: CHEM 2250, 2251; C: CHEM 3451)
CHEM 3451. Elementary Inorganic Chemistry Laboratory (1) (WI) (F,S) (P: CHEM 2250, 2251; C: CHEM 3450 or 5550)
CHEM 3850, 3851. Introduction to Physical Chemistry (4,1) (WI) (F,S) (P: CHEM 1160, 1161; MATH 2122 or 2172; PHYS 1260)
MATH 2171. Calculus I (4) (F,S,SS) (FC:MA) (P: Minimum grade of C in any of MATH 1083, 1085, or 2122)
MATH 2172. Calculus II (4) (F,S,SS) (FC:MA) (P: MATH 2171 with a minimum grade of C or MATH 2122 with consent of instructor)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
SCIE 3350, 3351. Descriptive Astronomy (4,0) (S) or SCIE 3360, 3361. Physical Meteorology (4,0) (S)
SCIE 3602. Investigations in Physical and Earth Science (4) (F,S,SS)
Earth Science
BIOL 1200. Principles of Biology (3) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065
P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160. General Chemistry (3) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
GEOL 1550. Oceanography (4) (S) (FC:SC) GEOL 1700. Environmental Geology (4) (F,S) (FC:SC)
GEOL 1600. Earth and Life Through Time (4) (S) (FC:SC)
GEOL 3050, 3051. Mineralogy and Petrology I (4,0) (F) (P: A 1000-level GEOL course)
3 lecture and 3 lab hours per week.
GEOL 3200. Introduction to Field Methods (2,0) (P: GEOL 1600)
GEOL 3250, 3251, Geomorphology (3,0) (F-OY) (P: GEOL 1600)
GEOL Elective over 3000 (3)
MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or 1077 with a minimum grade of C)
MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251. General Physics Laboratory (1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350)
SCIE 3350, 3351. Descriptive Astronomy (4,0) (S)
SCIE 3360, 3361. Physical Meteorology (4,0) (S)
SCIE 3602. Investigations in Physical and Earth Science (4) (F,S,SS)
Physics
BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065
P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
MATH 2171. Calculus I (4) (F,S,SS) (FC:MA) (P: Minimum grade of C in any of MATH 1083, 1085, or 2122)
MATH 2172. Calculus II (4) (F,S,SS) (FC:MA) (P: MATH 2171 with a minimum grade of C or MATH 2122 with consent of instructor)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: 1260 or 2360)
PHYS 2350, 2360. University Physics (4,4) (F,S,SS) (FC:SC) (P for 2350: MATH 2121, 2151, 2171; P for PHYS 2360: PHYS 2350)
PHYS 3716. Advanced Physics Laboratory (1) P: Consent of instructor and dept chair.
PHYS 4120. Thermodynamics (3) (S-OY) (P: PHYS 2360)
PHYS 4310. Modern Optics (3) (F-EY) (P: PHYS 2360)
PHYS 4416. Modern Physics I (3) (F) (P: PHYS 2360)
PHYS 4417. Modern Physics II (3) (S) (P: PHYS 4416)
SCIE 3350, 3351. Descriptive Astronomy (4,0) (S)
SCIE 3360, 3361. Physical Meteorology (4,0) (S)
SCIE 3602. Investigations in Physical and Earth Science (4) (F,S,SS)

3. Specialty Area - 6 s.h.

SCIE 3323. Introduction to Teaching in the High School Science Classroom (3) (S) (P: SCIE 2123)
SCIE 4323. The Teaching of Science in High School (3) (WI) (F) (P: Admission to upper division)

4. Professional studies - 24-25 s.h.

EDUC 3200. Foundations of American Education (3) (WI*) (F,S,SS) (P: Early experience course or consent of instructor)
EDUC 4400. Foundations of School Learning, Motivation, and Assessment (3) (F,S) (P: Admission to upper division; C: Senior I semester) or PSYC 4305. Educational Psychology (3) (F,S,SS) (P: PSYC 2201 or 2240 or 3206 or 3240 or equivalent)
READ 3990. Teaching Reading in the Content Areas in the Secondary School (2) (F,S,SS) or READ 5317. Reading in the Junior and Senior High School (3)
SCIE 2123. Early Experiences for the Prospective Teacher (1) (F,S)
SCIE 4030. Technology in Science Teaching (3) (F) (P: Admission to upper division; SCIE 3323)
SCIE 4324. Internship in Science Education (10) (S) (P: Admission to upper division; SCIE 4323; C: SCIE 4325)
SCIE 4325. Internship Seminar: Issues in Science Education (1) (S) (P: Admission to upper division; C: SCIE 4324)
SPED 4010. Effective Instruction in Inclusive Classrooms (2) (F,S) (RP: SPED 2000)

5. Electives to complete requirements for graduation.

Science Minor

Minimum requirement for the science minor is 24 s.h. of credit as follows:

BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150
CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: PHYS 1260 or 2260)

http://www.ecu.edu/cs-acad/ugcat/ExerSport.cfm

College of Health and Human Performance

Department of Kinesiology

Stacey R. Altman, Chair, 176 Minges Coliseum

BS in Exercise Physiology

The program provides competencies and knowledge in the field of exercise physiology. Graduates of the program are prepared to pursue further academic training in exercise physiology, physical therapy, medicine, and other allied health careers. A minimum cumulative 2.75 GPA and 32 s.h. foundations curriculum are required for admission. A minimum grade of C (2.0) is required in BIOL 1150, 1151; CHEM 1150, 1151; ENGL 1100, 1200; MATH 1065. Majors must maintain a minimum cumulative GPA of 2.5 and a minimum grade of C (2.0) is required in BIOL 2140, 2141, 2150, 2151; CHEM 1160, 1161; and all required EXSS courses. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

   BIOL 1150, 1151. Principles of Biology: A Human Approach (4,0) (FC:SC)
   CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH
1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)

2. Core - 42 s.h.

EXSS 2000. Introductory Exercise and Sport Science (3) (F,S,SS)
EXSS 2850. Structural Kinesiology (1) (F,S,SS)
EXSS 3805. Physiology of Exercise (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2150; EXSS 2850)
EXSS 3806. Physiology of Exercise Laboratory (1) (F,S,SS) One 2-hour lab per week. (P/C: EXSS 3805)
EXSS 3850. Introduction to Biomechanics (3) (F,S,SS) (P: BIOL 2140; EXSS 2850; PHYS 1250, 1251; or consent of instructor)
EXSS 4805. Exercise Evaluation and Prescription Laboratory (1) (F,S,SS) (C: EXSS 4806)
EXSS 4806. Exercise Evaluation and Prescription (3) (WI) (F,S,SS) (P: EXSS 3805; health and human performance major or minor; or consent of instructor; C: EXSS 4805)
EXSS 4809. Exercise Prescription for Clinical Populations (3) (F,S,SS) (P: EXSS 4806)
EXSS 4991. Independent Research in Exercise Physiology (3) (WI*) (F,S) (P: EXSS 4806; or consent of exercise physiology degree director)
EXSS 4992. Research Internship in Exercise Physiology (12) (F,S) (P: Completion of all other requirements for the exercise physiology degree or consent of internship coordinator)
EXSS 5020. Exercise Adherence (3) (P: PSYC 1000; P/C: EXSS 4806; health and human performance major or minor; or consent of dept chair)
Choose 6 s.h. approved electives

3. Cognates - 38 s.h.

BIOL 2140, 2150. Human Physiology and Anatomy (3,3) (P: CHEM 1120 or 1150; 2.75 GPA or consent of instructor; P for 2150: BIOL 2140; 2.75 GPA or consent of instructor; C for 2140: BIOL 2141; C for 2150: BIOL 2151)
BIOL 2141, 2151. Human Physiology and Anatomy Laboratory (1,1) (P for 2151: BIOL 2141; C for 2141: BIOL 2140; C for 2151: BIOL 2150)
BIOS 1500. Introduction to Biostatistics (3) (F,S) (P: MATH 1065 or equivalent or consent of instructor) or MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (FC:MA) (For students with limited mathematical training) (May receive credit for one of MATH 2228, 2283) (P: MATH 1065 or equivalent) or MATH 2283. Statistics for Business (3) (F,S,SS) (FC:MA) (May receive credit for one of MATH 2228, 2283) (P: MATH 1065 or 1066 or equivalent)
CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
NUTR 1000. Contemporary Nutrition (3) or NUTR 2105. Nutrition Science (3)
PHYS 1250, 1260. General Physics (3,3) (F,S,SS) (FC:SC) (P for 1250: MATH 1065 or 1066; P for 1260: PHYS 1250)
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251: PHYS 1250 or 2350; C for 1261: PHYS 1260 or 2260)

4. Electives to complete requirements for graduation - 5 s.h.

http://www.ecu.edu/cs-acad/ugcat/HealthEd.cfm

College of Health and Human Performance

Department of Health Education and Promotion

W. Michael Felts, Interim Chair, 2201 Carol G. Belk

BS in Environmental Health

A minimum GPA of 2.0 in all 1000 level basic science and math courses, a minimum cumulative GPA of 2.0 on at least 30 s.h., and completion of EHST 2110 are required for admission to the professional phase of the environmental health sciences curriculum. Environmental health majors must pass all environmental health courses with a minimum grade of C- (1.7). A student earning a D (1.0 or lower) in any of these courses must petition the environmental health sciences faculty for probationary continuation. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations Curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

   Required:
   BIOL 1050, 1051. General Biology and Laboratory (3,1) (F,S,SS) (FC:SC)
   BIOL 2130. Survey of Human Anatomy (4) (F,S,SS) (P: BIOL 1050, 1051; or 1100, 1101)
   MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)

   Recommended
COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)
HIST 1051. American History Since 1877 (WI*) (3) (F,S,SS) (FC:SO)
PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)
RCLS 2601. Leisure in Society (3) (F,S,SS) (FC:SO)
SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)

2. Common Core - 42 s.h.

Select from the following with advisor approval:
EHST 2110, 2111. Introduction to Environmental Health Sciences and Laboratory (3, 0) (F,S)
EHST 3003. Environmental Epidemiology (3) (F)
EHST 3200. Food Sanitation Principles (3) (S) (P: Consent of instructor; C: EHST 3201)
EHST 3201. Food Sanitation Principles Laboratory (1) (S) (P: Consent of instructor; C: EHST 3200)
EHST 3350. Safe Water (4) (F) (P: BIOL 2110, 2111; CHEM 1160, 1161, C: EHST 3351)
EHST 3351. Safe Water Laboratory (1) (F) (P: BIOL 2110, 2111; CHEM 1160, 1161, C: EHST 3350)
EHST 3370. Waste Water Management (3) (S) (P: EHST 3350, 3351; C: EHST 3371)
EHST 3371. Waste Water Management Laboratory (1) (S) (P: EHST 3350, 3351; C: EHST 3370)
EHST 3600. Air Pollution (3) (F) (P: EHST 2110 or consent of instructor)
EHST 3700. Industrial Hygiene (3) (S) (P: 8 s.h. of general science lab courses or consent of program directors; C: EHST 3701)
EHST 3701. Industrial Hygiene Laboratory (1) (S) (P: Consent of instructor; C: EHST 3700)
EHST 4010. Toxicological Foundations of Risk Assessment (3) (S) (P: BIOL 2130; CHEM 2650, 2651)
EHST 4200. Environmental Health Management and Law (3) (WI) (F) (P: EHST major or minor)
EHST 4300, 4301. Institutional and Recreational Sanitation and Laboratory (3,0) (F) (P: EHST 2110, 3003, 3200, 3201, 3350, 3351, 3370, 3371; or consent of instructor)
EHST 4350, 4351. Vector Borne Disease Ecology and Laboratory (3,0) (F) (P: EHST 2110, 3003, 3350, 3351, 3370, 3371; or consent of instructor)
EHST 4990. Environmental Health Internship (3) (P: EHST major; 13 s.h. in EHST or consent of program director)
EHST 5001. Environmental Health Seminar (1) (May be taken more than once)
EHST 5800, 5801. Solid and Hazardous Waste Management and Laboratory (3,0) (P: CHEM 1160, 1161 or consent of instructor)

3. Cognates - 30 s.h.

Required Cognates (24 s.h.):
BS in Public Health Studies

Students entering the public health studies degree program choose one of three concentrations: community health, prehealth professions, or worksite health promotion. The community health concentration requires a minimum cumulative GPA of 2.5 for entry and thereafter the student must maintain a minimum 2.0 GPA in the required cognates and pass all health education core courses with a minimum grade of C (1.7). A student earning a D (1.0 or lower) in any of these courses must petition the Department of Health Education and Promotion for probationary continuation. No student on probation may enroll for HLTH 4991, Health Education and Promotion Internship. Students entering the worksite health promotion concentration must have a minimum cumulative 2.0 GPA and a minimum 2.5 GPA calculated on three courses: ECON 2113; HLTH 2000; PSYC 3241. Students entering the prehealth professions concentration must have a minimum cumulative 2.0 GPA and a minimum 2.75 GPA calculated on the following electives:
courses: BIOL 1100, 1101, 1200, 1201; CHEM 1150, 1151, 1160, 1161. Minimum degree requirement is **126 s.h.** as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum*) including those listed below for all options as well as additional foundations curriculum requirements for each option - 42 s.h.

   All concentrations:
   - HLTH 1000. Health in Modern Society (2) (F,S,SS) (FC:HL)
   - MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section of the SAT/ACT)
   - PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)

   Community Health:
   - BIOL 1050. General Biology (3) (F,S,SS) (FC:SC)
   - BIOL 1051. General Biology Laboratory (1) (F,S,SS) (FC:SC)
   - BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC) (P: BIOL 1050, 1051; or 1100, 1101)
   - COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)
   - SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)

   Prehealth Professions:
   - BIOL 1100, 1101. Principles of Biology and Laboratory 1 (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   - BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C for 1201: BIOL 1200)

   Worksite Health Promotion:
   - BIOL 1050. General Biology (3) (F,S,SS) (FC:SC)
   - BIOL 1051. General Biology Laboratory (1) (F,S,SS) (FC:SC)
   - BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (P: BIOL 1050, 1051; or 1100, 1101)
   - PSYC 3241. Personnel and Industrial Psychology (3) (F,S,SS) (FC:SO)

2. Common core - 24 s.h.

   BIOS 1500. Introduction to Biostatistics (3) (F,S) (P: MATH 1065 with a grade of C or better or equivalent or consent of instructor) or MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or equivalent)
   - EHST 2110, 2111. Introduction to Environmental Health Sciences and Laboratory (3,0) (F,S)
   - HLTH 2000. Principles of Public Health (3) (P: HLTH 1000)
   - HLTH 3010. Health Problems I (3) (F,S,SS) (P: BIOL 2130 or 2140; HLTH 1000 or 1050; or consent of instructor)
   - HLTH 3011. Introduction to Epidemiology in Health Education and Promotion (3) (F,S,SS)
   - HLTH 3020. Health Disparities (3) (F,S,SS) (P: HLTH 1000 or 1050; 3010 or consent of instructor)
HLTH 3030. Health Behavior (3) (WI) (F,S,SS) (P: HLTH 1000 or 1050; PSYC 1000)
HLTH 3050. Public Health Systems and Policy (3) (F,S) (P: HLTH 1000 or 1050)

3. Concentration (Choose one option.) - 37-49 s.h.

Community Health (37 s.h.):
BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC) (P/C: BIOL 2130)
HLTH 3000. Theory and Practice in Community Health Education (3) (F,S)
HLTH 3002. Women’s Health Across the Lifespan (3) (P: HLTH 3010)
HLTH 3520. Introduction to Global Health (3) (F,S) (P: HLTH 1000 or 1050; or consent of instructor)
HLTH 4605. Community Strategies for Health Education (3) (F,S,SS) (WI*) (P: HLTH 3000 or consent of instructor)
HLTH 4609. Needs Assessment and Program Planning (3) (F,S) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050; or consent of instructor)
HLTH 4611. Program Evaluation (3) (F,S) (P: HLTH 4609)
HLTH 4880. Capstone: Applied Principles of Health Education and Promotion (3) (F,S) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050, 4609, 4611; or consent of instructor)
HLTH 4991. Health Education and Promotion Internship (12) (F,S,SS) (P: Completion of all other major requirements; at least a 2.0 overall GPA and permission of instructor)
NUTR 1000. Contemporary Nutrition (3) or NUTR 2105. Nutrition Science (3)

Prehealth Professions (41-49 s.h.)
Basic Science Requirements:
BIOL 2140, 2141. Human Physiology and Anatomy (3,1) (P: CHEM 1120 or 1150; 2.75 GPA or consent of instructor; C for 2140: BIOL 2141; C for 2141: BIOL 2140)
BIOL 2150, 2151. Human Physiology and Anatomy (3,1) (P: BIOL 2140; 2.75 GPA or consent of instructor; C for 2150: BIOL 2151; P for 2151: BIOL 2141; C for 2151: BIOL 2150)
CHEM 1150, 1151. General Chemistry and Laboratory (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
HIMA 3000. Medical Terminology for Health Professionals (3) (F,S,SS) or ATEP 2800. Medical Nomenclature for Human Performance (2) (F,S,SS)
Choose either:
CHEM 2750, 2753. Organic Chemistry I and Laboratory (3,1) (F,S,SS) (P: CHEM 1160, 1161) and CHEM 2760, 2763. Organic Chemistry II and Laboratory (3,1) (F,S,SS) (P: CHEM 2750) and/or PHYS 1250, 1251. General Physics and Laboratory (3,1) (F,S,SS)
Health Education Requirements:

HLTH 3300. Introduction to Patient Education (3) (P: HLTH 3010 or consent of instructor)
Choose 12 s.h. from the following:

ANTH 3252. Medical Anthropology (3) (P: ANTH 1000 or 2010 or 2200)
BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC) (P for 2110: CHEM 1120, 1130 or BIOL 1100 and CHEM 1150; 2.75 GPA or consent of instructor; RP for 2110; BIOL 1050, 1051 or 1100, 1101; P/C for 2111: BIOL 2110)
BIOL 2390. Genetics (3) (P: BIOL 1100, 1200, or BIOL 1150, 1151)
BIOS 5010. Epidemiology for Health Professionals (3) (P: BIOS 1500 or consent of instructor)

BIOL 5800, 5821. Principles of Biochemistry and Laboratory (3,1) (P: for 5800: BIOL 3310, 3311; or consent of instructor; CHEM 2760, 2763; P/C for 5821 for undergraduate students: BIOL 5800 or 5810)
BIOL 5810. Principles of Biochemistry II (3) (P: BIOL 3310, 3311; or consent of instructor; CHEM 2760, 2763)

CHEM 2770, 2771. Biological Chemistry and Lab (3,1) (S) (P: CHEM 2650 or 2760)
EXSS 3805. Physiology of Exercise (3) (P: BIOL 2130 or 2140, 2150; EXSS 2850)
HLTH 3515. AIDS HIV Disease in Modern Society (3) (P: HLTH 1000 or 1050 or consent of instructor)

HLTH 4001. Stress Management: Principles and Practices (3) (S)
HLTH 4901, 4902. Prehealth Professions Clinical Field Experience (3,3) (F,S,SS) (P: HLTH 3010, 3020 and consent of instructor)
HLTH 4910. Prehealth Professions Internship (6) (F,S,SS) (P: Completion of all major requirements and consent of instructor)

HLTH 5310. Education for Human Sexuality (3) (P: Health education major or consent of instructor)

HPRO 2100. Perspectives in Health Care (2)
HPRO 5000. Seminar in Human Sexual Dysfunctions (3)
PHIL 3281. Introduction to Philosophical Ethics in the Health Care Profession (3) (WI*) (FC:HU)

SOCI 3327. Introductory Medical Sociology (3) (FC:SO) (P: SOCI 2110 or consent of instructor)

SOCI 5200. Seminar in Sociology of Health (3) (P: SOCI 2110 or consent of instructor)
Worksite Health Promotion (48 s.h.):

BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC) (P/C: BIOL 2130)

EHST 3900. Introduction to Occupational Health (3) (F) (P: 6 s.h. in BIOL, including BIOL 2130; 8 s.h. of general CHEM; or consent of instructor) or ITEC 3292. Industrial Safety (3) (F,S) (P: Junior standing)

EXSS 2850. Structural Kinesiology (1) (F,S,SS)
EXSS 3805. Physiology of Exercise (3) (F,S,SS) (P: BIOL 2130 or BIOL 2140, 2150; EXSS 2805)
EXSS 4805. Exercise Evaluation and Prescription Laboratory (1) (F,S,SS) (C: EXSS 4806)
EXSS 4806. Exercise Evaluation and Prescription (3) (WI) (F,S,SS) (P: Health and human performance major or minor; EXSS 3805; or consent of instructor; C: EXSS 4805)
FINA 2244. Legal Environment of Business (3) (F,S,SS)
HLTH 4006. Health Promotion in the Workplace (3) (F,S)
HLTH 4609. Needs Assessment and Program Planning (3) (F,S) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050; or consent of instructor)
HLTH 4611. Program Evaluation (3) (F,S) (P: HLTH 4609)
HLTH 4700. Practicum Seminar in Worksite Health Education (3) (F,S) (P: HLTH 4006 and consent of instructor)
HLTH 4880. Capstone: Applied Principles of Health Education and Promotion (3) (F,S) (P: BIOS 1500 or MATH 2228; EHST 2110, 2111; HLTH 2000, 3010, 3011, 3020, 3030, 3050, 4609, 4611; or consent of instructor)
HLTH 4991. Health Education and Promotion Internship (12) (F,S,SS) (P: Completion of all other major requirements; at least a 2.0 overall GPA and permission of instructor)
MGMT 3202. Fundamentals of Management (3) (F,S,SS) (P: ECON 2113)
NUTR 1000. Contemporary Nutrition (3) or NUTR 2105. Nutrition Science (3)

4. Electives: It is recommended that courses be taken which reinforce content in the physical, social, and behavioral sciences, or provide the student with a community health specialty area such as gerontology, environmental health, or health promotion. Number of elective hours varies by concentration.

http://www.ecu.edu/cs-acad/ugcat/NutrDiet.cfm

College of Human Ecology

Department of Nutrition Science

William Forsythe, Chair, 148 Rivers Building

BS in Nutrition and Dietetics

Each NUTR course must be completed with a minimum grade of C (2.0). Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: MATH 1065) P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150

CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)

COMM 2410. Public Speaking (3) (F,S,SS) (FC:FA) or COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA) or COMM 2020. Fundamentals of Speech Communication (3) (F,S) (FC:FA)

ECON 2113. Principles of Microeconomics (3) (F,S,SS) (FC:SO)

MATH 1065. College Algebra (3) (F,S,SS) (FC:MA) (P: Appropriate score on math placement test or math section or the SAT/ACT)

PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)

SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)

2. Core - 60 s.h.

NUTR 1010. Cultural Foods (3)
NUTR 1300. Introduction to Dietetics Profession (3)
NUTR 1330. Food Safety and Sanitation (1)
NUTR 2105. Nutrition Science (3)
NUTR 2330. Food Science (3) (P: NUTR 1330; C: NUTR 2331)
NUTR 2331. Food Science Laboratory (1) (P: NUTR 1330; C: NUTR 2330)
NUTR 2400. Nutrition Assessment (3) (P: NUTR 2105)
NUTR 3104. Advanced Vitamins and Minerals (3) (P: BIOL 2130, 2131; NUTR 2105)
NUTR 3105. Nutritional Biochemistry and Metabolism (3) (WI) (P: NUTR 2105; P or C: CHEM 2650, 2651; or equivalent)
NUTR 3311. Life Cycle Nutrition (4) (P: NUTR 2105, 2400 or permission of instructor)
NUTR 3330. Financial Management in Dietetics (4) (P: NUTR 2330; nutrition major)
NUTR 3500. Nutrition Research Methodology (3) (WI) (P: NUTR 2105, 3105; C: NUTR 3501; nutrition major)
NUTR 3501. Nutrition Research Methodology Laboratory (1) (P: NUTR 2105, 3105; C: NUTR 3500: nutrition major)
NUTR 3535. Nutrition Education and Counseling (3) (P: NUTR 2400)
NUTR 4300. Professional Preparation in Dietetics (1) (P: Senior standing; nutrition major)
NUTR 4312. Medical Nutrition Therapy I (4) (P: NUTR 3105; nutrition major)
NUTR 4313. Medical Nutrition Therapy II (4) (P: NUTR 4312; nutrition major)
NUTR 4330. Food Production Principles of Dietetics (4) (P: NUTR 3330; nutrition major)
NUTR 4331. Food Production in Dietetics Lab (3) (P: NUTR 4330: nutrition major)
NUTR 4500. Community Nutrition (3) (P: NUTR 3535; nutrition major)
NUTR 4600. Senior Seminar (3) (P: Senior standing)

3. Cognates - 21 s.h.
BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC)
BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,1) (F,S) (FC:SC) (P
for 2110: CHEM 1120, 1130 or BIOL 1100 and CHEM 1150; 2.75 GPA or consent of
instructor; RP for 2110; BIOL 1050, 1051 or 1100, 1101; P/C for 2111: BIOL 2110)
BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC) (P: BIOL
1050, 1051; or 1100, 1101)
BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC)
(P/C: BIOL 2130)
CHEM 2650. Organic Chemistry for the Life Sciences (4) (F) (P: CHEM 1160, 1161)
CHEM 2651. Organic Chemistry Lab for the Life Sciences (1) (F) (C: CHEM 2650)
Choose a 3 s.h. statistics course

4. Electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/CompScience.cfm

College of Technology and Computer Science

Department of Computer Science

Karl Abrahamsson, Interim Chair, Suite C-124 Science and Technology Building

BS in Computer Science

Credit toward a computer science major will not be given for any CSCI course with a grade less
than C (2.0) being used to satisfy the requirements specified in the common core and CSCI
electives. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum
credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

See cognates below for courses that fulfill science requirements.
COMM 2410. Public Speaking (3) (F,S,SS) (FC:FA) or COMM 2420. Business and
Professional Communication (3) (F,S,SS) (FC:FA)
PHIL 2275. Professional Ethics (3) (WI*) (F,S,SS) (FC:HU)

2. Common core - 30 s.h.

CSCI 2310, 2311. Algorithmic Problem Solving and Programming Laboratory (4,0) (P:
MATH 1065; C for 2310: CSCI 2311; C for 2311: CSCI 2310)
CSCI/EENG 2410. Digital Electronics (3) (P: CSCI 2310, 2311; or ENGR 1014 or 1016
and 2050)
CSCI 3300. Introduction to Algorithms and Data Structures (4) (P: CSCI 2310; C: CSCI 2427)
CSCI 3310. Advanced Data Structures and Data Abstraction (3) (P: CSCI 2427, 3300)
CSCI 3675. Organization of Programming Language (3) (P: CSCI 3200 or 3310)
CSCI 4000. Ethical and Professional Issues in Computer Science (1)
CSCI 4200. Software Engineering I (3) (WI) (P: CSCI 3200 or 3310 and CSCI major)
CSCI 4230. Software Engineering II (3) (P: CSCI 4200 or consent of the instructor)
CSCI 4602. Theory of Automata and Linguistics (3) (P: CSCI major; CSCI 2427)
CSCI 4630. Operating Systems I (3) (P: CSCI 3200 or 3300; CSCI major)

3. Cognates - 25-27 s.h.

CSCI/MATH 2427. Discrete Mathematical Structures (3) (P: MATH 1065 or 1066)
CSCI/MATH 3584. Computational Linear Algebra (3) (P: Calculus course)
ENGL 3880. Writing for Business and Industry (3) (WI) (F,S,SS) (P: ENGL 1200) or
ITEC 3290. Technical Writing (3)(WI) (F,S,SS) (P: ENGL 1200)
MATH 2171. Calculus I (4) (F,S,SS) (FC:MA) (P: MATH 1083 or 1085 or 2122 with a
minimum grade of C) or MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS)
(FC:MA) (May not receive credit for MATH 2121 after taking MATH 2171) (P: MATH
1065 or 1077 with minimum grade of C)
MATH 2172. Calculus II (4) (F,S,SS) (FC:MA) (P: MATH 2171 with a minimum grade
of C or MATH 2122 with consent of instructor) or MATH 2122. Calculus for the Life
Sciences II (3) (F,S,SS) (May not receive credit for MATH 2122 after taking MATH
2172.) (P: MATH 2121)
MATH 2228. Elementary Statistical Methods I (3) (F,S,SS) (FC:MA) (P: MATH 1065 or
equivalent) or MATH 2283. Statistics for Business (3) (F,S,SS) (FC:MA) (P: MATH
1065 or 1066 or equivalent) or MATH 3307. Mathematical Statistics I (3) (F,S) (P:
MATH 2152 or MATH 2172)
MATH 3229. Elementary Statistical Methods II (3) (P: MATH 2228 or equivalent) or
MATH 3308. Mathematical Statistics II (3) (F) (P: MATH 3307) or CSCI 5774.
Programming for Research (3) (P: General course in statistics or consent of instructor)
12 s.h. of science. (Note that 8 of these 12 units count toward foundation curriculum
requirements.)

One of the following options must be selected.
Option 1 - Physics:
PHYS 1251, 1261. General Physics Laboratory (1,1) (F,S,SS) (FC:SC) (C for 1251:
PHYS 1250 or 2350; C for 1261: 1260 or 2360)
PHYS 2350, 2360. University Physics (4,4) (F,S,SS) (FC:SC) (P for 2350: MATH 2121,
2151, or 2171; P for PHYS 2360: PHYS 2350)
2 s.h. of science that satisfy ECU foundation requirements.

Option 2 – Chemistry:
CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C:
MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of
Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH
1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151;
C for 1151: CHEM 1150)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
4 s.h. of science that satisfy ECU foundation requirements.
Option 3 - Biology
BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C: for 1101: BIOL 1100)
BIOL 1200, 1201. Principles of Biology and Laboratory II (3,1) (F,S,SS) (FC:SC) (P/C: for 1201: BIOL 1200)
4 s.h. of science that satisfy ECU foundations curriculum requirements.

4. CSCI electives above 2999 (excluding CSCI 3200 and 5774) - 15 s.h.
5. Electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/engineering.cfm

College of Technology and Computer Science

Department of Engineering

O. Hayden Griffin, Chair, 214 Slay Building

BS in Engineering

Minimum degree requirement for the engineering program is 128 s.h. credit as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) including those listed below - 42 s.h.

   BIOL 1050. General Biology (3) (F,S,SS) (FC:SC) and BIOL 1051. General Biology Laboratory (1) (F,S,SS) (FC:SC) (C:BIOL 1030 or 1050) or BIOL 1100, 1101. Principles of Biology and Laboratory I (3,1) (F,S,SS) (FC:SC) (P/C for 1101: BIOL 1100)
   ECON 2113. Principles of Microeconomics (3) (F,S,SS) (FC:SO)
   MATH 2151. Engineering Calculus I (3) (S) (FC:MA) (May not receive credit for MATH 2151 after receiving credit for MATH 2171) (P: MATH 1083 or 1085 or placement test criteria; or consent of instructor)
   PHIL 2275. Professional Ethics (3) (WI*) (F,S,SS) (FC:HU) or PHIL 2274. Business Ethics (3) (WI*) (F,S,SS) (FC:HU)
   PHYS 2350. University Physics (4) (F,S,SS) (FC:SC) (P for 2350: MATH 2121, 2151, or 2171)
2. Engineering Foundation - 39 s.h.

ENGR 1000. Introduction to Engineering (1) (P: Engineering major)
ENGR 1012. Engineering Graphics (2) (C: MATH 1083 or higher)
ENGR 1016. Introduction to Engineering Design (2) (P: ENGR 1000, 1012)
ENGR 2000. Engineering Design and Project Management I (1) (P: ENGR 1016 or consent of instructor)
ENGR 2022. Statics (3) (P: MATH 2152; C: PHYS 2350)
ENGR 2050. Computer Applications in Engineering (3) (P: MATH 1083 or higher)
ENGR 2070. Materials and Processes (3) (WI)
ENGR 2450. Dynamics (3) (Formerly ENGR 3004) (P: ENGR 2022 with minimum grade of C; MATH 2152)
ENGR 2514. Circuit Analysis (4) (P/C: MATH 2154; PHYS 2360)
ENGR 3000. Engineering Design and Project Management II (2) (WI) (P/C: ENGR 3420; P: ENGR 2000)
ENGR 3024. Mechanics of Materials (3) (WI) (P: ENGR 2022 with minimum grade of C; ENGR 2070)
ENGR 3050. Sensors, Measurements and Controls (3) (P: ENGR 3014; MATH 2154)
ENGR 3420. Engineering Economics (2) (P: MATH 2152)
ENGR 3800. Quality Control for Engineers (3) (Formerly ENGR 4000) (P: MATH 3307)
ENGR 4010. Senior Capstone Design Project I (2) (WI) (P: ENGR 3000, consent of instructor)
ENGR 4020. Senior Capstone Design Project II (2) (WI) (P: ENGR 4010)

3. Cognates - 21 s.h.

CHEM 1150, 1151. General Chemistry and Laboratory I (3,1) (F,S,SS) (P/C: MATH 1065 P: Appropriate score on math section of SAT/ACT or ECU Department of Mathematics Placement Exam, or grade of C (2.0) or higher in MATH 1065; C: MATH 1065 unless already completed with grade of C (2.0) or higher; C for 1150: CHEM 1151; C for 1151: CHEM 1150)
MATH 2152. Engineering Calculus II (3) (S) (FC:MA) (May not receive credit for MATH 2152 after receiving credit for MATH 2172) (P: Minimum grade of C in MATH 2151 or 2171; or consent of instructor)
MATH 2153. Engineering Calculus III (3) (F) (FC:MA) (May not receive credit for MATH 2153 after receiving credit for MATH 2173) (P: MATH 2152 or 2172; or consent of instructor)
MATH 2154. Engineering Linear Algebra and Differential Equations I (4) (S) (P: ENGR 2050; MATH 2153 or MATH 2173)
MATH 3307. Mathematical Statistics I (3) (F,S) (P: MATH 2152 or MATH 2172)
PHYS 2360. University Physics (4) (F,S,SS) (FC:SC) (P: PHYS 2350)

4. Concentrations (Choose one)

Biomedical Engineering - 26 s.h.
BIME 3000. Foundations of Biomedical Engineering (3) (P: Consent of instructor)
BIME 4030. Biomechanics and Materials (4) (P: CHEM 2750, 2753; ENGR 2450 with minimum grade of C, ENGR 3024)
BIME 4040. Physiological Systems and Modeling for Engineering (3) (P: BIME 3000)
BIME 4200. Biomedical Instrumentation (4) (P: BIME 3000; ENGR 3050)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,L) (F,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
CHEM 2750. Organic Chemistry I (3) (F,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
CHEM 2753. Organic Chemistry Laboratory I (1) (F,SS) (C: CHEM 2750)
ENGR 3012. Thermal and Fluid Systems (4) (P: ENGR 2450 with minimum grade of C; MATH 2153)
Bioprocess Engineering - 26 s.h.
BIOE 3016 Engineering Applications in Microbial Systems (2) (P: ENGR 2450 with minimum C; MATH 2154; CHEM 2650, 2651)
BIOE 3250. Bioprocess Engineering Systems (3) (Formerly BIOE 3000) (P: CHEM 2650, 2651; BIOE 3016)
BIOE 4006. Bioprocess Validation and Quality (2) (P: MATH 3307; consent of instructor)
BIOE 4010. Bioprocess Separation Engineering (3) (P: BIOE 3250; ENGR 3012)
BIOE 4020. Bioprocess Plant Design, Simulation and Analysis (3) (P: BIOE 4010; MATH 3307)
BIOL 2110, 2111. Fundamentals of Microbiology and Laboratory (3,L) (F,SC) (P: CHEM 1120, 1130 or CHEM 1150, 1160; RP for 2110: BIOL 1050, 1051 or 1100, 1101; P/C for 2111: BIOL 2110)
CHEM 1160, 1161. General Chemistry and Laboratory II (3,L) (F,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
CHEM 2650. Organic Chemistry for the Life Sciences (4) (F) (P: CHEM 1160, 1161)
CHEM 2651. Organic Chemistry Lab for the Life Sciences (1) (F) (C: CHEM 2650)
ENGR 3012. Thermal and Fluid Systems (4) (P: ENGR 2450 with minimum grade of C; MATH 2153)
Electrical Engineering - 26 s.h.
EENG 2410. Digital Electronics (3) (Same as CSCI 2410) (P: ENGR 1014 or 1016 and 2050; or CSCI 2310, 2311)
EENG 3020. Signals and Systems (3) (P: ENGR 2514; MATH 2154)
EENG 3040. Microprocessors (4) (Same as CSCI 3040) (P: ENGR 2514; CSCI 2410 or EENG 2410; or consent of instructor)
EENG 3530. Electronics (3) (P: ENGR 2514)
EENG 3750. Electric Power Systems (3) (P: ENGR 2514)
EENG 4510. Advanced Controls (3) (P: EENG 3020; ENGR 3050)
ENGR 3012. Thermal and Fluid Systems (4) (S) (P: ENGR 2450 with minimum grade of C; MATH 2153)
Technical electives, 3 s.h. as approved by the academic advisor.
Industrial and Systems Engineering - 26 s.h.
ISYS 3010. Principles and Methods of Industrial and Systems Engineering (3) (P: Junior standing in engineering)
ISYS 3060. Systems Optimization (3) (P: MATH 2154, 3307)
ISYS 4010. Work Measurement and Human Factors (3) (P: MATH 3307)
ISYS 4020. Analysis of Production Systems and Facility Design (3) (P: MATH 3307)
ISYS 4065. Discrete System Modeling (3) (P: ENGR 3800)
ENGR 3012. Thermal and Fluid Systems (4) (P: ENGR 2450 with minimum grade of C: MATH 2153)
Technical electives, 7 s.h. as approved by the academic advisor.
Mechanical Engineering - 26 s.h.
MENG 3624. Solid Mechanics (3) (P: ENGR 3024)
MENG 3070. Thermodynamics I (3) (P: MATH 2154; ENGR 2450 with minimum grade of C)
MENG 4018. Thermodynamics II (3) (P: MENG 3070)
MENG 4150. Fluid Mechanics (4) (P: ENGR 2450 with minimum grade of C; MATH 2154)
MENG 4260. Heat and Mass Transfer (3) (P: MENG 3070)
MENG 4650. Machine Design (3) (P: MENG 3624)
Technical electives, 7 s.h. as approved by the academic advisor.

http://www.ecu.edu/cs-acad/ugcat/intnlstudies.cfm

Thomas Harriot College of Arts and Sciences

Interdisciplinary Programs

International Studies

Sylvie Debevec Henning, Director, 116-B Ragsdale Hall

The international studies minor program is designed to provide a central core of study along with a world region or academic topic and is available to students in any undergraduate division of the university. The minor will provide insight into social, political, cultural, and economic areas of international importance in our increasingly globalized society.

The minor program, coordinated through the Thomas Harriot College of Arts and Sciences requires 24 s.h. credit and can be earned with or without participation in either overseas opportunities or language training, although both are encouraged. Courses must be approved by the coordinator. No course credit counted toward a student’s major may be used to fulfill the requirements of the program.

1. Core - 9 s.h.
   INTL 1000. Introduction to International Studies (3) (F,SS) (FC:SO)
   Choose two from the following; maximum of one from any discipline:

   ANTH 2005. Environmental Anthropology (3) (S) (FC:SO)
   ECON 3353. Development Economics (3) (P: ECON 2133)
GEOG 3003. Political Geography (3) (WI) (S) (FC:SO)
HIST 1030. World Civilizations to 1500 (3) (WI*) (F,S,SS) (FC:SO)
HIST 1031. World Civilizations Since 1500 (3) (WI*) (F,S,SS) (FC:SO)
POLS 2010. Introduction to Comparative Government and Politics (3) (WI) (F,S,SS) (FC:SO)
POLS 2020. Introduction to International Relations (3) (F,S,SS) (FC:SO)
RELI 1690. World Religions (3) (F,S) (FC:HU) (Formerly PHIL 1690)

2. Concentration (Choose one.) - 12 s.h.

African Studies:
Choose a minimum of 6 s.h. from:
ANTH 3003. Cultures of Africa (3) (OY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
GEOG 3050. Africa (3) (S) (FC:SO)
HIST 3810. History of Africa (3) (WI*) (FC:SO)
POLS 3265. African Political Systems (3) (S) (FC:SO)
Choose an additional 6 s.h. from the remaining courses above or from the following or from a combination of the two.
ANTH 2010. Societies Around the World (3) (FC:SO)
ANTH 4054. Anthropology of Religion (3) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)
ENGL 3750. Introductory Linguistics (3) (FC:HU) (P: ENGL 1200)
FORL 2624. Francophone Literature of Africa in Translation (3) (FC:HU)
FREN 2443. Readings in the Francophone Cultures of Africa (3) (P: FREN 1004)
FREN 3558. The Francophone World: Colonization to Independence (3) (P: FREN 3500 or consent of dept chair)
FREN 3560. The Contemporary French and Francophone World (3) (P: FREN 3500 or consent of dept chair)
GEOG 2110. World Geography: Less Developed Regions (3) (F,S,SS) (FC:SO)
HIST 5300. Comparative History of Non-Western Civilizations (3) (WI*)

Asian Studies:
Choose four from:
ANTH 3002. Cultures of East Asia (3) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3004. Cultures of the South Pacific (3) (EY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3009. Motherhood of God in Asian Traditions (3) (EY) (FC:SO)
GEOG 3051. Asia (3) (S) (FC:SO)
HIST 3610. History of East Asia to 1600 (3) (FC:SO)
HIST 3611. History of East Asia Since 1600 (3) (FC:SO)
HIST 5300. Comparative History of Non-Western Civilizations (3) (WI*)
HIST 5680. Diplomatic History of Modern Asia (3)
INTL 2003. Introduction to Chinese Culture (3) (FC:HU) (P: ENGL 1200)
INTL 2004. Introduction to Japanese Culture (3)
European Studies:
Choose one from:

Group I - Fine Arts, Literature, Music, and Philosophy

ART 1907. Art History Survey (3) (F,S) (FC:FA) (P: ART 1905 or 1910)
ART 2900. History of Prints and Drawings (3) (F) (P: ART 1906, 1907)
ENGL 3330. Early Twentieth Century Drama (3) (FC:HU) (P: ENGL 1200)
ENGL 3340. Contemporary Drama (3) (WI) (FC:HU) (P: ENGL 1200)
ENGL 3450. Northern European Mythology (3) (WI) (FC:HU) (P: ENGL 1200)
ENGL 3460. Literature and Classical Mythology (3) (FC:HU) (P: ENGL 1200)
ENGL 3600. Classics from Homer to Dante (3) (FC:HU) (P: ENGL 1200)
FORL 2620. French Literature in Translation (3) (FC:HU)
FORL 2660. Spanish Literature in Translation (3) (FC:HU)
FORL 2680. German Literature in Translation (3) (FC:HU)
FREN 2440. Readings in the Culture of France I (3) (P: FREN 1004)
FREN 2441. Readings in the Culture of France II (3) (P: FREN 1004)
GERM 2420. Culture of the German-Speaking World (3) (FC:HU) (P: GERM 1004 or consent of instructor)
GERM 3340. Civilization of the German-Speaking World II (3) (P: GERM 2210 or 2211, 2420; or consent of instructor)
INTL 2100, 2101. Arts and Sciences Abroad: Humanities (3,6) (FC:HU)
INTL 2200, 2201. Arts and Sciences Abroad: Arts (3,6) (FC:FA)
MUSC 1406 (S), 2406 (F), 2416 (S). Music History and Literature (2,2,2) (WI)
PHIL 2453. Existentialism/Phenomenology (3) (FC:HU)
PHIL 3331. Modern Philosophy (3) (F,S) (FC:HU) (P: 3 s.h. in PHIL or consent of instructor)
RUSS 3220. Nineteenth Century Russian Literature in Translation (3) (FC:HU) (P: RUSS 2120; or permission of instructor)
RUSS 3221. Twentieth Century Russian Literature in Translation (3) (FC:HU) (P: RUSS 2120; or permission of instructor)
SPAN 2440. Spanish Culture and Civilization (3) (WI*) (P: SPAN 2222 or 2330 or consent of dept chair)

Group II - Geography and Political Science

GEOG 3047. Western Europe (3) (S) (FC:SO)
INTL 2400, 2401. Arts and Sciences Abroad: Social Sciences (3,6) (SS) (FC:SO)
POLS 3234. West European Political Systems (3) (F) (FC:SO) (RP: POLS 2010)
POLS 3235. East European Political Systems (3) (S) (FC:SO) (RP: POLS 2010)

Group III - History:

HIST 3420. Early Modern Europe to 1648 (3) (FC:SO)
HIST 3430. History of Europe, 1815-1914 (3) (FC:SO)
HIST 3435. History of Europe Since 1914 (3) (FC:SO)
HIST 5310. Intellectual History of Europe (3)
HIST 5670. A Diplomatic History of Europe, 1815 to the Present (3)
INTL 2400, 2401. Arts and Sciences Abroad: Social Sciences (3,6) (SS) (FC:SO)

Group IV - Choose one additional course from Groups I, II, III, or any subject-related course with prior approval of international studies coordinator:

Latin-American Studies:
Choose four from:

ANTH 3016. Cultures of the Caribbean (3) (S) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)

ANTH 3017. Cultures of Mexico and Guatemala (3) (OY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)

ANTH 3018. Cultures of South and Central America (3) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)

ECON 3353. Development Economics (3) (P: ECON 2133)

FORL 2661. Latin-American Literature in Translation (3) (FC:HU)

FORL 2666. Latino Texts (3) (FC:HU)

GEOG 2110. World Geography: Less Developed Regions (3) (F,S,SS) (FC:SO)

GEOG 3049. Latin America (3) (WI*) (FC:SO)

GEOG 3056. Middle America (3) (FC:SO)

HIST 3710. Introduction to Latin-American History: Colonial Period (3) (WI*) (FC:SO)

HIST 3711. Introduction to Latin-American History: Since 1808 (3) (WI*) (FC:SO)

HIST 3780. Mexico and Central America (3) (WI*) (FC:SO)

HIST 5765. Latin America: 1492 to the Present (3) (WI*)

INTL 3010. Field Study in Latin America (6) (P: Consent of instructor)

POLS 3270. Latin-American Political Systems (3) (FC:SO)

SPAN 1220. Conversational Spanish Practiced in a Spanish-Speaking Country (3) (P: Consent of dept chair)

SPAN 1440. Hispanic Culture Experienced in a Spanish-Speaking Country (2)

SPAN 2222. Intermediate Spanish Conversation (3) (P: Minimum grade of B in SPAN 1004 or consent of dept chair) or SPAN 3220. Advanced Oral Communication Through Multimedia (3) (P: SPAN 2222 or consent of dept chair)

SPAN 2441. Latin-American Culture and Civilization (3) (P: SPAN 2222 or 2330 or consent of dept chair)

SPAN 4560. Major Latin-American Authors (3) (P: SPAN 2441, 2550; or consent of dept chair)

SPAN 4561. Latin-American Texts of the Pre-Columbian and Colonial Periods (3) (P: SPAN 2441, 2550; or consent of dept chair; RP: SPAN 4560)

SPAN 4563. Latin-American Texts: The Boom and Beyond (3) (P: SPAN 2441, 2550; or consent of dept chair; RP: SPAN 4560)

Specialized Concentration:

With the advice and written approval of the coordinator and the coordinating committee of the international studies minor, a student may develop a topical course of studies (totaling 12 s.h.) around a specific theme in international studies. The following examples are suggestive of possible themes: international environmental problems, global communications, human rights issues, peace and world order studies, international trade/technology, population/demographic issues, international art, comparative religions, comparative literatures, comparative gender relations, language, and civilization.

3. Senior Seminar - 3 s.h.

INTL 5000. Senior Seminar in International Studies (3) (P: Consent of instructor)
http://www.ecu.edu/cs-acad/ugcat/management.cfm

**College of Business**

**Department of Management**

*Joseph Tomkiewicz, Chair, 3112 Bate Building*

**BSBA in Management**

The BSBA in management offers students the opportunity to acquire knowledge in the management of human and physical resources and to acquire skills useful in the management of domestic and international organizations. Minimum degree requirement is **123 s.h.** of credit as follows:

1. **Foundations curriculum requirements** (For information about courses that carry foundations curriculum credit see *Liberal Arts Foundations Curriculum*) including those listed below - 42 s.h.
   
   - COMM 2020. Fundamentals of Speech Communication (3) (F,S) (FC:FA) or COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)
   - ECON 2113. Principles of Microeconomics (3) (F,S,SS) (FC:SO)
   - ECON 2133. Principles of Macroeconomics (3) (F,S,SS) (FC:SO) (P: ECON 2113)
   - MATH 1066. Applied Mathematics for Decision Making (3) (F,S,SS) (FC:MA) (P: Appropriate score on mathematics placement test or approval of dept chair)
   - PHIL 2274. Business Ethics (3) (WI*) (F,S,SS) (FC:HU) or PHIL 2275. Professional Ethics (3) (WI*) (F,S,SS) (FC:HU)
   - PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO)
   - SOCI 2110. Introduction to Sociology (3) (F,S,SS) (FC:SO)

2. **Cognates** - 6 s.h.
   
   - ENGL 3880. Writing for Business and Industry (3) (WI) (F,S,SS) (P: ENGL 1200)
   - MATH 2283. Statistics for Business (3) (F,S,SS) (P: MATH 1065 or 1066 or equivalent)

3. **Business core** - 36 s.h.
   
   - ACCT 2401. Financial Accounting (3) (F,S,SS) (P: MATH 1065 or 1066 or 2119 or 2121 or 2171)
   - ACCT 2521. Managerial Accounting (3) (F,S,SS) (P: ACCT 2401)
   - FINA 2244. Legal Environment of Business (3) (F,S,SS)
   - FINA 3724. Financial Management (3) (F,S,SS) (P: ECON 2113; MATH 2283; P/C: ACCT 2521)
   - MGMT 3302. Management of Organizations (3) (F,S,SS) (P: ECON 2113, 2133; ACCT 2401)
MGMT 4842. Strategic Management (3) (WI) (F,S,SS) (P: OMGT 3123; FINA 3724; MKTG 3832; MGMT 3302; declared concentration in the College of Business; senior standing)
MIS 2223. Introduction to Computers (3) (F,S,SS)
MIS 3063. Introduction to Management Information Systems (3) (F,S,SS) (P: MIS 2223)
MGMT 3832. Marketing Management (3) (F,S,SS) (P: ECON 2113)
OMGT 3123. Operations and Supply Chain Management (3) (F,S,SS) (P: MATH 2228 or 2283; MIS 2223)
OMGT 3223. Business Decision Modeling (3) (F,S,SS) (P: Minimum grade of C (2.0) in MIS 2223, MATH 1066 or 2119 or 2121 or 2171, 2283)
Choose one international perspectives course from:
ACCT 4451. International Accounting (3) (P: FINA 3724)
FINA 4454. International Finance (4) (S) (P: FINA 3724)
MGMT 3352. International Business (3) (F,S,SS) (P: MGMT 3302)
OMGT 3852. Cultural Environment of International Business (3) (F,S) (P: Junior standing; completion of a minimum of 3 s.h. in ECON [may be specified by dept])
MKTG 4992. International Marketing (3) (WI) (F) (P: MKTG 3832)

4. Concentration area (Choose one.) - 18-27 s.h.

Entrepreneurship and Small Business Management (18 s.h.):
MGMT 4242. Organizational Behavior (3) (F,S) (P: MGMT 3302) or PSYC 3241. Personnel and Industrial Psychology (3) (F,S,SS)
MGMT 4252. Entrepreneurship (3) (WI) (F) (P: FINA 3724; MGMT 3302; MKTG 3832)
MGMT 4262. Small Business Management (3) (SL*) (WI) (F,S) (P: FINA 3724; MGMT 3202 or 3302; MKTG 3832)
Choose 9 s.h. from:
FINA 3824. Financial Analysis and Planning (3) (F,S) (P: FINA 3724)
MGMT 4272. Managing the Family Business (3) (WI) (S) (P: MGMT 3302)
MGMT 4352. Management in a Global Economy (3) (S) (P: MGMT 3352 or MKTG 4992 or FINA 4454)
MGMT 4402. Human Resource Management (3) (F,S) (P: MGMT 3202 or 3302)
MGMT 4482. Managerial Negotiation (3) (F,S) (P: MGMT 3302)
MKTG 4362. Retail Management (3) (F,S) (P: MKTG 3832)
MKTG 4662. Marketing Research (3) (WI) (F,S,SS) (P: MKTG 3832; MATH 2283)
MKTG 4732. Consumer Behavior (3) (F,S,SS) (P: MKTG 3832)
MKTG 4752. Advertising and Promotion Management (3) (F,S) (P: MKTG 3832)
OMGT 4743. Logistics and Materials Management (3) (F) (P: OMGT 3123)
International Business (27 s.h.):
Choose six courses beyond the one business core international perspectives course requirement (ACCT 4451; ANTH 2010 or POLS 2020; FINA 4454; MGMT 3352, 4352; MKTG 3852, 4992)
Competency in one foreign language as demonstrated by scoring Intermediate-High on the Listening and Reading sections and Intermediate-Mid on the Speaking and Writing sections of the ACTFL Test.
Minimum of one semester abroad, enrolled in an approved academic program with a focal world region.

Choose 9 s.h. based on one of the following world regions chosen by the student (not more than two courses from any one dept):

**Africa/Middle East:**
- **ANTH 3003. Cultures of Africa (3) (OY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)**
- **COMM 3180. Intercultural Communication (3) (SL*) (Formerly COMM 3080) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**
- **COMM 3390. International News Communication (3) (S) (FC:SO) (Formerly COMM 3290) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**
- **ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)**
- **FORL 2624. Francophone Literature of Africa in Translation (3) (FC:HU)**
- **GEOG 2110. World Geography: Less Developed Regions (3) (F,S,SS) (FC:SO)**
- **GEOG 3050. Africa (3) (S) (FC:SO)**
- **HIST 3670. History of the Middle East Since 1500 (3) (WI*) (FC:SO)**
- **HIST 3810. History of Africa (3) (WI*) (FC:SO)**
- **POLS 3260. Middle Eastern Political Systems (3) (S) (FC:SO)**
- **POLS 3265. African Political Systems (3) (S) (FC:SO)**
- **POLS 3293. International Organizations (3) (RP: POLS 2010)**
- **POLS 3295. International Law (3) (P: POLS 2020 or consent of instructor)**
- **PSYC 3314. Psychology of Religion (3) (FC:SO)**
- **RELI 1690. World Religions (3) (F,S) (FC:HU) (Formerly PHIL 1690)**

**Asia:**
- **ANTH 3002. Cultures of East Asia (3) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)**
- **ART 3920. Asian Art (3) (WI*) (F,S)**
- **COMM 3180. Intercultural Communication (3) (SL*) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**
- **COMM 3390. International News Communication (3) (S) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**
- **ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)**
- **GEOG 2110. World Geography: Less Developed Regions (3) (F,S,SS) (FC:SO)**
- **GEOG 3051. Asia (3) (S) (FC:SO)**
- **HIST 3611. History of the Far East Since 1600 (3) (FC:SO)**
- **HIST 3620. History of Modern Japan (3) (FC:SO)**
- **HIST 3630. History of Modern China (3) (FC:SO)**
- **HIST 4610. History of Southeast Asia (3) (FC:SO)**
- **POLS 3293. International Organizations (3) (RP: POLS 2010)**
- **POLS 3295. International Law (3) (P: POLS 2020 or consent of instructor)**
- **PSYC 3314. Psychology of Religion (3) (FC:SO)**
- **RELI 1690. World Religions (3) (F,S) (FC:HU) (Formerly PHIL 1690)**

**Europe:**
- **IDSN 2700. Historic Interiors I: 3000 BC through Mid-Nineteenth Century (3) (WI) (F)**
COMM 3180. Intercultural Communication (3) (SL*) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
COMM 3390. International News Communication (3) (S) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)
ECON 4373. International Trade (3) (S) (P: ECON 2133; 3144)
FORL 2620. French Literature in Translation (3) (FC:HU)
FORL 2660. Spanish Literature in Translation (3) (FC:HU)
FORL 2680. German Literature in Translation (3) (FC:HU)
GEOG 2100. World Geography: Developed Regions (3) (F,S,SS) (FC:SO)
GEOG 3047. Western Europe (3) (WI*) (FC:SO)
HIST 3435. History of Europe Since 1914 (3) (FC:SO)
HIST 3450. History of Modern Germany (3) (FC:SO)
POLS 3234. West European Political Systems (3) (F) (FC:SO) (RP: POLS 2010)
POLS 3235. East European Political Systems (3) (S) (FC:SO) (RP: POLS 2010)
POLS 3236. The Soviet Successor States (3) (F) (FC:SO) (RP: POLS 2010)
POLS 3293. International Organizations (3) (RP: POLS 2010)
POLS 3295. International Law (3) (P: POLS 2020 or consent of instructor)
PSYC 3314. Psychology of Religion (3) (FC:SO)
RELI 1690. World Religions (3) (F,S) (FC:HU) (Formerly PHIL 1690)

South America:
ANTH 3016. Cultures of the Caribbean (3) (S) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3017. Cultures of Mexico and Guatemala (3) (OY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3018. Cultures of South and Central America (3) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
COMM 3180. Intercultural Communication (3) (SL*) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
COMM 3390. International News Communication (3) (S) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
ECON 3353. Economics of Underdeveloped Countries (3) (P: ECON 2133)
FORL 2661. Latin-American Literature in Translation (3) (WI*) (FC:HU)
FORL 2760. Special Topics in Hispanic Studies (3) (FC:HU)
FORL 3660. Hispanic Women Writers (3) (FC:HU)
GEOG 2110. World Geography: Less Developed Regions (3) (F,S,SS) (FC:SO)
GEOG 3049. Latin America (3) (WI*) (FC:SO)
GEOG 3056. Middle America (3) (FC:SO)
HIST 3711. Introduction to Latin-American History: Since 1808 (3) (WI*) (FC:SO)
HIST 3760. The ABC Powers: Argentina, Brazil, Chile (3) (SO2) (FC:SO)
HIST 3780. Mexico and Central America (3) (WI*) (FC:SO)
POLS 3293. International Organizations (3) (RP: POLS 2010)
POLS 3295. International Law (3) (P: POLS 2020 or consent of instructor)
PSYC 3314. Psychology of Religion (3) (FC:SO)
RELI 1690. World Religions (3) (F,S) (FC:HU) (Formerly PHIL 1690)

For non-North American Students:
North America:
AMID 2700. Historic Interiors I: 3000 BC through Mid-Nineteenth Century (3) (WI*) (F)
ANTH 3017. Cultures of Mexico and Guatemala (3) (OY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
COMM 3180. Intercultural Communication (3) (SL*) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
COMM 3390. International News Communication (3) (S) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
ECON 3420. Money and Banking (3) (WI*) (S) (P: ECON 2133)
GEOG 2110. World Geography: Less Developed Regions (3) (F,S,SS) (FC:SO)
GEOG 3046. United States and Canada (3) (F) (FC:SO)
GEOG 3056. Middle America (3) (FC:SO)
HIST 1051. American History Since 1877 (3) (WI*) (F,S,SS) (FC:SO)
HIST 2012. American Business History (3) (WI*) (F) (FC:SO)
HIST 3031. Economic History of the United States Since 1865 (3) (FC:SO)
HIST 3245. The United States Since 1945 (3) (WI*) (F) (FC:SO)
HIST 3780. Mexico and Central America (3) (WI*) (FC:SO)
POLS 3293. International Organizations (3) (RP: POLS 2010)
POLS 3295. International Law (3) (P: POLS 2020 or consent of instructor)
PSYC 3314. Psychology of Religion (3) (FC:SO)
RELI 1690. World Religions (3) (F,S) (FC:HU) (Formerly PHIL 1690)
Management (18 s.h.):
MGMT 4242. Organizational Behavior (3) (F,S) (P: MGMT 3302 or PSYC 3241).
Personnel and Industrial Psychology (3) (F,S,SS)
MGMT 4482. Managerial Negotiation (3) (F,S) (P: MGMT 3302)
Choose 12 s.h. from:
MGMT 4252. Entrepreneurship (3) (WI) (F) (P: FINA 3724; MGMT 3302; MKTG 3832)
MGMT 4272. Managing the Family Business (3) (WI*) (S) (P: MGMT 3302)
MGMT 4342. Organizational Change and Development (3) (F,S) (P: MGMT 3202 or 3302)
MGMT 4343. Organizational Leaders and Leadership (3) (F,S) (P: MGMT 3202)
MGMT 4352. Management in a Global Economy (3) (F) (P: MGMT 3352 or MKTG 4992 or FINA 4454)
MGMT 4402. Human Resource Management (3) (F,S) (P: MGMT 3202 or 3302)
MGMT 4422. Labor Relations (3) (F) (P: MGMT 3202 or 3302)
MGMT 4952. Topics in Management (3) (F,S) (P: MGMT 3302; consent of dept chair)

5. Leadership and Professional Development - 9 s.h.

BUSI 1200. Strategy First (3) (F,S,SS)
BUSI 2200. Experiential Leadership Teams in Action (3) (F,S,SS) (P/C: BUSI 1200)
BUSI 3200. Professional Development and Ethical Leadership (2) (F,S,SS) (P: Acceptable portfolio progress; P/C: BUSI 2200)
BUSA 4200. Leadership Capstone (1) (F,S,SS) (P: BUSI 3200; senior standing; declared major in College of Business)
Leadership and Professional Development Portfolio must be completed prior to graduation.

6. Electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/russian.cfm

Thomas Harriot College of Arts and Sciences

Interdisciplinary Programs

Russian Studies

Elena Konstantinovna Murenina, Director, 313 Austin Building

The Russian studies minor is an interdisciplinary program offered through the Thomas Harriot College of Arts and Sciences. The minor requires a minimum of 24 s.h. and is designed to provide students with a comprehensive knowledge of Russia from both historical and contemporary perspectives. Students pursuing the interdisciplinary Russian studies minor are strongly encouraged to study Russian language, as well as to take advantage of study abroad opportunities.

The interdisciplinary program includes an introductory course and senior level seminar in Russian studies. In addition, the Russian studies program offers lectures and seminars on literature, culture, film, history, political science, and economics. Other appropriate courses in humanities, social science, and fine arts with Russian studies content may be counted towards the minor in consultation with the program director. It is recommended that BA students take Russian language to satisfy their foreign language requirements. No more than 6 s.h. of course work in the student’s major field of study will be accepted for credit toward the minor. The student’s minor program must be approved by the Russian studies minor director.

A concentration in Russian studies is available through the BA/BS in multidisciplinary studies. Interested students should contact the director of Russian studies.

1. Core - 6 s.h.

One of the following introductory courses (3 s.h.) is required: RUSI 2001. Introduction to Russian Studies: Humanities (3) (FC:HU) or RUSI 2002. Introduction to Russian Studies: Social Science (3) (FC:SO) or RUSI 2003. Introduction to Russian Studies: Fine Arts (3) (FC:FA)
The following capstone course (3 s.h.) is required:
RUSI 4000. Senior Seminar in Russian Studies (3) (P: Consent of instructor or RUSI program director)

2. Electives - 18 s.h.
Choose 9 s.h. from each of the two areas below in consultation with the Director. Note that one of the three HIST 3551, 3552, 3553 courses (3 s.h.) is required for fulfillment of the social science elective course sequence.

Humanities:
RUSS 2120. Introduction to Russian Culture (3) (FC:HU)
RUSS 2700. Special Topics in Russian Studies (3)
RUSS 3220. Nineteenth Century Russian Literature in Translation (3) (FC:HU) (P: RUSS 2120 or permission of instructor)
RUSS 3221. Twentieth Century Russian Literature in Translation (3) (FC:HU) (P: RUSS 2120 or permission of instructor)
RUSS 3230. Russian and Soviet Film (3) (FC:HU) (P: RUSS 2120 or permission of instructor)
RUSS 3700. Special Topics in Russian Studies (3) (P: RUSS 2120 or 3220 or 3221 or permission of instructor)

Social Science:
ECON 3365. Russian Economic Transition (3) (P: ECON 2113, 2133)
HIST 3551. Medieval Russia, 862-1682 (3)
HIST 3552. Imperial Russia, 1682-1917 (3)
HIST 3553. Soviet Russia, 1917-1991 (3)
POLS 3236. Russian Politics (3) (FC:SO) (RP: POLS 2010)

A maximum of two of the following courses (6 s.h.) can be counted towards the minor electives; however, the Director must approve the course substitution.

RUSI 3011, 3012. Field Study in Russia (3,6) (P: RUSS 1004 or consent of the director)
RUSI 3500. Selected Topics in Russian Studies (3) (P: Consent of instructor)
RUSI 3931,3932,3933. Directed Readings in Russian Studies (1,2,3) (P: Consent of instructor)
Other appropriate courses in humanities, social science, and fine arts may be substituted in consultation with RUSI program director.

http://www.ecu.edu/cs-acad/ugcat/EthnicStudies.cfm

Thomas Harriot College of Arts and Sciences

Interdisciplinary Programs
Ethnic Studies

Joyce Irene Middleton, Director, 2128 Bate Building  
Su-Ching Huang, Assistant Director, 2150 Bate Building

Ethnic studies is an interdisciplinary program that uses cross-cultural comparative methods to explore the diverse histories and cultures of ethnic groups in the US to examine the formation of identities and societies in local, national, and global contexts, and to analyze the social, cultural, and political sources of bias and discrimination.

The ethnic studies minor requires 24 s.h. of credit. A maximum of 6 s.h. may be used to satisfy requirements for both the foundations curriculum and the ethnic studies minor. A course may not count both toward the student’s major requirements and the ethnic studies minor requirements. Study programs abroad having the prior approval of the director may be accepted for up to 6 s.h. of credit toward the minor. Additional courses may be approved by the director if they significantly further the student’s understanding of ethnic studies. Departmental prerequisites may be waived in special cases by the department offering the course.

1. Core - 6 s.h.
   ETHN 4000. Seminar in Ethnic Studies (3) (S) (FC:HU)

2. Electives - 18 s.h.
   Choose 12 - 18 s.h. in at least three different disciplines from the following courses:
   ANTH 3005. North American Indians (3) (EY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
   ART 3961. Native North American Art and Ritual (3) (S) (P: ART 1906, 1907)
   ART 3975. African American Art (3) (F,S) (FC:FA) (P: ART 1906, 1907; or consent of instructor)
   CDFR 4303. Families and Cultural Diversity (3) (F,S) (P: CDFR 1103)
   COMM 3180. Intercultural Communication (3) (SL*) (Formerly COMM 3080) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)
   COMM 4040. Media, Culture, and Society (3) (SL*) (F,S) (P: COMM major or minor or consent of instructor; 15 s.h. COMM)
   EDUC 3002. Introduction to Diversity (3)
   ENGL 3240. U.S. Latino/a Literature (3) (WI) (F) (FC:HU)
   ENGL 3250. Native American Literatures (3) (WI) (FC:HU)
   ENGL 3260. African American Literature (3) (WI) (F,S,SS) (FC:HU) (P: ENGL 1200)
   ENGL 3290. Asian American Literatures (3) (FC:HU) (P: ENGL 1200)
   ENGL 3570. American Folklore (3) (WI) (F,S) (FC:HU) (P: ENGL 1200)
   ENGL 4040. Literature of the New World to 1820 (3) (WI) (FC:HU)
   ENGL 4340. Ethnic American Literature (3) (WI) (S-OY) (FC:HU) (P: ENGL 1200)
ENGL 4380. Studies in African American and African Diasporic Literatures (3) (P: ENGL 1200)
ETHN 3501. Selected Topics in Ethnic Studies, Humanities (3) (S) (FC:HU)
ETHN 3502. Selected Topics in Ethnic Studies, Social Sciences (3) (F) (FC:SO)
FORL 2600. Literature in Translation: The Holocaust (3) (S) (FC:HU)
FORL 2666. Latino Texts (3) (F) (FC:HU)
HIST 3110. History of African Americans (3) (FC:SO)
HIST 3170. History of Native Americans (3) (FC:SO)
HIST 3780. Mexico and Central America (3) (WI*) (F) (FC:SO)
HIST 5230. Themes in African-American History (3) (S)
JUST 3700. Race, Gender and Special Populations in the Criminal Justice System (3)
MUSC 2258. History of Jazz Music (2) (F,S,SS) (FC:FA)
POLS 3050. Theory and Politics of Social Protest Movements in the United States (3) (S) (FC:SO)
POLS 3039. Black Politics in America (3) (F) (FC:SO)
POLS 3224. Civil Liberties (3)
PSYC 2777. Ethno-cultural Psychology (3) (FC:SO) Formerly PSYC 3777) (P: PSYC 1000 or 1060)
SOCI 3219. Sociology of Immigration (3) (FC:SO) P: SOCI 2110
SOCI 4345. Racial and Cultural Minorities (3) (F) (FC:SO) (P: ANTH 1000 or SOCI 2110)
SOCI 4347. Social Inequality (3) (F) (FC:SO)

Choose up to 6 s.h. from the following courses:

ANTH 2010. Societies Around the World (3) (FC:SO)
ANTH 3002. Cultures of East Asia (3) (FC:SO)
ANTH 3003. Cultures of Africa (3) (OY) (FC:SO)
ANTH 3004. Cultures of the South Pacific (3) (EY) (FC:SO)
ANTH 3009/WOST/RELI 3000. Motherhood of God in Asian Traditions (3) (EY) (FC:SO)
ANTH 3016. Cultures of the Caribbean (3) (S) (FC:SO)
ANTH 3017. Cultures of Mexico and Guatemala (3) (OY) (FC:SO)
ANTH 3018. Cultures of South and Central America (3) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3200. Women’s Roles in Cross-Cultural Perspective (3) (EY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 5005. Contemporary Latin American Cultures (3)
ART 2906. West and Central African Art (3) (S) (FC:FA) (P: Non-ART major)
ART 3920. Asian Art (3) (WI*) (F,S)
ART 3960. Art and Power in Mesoamerica (3) (WI) (F,S) (P: ART 1906,1907)
ART 3970. African Art (3) (WI*) (F,S) (P: ART 1906,1907, or consent of instructor)
ART 4916. Art of India (3) (WI) (P: ART 1906, 1907; or consent of instructor)
ENGL 2760. Afro-Caribbean Language and Culture (3) (WI) (P: ENGL 1200)
ENGL 3280. African Literatures (3) (P: ENGL 1200)
ENGL 4360. World Literature in English (3) (WI) (FC:HU) (P: ENGL 1200)
POLS 3270. Latin-American Political Systems (3) \( (\text{FC:SO}) \) \( (S) \)
POLS 3280. South Asian Political Systems (3) \( (\text{SS}) \) \( (\text{RP: POLS 2010}) \)
RELI 1690. World Religions (3) \( (F,S) \) \( (\text{FC:HU}) \) (Formerly PHIL 1690)
RELI 2691. Classical Islam (3) \( (\text{FC:HU}) \) (Formerly PHIL 2691)
RELI 2692. Buddhism (3) \( (\text{FC:HU}) \) (Formerly PHIL 2692)
RELI 3691. Islam in the Modern World (3) \( (\text{WI}^* \) \( ) \) \( (\text{FC:HU}) \) (Formerly PHIL 3691)
SPAN 2441. Latin-American Culture and Civilization (3) \( (P: \text{SPAN 2222 or 2330 or consent of dept chair}) \)
SPAN 4560. Major Latin-American Authors (3) \( (P: \text{SPAN 2441, 2550; or consent of dept chair}) \)
SPAN 4561. Latin-American Texts of the Pre-Columbian and Colonial Periods (3) \( (P:\text{SPAN 2441, 2550; or consent of dept chair; RP: SPAN 4560}) \)
SPAN 4562. Latin-American Texts of the Nineteenth and Early Twentieth Centuries (3) \( (P:\text{SPAN 2441, 2550; or consent of dept chair; RP: SPAN 4560}) \)
SPAN 4563. Latin-American Texts: The Boom and Beyond (3) \( (P:\text{SPAN 2441, 2550; or consent of dept chair}) \)
SPAN 5445. Hispanic Cinema (3)
SPAN 5550. Hispanic Women Writers (3) \( (P: \text{Consent of dept chair}) \)

http://www.ecu.edu/cs-acad/ugcat/militaryprograms.cfm#afrotc

Cognate Minor for Professional Officer Course

The cognate minor for professional officer course requires 28 s.h. of credit as follows:

1. Required 3000- and 4000-level AERO courses, professional officer course (not including laboratories) 12 s.h.
2. Cognates (Choose a minimum of one from at least six of the following seven areas. The chairperson of the Department of Aerospace Studies may approve other courses from these areas.) 16 s.h.
   a) COMM 2410. Public Speaking (3) \( (F,S,SS) \) \( (\text{FC:FA}) \)
      COMM 2420. Business and Professional Communication (3) \( (F,S,SS) \) \( (\text{FC:FA}) \)
   b) CSCI 2600. Introduction to Digital Computation (3) \( (P:\text{MATH 1065 or 1066}) \)
      MIS 2223. Introduction to Computers (3) \( (F,S,SS) \)
   c) ECON 2113. Principles of Microeconomics (3) \( (F,S,SS) \) \( (\text{FC:SO}) \)
      PSYC 3241. Personnel and Industrial Psychology (3) \( (F,S,SS) \) \( (\text{FC:SO}) \)
   d) ENGL 3810. Advanced Composition (3) \( (\text{WI}) \) \( (F,S) \) \( (P:\text{ENGL 1200}) \)
      ENGL 3880. Writing for Business and Industry (3) \( (\text{WI}) \) \( (F,S,SS) \) \( (P:\text{ENGL 1200}) \)
      ITEC 3290. Technical Writing (3) \( (\text{WI}) \) \( (F,S,SS) \) \( (P:\text{ENGL 1200}) \)
   e) GEOG 3003. Political Geography (3) \( (\text{WI}) \) \( (S) \) \( (\text{FC:SO}) \)
      GEOG 3047. Western Europe (3) \( (S) \)
f) HIST 3121. American Military History to 1900 (3) (FC:SO)
   HIST 3122. American Military History Since 1900 (3) (FC:SO)
   HIST 5470. History of Soviet Russia Since 1917 (3)
g) POLS 3144. American Foreign Policy (3) (S) (RP: POLS 2020)
   POLS 3253. Government Fiscal Administration (3) (S) (RP: POLS 1010)
   POLS 3293. International Organizations (3) (RP: POLS 2010)
   POLS 4380. Topics in International Politics (3) (F) (P: POLS 2020 or consent of instructor)

http://www.ecu.edu/cs-acad/ugcat/sociology.cfm

**Thomas Harriot College of Arts and Sciences**

**Department of Sociology**

*Marieke Van Willigen, Interim Chair, A-415 Brewster Building*

**BS in Applied Sociology**

Credit toward the sociology major will not be given in any SOCI course with a grade of less than C (2.0). Minimum degree requirement is **126 s.h.** of credit as follows:

1. Foundations curriculum (For information about courses that carry foundations curriculum credit see [Liberal Arts Foundations Curriculum](#) including those listed below - 42 s.h.

   COMM 2410. Public Speaking (3) (F,S,SS) (FC:FA) or COMM 2420. Business and Professional Communication (3) (F,S,SS) (FC:FA)
   PHIL 1180. Introduction to Critical Reasoning (3) (WI*) (S) (FC:HU) or PHIL 2261. Introduction to Philosophy of Science (3) (FC:HU)

2. Common core - 33 s.h.

   SOCI 2110. Introduction to Sociology (3) (F,S,SS)
   SOCI 2111. Modern Social Problems (3) (F,S,SS) (P: SOCI 2110)
   SOCI 3213. Methods of Research (3) (F,S) (P: SOCI 2110)
   SOCI 3216. Introduction to Social Statistics (3) (F,S) (P for SOCI major: SOCI 3213; P for all other students: MATH 3228 or equivalent approved by the instructor or PSYC 2101 or SOCI 3213)
   SOCI 4385. Theoretical Perspectives and Applications (3) (WI) (F,S) (P: SOCI 2110)
   SOCI 4800. Senior Seminar (3) (WI) (F,S) (P: SOCI major; SOCI 3216; 3385 or 4385)
   Choose 15 s.h. of SOCI electives (at least 9 s.h. must be above the 1999 level)

3. Minor or concentration area - 24 s.h.
Students may elect to take a minor in another discipline or one of the four areas of concentration listed below. The minor or area of concentration is to be a program of study appropriate for applied sociology and the long-term objectives of the student. A course cannot simultaneously count for the area of concentration and for the required sociology courses.

**Applied Social Research:**

**SOCI 4200. Advanced Techniques in Quantitative Sociology (3) (P: MIS 2223; SOCI 3213)**

**SOCI 4201. Advanced Techniques in Applied Research (3) (P: SOCI 3216)**

Choose one from:

**SOCI 3215. Introduction to Qualitative Sociology (3) (P: SOCI 2110 or consent of instructor)**

**SOCI 4202. Special Topics in Applied Social Research (3) (P: SOCI 2110; a statistics or research design course)**

**SOCI 4950. Practicum in Sociology (3) (F,S) (P: SOCI major; 27 s.h. in SOCI with a minimum grade of C in each course; consent of dept chair, practicum coordinator, and faculty member who will supervise the practicum)**

Choose 15 s.h., including at least two disciplines other than sociology from:

**ANTH 3050. Ethnographic Field Methods (3) (P: ANTH 2010 or 2200 or consent of instructor)**

**COMM 2030. Communication Research (3) (F,S) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**

**COMM 3110. Persuasion Theories (3) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**

**COMM 3180. Intercultural Communication (3) (SL*) (P: COMM major or minor or consent of instructor; COMM 1001, 1002)**

**ECON 2113. Principles of Microeconomics (3) (F,S,SS)**

**ECON 2133. Principles of Macroeconomics (3) (F,S,SS) (P: ECON 2113)**

**GEOG 2003. Geography of the Global Economy (3) (F)**

**GEOG 3430. Geographic Information Systems I (3) (F,S) (P: GEOG 2410 or equivalent)**

**MKTG 3832. Marketing Management (3) (F,S,SS) (P: ECON 2113)**

**MKTG 4662. Marketing Research (3) (WI) (F,S,SS) (P: MKTG 3832; MATH 2283)**

**MKTG 4732. Consumer Behavior (3) (F,S,SS) (P: MKTG 3832)**

**PLAN 3021. Introduction to Planning Techniques (3) (F)**

**PLAN 3022. History and Theory of Planning (3) (WI*) (F)**

**PLAN 5025. Coastal Area Planning and Management (3) (P: Consent of instructor)**

**POLS 3242. Municipal Policy and Administration (3)**

**POLS 3252. Public Administration (3) (F)**

**POLS 3253. Government Fiscal Administration (3) (S) (RP: POLS 1010)**

**POLS 3255. Domestic Public Policy (3) (S)**

**PSYC 3241. Personnel and Industrial Psychology (3) (F,S,SS)**

**PSYC 5343. Psychology of Organizational Behavior (3) (P: Graduate standing; PSYC 3241; or consent of instructor)**

**SOCI 3235. Population Trends and Problems (3) (P: SOCI 2110)**

**SOCI 3410. Introduction to Maritime Sociology (3) (P: ANTH 1000 or SOCI 2110)**

**SOCI 5500. Seminar in Population (3) (P: SOCI 2110; consent of instructor)**
Law and Society:
SOCI 4320. Sociology of Law (3) (P: SOCI 2110)
SOCI 4322. Law and Social Change (3) (P: SOCI 2110)
Choose 18 s.h., including at least two disciplines other than sociology from:
ECON 3030. Antitrust and Regulation (3) (WI) (F) (P: ECON 2113)
FINA 2244. Legal Environment of Business (3) (F,S,SS)
FINA 3244. Commercial Law (3) (F,S) (P: FINA 2244 or consent of instructor)
JUST 1000. The Criminal Justice System (3) (F,S,SS)
JUST 3500. Principles of Criminal Law (3) (F) (P: JUST 1000, 2000)
PHIL 1175. Introduction to Ethics (3) (WI*) (F,S,SS)
PHIL 1180. Introduction to Critical Reasoning (3) (WI*) (S)
PHIL 1500. Introduction to Logic (3) (F,S,SS)
PHIL 2275. Professional Ethics (3) (WI*) (F,S,SS)
PHIL 2282. Philosophy of Law (3) (F,S) (P: PHIL 1175, 2275)
POLS 3204. The American Judiciary (3) (P: POLS 1010 or consent of instructor)
POLS 3223. Constitutional Powers (3) (S) (P: POLS 1010 or consent of instructor)
POLS 3224. Civil Liberties (3) (P: POLS 1010 or consent of instructor)
POLS 3252. Public Administration (3) (F)
SOCI 4330. Criminology (3) (P: SOCI 2110)
SOCI 4950. Practicum in Sociology (3) (F,S) (P: SOCI major; 27 s.h. in SOCI with a minimum grade of C in each course; consent of dept chair, practicum coordinator, and faculty member who will supervise the practicum)
SOCI 5300. Seminar in Juvenile Delinquency (3) (P: SOCI 2110; consent of instructor)
SOCW 4305. Social Work Policy III (3) (Formerly SOCW 3302) (P: SOC W 3301, 3305; C: SOCW 4102, 4203)

Marriage and Family:
SOCI 4325. Marriage and the Family (3) (F,S,SS) (P: SOCI 2110)
Choose 21 s.h. including at least two disciplines other than sociology from:
ANTH 3200. Women‘s Roles in Cross-Cultural Perspective (3) (EY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
CDFR 2000. Child Development I – Prenatal Through Early Childhood (3) (F,S,SS)
CDFR 3002. Child in the Family (3) (F,S,SS)
CDFR 4303. Families and Cultural Diversity (3) (F,S) (P: CDFR 1103)
CDFR 4313. Trends and Issues in Family Studies (3) (F,S) (P: CDFR 1103)
COMM 4130. Conflict and Communication (3) (P: COMM 1001, 1002)
COMM 4135. Gender and Communication (3) (F) (P: COMM 1001, 1002; or WOST 2000 or 2400)
GERO 2400. Introduction to Gerontology (3)
HIST 3140. Women in American History (3) (F,S)
PSYC 2201. Psychology of Childhood (3) (F,S,SS) (P: PSYC 1000 or 1060 or equivalent)
PSYC 3206. Developmental Psychology (3) (WI*) (F,S,SS) (P: PSYC 1000 or 1060)
SOCI 3235. Population Trends and Problems (3) (P: SOCI 2110)
SOCI 3325. Sociology of Human Sexuality (3) (F) (P: SOCI 2110 or consent of instructor)
SOCI 4950. Practicum in Sociology (3) (F,S) (P: SOCI major; 27 s.h. in SOCI with a minimum grade of C in each course; consent of dept chair, practicum coordinator, and faculty member who will supervise the practicum)
SOCI 5335. Sociology of Marriage Problems (3) (P: SOCI 2110; consent of instructor)
SOCI 5400. Seminar in Gender Roles (3) (P: SOCI 2110; consent of instructor)
SOCI 5600. Seminar in Aging (3) (P: SOCI 2110; consent of instructor)
SOCI 5800. Seminar in the Family (3) (P: SOCI 2110; consent of instructor)
SOCW 2400. Introduction to Gerontology (3) (F,S)
SOCW 4501. Crisis Intervention (3) (F)
Social Diversity:
Choose 6 s.h. from:
SOCI 3400. Introduction to Gender and Society (3) (P: SOCI 2110)
SOCI 4345. Race and Cultural Minorities (3) (S) (P: SOCI 2110 or ANTH 1000)
SOCI 4347. Social Inequality (3) (F) (P: SOCI 2110 or ANTH 1000)
Choose 3 s.h. from:
SOCI 3100. Sociology of Aging (3) (P: SOCI 2110)
SOCI 3325. Sociology of Human Sexuality (3) (F) (P: SOCI 2110 or consent of instructor)
SOCI 4341. Sociology of Religion (3) (S) (P: SOCI 2110)
Choose 15 s.h. electives, including at least two disciplines other than sociology from the following. Any of the six courses listed above under social diversity that are not used to fulfill those hours may be used as electives.
ANTH 3002. Cultures of East Asia (3) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3003. Cultures of Africa (3) (OY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3004. Cultures of the South Pacific (3) (EY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3005. North American Indians (3) (EY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3016. Cultures of the Caribbean (3) (S) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3017. Cultures of Mexico and Guatemala (3) (OY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3018. Cultures of South and Central America (3) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ANTH 3200. Women’s Roles in Cross-Cultural Perspective (3) (EY) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
ETHN 2002. Introduction to Ethnic Studies (3)
GEOG 4320. Gender, Economy and Development (3) (S) (P: consent of instructor)
GERO 2400. Introduction to Gerontology (3)
GERO 5400. Seminar in Aging Studies (3) (P: consent of instructor)
INTL 1000. Introduction to International Studies (3) (F,SS)
INTL 2003. Introduction to Chinese Culture (3) (P: ENGL 1200)
INTL 2004. Introduction to Japanese Cultures (3)
POLS 3039. Black Politics in America (3)
POLS 3040. Women in Politics (3) (S)
POLS 3041. Women and Public Policy (3) (S) (FC:SO)
PSYC 2777. Ethno-cultural Psychology (3) (FC:SO) (Formerly PSYC 3777) (P: PSYC 1000 or 1060)
PSYC 4335. Psychology of Women (3) (P: PSYC 1000 or 1060)
SOCI 3500. Economy and Society (3) (P: SOCI 2110)
SOCI 3600. Power and Politics in Society (3) (P: SOCI 2110)
SOCI 5100. Social Inequality (3) (P: SOCI 2110 or consent of instructor)
SOCI 5400. Gender Roles (3) (P: SOCI 2110 or consent of instructor)
WOST 2400. Introduction to Women’s Studies (3) (FC:SO)
WOST 4200. Feminist Theory (3) (WI) (F) (P: WOST 2000 or 2200 or 2400)

4. Cognates - 6 s.h.

ENGL 3810. Advanced Composition (3) (WI) (F,S) (P: ENGL 1200) or ENGL 3820. Scientific Writing (3) (F,S) (P: ENGL 1200) or ENGL 3880. Writing for Business and Industry (3) (WI) (F,S,SS) (P: ENGL 1200)
MIS 2223. Introduction to Computers (3) (F,S,SS)

5. Electives to complete requirements for graduation.

http://www.ecu.edu/cs-acad/ugcat/Women.cfm

**Thomas Harriot College of Arts and Sciences**

**Interdisciplinary Programs**

**Women's Studies**

*Marieke Van Willigen, Director, Brewster B103*

**BA in Women’s Studies**

The women’s studies major is an interdisciplinary degree program that includes courses on women and gender offered by the women’s studies program as well as through traditional disciplines and departments. The purpose of women’s studies is to offer a contemporary as well as a historical perspective on women’s contributions to selfhood, family, and society; identify, critically examine, and evaluate the assumptions made about women by tradition; and discover, acquire, and accumulate knowledge about women in order to empower understanding of their lives, their roles, and their humanity. Women’s studies balances traditional Western cultural assumptions with international women’s perspectives, including those of minorities, the disabled, and the economically deprived. The requirements for the major include an introductory women’s studies course; electives chosen from the arts, humanities, natural and social sciences, and professional schools; and a core of women’s studies courses, including a capstone experience of
a senior seminar and internship or directed readings. Women’s studies majors are encouraged to combine women’s studies with another major. Minimum degree requirement is 126 s.h. of credit as follows:

1. Foundations curriculum requirements (For information about courses that carry foundations curriculum credit see Liberal Arts Foundations Curriculum) - 42 s.h.
2. Foreign language through level 1004 - 12 s.h.
3. Core - 12 s.h.

WOST 2000. Introduction to Women’s Studies: Humanities (3) (F,S,SS) (FC:HU) or WOST 2200. Introduction to Women’s Studies: Art (3) (FC:FA) or WOST 2400. Introduction to Women’s Studies: Social Sciences (3) (FC:SO)
WOST 3910, 3920, 3930. Directed Readings in Women’s Studies (1,1,1) (F,S,SS) (P: WOST 2000 or 2200 or 2400 or consent of director) or WOST 4500. Internship in Women’s Studies (3) (F,S,SS) (P: Senior standing; WOST 4000; minimum 2.5 GPA or consent of director)
WOST 4000. Senior Seminar in Women’s Studies (3) (S) (P: WOST 2000 or 2200 or 2400; additional 3 s.h. in WOST; or consent of instructor)
WOST 4200. Feminist Theory (3) (F) (WI) (P: WOST 2000 or 2200 or 2400; 1 other WOST course accepted for WOST major or minor)

4. Area of study (Choose one from each area.) - 12 s.h.

Cultural Diversity:
ANTH 2025. Sexual Behavior from an Anthropological Perspective (3) (F) (FC:SO) (P: Introductory course in ANTH, SOCI, PSYC or consent of instructor)
ENGL 3260. Black Literature in America (3) (WI) (F,S,SS) (FC:HU) (P: ENGL 1200)
ENGL 4360. World Literature in English (3) (WI) (FC:HU) (P: ENGL 1200)
ENGL 5360. Studies in African-American Literature (3)
FORL 2600. Literature in Translation: The Holocaust (3) (S) (FC:HU)
HIST 3110. History of African-Americans (3) (FC:SO)
HIST 5230. Themes in African-American History (3)
SOCI 4345. Racial and Cultural Minorities (3) (F) (FC:SO) (P: ANTH 1000 or SOCI 2110)

Humanities:
ENGL 3300. Women and Literature (3) (WI) (F,S,SS) (FC:HU) (P: ENGL 1200)
ENGL 5330. Study in Women’s Literature (3) (WI) (P: ENGL 1200)
RELI 3000. Motherhood of God in Asian Traditions (3) (FC:HU)
RELI 3690. Women and Religion (3) (FC:HU) (WI*) (Formerly PHIL 3690)

Social Science:
ANTH 3200. Women’s Roles in Cross-Cultural Perspective (3) (EY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
COMM 4135. Gender and Communication (3) (F) (P: COMM 1001 or 1002; or WOST 2000 or 2400)
POLS 3040. Women in Politics (3) (S) (P: POLS 1010 or consent of instructor)
PSYC 4335. Psychology of Women (3) (S) (P: PSYC 1000 or 1060)
PSYC 4350. Psychology of Sexual Behavior (3) (F,S) (P: 6 s.h. in PSYC)
SOC 3400. Introduction to Gender and Society (3) (FC:SO) (P: SOCI 2110)
SOC 5400. Seminar in Gender Roles (3) (P: SOCI 2110; consent of instructor)

Women’s History:
HIST 3140. Women in American History (3) (F,S) (FC:SO)
HIST 5220. Selected Topics in US Women’s History (3)

5. Electives - 12 s.h.

ANTH 3009/RELI 3000/WOST 3000. Motherhood of God in Asian Traditions (3) (EY) (FC:SO) (RELI 3000 FC:HU)
ANTH 3200. Women’s Roles in Cross-Cultural Perspective (3) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
CDFR 5300. Families, Sexuality, and Gender Roles (3)
CLAS 2400. Women in Classical Antiquity (3) (FC:HU)
COMM 4035. Gender and Communication (3) (F) (P: COMM 2001 or WOST 2000 or 2400)
ENGL 3300. Women and Literature (3) (WI) (FC:HU) (P: ENGL 1200)
ENGL 5330. Studies in Women’s Literature (3) (WI) (P: ENGL 1200)
FORL 3660. Hispanic Women Writers (3) (FC:HU)
GEOG 4320. Gender, Economy, and Development (3) (S) (P: Consent of instructor)
HIST 3140. Women in American History (3) (F,S) (FC:SO)
HIST 5220. Selected Topics in US Women’s History (3)
HLTH 3020. Health Disparities (3) (F,S,SS) (P: HLTH 1000 or 1050; 3010 or consent of instructor)
HLTH 5310. Education for Human Sexuality (3) (P: Health education major or consent of instructor)
NURS 5327. Women’s Health (3)
POLS 3040. Women in Politics (3) (S)
POLS 3041. Women and Public Policy (3) (FC:SC) (FC:SO)
PSYC 4335. Psychology of Women (3) (S) (P: PSYC 1000 or 1060)
PSYC 4350. Psychology of Sexual Behavior (3) (F,S) (P: 6 s.h. in PSYC)
RELI 3690. Women and Religion (3) (FC:HU) (WI*) (Formerly PHIL 3690)
SOC 3400. Introduction to Gender and Society (3) (FC:SO) (P: SOCI 2110)
SOC 5400. Seminar in Gender Roles (3) (P: SOCI 2110; consent of instructor)
SOCW 5007. Women as Clients (3)
SPAN 5550. Hispanic Women Writers (3) (P: Consent of dept chair)
WOST 3500. Selected Topics in Women’s Studies: Social Sciences (3) (WI) (FC:SO) (P: WOST 2000 or 2200 or 2400 or consent of instructor)
WOST 3510. Selected Topics in Women’s Studies: Humanities (3) (WI) (FC:HU) (P: WOST 2000 or 2200 or 2400 or consent of program director)
WOST 3520. Selected Topics in Women’s Studies: Fine Arts (3) (WI) (FC:FA) (P: WOST 2000 or 2200 or 2400 or consent of program director)
WOST 3910, 3920, 3930. Directed Readings in Women’s Studies (1,1,1) (F,S,SS) (P: WOST 2000 or 2200 or 2400 or consent of director)
WOST 4500. Internship in Women’s Studies (3) (F,S,SS) (P: Senior standing; WOST 4000; minimum 2.5 GPA or consent of director)
WOST 5000. Advanced Seminar in Women’s Studies (3) (P: Consent of instructor)
Selected topics and honors seminars as approved by the Women’s Studies Executive Committee

6. Second major or minor and general electives to complete requirements for graduation. Each course taken for the major can only be used to satisfy one requirement of the major. For students electing women’s studies as part of a double major, the director may give consent that a maximum of 6 s.h. of the women’s studies major be waived or double counted.

Women’s Studies Minor

The minor in women’s studies is an interdisciplinary academic program with courses designed to complement and enrich students’ work in their major fields. To ensure flexibility in each student’s 24 s.h. program and thus assure the possibility of coordinating with the major, the women’s studies minor comprises a 6 s.h. core, which includes a course that introduces the student to the discipline and a senior seminar which helps the student synthesize what she or he has learned, and 18 s.h. of electives. A course may not count toward the student’s major degree and the women’s studies minor.

1. Core - 6 s.h.

WOST 2000. Introduction to Women’s Studies: Humanities (3) (F,S,SS) (FC:HU) or WOST 2200. Introduction to Women’s Studies: Arts (3) (FC:FA) or WOST 2400. Introduction to Women’s Studies: Social Sciences (3) (FC:SO)
WOST 4000. Senior Seminar in Women’s Studies (3) (S) (P: WOST 2000 or 2200 or 2400; additional 3 s.h. in WOST; or consent of instructor)

2. Electives - 18 s.h.

ANTH 3009/RELI 3000/WOST 3000. Motherhood of God in Asian Traditions (3) (EY) (FC:SO) (RELI 3000 FC:HU)
ANTH 3200. Women’s Roles in Cross-Cultural Perspective (3) (EY) (FC:SO) (P: ANTH 1000 or 2010 or 2200 or consent of instructor)
CDFR 5300. Families, Sexuality, and Gender Roles (3)
CLAS 2400. Women in Classical Antiquity (3) (FC:HU)
COMM 4135. Gender and Communication (3) (F) (P: COMM 1001 or 1002; or WOST 2000 or 2400)
ENGL 3300. Women and Literature (3) (WI) (F,S,SS) (FC:HU) (P: ENGL 1200)
ENGL 5330. Studies in Women’s Literature (3) (WI) (P: ENGL 1200)
FORL 3660. Hispanic Women Writers (3) (FC:HU)
GEOG 4320. Gender, Economy, and Development (3) (S) (P: Consent of instructor)
HIST 3140. Women in American History (3) (F,S) (FC:HU)
HIST 5220. Selected Topics in US Women’s History (3)
HLTH 3020. Health Disparities (3) (F,S,SS) (P: HLTH 1000 or 1050; 3010 or consent of instructor)
HLTH 5310. Education for Human Sexuality (3) (P: Health education major or consent of instructor)
NURS 5327. Women’s Health (3)
POLS 3040. Women in Politics (3) (S)
POLS 3041. Women and Public Policy (3) (FC:SC) (FC:SO)
PSYC 4335. Psychology of Women (3) (S)
PSYC 4350. Psychology of Sexual Behavior (3) (F,S) (P: 6 s.h. in PSYC)
RELIT 3690. Women and Religion (3) (FC:HU) (WI*) (Formerly PHIL 3690)
SOCI 3400. Introduction to Gender and Society (3) (FC:SO) (P: SOCI 2110)
SOCI 5400. Seminar in Gender Roles (3) (P: SOCI 2110; consent of instructor)
SOCW 5007. Women as Clients (3)
SPAN 5550. Hispanic Women Writers (3) (P: Consent of dept chair)
WOST 3500. Selected Topics in Women’s Studies: Social Sciences (3) (FC:SO) (P: WOST 2000 or 2200 or 2400 or consent of instructor)
WOST 3510. Selected Topics in Women’s Studies: Humanities (3) (WI) (FC:HU) (P: WOST 2000 or 2200 or 2400 or consent of program director)
WOST 3520. Selected Topics in Women’s Studies: Fine Arts (3) (WI) (FC:FA) (P: WOST 2000 or 2200 or 2400 or consent of program director)
WOST 3910, 3920, 3930. Directed Readings in Women’s Studies (1,1,1) (F,S,SS) (P: WOST 2000 or 2200 or 2400 or consent of director)
WOST 4200. Feminist Theory (3) (F) (WI) (P: WOST 2000 or 2200 or 2400; 1 other WOST course accepted for WOST major or minor)
WOST 4500. Internship in Women’s Studies (3) (F,S,SS) (P: Senior standing; WOST 4000; minimum 2.5 GPA or consent of director)
WOST 5000. Advanced Seminar in Women’s Studies (3) (P: Consent of instructor)
Selected topics and honors seminars as approved by the Women’s Studies Executive Committee
May choose only one elective from:
ANTH 2025. Sexual Behavior from an Anthropological Perspective (3) (F) (FC:SO) (P: Introductory course in ANTH, SOCI, PSYC or consent of instructor)
ENGL 3260. African American Literature (3) (WI) (F,S,SS) (FC:HU) (P: ENGL 1200)
ENGL 4360. World Literature in English (3) (WI) (FC:HU) (P: ENGL 1200)
ENGL 5360. Studies in African-American Literature (3)
FORL 2600. Literature in Translation: The Holocaust (3) (S) (FC:HU)
HIST 3110. History of African-Americans (3) (FC:SO)
HIST 5230. Themes in African-American History (3)
SOCW 4345. Racial and Cultural Minorities (3) (F) (FC:SO) (P: ANTH 1000 or SOCI 2110)
**Thomas Harriot College of Arts and Sciences**

**Interdisciplinary Programs**

Neuroscience Studies

*Tuan Tran, Director, 225 Rawl Building*

**Multidisciplinary Studies Major**

A multidisciplinary studies major with a focus in neuroscience is available. Interested students should contact the director of neuroscience studies.

**Minor**

The neuroscience minor is designed to provide students with an introduction to the study of neuroscience at the various structural and functional levels of analysis, including molecular, cellular, integrative, and behavioral. (Students interested in a neuroscience major should see multidisciplinary studies, described above, and contact the neuroscience program director.) The minor requires completion of core courses (20 s.h.), a laboratory course (2 or 3 s.h.), and an elective course (2-5 s.h.). In the event that courses required for the minor are also required for the student’s major, neuroscience elective courses should be taken so that a minimum of 24 s.h. of unique neuroscience courses are completed for the minor. The major advisor should send a potential minor to the director for advising. The minimum requirements for the minor are 24 s.h. as follows:

1. **Core - 20 s.h.**
   - BIOL 1100, 1101. Principles of Biology I (3,0) (F,S,SS) (FC:SC)
   - CHEM 1160, 1161. General Chemistry and Laboratory I (3,1) (F,S,SS) (FC:SC) (P: CHEM 1150, 1151; C for 1160: CHEM 1161; C for 1161: CHEM 1160; RC: MATH 1083 or 1085)
   - NEUR 4900. Cellular and Molecular Neuroscience (3) (F) (P: Senior standing; consent of instructor)
   - NEUR 4901. Behavioral and Integrative Neuroscience (3) (S) (P: Senior standing; consent of instructor)
   - PSYC 1000. Introductory Psychology (3) (F,S,SS) (FC:SO) or PSYC 1060. Honors Introductory Psychology (3) (F,S) (FC:SO)
   - PSYC 3310. Introduction to Neuroscience (3) (F,S,SS) (FC:SO)

2. **Neuroscience Laboratory Course (Choose one.) - 2-3 s.h.**
   - NEUR 4201. Laboratory Methods in Cellular and Molecular Neuroscience (2) (S)
PSYC 4312. Laboratory Methods in Behavioral Neuroscience (3) (P: PSYC 3310, 3311; or consent of instructor)
PSYC 4315. Neuroscience: Literature and Laboratory Experience (3) (P: PSYC 2210; 3310 or 3311; or consent of instructor)

3. Electives - 2-5 s.h.

BIOL 2130. Survey of Human Physiology and Anatomy (4) (F,S,SS) (FC:SC) (P: BIOL 1050, 1051; or 1100, 1101)
BIOL 2131. Survey of Human Physiology and Anatomy Laboratory (1) (F,S,SS) (FC:SC) (P/C: BIOL 2130)
BIOL 2300. Principles of Genetics (3) (F,S,SS) (FC:SC) (P: BIOL 1100, 1200, or BIOL 1150, 1151)
BIOL 3310, 3311. Cellular Physiology (4,0) (F,S,SS) (P: CHEM 2650 or 2750 or 2770)
BIOL 3320. Principles of Animal Physiology (3) (F,S,SS) P: CHEM 2650 or 2750 or 2770
BIOL 5510, 5511. Transmission Electron Microscopy (4,0) (P for undergraduate students: Senior standing as a BIOL major or consent of instructor)
BIOL 5520, 5521. Scanning Electron Microscopy and X-Ray Analysis (2,0) (P for undergraduate students: Senior standing as a BIOL major or consent of instructor)
CHEM 2750. Organic Chemistry I (3) (F,S,SS) (P: CHEM 1160, 1161; C: CHEM 2753)
CHEM 2753. Organic Chemistry Laboratory I (1) (F,S,SS) (C: CHEM 2750)
CHEM 2760. Organic Chemistry II (3) (F,S,SS) (P: CHEM 2750; C: CHEM 2763)
CHEM 2763. Organic Chemistry Laboratory II (1) (F,S,SS) (P: CHEM 2750, 2753; C: CHEM 2760)
CHEM 2770. Biological Chemistry (3) (S) (P: CHEM 2650 or 2760)
CHEM 2771. Biological Chemistry Laboratory (1) (S) (C: CHEM 2770)
ITEC 2054, 2055. Electricity/Electronics Fundamentals (3,0) (F,S,SS) (P/C: MATH 1074 or 1083 or 1085)
MATH 2121. Calculus for the Life Sciences I (3) (F,S,SS) (FC:MA)
MATH 2122. Calculus for the Life Sciences II (3) (F,S,SS) (P: MATH 2121)
NEUR 4200. Literature in Neuroscience (1) (F)
PHIL 1262. Introduction to Philosophical Issues in Biology (3) (F,S) (FC:HU)
PHIL 2261. Introduction to Philosophy of Science (3) (FC:HU)
PSYC 2210. Research Methods in Psychology (4) (WI) (F,S) (FC:SO) (P: MATH 1065 or MATH 1066; PSYC 2101)
PSYC 3225. Psychology of Learning (3) (F,S,SS)
PSYC 3226. Cognitive Psychology (3) (F,S,SS) (P: PSYC 1000 or 1060)
PSYC 3311. Neuropsychology (3) (F,S)
PSYC 4340. Behavioral Pharmacology Seminar (3) (P: PSYC 3310, 3311; or consent of instructor)
Any course listed under 2., above, not used to meet lab requirement may be chosen as an elective.