The University Curriculum Committee (UCC)
Meeting Minutes
Thursday, January 22, 2015

Regular Members Present:
   Lori Flint (Chair)
   Jean-Luc Scemama (Vice Chair)
   Mark Richardson (Secretary)
   Ken Anselmi
   Gail Ratcliff
   Karen Vail-Smith

Regular Members Excused:
   Michael Dingfelder

Ex-Officio Members Present:
   Josie Bowman
   Erin Parrish
   Rita Reaves
   Michelle Wallen

Ex-Officio Members Excused:
   Ashley Carr

IPAR Office of Academic Program Planning and Development (OAPPD):
   Kimberly Nicholson and Karen Summey

Office of the Registrar:
   Diane Coltraine

Guests:
   College of Engineering and Technology: David Batie
   College of Health and Human Performance: Mike McCammon, Susan McGhee, and Amy Rundio
   Thomas Harriot College of Arts and Sciences: Beth Bee, Marion Eppler, Ben Fraser, Don Neal, Jean Luc Scemama, and Yong Wang

Actions of Committee:
Items identified with yellow highlighting are programmatic in nature and will require review by the EPPC following UCC approval.

I. Call to Order

1. The revised 11-13-14 UCC Minutes were approved electronically by the UCC members and sent to the Faculty Senate on 01-09-15 for agenda placement.

2. The 12-11-14 UCC Minutes were approved electronically by the UCC members and sent to the Faculty Senate on 01-15-15 for agenda placement.
II. Thomas Harriot College of Arts and Sciences, Department of Foreign Languages and Literatures

1. **Discontinuation of Existing Certificates: Spanish Translation Certificate**
   - Discussion: Dr. Ben Frazier presented the package to the committee. Dr. Reaves stated that the committee is trying to make sure that departments secure a teach-out plan for discontinuation of existing certificates, as it is required by SACS. Dr. Wallen recommended removing “faculty and staff” from items 3 and 4 of the Teach-out plan. Prof. Vail-Smith asked to change last sentence of memo, as the faculty does not need to ask permission to disallow students to take the certificate immediately. She suggests stating that “as of December 2014 no students are in the program and no students are allowed to pursue the certificate.” Dr. Frazier agreed to make the requested changes.
   - Action Taken: A motion to approve as amended was made by Professor Vail-Smith and seconded by Dr. Scemama. The motion was approved.

III. College of Health and Human Performance, Department of Kinesiology

1. **Revision of Existing Degree: BS in Sports Studies**
   - Discussion: Susan McGhee and Amy Rundio introduced the changes requested. Dr. Rundio introduced the proposed changes to the BS degree in Sports Studies including a change to C-grade minimum as the requirement for all EXSS courses. Many of the changes requested are to make things easier for students who may change degree programs within the department to avoid having to make several substitutions. Professor Vail-Smith asked why the department would want to change it from a C to a C-, and Dr. McGhee said that the change would make it easier for students who may wish to transfer from another program that only required a C-minimum. Dr. Reaves asked if a C- is a 1.7 and this was confirmed by a look at the undergraduate catalog. Dr. Scemama asked if that was suitable justification for the C-change—because the other degrees in the department have a similar requirement. Dr. Bowman asked what this change to a lower minimum might have for students that may want to go on to graduate school with such a low GPA. Dr. Rundio says that most students in this degree do not intend to go on to advanced degrees. Ms. Coltraine complimented the faculty on their package and stated that it was a good example of a department trying to quit making course substitutions.
   - Action Taken: A motion to approve was made by Dr. Reaves and seconded by Dr. Bowman. The motion was approved.

IV. Thomas Harriot College of Arts and Sciences, Department of Geological Sciences

1. **Proposal of New Course: GEOL 3210**
   - Discussion: Dr. Neal introduced the changes being brought forward from the department—a new course proposal and some cleanup. He says also they want to list the 3000-level courses that were added several years ago and list them with the
concentrations that students should take. Dr. Flint says that the memo was well done—very clear. Dr. Wallen noted text reference should list the publisher and date of publication. Dr. Scemama stated that Item 19 in the course proposal should be corrected as the change does affect their degree.

- **Action Taken:** The motion to approve as amended was made by Dr. Ratcliff and seconded by Dr. Scemama. The motion was approved.

2. **Prerequisite Revision of Existing Course:** GEOL 3209, GEOL 4010, GEOL 4011
   - **Discussion:** The committee found these revisions satisfactory
   - **Action Taken:** The motion to approve as amended was made by Dr. Ratcliff and seconded by Dr. Scemama. The motion was approved.

3. **Revision of Existing Degree:** BS in Geology
   - **Discussion:** The committee found the revised catalog copy satisfactory.
   - **Action Taken:** The motion to approve as amended was made by Dr. Ratcliff and seconded by Dr. Scemama. The motion was approved.

V. **Thomas Harriot College of Arts and Sciences, Department of Psychology**

1. **Revision of Existing Course:** PSYC 4990
   - **Discussion:** Dr. Eppler spoke about the revision of the existing course to make it clearer. The student is working with a supervisor in the field. She said each credit hour was listed separately because the faculty decided to make it into a simpler course with variable credit. The course is not limited to majors—it could be taken by transfer students or minors.

   - Professor Vail-Smith stated that there are not topics in the course topic outline and thus it is very general. She explained that the course outline lists only an example of a 3-credit contract and a 1-credit contract, but it does not list an example for a 2-credit contract. She stated the course outline simply does not specify what students will do for the course. Dr. Wallen suggests that perhaps the faculty could list possible field experience topics for this revised course. Dr. Flint agreed, stating that the faculty could strengthen the course justification by listing some possible topics. Ms. Nicholson stated that typically the department is asked to submit a sample syllabus. Dr. Wallen stated that the justification needs to include some kind of review of student enrollment as a better explanation for the change based upon assessment. Professor Vail-Smith stated in Item 6 that the box by “Face-to-face remote site” should be checked as well, and Dr. Eppler agreed to check both “Face-to-Face” and “Face-to-face remote site” for current and future delivery. Vail-Smith says the course objectives may actually help to list topics. Dr. Wallen emphasized that currently the course outline lists only tasks and not topics, and she stated that there should be a clear delineation of how different levels of credit hours are distinguished. Professor Vail-Smith requested a change of course objectives to use measureable verbs: Bullet 1 should change to begin “apply theories from previous psychology courses to . . .” ; Bullet 2 should change to begin “Identify
careers related to . . .”); Bullet 3 should change to begin “Reflect upon personal career choices and academic choices.” Dr. Scemama recommended that Bullet 3 be eliminated. Dr. Flint stated that the course proposal needs a list of possible topic areas and one sample of a 1-credit hour assignment, one sample for a 2-credit hour assignment, one sample for a 3-credit hour assignment. She explained that the faculty needs to distinguish more clearly how the assignments would be different for each credit-hour difference. Dr. Flint suggested that Dr. Eppler look back about some past history to see where students worked for field experience and list these. Professor Vail-Smith suggested that Dr. Eppler might look at psychological learned theories and the application of psychological principles, ethics within the course objectives, and these could be linked to some of the concepts or previous courses that were listed in the course justification. Dr. Eppler agreed to the changes and emphasized the this course offers an opportunity for students who do not want to do research or go to graduate school to pursue applying the training they have received within a community-based environment. Dr. Flint stated that the memorandum and catalog copy looked satisfactory. Ms. Coltraine stated that the department could use supplemental titles in case students wishing to repeat the course for credit can still obtain financial aid.

- Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Professor Vail-Smith. The motion was approved.

2. Prerequisite Revision of Existing Course: PSCY 2210

- Discussion: The committee agreed to this revision.

- Action Taken: Motion to approve was made by Dr. Scemama and seconded by Professor Vail-Smith. The motion was approved.

3. Deletion of Existing Courses: PSYC 4991, PSYC 4992

- Discussion: The committee agreed to this revision.

- Action Taken: Motion to approve was made by Dr. Scemama and seconded by Professor Vail-Smith. The motion was approved.

4. Removal of 5000-level Courses from the Undergraduate Catalog Only: PSYC 5990, PSYC 5991, PSYC 5992

- Discussion: The committee agreed to this revision.

- Action Taken: Motion to approve was made by Dr. Scemama and seconded by Professor Vail-Smith. The motion was approved.

VI. Thomas Harriot College of Arts and Sciences, Department of Geography, Planning, and Environment

1. Proposal of New Course: GEOG 4360

- Discussion: Dr. Wang and Dr. Bee presented the requested changes to the degree that include revisions to the B.S. in GIST, revisions to the B.A. in Geography, the proposal
of a new course (GEOG 4360), and changes of prerequisites for other courses. Dr. Flint said the memo looked fine. Dr. Bee and Dr. Wang clarified that GEOG 4360 had not yet been approved for GD credit (Item 13) so the box should be changed to NO for now. Dr. Flint explained that Global Diversity credit can be added later and does not need to come back to the UCC. Dr. Scemama stated that the course proposal form, Item 19, needs to include their degree programs as these changes affect their degree. He added that the course objectives and course topic outline look good. Ms. Coltraine pointed out that the department is adding 5000-level electives to various concentrations in their degree. Dr. Flint asked Dr. Bee and Dr. Wang about the 5000-level electives they have listed in the catalog copy. Dr. Flint explained that the UCC is trying to remove 5000-level courses from required courses—but since these 5000-level courses are just electives, they can remain.

- **Action Taken:** The motion to approve as amended was made by Dr. Bowman and seconded by Dr. Anselmi. The motion was approved.

2. **Prerequisite Revision of Existing Courses:** GEOG 3420, GEOG 3430, GEOG 3450, GEOG 3460, GEOG 4320, GEOG 4325, GEOG 4410, GEOG 4430, GEOG 4440; PLAN 3430, PLAN 4430

- **Discussion:** The committee agreed to this revision.

- **Action Taken:** The motion to approve was made by Dr. Bowman and seconded by Dr. Anselmi. The motion was approved.

3. **Revision of Existing Degrees:** BS in Applied Geography, BS in Geographic Information Science and Technology, BA in Geography

- **Discussion:** The committee agreed to this revision.

- **Action Taken:** The motion to approve was made by Dr. Bowman and seconded by Dr. Anselmi. The motion was approved.

### VII. Thomas Harriot College of Arts and Sciences, Department of Biology

1. **Proposal of New Courses:** BIOL 4030, BIOL 4260, BIOL 4440, BIOL 4441, BIOL 4770, BIOL 4771

- **Discussion:** Dr. Scemama introduced the new courses being requested. He explained that not all are truly new courses, as in the process of catalog cleanup the department is changing courses that were 5000-level courses. Ms. Coltraine stated that there is an error in the course description of BIOL 4440; she stated that “RC: BIOL 4401” should be corrected to “RC: BIOL 4441.” Dr. Anselmi asked with regard to BIOL 4770 if the course objectives can be the same for both the lecture and lab (4771), and the committee agreed that this was acceptable as they share similar objectives. Dr. Parrish stated that Item 3 on the course proposal for BIOL 4771 is incorrectly listed as BIOL 4770 and the course title should be Ornithology Laboratory. Dr. Anselmi asked if the semester a course is offered has to be stated in the course description; Ms. Coltraine stated that no semester has to be stated, because if it is stated then the course must be offered that term.
2. Prerequisite Revision of Existing Courses: BIOL 1051, BIOL 2110

- Discussion: Dr. Scemama said that after discussion with other directors, the faculty decided to remove previous prerequisites to alleviate problems that had occurred.

- Action Taken: A motion to approve as amended was made by Professor Vail-Smith and seconded by Dr. Ratcliff. The motion was approved.

3. Revision of Existing Degree: BS in Biology (General)

- Discussion: The committee agreed to this revision.

- Action Taken: A motion to approve was made by Professor Vail-Smith and seconded by Dr. Ratcliff. The motion was approved.

VIII. College of Engineering and Technology, Department of Construction Management

1. Proposal of New Course: CMGT 4010

- Discussion: Dr. Batie introduced the changes being brought forward, some of which are being sought for reaccreditation coming up soon. He stated that the department is eliminating courses no longer needed for assessment. They found that 90% of the students were not going into concentrations, but rather they were just staying in the main degree. For this reason, they decided to incorporate a little of all the concentrations into one degree.

- Dr. Batie explained that CMGT 4010 is a new course developed following a survey that showed that this course was needed. Dr. Bowman stated that the course description does not reflect the topical outline (Item 21c), but Dr. Batie explained that since this is a more advanced course the topical outline must reflect a more advanced approach. Dr. Flint stated that the textbook listed (Item 21a) needs also to have the year of publication added. Dr. Scemama reminded Dr. Batie that the responses for WI, LS, FC, etc. should all be “N/A” since they were never seeking these. He also stated the in the course objectives, the bullet beginning “Develop understanding” should be replace with a more active verb such as “Be able to apply . . .”

- Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

2. Revision of Existing Courses: CMGT 2400, CMGT 4300, CMGT 4320

- Discussion: For CMGT 2400, Dr. Bowman stated that a response of N/A is needed for Items 9, 10, 12, 13, and 14. She also stated that the contact hours should be listed as 3 hours a week (rather than 3 hours per term). Dr. Bowman also mentioned that all the course objectives begin with the word “explain” and they may want to consider revising the wording. She also stated that Item 15 should state 2 lecture hours per week instead
of 3 hours per term. For CMGT 4300, Dr. Bowman stated the same correction of N/A was needed for Items 10, 12, 13, and 14, and under Item 21d course assignments the term “Instructor Evaluation” should be changed to “performance evaluation.” For CMGT 4320, Dr. Bowman stated the same correction of N/A was needed for Items 10, 12, 13, and 14. Under Item 21b course objectives, she stated that “understand” should be changed to a measurable verb such as “articulate.” Dr. Bowman also stated that the course assignments (Item 21d) need to be changed to add up to 100%—perhaps make the final worth 20% or redistribute the points in some other way.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

3. Renumbering and Revision of Course to a New Level: CMGT 3400 (to CMGT 2650), CMGT 3600 (to 2750), CMGT 3700 (to 2950), CMGT 3701 (to 2951), CMGT 3800 (to 2700), CMGT 3801 (to 2701), CMGT 3900 (to 2900)
   - Discussion: Dr. Batie stated that CMGT 2650 was one of the courses changed from 3000-level courses for transfer reasons. Dr. Batie said the only changes were to the prerequisites. Ms. Nicholson stated that the same need to check the boxes “N/A” under Items 9, 10, 12, 13, and 14 was needed as before; she said she can double check this on the revised copies. The other following revisions are needed:
   - For CMGT 2750, be sure to state the text is required, and under Item 15 to list 2 hours for lecture and 2 hours for lab.
   - For CMGT 2950, change Item 15 to read 2 lecture and 3 lab hours, state if the textbook is required, and in Item 21b use the word “describe” in place of “understand.”
   - For CMGT 2951, the course description should list “0” rather than “3” for the credit hours, state if the textbook is required, and in item 21b change the word “understand” to a more measurable verb.
   - For CMGT 2700, change the number of lecture hours from 3 to 2 (Item 15), and state if the textbook is required.
   - For CMGT 2710, the course description should list “0” rather than “3” for the credit hours, and state if the textbook is required.
   - For CMGT 2900, state if the textbook is required and include the date of publication, and for Item 21c remove the word “Identify.”

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

4. Prerequisite Revision of Existing Courses: CMGT 2210, CMGT 2211, CMGT 2401, CMGT 2600, CMGT 3010, CMGT 3150, CMGT 3500, CMGT 3710, CMGT 3950, CMGT 4380, CMGT 4400, CMGT 4500
   - Discussion: the committee approved the revisions made to the marked catalog copy.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

5. Prerequisite and Title Revision of Existing Course (no content revision): CMGT 3711, CMGT 4000, CMGT 4200
Discussion: The committee agreed to the revisions.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

6. Removal of Formerly Statement from Existing Courses (editorial): CMGT 2400, CMGT 2401, CMGT 2600, CMGT 3010, CMGT 3150, CMGT 3500, CMGT 3950, CMGT 4000, CMGT 4100, CMGT 4300, CMGT 4380, CMGT 4400

Discussion: The committee agreed to the revisions.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

7. Revision of Departmental Text: Department of Construction Management, Admission Section

Discussion: The committee agreed to the revisions.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

8. Revision of Existing Option: Construction Management Transfer Option

Discussion: The committee agreed to the option increase from 43 to 78 s.h. of credit in the marked catalog copy.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

9. Revision of Existing Degree: BS in Construction Management

Discussion: Dr. Batie states that he wants to take out “or COMM 2420—Business and professional Communication” from the Foundations curriculum under Construction Management.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

10. Discontinuation of Existing Concentrations within the BS in Construction Management: General Construction, Residential Construction, Infrastructure Construction

Discussion: The committee agreed to the discontinuation of existing concentrations.

Action Taken: The motion to approve as amended was made by Dr. Scemama and seconded by Dr. Wallen. The motion was approved.

IX. Old Business

1. Responsibilities and Workflows
o Discussion: None.

o Action Taken: The committee agreed to table the discussion for a future meeting.

2. UCC Leadership

o Discussion: None.

o Action Taken: The committee agreed to table the discussion for a future meeting.

X. New Business

1. UCC Budgetary Memorandum

o Discussion: The issue is if we could just incorporate the budgetary memo within in the comprehensive memorandum of request. Ms. Nicholson said that an approval signature line could be added to the signature form that states the budget will not be impacted. Ms. Nicholson will develop this and bring the committee an example to discuss and approve.

o Action Taken: The committee agreed to the discussion of the suggested change at a future meeting.

2. UCC Forms, Guidelines, and Manuals

o Discussion: Ms. Nicholson is trying to reduce the paperwork—she will share with us her revised forms for our approval

o Action Taken: The committee agreed to the discussion of the suggested revisions at a future meeting.

3. The effect of the elimination of COMM 2420 on programs in which it is a requirement

o Discussion: Dr. Flint and Ms. Nicholson initiated the committee’s discussion of the issue of the School of Communication’s decision to eliminate offering COMM 2420 (Business and Professional Speaking) due to budgetary factors (pursuant to a memo written by the Dean of the School of Communication) and how this will impact many programs that list it or require it as a Foundations course. Ms. Coltraine stated that she will run a program to see how many programs are affected by the elimination of this course. As explained, it is hard for students to enroll in this class as there is high demand but due to the requirements of student speeches the class size must remain small. Ms. Coltraine stated that because of the elimination of COMM 2420, several programs would need to bring revisions to the UCC; she asked Dr. Flint what the UCC would require the faculty to do. Dr. Flint responded that if the department just wishes to make this change, we would not require attendance by the department; however, if the department wants to make other changes, they should plan to attend the UCC meeting. Ms. Nicholson said that the School of Communication is still developing the package.
Action Taken: Dr. Flint stated that she would forward this memo to Dr. George Bailey, chair of the Foundations committee, so that the Foundations committee can decide a course of action and report back to our committee. The committee will discuss this issue further at its next meeting.
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**NEXT MEETING:** February 12, 2015

Dr. Scemama made a motion to adjourn at 5:20 pm. The motion passed and the meeting was adjourned.

Respectfully Submitted by

Mark D. Richardson
Secretary of the UCC
Department of Foreign Languages and Literatures

Benjamin Fraser, Chair, 3324 Bate Building

Faculty

- Department of Foreign Languages and Literatures Faculty

BA or BS in Foreign Languages, including Preparation for the Accelerated MBA Program

French, German, and Hispanic studies majors who are interested in careers in business may complete the BA or BS in foreign languages with a minor in business administration, and if qualified may complete the master of business administration in one additional year.

Foreign Language Placement Tests

Students who have previously studied French, German, Italian, Japanese, Latin, Russian, and Spanish should take the respective placement test in order to ensure that they continue their study at the appropriate level. Please note that a placement test is required for enrollment in all lower-level Spanish courses including level 1001. (See Admission and Readmission, Placement Testing.) While it may be possible to satisfy the foreign language requirement by completing 12 s.h. of Italian or Japanese, no guarantee can be given that the necessary courses will be offered.

Programs

Bachelor’s

- Foreign Languages and Literatures, BA
- French, BA
- French, BS
- German, BA
- German, BS
- Hispanic Studies Education, BS
- Hispanic Studies, BA

Minor

- French Minor
Certificate

- American Studies Certificate
- Spanish Translation Certificate

http://catalog.ecu.edu/preview_program.php?catoid=7&poid=1483&returnto=400

Spanish Translation Certificate

The certificate in Spanish translation provides a course of study that prepares the student in the special skills involved in the role of translator. The award of the certificate provides evidence of practical competence in translating written texts to or from Spanish; interpretation of spoken Spanish is not involved. There are four required translation courses that must be satisfactorily completed, following which students may take a demanding final proficiency examination. Satisfactory performance on the examination entitles the student to receive the certificate in translation. Those students whose performance is judged only adequate may receive credit for completing the course sequence, but will not be awarded the certificate.

The certificate requires 12 s.h. credit as follows:

- SPAN 3340 - Introduction to Translation
- SPAN 4340 - Intermediate Translation
- SPAN 5340 - Advanced Translation I
- SPAN 5940 - Advanced Translation II

III. College of Health and Human Performance, Department of Kinesiology

Department of Kinesiology

http://catalog.ecu.edu/preview_program.php?catoid=7&poid=1457 -

Sports Studies, BS

The program provides the competencies and knowledge for students to pursue a variety of sport-related careers. A minimum cumulative 2.0 GPA and 32 s.h. of foundations curriculum coursework are required for admission to the program. A minimum grade of C- (1.7) is needed in all required EXSS courses for successful completion of the degree. The degree requires the student to declare an approved minor. Minimum degree requirement is 121 s.h.
1. Foundations curriculum requirements including those listed below - 42 s.h.

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

- BIOL 1050 - General Biology
- BIOL 1051 - General Biology Laboratory
  or
- BIOL 1150 - Principles of Biology: A Human Approach
- BIOL 1151 - Principles of Biology: A Human Approach Discussion

- COMM 2410 - Public Speaking or
- COMM 2420 - Business and Professional Communication or
- COMM 2020 - Fundamentals of Speech Communication

- MATH 1065 - College Algebra or
- MATH 1066 - Applied Mathematics for Decision Making

- PHIL 1110 - Introduction to Philosophy or
- PHIL 1175 - Introduction to Ethics or
- PHIL 1176 - Introduction to Social and Political Philosophy or
- PHIL 1180 - Introduction to Critical Reasoning or
- PHIL 2274 - Business Ethics

- PHYS 1250 - General Physics
- PHYS 1251 - General Physics Laboratory
- PSYC 1000 - Introductory Psychology
- RCLS 2601 - Leisure in Society

2. Core - 43 s.h.

- EXSS 2000 - Introductory Exercise and Sport Science
- EXSS 2202 - Motor Learning and Performance
- EXSS 2850 - Structural Kinesiology
- EXSS 3300 - Applied Sports Psychology
- EXSS 3301 - Physical Education and Sport in Modern Society
- EXSS 3600 - Coaching Theories
- EXSS 3805 - Physiology of Exercise
- EXSS 3850 - Introduction to Biomechanics
- EXSS 4300 - Program Development and Management in Physical Education and Sports
- EXSS 4301 - Comparative Sport and Physical Education: International Aspects
- EXSS 4333 - Sport and Fitness Marketing
- EXSS 4700 - Internship in Sports Studies
- EXSS 4701 - Pre-internship Seminar for Sports Studies

3. Cognates - 10 s.h.

- BIOL 2130 - Survey of Human Physiology and Anatomy

  or

- BITE 2112 - Introduction to Information Processing Technology or
- MIS 2223 - Introduction to Computers or
- EXSS 2050 - Computer Applications in Exercise and Sport Science

  or

- EXSS 4003 - Special Topics

  or

- COMM 3520 - Sports Media Survey
• EXSS 4003 - Special Topics

4. Approved Minor - 24 s.h.

5. General electives to complete requirements for graduate

IV. Thomas Harriot College of Arts and Sciences, Department of Geological Sciences

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GEOL 3209 - Environmental Forensics

3

P: CHEM 1150, CHEM 1151, CHEM 1160, CHEM 1161; or equivalent; or consent of instructor; C: GEOL 3210. Identification of environmental pollutants, estimation of their source(s), quantification of how long the pollution has persisted, and assessment of human health and ecosystem exposure. Investigation of common environmental contamination within air, water, soil, groundwater, sediments, and biota.

GEOL 3210 - Environmental Forensics Laboratory

0

1 3-hour lab per week. P: CHEM 1150, CHEM 1151, CHEM 1160, CHEM 1161; or equivalent; or consent of instructor; C: GEOL 3209. Identification of environmental pollutants, estimation of their source(s), quantification of how long the pollution has persisted, and assessment of human health and ecosystem exposure. Investigation of common environmental contamination within air, water, soil, groundwater, sediments, and biota.

GEOL 4010 - Sedimentology

4 WI F

3 lecture hours per week. P: GEOL 1600, GEOL 2000, GEOL 3050, GEOL 3051. Analysis of processes and products of sedimentation. Flow mechanics and sedimentary structures, depositional systems, sedimentation and tectonics, the effects of sea level on depositional systems, methods of description and classification of sediments and sedimentary rocks, and preparation of sedimentologic field reports.
GEOL 4011 - Sedimentology Laboratory

0 WIF

3 lab hours per week. P: GEOL 1600, GEOL 2000, GEOL 3050, GEOL 3051. Analysis of processes and products of sedimentation. Flow mechanics and sedimentary structures, depositional systems, sedimentation and tectonics, the effects of sea level on depositional systems, methods of description and classification of sediments and sedimentary rocks, and preparation of sedimentologic field reports.

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Department of Geological Sciences

Stephen J. Culver, Chair, 101 Graham Building

Faculty

- Department of Geological Sciences Faculty

Geology Honors Program

A student desiring to enter the honors program in geology must satisfy the approved departmental criteria: junior standing with a minimum cumulative 3.0 GPA; completion of a minimum of 20 s.h. in geology; a minimum 3.0 GPA in geology courses with no grade below C (2.0). See GEOL 4550, GEOL 4551, Honors Thesis.

Programs

Bachelor’s

- Geology, BS

Minor

- Geology Minor

Courses

Geological Sciences

- GEOL 1500 - Dynamic Earth
- GEOL 1501 - Dynamic Earth Laboratory
- GEOL 1550 - Oceanography
- GEOL 1600 - Earth and Life Through Time
- GEOL 1700 - Environmental Geology
- GEOL 1800 - Geology of the National Parks
- GEOL 2000 - Quantitative Methods in the Geological Sciences
- GEOL 2500 - The Atlantic Ocean and the Mid-Atlantic Coast
- GEOL 2501 - The Atlantic Ocean and the Mid-Atlantic Coast Laboratory
- GEOL 2600 - Analysis Techniques and Methods of Coastal Ocean Research
- GEOL 3050 - Mineralogy and Petrology I
- GEOL 3051 - Mineralogy and Petrology I Laboratory
- GEOL 3150 - Mineralogy and Petrology II
- GEOL 3151 - Mineralogy and Petrology II Laboratory
- GEOL 3200 - Introduction to Field Methods
- GEOL 3201 - Introduction to Field Methods
- GEOL 3209 - Environmental Forensics
- GEOL 3210 - Environmental Forensics Laboratory
- GEOL 3250 - Introduction to Geomorphology
- GEOL 3251 - Introduction to Geomorphology Laboratory
- GEOL 3300 - Structural Geology
- GEOL 3301 - Structural Geology Laboratory
- GEOL 3402 - Engineering Geology
- GEOL 3500 - Hydrogeology and the Environment
- GEOL 3700 - Advanced Oceanography
- GEOL 3800 - Earth's Climate: A Geological Perspective
- GEOL 4000 - Summer Field Course in Geology
- GEOL 4010 - Sedimentology
- GEOL 4011 - Sedimentology Laboratory
- GEOL 4020 - Stratigraphy
- GEOL 4021 - Stratigraphy Laboratory
- GEOL 4200 - Paleontology
- GEOL 4201 - Paleontology Laboratory
- GEOL 4550 - Honors Thesis
- GEOL 4551 - Honors Thesis
- GEOL 5000 - Geomorphology
- GEOL 5001 - Geomorphology Laboratory
- GEOL 5150 - The Geologic Component of Environmental Science
- GEOL 5300 - Geology of Coastal Processes and Environments
- GEOL 5350 - Marine Geology
- GEOL 5400 - Optical Mineralogy
- GEOL 5401 - Optical Mineralogy Laboratory
- GEOL 5450 - Introduction to Aqueous Geochemistry
- GEOL 5500 - Directed Studies in Geology
- GEOL 5510 - Directed Studies in Geology
- GEOL 5520 - Directed Studies in Geology
- GEOL 5600 - Economic Geology
- GEOL 5601 - Economic Geology Laboratory
- GEOL 5700 - Geohydrology of Drainage Basins
- GEOL 5701 - Geohydrology of Drainage Basins Laboratory
- GEOL 5710 - Ground Water Hydrology
- GEOL 5711 - Ground Water Hydrology Laboratory
Geological Sciences Banked Courses

- GEOL 1601 - Historical Geology Laboratory
- GEOL 3000 - Mineralogy
- GEOL 3001 - Mineralogy Laboratory
- GEOL 3100 - Petrology
- GEOL 3101 - Petrology Laboratory
- GEOL 4100 - Sedimentation and Stratigraphy
- GEOL 4101 - Sedimentation and Stratigraphy Laboratory
- GEOL 5750 - Introduction to Engineering Geology
- GEOL 5751 - Introduction to Engineering Geology Laboratory

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Geology, BS

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 - 42 s.h.

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

2. Core - 42 s.h.

- **GEOL 1500** - Dynamic Earth
- **GEOL 1501** - Dynamic Earth Laboratory
- **GEOL 1600** - Earth and Life Through Time
- **GEOL 2000** - Quantitative Methods in the Geological Sciences
- **GEOL 3050** - Mineralogy and Petrology I
- **GEOL 3051** - Mineralogy and Petrology I Laboratory
- **GEOL 3150** - Mineralogy and Petrology II
- **GEOL 3151** - Mineralogy and Petrology II Laboratory
- **GEOL 3200** - Introduction to Field Methods
- **GEOL 3201** - Introduction to Field Methods
- **GEOL 3300** - Structural Geology
- **GEOL 3301** - Structural Geology Laboratory
- **GEOL 4000** - Summer Field Course in Geology
- **GEOL 4010** - Sedimentology
- **GEOL 4011** - Sedimentology Laboratory
- **GEOL 4020** - Stratigraphy
- **GEOL 4021** - Stratigraphy Laboratory
- **GEOL 4200** - Paleontology
- **GEOL 4201** - Paleontology Laboratory

3. Concentration areas - 7 s.h.

(Choose one.)

**Coastal and Marine Geology:**

(Choose 7 s.h. from the following.)

- **GEOL 1550** - Oceanography
- **GEOL 3700** - Advanced Oceanography
- **GEOL 5300** - Geology of Coastal Processes and Environments
- **GEOL 5350** - Marine Geology
- Or other approved GEOL courses

**Environmental Geology:**
(Choose 7 s.h. from the following.)

- GEOL 1700 - Environmental Geology
- GEOL 3209 - Environmental Forensics
- GEOL 3210 - Environmental Forensics Laboratory
- GEOL 3500 - Hydrogeology and the Environment
- GEOL 5150 - The Geologic Component of Environmental Science
- GEOL 5450 - Introduction to Aqueous Geochemistry
- GEOL 5710 - Ground Water Hydrology
- GEOL 5711 - Ground Water Hydrology Laboratory
- 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 - General Chemistry I
- CHEM 1151 - General Chemistry Laboratory I
- CHEM 1160 - General Chemistry II
- CHEM 1161 - General Chemistry Laboratory II
- MATH 1065 - College Algebra
- 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.

V. Thomas Harriot College of Arts and Sciences, Department of Psychology

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PSYC 2210 - Research Methods in Psychology
4 WI, F, SS: FC: SO

P: BIOS 1500, MATH 2228, MATH 2283, or PSYC 2101—or equivalent. Methods of research, including design, measurement, analysis, interpretation, and presentation.

PSYC 4990 - Field Experience in Psychology

1-3 F, S

May be taken concurrently. Approximately 10 hours per week for 1 s.h. credit. May be repeated. May count a maximum of 36 s.h. field experience toward the PSYC major. Additional hours may count as general electives. P: PSYC major; minimum cumulative and major 2.0 GPA; of 9 s.h. completed in PSYC, minimum cumulative 2.3 GPA; consent of instructor and dept chair. Application of concepts and principles from related psychology courses to applied situations in field. Lab and/or Field experiences under joint supervision of field supervisor and university instructor.

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Department of Psychology

Susan L. McCammon, Chair, 120 Rawl Building

Faculty

- Department of Psychology Faculty

Psychology Honors Program

Students are qualified for the psychology honors program if they have completed at least 24 semester hours and have a cumulative and psychology GPA of at least 3.3. Students are then eligible to take honors sections of psychology courses. To qualify to graduate with honors in psychology, students must have an overall and psychology GPA of at least 3.3. They must complete PSYC 4601 and PSYC 4602 with a grade of at least B and must do a public presentation of their thesis research.

Programs

Bachelor's

- Psychology, BA
Minor

- Psychology Minor

Dual

- Psychology, BA/Elementary Education, MAT

Courses

Psychology

- PSYC 1000 - Introductory Psychology
- PSYC 1060 - Honors Introduction to Psychology
- PSYC 1070 - Global Understanding: Psychological Perspectives
- PSYC 2101 - Psychological Statistics
- PSYC 2210 - Research Methods in Psychology
- PSYC 2211 - Careers in Psychology
- PSYC 2250 - Selected Topics in Psychology
- PSYC 2777 - Ethnocultural Psychology
- PSYC 3206 - Developmental Psychology
- PSYC 3221 - Social Psychology
- PSYC 3225 - Psychology of Learning
- PSYC 3226 - Cognitive Psychology
- PSYC 3227 - Learning Theories and Applications
- PSYC 3241 - Personnel and Industrial Psychology
- PSYC 3300 - Psychology of Personality
- PSYC 3310 - Introduction to Neuroscience
- PSYC 3311 - Neuropsychology
- PSYC 3312 - Sensation and Perception
- PSYC 3314 - Psychology of Religion
- PSYC 3325 - Introduction to Psychological Testing
- PSYC 3375 - Abnormal Psychology
- PSYC 4000 - Advanced General Psychology
- PSYC 4250 - Advanced Topics Seminar
- PSYC 4280 - History of Psychology
- PSYC 4305 - Educational Psychology
- PSYC 4312 - Laboratory Methods in Behavioral Neuroscience
- PSYC 4315 - Neuroscience: Literature and Laboratory Experience
- PSYC 4335 - Psychology of Women
- PSYC 4340 - Behavioral Pharmacology Seminar
- PSYC 4350 - Psychology of Sexual Behavior
- PSYC 4401 - Thesis Research
- PSYC 4402 - Senior Thesis/Project
- PSYC 4501 - Psychological Research
- PSYC 4601 - Honors Research
- PSYC 4602 - Senior Honors Thesis
VI. Thomas Harriot College of Arts and Sciences, Department of Geography, Planning, and Environment


GEOG 3420 - Remote Sensing of the Environment I

3 F

May not count toward foundations curriculum social sciences requirement. **P:** GEOG 2410 or PLAN 2410 or equivalent. Basic understanding of digital image data and tools required to process, analyze, and interpret digital images.

GEOG 3430 - Geographic Information Systems I

3 F,S Same as PLAN 3430.

May not count toward foundations curriculum social sciences requirement. **P:** GEOG 2410 or PLAN 2410 or equivalent. Computer-based decision support systems. Involves integration of spatially referenced data in problem-solving context. Concepts and application of GIS include data capture, storage, analysis, and display.

GEOG 3450 - Introduction to the Global Positioning System

3 S

May not count toward foundations curriculum social sciences requirement. **P:** GEOG 2410 or PLAN 2410 or equivalent. Techniques for spatial referencing via a satellite-based navigation system.

GEOG 3460 - GIS Applications Programming

3 F

May not count toward foundations curriculum social sciences requirement. **P:** GEOG 2410 or PLAN 2410 or equivalent. BITE 2212 or CSCI 1610 or MIS 2223 GEOG 3430 or consent of instructor. Introduces GIS applications design, development, and
deployment. Focuses on custom mapping user interfaces; programmable solutions for spatial data display, analysis and manipulation; and custom GIS applications development.

**GEOG 4320 - Gender, Economy, and Development**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 4320</td>
<td>Gender, Economy, and Development</td>
<td>3 S GD</td>
<td>May not count toward foundations curriculum social sciences requirement. P: Consent of instructor. Role of gender in economic and development processes from a geographical perspective.</td>
</tr>
</tbody>
</table>

**GEOG 4325 - Resources, Population, and Development**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 4325</td>
<td>Resources, Population, and Development</td>
<td>3 WI</td>
<td>Formerly GEOG 3000. P: GEOG 2003 or consent of instructor. Demographic issues and population policies in relation to resource use and economic development from a geographical perspective.</td>
</tr>
</tbody>
</table>

**GEOG 4360 - Geographies of Global Climate and Environmental Change**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 4360</td>
<td>Geographies of Global Climate and Environmental Change</td>
<td>3</td>
<td>Examines social, economic, and political aspects of climate change from the perspective of human-environment geography.</td>
</tr>
</tbody>
</table>

**GEOG 4410 - Advanced Cartographic Design and Production**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 4410</td>
<td>Advanced Cartographic Design and Production</td>
<td>3 F,S</td>
<td>May not count toward foundations curriculum social sciences requirement. P: GEOG 2410 or PLAN 2410 or equivalent experience Consent of instructor. Continuation of GEOG 2410 or PLAN 2410 at advanced level. Advanced mapping techniques such as animation. Internet mapping and production of publication-quality maps.</td>
</tr>
</tbody>
</table>

**GEOG 4430 - Geographic Information Systems II**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 4430</td>
<td>Geographic Information Systems II</td>
<td>3</td>
<td>Same as PLAN 4430. P: GEOG 3430 or PLAN 3430 or consent of instructor. Advanced topics. Emphasis on development of GIS projects.</td>
</tr>
</tbody>
</table>

**GEOG 4440 - Coastal Applications of GIS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 4440</td>
<td>Coastal Applications of GIS</td>
<td>3 F,S</td>
<td>May not count toward foundations curriculum social sciences requirement. P: GEOG 2250; GEOG 2410 or PLAN 2410 or GEOG 3430; or consent of instructor. Application of geographic information science to coastal resource management.</td>
</tr>
</tbody>
</table>

PLAN 3430 - Geographic Information Systems I

3 F,S Same as GEOG 3430.

May not count toward foundations curriculum social sciences requirement. P: GEOG 2410 or PLAN 2410 or equivalent. Computer-based decision support systems. Involves integration of spatially referenced data in problem-solving context. Concepts and application of GIS include data capture, storage, analysis, and display.

PLAN 4430 - Geographic Information Systems II

3 S Same as GEOG 4430.

P: GEOG 3430 or PLAN 3430 or consent of instructor. Advanced topics. Emphasis on development of GIS projects.

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Applied Geography, BS

Return to: Undergraduate Majors, Minors and Certificates

Minimum degree requirement is 120 s.h. of credit as follows:

1. Foundations curriculum - 42 s.h.

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

- COMM 2410 - Public Speaking or
- COMM 2420 - Business and Professional Communication
- MATH 1065 - College Algebra

2. Core - 43 s.h.

(Choose a minimum of 27 s.h. in geography above 2999, including a maximum of 3 s.h. of supervised study in each of the categories below.)

- ENGL 3820 - Scientific Writing or
- ENGL 3860 - Introduction to Nonfiction Writing or
- ENGL 3880 - Writing for Business and Industry or
- ITEC 3290 - Technical Writing
- GEOG 2400 - Spatial Data Analysis
- GEOG 2410 - Fundamentals of GIS
- GEOG 4801 - Geographic Internship or
- GEOG 4802 - Geographic Internship or
- GEOG 4803 - Geographic Internship
- GEOG 4999 - Geography Professional Seminar

Geographic Information Science:

(Choose 9 s.h. from the following.)

- GEOG 3420 - Remote Sensing of the Environment I
- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4460 - Digital Terrain Analysis
- GEOG 4491 - Supervised Study in Geographic Techniques
- GEOG 4492 - Supervised Study in Geographic Techniques
- GEOG 4493 - Supervised Study in Geographic Techniques
- GEOG 4900 - Honors Research

Human:

(Choose 9 s.h. from the following.)

- GEOG 2003 - Geography in the Global Economy
- GEOG 2019 - Geography of Recreation
- GEOG 2100 - World Geography: Developed Regions
- GEOG 2110 - World Geography: Less Developed Regions
- GEOG 2350 - Climate Change: Science and Society
- GEOG 2300 - Geography of Environmental Resources *
- GEOG 3001 - Historical Geography of the United States
- GEOG 3003 - Political Geography
- GEOG 3004 - Urban Geography
- GEOG 3049 - Latin America
- GEOG 3050 - Africa
- GEOG 3051 - Asia
- GEOG 3055 - North Carolina
- GEOG 3056 - Middle America
- GEOG 3250 - Environmental Hazards *
- GEOG 4140 - Research Methods in Human Geography
- GEOG 4191 - Supervised Study in Regional Geography
- GEOG 4192 - Supervised Study in Regional Geography
- GEOG 4193 - Supervised Study in Regional Geography
- GEOG 4250 - Environmental Impact Analysis *
- GEOG 4270 - Water Resources Management and Planning *
- GEOG 4310 - Geography of Transportation and Trade
- GEOG 4315 - Geographic Images
- GEOG 4320 - Gender, Economy, and Development
- GEOG 4325 - Resources, Population, and Development
- GEOG 4330 - Agricultural Geography
- GEOG 4335 - Geography of Tourism
- GEOG 4340 - Introduction to Medical Geography
- GEOG 4360 - Geographies of Global Climate and Environmental Change
- GEOG 4391 - Supervised Study in Human Geography
- GEOG 4392 - Supervised Study in Human Geography
- GEOG 4393 - Supervised Study in Human Geography
- GEOG 4900 - Honors Research
- GEOG 5391. Seminar in Human Geography (1) (P: Consent of instructor)
- GEOG 5392. Seminar in Human Geography (2) (P: Consent of instructor)
- GEOG 5393 - Seminar in Human Geography

Note:

*May count in only one area.

Environmental:

(Choose 9 s.h. from the following.)

- ATMO 3520 - Dynamic Meteorology
- ATMO 3550 - Principles of Synoptic Meteorology
- ATMO 4520 - Boundary Layer Meteorology
- ATMO 4525 - Dynamic Meteorology II
- ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- GEOG 1300 - Weather and Climate
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources *
- GEOG 2510 - Physical Meteorology
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards *
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4250 - Environmental Impact Analysis *
- GEOG 4270 - Water Resources Management and Planning *
- GEOG 4291 - Supervised Study in Physical Geography
- GEOG 4292 - Supervised Study in Physical Geography
- GEOG 4293 - Supervised Study in Physical Geography
- GEOG 4510 - Meteorological Instruments and Observations
- GEOG 4530 - Micrometeorology
- GEOG 4540 - Coastal Storms
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4590 - Tropical Meteorology
- GEOG 4900 - Honors Research
- GEOG 5220 - Physical Geography Field Experience
- GEOG 5281 - Selected Topics in Physical Geography
- GEOG 5282 - Selected Topics in Physical Geography
- GEOG 5283 - Selected Topics in Physical Geography

**Note:**

*May not also count as a human course.

**Electives:**

(Choose 3 s.h. from the following.)

- GEOG 1000 - People, Places, and Environments
- GEOG 1250 - The Water Planet
- GEOG 4901 - Senior Honors Thesis
- May choose any GEOG course listed that is not being counted toward the degree.

**3. Concentration Area - 6 s.h.**

(Choose an additional 6 s.h. in either human or environmental geography, as listed above. If concentration area is environmental geography, a minimum of 3 s.h. must be above 3999)

**4. Minor - 24 s.h.**

Selected from aerospace, biology, business administration, coastal studies, computer science, economics, geology, industrial technology, information processing, leisure systems studies, military science, planning, public administration, statistics, or any other appropriate minor with consent of the dept chair.

**5. Electives to complete requirements for graduation.**

[Return to: Undergraduate Majors, Minors and Certificates]


Geographic Information Science and Technology, BS

[Return to: Undergraduate Majors, Minors and Certificates]

Minimum degree requirement is **120 s.h.** of credit as follows:
1. Foundations curriculum, including those listed below - 42 s.h.

(See Section 4, Foundations Curriculum Requirements for All Baccalaureate Degree Programs)

- COMM 2410 - Public Speaking or
- COMM 2420 - Business and Professional Communication
- MATH 1065 - College Algebra

2. Common Core - 31 s.h. 25 s.h.

- GEOG 2400 - Spatial Data Analysis
- GEOG 2410 - Fundamentals of GIS
- GEOG 3420 - Remote Sensing of the Environment I
- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4999 - Geography Professional Seminar

3. GIS electives - 6 s.h. 12 s.h.

(Choose from the following)

- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4340 - Introduction to Medical Geography
- GEOG 4420 - Remote Sensing II
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4450 - GIScience, Society, and Technology
- GEOG 4460 - Digital Terrain Analysis
- GEOG 4540 - Coastal Storms
- GEOG 4491 - Supervised Study in Geographic Techniques
- GEOG 4492 - Supervised Study in Geographic Techniques
- GEOG 4493 - Supervised Study in Geographic Techniques
- GEOG 4580 - Radar and Satellite Meteorology
- GEOG 4801 - Geographic Internship
- GEOG 4802 - Geographic Internship
- GEOG 4803 - Geographic Internship

4. Environmental and Human Geography - 15 s.h. 9 s.h.

(Choose from the following; a minimum of 3 s.h. must be above 2999)

- GEOG 1000 - People, Places, and Environments
- GEOG 1250 - The Water Planet
- GEOG 1300 - Weather and Climate
- GEOG 2003 - Geography in the Global Economy
- GEOG 2019 - Geography of Recreation
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources
- GEOG 2350 - Climate Change: Science and Society
- GEOG 2510 - Physical Meteorology
- GEOG 3001 - Historical Geography of the United States
- GEOG 3003 - Political Geography
- GEOG 3004 - Urban Geography
- GEOG 3049 - Latin America
- GEOG 3050 - Africa
- GEOG 3051 - Asia
- GEOG 3055 - North Carolina
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4250 - Environmental Impact Analysis
- GEOG 4270 - Water Resources Management and Planning
- GEOG 4310 - Geography of Transportation and Trade
- GEOG 4315 - Geographic Images
- GEOG 4320 - Gender, Economy, and Development
- GEOG 4325 - Resources, Population, and Development
- GEOG 4330 - Agricultural Geography
- GEOG 4335 - Geography of Tourism
- GEOG 4345 - Human Migration and Global Restructuring
- GEOG 4360 - Geographies of Global Climate and Environmental Change
- GEOG 4510 - Meteorological Instruments and Observations
- GEOG 4530 - Micrometeorology
- GEOG 4590 - Tropical Meteorology
- GEOG 5281 - Selected Topics in Physical Geography
- GEOG 5282 - Selected Topics in Physical Geography
- GEOG 5283 - Selected Topics in Physical Geography
- GEOG 5393 - Seminar in Human Geography
- PLAN 1900 - Sustainable Cities

5. Cognates - 15 s.h. 9 s.h.

(Choose from the following)

- CSCI 1001 - Introduction to Computer Science
- CSCI 2310 - Algorithmic Problem Solving and Programming Laboratory
- CSCI 2311 - Algorithmic Problem Solving and Programming Laboratory
- CSCI 2427 - Discrete Mathematical Structures or
- MATH 2427 - Discrete Mathematical Structures
- CSCI 2600 - Introduction to Digital Computation
- CSCI 3200 - Data Structures and Their Applications
- CSCI 3700 - Database Management Systems
- ICTN 1500 - Information and Computer Technology Fundamentals
- ICTN 1501 - Information and Computer Technology Fundamentals Laboratory
- ICTN 2154 - Digital Communication Systems
6. Electives to complete requirements for graduation - 11 s.h. 23 s.h.

Return to: Undergraduate Majors, Minors and Certificates

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Geography, BA

Students must complete a minimum of 21 s.h. in geography above 2999. Minimum degree requirement is 120 s.h. of credit as follows:

1. Foundations curriculum - 42 s.h.

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

2. Foreign language through level 1004 - 12 s.h.

3. Common core - 13 s.h.

- GEOG 2400 - Spatial Data Analysis
- GEOG 4999 - Geography Professional Seminar
Choose 9 s.h. electives from:

- GEOG 2410 - Fundamentals of GIS
- GEOG 3420 - Remote Sensing of the Environment I
- GEOG 3430 - Geographic Information Systems I
- GEOG 3450 - Introduction to the Global Positioning System
- GEOG 3460 - GIS Applications Programming
- GEOG 4150 - Advanced Spatial Analysis
- GEOG 4410 - Advanced Cartographic Design and Production
- GEOG 4420 - Remote Sensing II
- GEOG 4430 - Geographic Information Systems II
- GEOG 4440 - Coastal Applications of GIS
- GEOG 4450 - GIScience, Society and Technology
- GEOG 4460 - Digital Terrain Analysis
- GEOG 4491 - Supervised Study in Geographic Techniques
- GEOG 4492 - Supervised Study in Geographic Techniques
- GEOG 4493 - Supervised Study in Geographic Techniques
- GEOG 4801 - Geographic Internship
- GEOG 4802 - Geographic Internship
- GEOG 4803 - Geographic Internship
- GEOG 4901 - Senior Honors Thesis
- May choose any GEOG course listed below that is not being counted toward the degree.

4. Concentration area - 21 s.h.

(Choose 15 s.h. in one area, 6 s.h. in the other area.)

Environmental:

(In concentration area, a minimum of 3 s.h. must be above 3999.)

- ATMO 3520 - Dynamic Meteorology
- ATMO 3550 - Principles of Synoptic Meteorology
- ATMO 4520 - Boundary Layer Meteorology
- ATMO 4525 - Dynamic Meteorology II
- ATMO 4550 - Applied Synoptic Meteorology: Analyses and Forecasting
- GEOG 1300 - Weather and Climate
- GEOG 2250 - Earth Surface Systems
- GEOG 2300 - Geography of Environmental Resources *
- GEOG 2510 - Physical Meteorology
- GEOG 3220 - Soil Properties, Surveys, and Applications
- GEOG 3230 - Global Climates
- GEOG 3250 - Environmental Hazards *
- GEOG 4210 - Fluvial and Hydrological Processes
- GEOG 4220 - Coastal Geography
- GEOG 4230 - Earth Surface Processes
- GEOG 4250 - Environmental Impact Analysis *
- GEOG 4270 - Water Resources Management and Planning *
- GEOG 4291 - Supervised Study in Physical Geography
- GEOG 4292 - Supervised Study in Physical Geography
- GEOG 4293 - Supervised Study in Physical Geography
• GEOG 4510 - Meteorological Instruments and Observations
• GEOG 4530 - Micrometeorology
• GEOG 4540 - Coastal Storms
• GEOG 4580 - Radar and Satellite Meteorology
• GEOG 4590 - Tropical Meteorology
• GEOG 4900 - Honors Research
• GEOG 5220 - Physical Geography Field Experience
• GEOG 5281 - Selected Topics in Physical Geography
• GEOG 5282 - Selected Topics in Physical Geography
• GEOG 5283 - Selected Topics in Physical Geography

Note:

*May only count in one area.

Human:

• GEOG 2003 - Geography in the Global Economy
• GEOG 2019 - Geography of Recreation
• GEOG 2100 - World Geography: Developed Regions
• GEOG 2110 - World Geography: Less Developed Regions
• GEOG 2300 - Geography of Environmental Resources *
• GEOG 2350 - Climate Change: Science and Society
• GEOG 3001 - Historical Geography of the United States
• GEOG 3003 - Political Geography
• GEOG 3004 - Urban Geography
• GEOG 3049 - Latin America
• GEOG 3050 - Africa
• GEOG 3051 - Asia
• GEOG 3055 - North Carolina
• GEOG 3056 - Middle America
• GEOG 3250 - Environmental Hazards *
• GEOG 4140 - Research Methods in Human Geography
• GEOG 4191 - Supervised Study in Regional Geography *
• GEOG 4192 - Supervised Study in Regional Geography *
• GEOG 4193 - Supervised Study in Regional Geography *
• GEOG 4250 - Environmental Impact Analysis *
• GEOG 4270 - Water Resources Management and Planning *
• GEOG 4310 - Geography of Transportation and Trade
• GEOG 4315 - Geographic Images
• GEOG 4320 - Gender, Economy, and Development
• GEOG 4325 - Resources, Population, and Development
• GEOG 4330 - Agricultural Geography
• GEOG 4335 - Geography of Tourism
• GEOG 4340 - Introduction to Medical Geography *
• GEOG 4345 - Human Migration and Global Restructuring
• GEOG 4360 - Geographies of Global Climate and Environmental Change
• GEOG 4391 - Supervised Study in Human Geography
• GEOG 4392 - Supervised Study in Human Geography
• GEOG 4393 - Supervised Study in Human Geography
• GEOG 4900 - Honors Research
Note:

*May only count in one area.

5. Minor and general electives to complete requirements for graduation.

Return to: Undergraduate Majors, Minors and Certificates

VII. Thomas Harriot College of Arts and Sciences, Department of Biology

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BIOL 1051 - General Biology Laboratory

1 F,S,SS FC:SC

1 3-hour lab per week. May not count toward BIOL major or minor. RC: BIOL 1030 or BIOL 1050. Practical applications of biological principles.

BIOL 2110 - Fundamentals of Microbiology

3 F,S FC:SC

3 lectures and 2 2-hour labs per week. May not count toward BIOL major or minor. P: CHEM 1120, CHEM 1130 or 7 s.h. of CHEM at a course level to or greater than CHEM 1120 or BIOL 1100, and CHEM 1150; 2.75 GPA or consent of instructor; RP: BIOL 1050, BIOL 1051 or BIOL 1100, BIOL 1101. General study of microorganisms and their importance to humans. Emphasis on fundamental life processes, including a brief introduction to epidemiology and immunology.

BIOL 4030 - Principles of Toxicology

3, S

P: BIOL 1100, BIOL 1200; CHEM 2750 or CHEM 2770. Basic concepts and principles in toxicology encompassing toxicant-specific responses and biological mechanisms at the molecular, tissue, organismal, and population levels.
BIOL 4260 - Cell Biology

3 F
P: BIOL 3260. In-depth examination of the structure and function of eukaryotic cells. Emphasis on cell specialization and differentiation, proliferation, movement, communication, and death.

BIOL 4440 - Wetland Ecology and Management

3
P: BIOL 2250; RC: BIOL 4441. Ecological structure and functioning of wetland ecosystems such as marshes, swamps, bogs, and similar areas, and the relationships between scientific understanding and wetland regulation and management.

BIOL 4441 - Wetland Ecology and Management Laboratory

1
P: BIOL 2250; C: BIOL 4440. Ecological structure and functioning of wetland ecosystems such as marshes, swamps, bogs, and similar areas. Field and laboratory techniques to analyze wetland vegetation, soils, and water, and the basics of wetland delineation.

BIOL 4770 - Ornithology

4 S
P: 8 s.h. in BIOL; C: BIOL 4771. 3 lecture hours and 1 field trip per week to observe native birds in natural surroundings. Survey of birds of the world emphasizing ecology, evolution, behavior and conservation.

BIOL 4771 - Ornithology Laboratory

0 S
P: 8 s.h. in BIOL; C: BIOL 7440. 3 lecture hours and 1 field trip per week to observe native birds in natural surroundings. Survey of birds of the world emphasizing ecology, evolution, behavior and conservation.

http://catalog.ecu.edu/preview_entity.php?catoid=7&ent_oid=603&returnto=449

Department of Biology

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

- Department of Biology Faculty

Admission Requirements

In order to declare a major in biochemistry or biology, 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.

Programs

Bachelor’s

- Biochemistry, BS
- Biology (General), BS

Minor

- Biology Minor

Honors Program

- Biology Honors

Courses

Biology

- BIOL 1010 - Biodiversity of Coastal North Carolina
- BIOL 1030 - Plants and Human Affairs
- BIOL 1050 - General Biology
- BIOL 1051 - General Biology Laboratory
- BIOL 1060 - Environmental Biology
- BIOL 1061 - Environmental Biology Laboratory
- BIOL 1100 - Principles of Biology I
- BIOL 1101 - Principles of Biology Laboratory I
- BIOL 1150 - Principles of Biology: A Human Approach
- BIOL 1151 - Principles of Biology: A Human Approach Discussion
- BIOL 1200 - Principles of Biology II
- BIOL 1201 - Principles of Biology Laboratory II
- BIOL 2015 - Introduction to Biological Anthropology
- BIOL 2016 - Biological Anthropology Laboratory
- BIOL 2100 - Basic Laboratory Methods for Biotechnology
- BIOL 2101 - Basic Laboratory Methods for Biotechnology Laboratory
- BIOL 2110 - Fundamentals of Microbiology
- BIOL 2111 - Fundamentals of Microbiology Laboratory
- BIOL 2130 - Survey of Human Physiology and Anatomy
- BIOL 2131 - Survey of Human Physiology and Anatomy Laboratory
- BIOL 2140 - Human Physiology and Anatomy
- BIOL 2141 - Human Physiology and Anatomy Laboratory
- BIOL 2150 - Human Physiology and Anatomy
- BIOL 2151 - Human Physiology and Anatomy Laboratory
- BIOL 2250 - Ecology
- BIOL 2251 - Ecology Laboratory
- BIOL 2300 - Principles of Genetics
- BIOL 2800 - Biological Instruction
- BIOL 3030 - Principles of Physiology
- BIOL 3070 - Survey of Plants and Fungi
- BIOL 3071 - Survey of Plants and Fungi Laboratory
- BIOL 3150 - Plant Biology
- BIOL 3220 - Microbiology
- BIOL 3221 - Microbiology Laboratory
- BIOL 3230 - Field Botany
- BIOL 3231 - Field Botany Laboratory
- BIOL 3240 - Field Zoology
- BIOL 3241 - Field Zoology Laboratory
- BIOL 3260 - Cell and Developmental Biology
- BIOL 3310 - Cellular Physiology
- BIOL 3311 - Cellular Physiology Laboratory
- BIOL 3320 - Principles of Animal Physiology
- BIOL 3321 - Principles of Animal Physiology Laboratory
- BIOL 3400 - Biological Field Studies of the Coastal Plain
- BIOL 3401 - Biological Field Studies of the Coastal Plain Laboratory
- BIOL 3504 - Research in Biology
- BIOL 3550 - Biology Honors
- BIOL 3620 - Biological Evolution
- BIOL 3621 - Biological Evolution Laboratory
- BIOL 3660 - Introduction to Marine Biology
- BIOL 3661 - Introduction to Marine Biology Laboratory
- BIOL 3740 - Animal Behavior
- BIOL 3741 - Animal Behavior Laboratory
- BIOL 3820 - Plant Biotechnology
- **BIOL 4030 - Principles of Toxicology**
- BIOL 4040 - Human Genetics
- BIOL 4050 - Comparative Anatomy
- BIOL 4051 - Comparative Anatomy Laboratory
- BIOL 4060 - Embryology
- BIOL 4061 - Embryology Laboratory
- BIOL 4071 - Human Gross Anatomy
- BIOL 4130 - Astrobiology
- BIOL 4150 - Pestilence, Politics and Conquest
- BIOL 4170 - Immunology I
- BIOL 4200 - Population and Community Ecology
- BIOL 4201 - Population and Community Ecology Laboratory
- BIOL 4205 - Population Genetics
- BIOL 4210 - Phylogenetic Theory
- BIOL 4220 - Microbes and Immunity
http://catalog.ecu.edu/preview_program.php?catoid=7&poid=1465

Biology (General), BS

The core curriculum in biology is intended to give majors a background in biodiversity, cell biology, evolution, ecology, genetics, molecular biology, and physiology. BIOL 1100, BIOL 1101, BIOL 1200, BIOL 1201, and BIOL 2300 constitute the core curriculum. 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 120 s.h. of credit as follows:

1. **Foundations curriculum - 42 s.h.**

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

   - CHEM 1150 - General Chemistry I
   - CHEM 1151 - General Chemistry Laboratory I
   - CHEM 1160 - General Chemistry II
   - CHEM 1161 - General Chemistry Laboratory II
   - MATH 1065 - College Algebra

2. **Core - 11 s.h.**

   - BIOL 1100 - Principles of Biology I
   - BIOL 1101 - Principles of Biology Laboratory I
   - BIOL 1200 - Principles of Biology II
   - BIOL 1201 - Principles of Biology Laboratory II
   - BIOL 2300 - Principles of Genetics

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

**Biology (30 s.h.):**

**Required lecture courses (12 s.h.):**

   - BIOL 2250 - Ecology
   - BIOL 3030 - Principles of Physiology
   - BIOL 3260 - Cell and Developmental Biology
- BIOL 3620 - Biological Evolution

**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 (31 s.h.):**

**Required lecture courses (10 s.h.):**

- BIOL 2250 - Ecology
- BIOL 2251 - Ecology Laboratory
- BIOL 3030 - Principles of Physiology or
- BIOL 3260 - Cell and Developmental Biology
- BIOL 3620 - Biological Evolution

**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 or
- BIOL 3620 - Biological Evolution
- BIOL 3030 - Principles of Physiology

40
• BIOL 3260 - Cell and Developmental Biology

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, BIOL 3071; BIOL 3150; BIOL 3230, BIOL 3231; BIOL 3240, BIOL 3241; BIOL 4400, BIOL 4500; BIOL 4770, BIOL 4771, BIOL 5070, BIOL 5071; BIOL 5150, BIOL 5151; BIOL 5200, BIOL 5201; BIOL 5220, BIOL 5221; BIOL 5230, BIOL 5231; BIOL 5550, BIOL 5551; BIOL 5640, BIOL 5641; BIOL 5950, BIOL 5951

b. Ecological/Evolutionary Process

BIOL 3660, BIOL 3661; BIOL 3740, BIOL 3741; BIOL 4130; BIOL 4200, BIOL 4201; BIOL 4205; BIOL 4240, BIOL 4250; BIOL 4300, BIOL 4301; BIOL 4320; BIOL 4440, BIOL 4441, BIOL 4740, BIOL 4741; BIOL 5260, BIOL 5261; BIOL 5270, BIOL 5600, BIOL 5601, BIOL 5680; GEOL 5300

Molecular/Cell Biology:

BIOL 2100, BIOL 2101; BIOL 3220, BIOL 3221; BIOL 3310, BIOL 3311; BIOL 3320, BIOL 3321; BIOL 4030, BIOL 4040; BIOL 4050, BIOL 4051; BIOL 4060, BIOL 4061; BIOL 4130; BIOL 4170; BIOL 4205; BIOL 4220; BIOL 4230; BIOL 4260, BIOL 4650; BIOL 4800; BIOL 4880; BIOL 4890, BIOL 4891; BIOL 5260, BIOL 5261; BIOL 5870; BIOL 5890; CHEM 2770
5. Cognates - 22 s.h.

- CHEM 2750 - Organic Chemistry I
- CHEM 2753 - Organic Chemistry Laboratory I
- CHEM 2760 - Organic Chemistry II
- CHEM 2763 - Organic Chemistry Laboratory II
- MATH 2121 - Calculus for the Life Sciences I
- MATH 2122 - Calculus for the Life Sciences II
- PHYS 1250 - General Physics
- PHYS 1260 - General Physics
- PHYS 1251 - General Physics Laboratory
- PHYS 1261 - General Physics Laboratory

6. Research Skills - 6 s.h.

- BIOS 1500 - Introduction to Biostatistics or
- MATH 2228 - Elementary Statistical Methods I or
- MATH 2283 - Statistics for Business

- ENGL 3820 - Scientific Writing

7. Electives to complete requirements for graduation.

VIII. College of Engineering and Technology, Department of Construction Management

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CMGT 2210 - Construction and Civil Materials

3

2 lecture hours per week. P: Minimum overall GPA of 2.0; majors or minors only; P/C: MATH 1065 or MATH 1066 C: CMGT 2211. Introduction to construction materials with an emphasis on the physical characteristics, properties, and significance of the materials to the industry.

CMGT 2211 - Construction and Civil Materials Laboratory
2 lab hours per week. P: Minimum overall GPA of 2.0; majors or minors only; P/C: MATH 1065 or MATH 1066. C: CMGT 2210. Introduction to construction materials with an emphasis on the physical characteristics, properties, and significance of the materials to the industry.

**CMGT 2400 - Building Systems and Codes**

3 Formerly CMGT 2660

3 2 lecture hours per week. P: Minimum grade of C (2.0) in CMGT 2210; m Minimum overall GPA of 2.0; C: CMGT 2401. Interpretation of structural and interior and exterior finishing systems in residential and commercial buildings. Introduces major building codes, materials and industry standards, and utilization of manufacturers’ catalogs.

**CMGT 2401 - Building Systems and Codes Laboratory**

0 Formerly CMGT 2661

2 lab hours per week. P: Minimum grade of C (2.0) in CMGT 2210; m Minimum overall GPA of 2.0; C: CMGT 2400. Interpretation of structural and interior and exterior finishing systems in residential and commercial buildings. Introduces major building codes, materials and industry standards, and utilization of manufacturers’ catalogs.

**CMGT 2600 - Construction Documents and Analysis**

3 Formerly CMGT 3100

2 lecture and 2 lab hours per week. P: Minimum grade of C (2.0) in CMGT 2400; m Minimum overall GPA of 2.0; CMGT 2210, CMGT 2400. Practical exercises in reading and evaluating plans for construction projects to discern project design, construction materials, and construction placement techniques.

**CMGT 2650 - Structural Analysis**

3 Formerly CMGT 3400

P: Minimum overall GPA of 2.0; PHYS 1250, PHYS 1251. Introduces statics, strength of materials, and structural analysis as related to stability of building’s structural components. Topics include building loads resulting in compressive and tensile forces in columns, beams, and trusses; strength of components to resist such loads; analysis of components under varying load conditions.

**CMGT 2700 - Soils and Foundations**

3 Formerly CMGT 3800

2 lecture hours per week. P: Minimum overall GPA of 2.0; GEOL 1500, GEOL 1501; C: CMGT 2701. Fundamentals of soil mechanics as related to soil classification and construction of earthwork and foundations.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Formerly</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMGT 2701</td>
<td>Soils and Foundations Laboratory</td>
<td>0</td>
<td>CMGT 3801</td>
<td>2 lab hours per week. P: Minimum overall GPA of 2.0; C: CMGT 2700. Fundamentals of soil mechanics as related to soil classification and construction of earthwork and foundations.</td>
</tr>
<tr>
<td>CMGT 2750</td>
<td>Mechanical and Electrical Construction</td>
<td>3</td>
<td>CMGT 3600</td>
<td>2 lecture and 2 lab hours per week. P: Minimum overall GPA of 2.0; P: CMGT 2600. Study of mechanical, electrical, and plumbing systems, applicable codes, and effect on the construction process. Coordination with various construction document formats and media.</td>
</tr>
<tr>
<td>CMGT 2900</td>
<td>Construction Project Safety Management</td>
<td>3</td>
<td>CMGT 3900</td>
<td>P: Minimum overall GPA of 2.0. Use of safety management as a company profit center with focus on estimating and scheduling of required safety standards as they impact CSI divisions. Includes safety control strategies based on training, programs, and culture.</td>
</tr>
<tr>
<td>CMGT 2950</td>
<td>Construction Surveying</td>
<td>3</td>
<td>CMGT 3700</td>
<td>2 lecture hours per week. P: Minimum overall GPA of 2.0; CMGT 2600; C: CMGT 2951. Construction aspects of surveying with field and classroom exercises in use of transit, level, tape, and related surveying equipment. Problems and exercises in traverse closure and pipeline, grading, street, curve, and building layout.</td>
</tr>
<tr>
<td>CMGT 2951</td>
<td>Construction Surveying Laboratory</td>
<td>0</td>
<td>CMGT 3701</td>
<td>3 lab hours per week. P: Minimum overall GPA of 2.0; C: CMGT 2950. Construction aspects of surveying with field and classroom exercises in use of transit, level, tape, and related surveying equipment. Problems and exercises in traverse closure and pipeline, grading, street, curve, and building layout.</td>
</tr>
<tr>
<td>CMGT 3010</td>
<td>Construction Modeling and Information Technology</td>
<td>3</td>
<td>CMGT 2800</td>
<td>2 lecture and 2 lab hours per week. P: Minimum grade of C (2.0) in CMGT 2600; m Minimum overall GPA of 2.0; ITEC 2000 or MIS 2223 or equivalent computer-related elective CMGT 2600. Graphical expression of construction and architectural elements through use of 3D and Building Information</td>
</tr>
</tbody>
</table>
Modeling (BIM) software including construction document organization and preparation, and specifications.

**CMGT 3150 - Residential Construction Techniques**

3 Formerly CMGT-2558

P: Minimum grade of C (2.0) in CMGT 2400; minimum overall GPA of 2.0. Selection criteria and graphical interpretation of materials and techniques of residential buildings. Considers performance, code requirements, maintainability, and cost benefit aspects related to the different sectors of residential construction.

**CMGT 3400 – Structural Analysis**

3 Formerly CMGT-3660

P: Minimum grade of C (2.0) in CMGT 2600; minimum overall GPA of 2.0; MATH 1074 or 1075 or equivalent; PHYS 1250, PHYS 1251. Introduces statics, strength of materials, and structural analysis as related to stability of building’s structural components. Topics include building loads resulting in compressive and tensile forces in columns, beams, and trusses; strength of components to resist such loads; analysis of components under varying load conditions; and basic design considerations of common temporary construction structures such as formwork, bracing of vertical elements, rigging for lifts, and retaining walls.

**CMGT 3500 - Construction Contracts and Specifications**

3 Formerly CMGT-3664

P: Minimum grade of C (2.0) in CMGT 2600; minimum overall GPA of 2.0; P/C: CMGT 3010. Practices and principles in use of contract documents and specifications as they apply to construction project. Emphasis on relationship to construction process and project management.

**CMGT 3600 – Mechanical and Electrical Construction**

3 Formerly CMGT-3662, 3663

2 lecture and 2 lab hours per week. P: Minimum overall GPA of 2.0; P/C: CMGT 3500. Study of mechanical, electrical, and plumbing systems, applicable codes, and effect on the construction process. Coordination with various construction document formats and media.

**CMGT 3700 – Construction Surveying**

3 Formerly CMGT-3666

2 lecture hours per week. P: Minimum grade of C (2.0) in CMGT 2600; minimum overall GPA of 2.0; MATH 1074 or 1075 or equivalent. Construction aspects of surveying with field and classroom exercises in use of transit, level, tape, and related surveying equipment. Problems and exercises in traverse closure and pipeline, grading, street, curve, and building layout.
CMGT 3701 - Construction Surveying Laboratory

Formerly CMGT 3667

3 lab hours per week. P: Minimum grade of C (2.0) in CMGT 2600; minimum overall GPA of 2.0; MATH 1074 or 1075 or equivalent. Construction aspects of surveying with field and classroom exercises in use of transit, level, tape, and related surveying equipment. Problems and exercises in traverse closure and pipeline, grading, street, curve, and building layout.

CMGT 3710 - Infrastructure and Highway Materials

2 lecture hours per week. P: Minimum grade of C (2.0) in CMGT 3500; minimum overall GPA of 2.0; P/C: CMGT 3800 2700. Physical characteristics and properties of heavy civil, highway, and infrastructure materials. Technical specifications and quality control and assurance procedures emphasized.

CMGT 3711 - Infrastructure and Highway Materials Laboratory

0

2 lab hours per week. P: Minimum grade of C (2.0) in CMGT 3500; minimum overall GPA of 2.0; C: CMGT 3710 P/C: CMGT 3800. Physical characteristics and properties of heavy civil, highway, and infrastructure materials. Technical specifications and quality control and assurance procedures emphasized.

CMGT 3800 - Soils and Foundations

Formerly CMGT 3766

2 lecture hours per week. P: Minimum grade of C (2.0) in CMGT 2600; minimum overall GPA of 2.0; GEOL 1500, GEOL 1501; MATH 1074 or 1075 or equivalent; PHYS 1250, PHYS 1251. Fundamentals of soil mechanics as related to soil classification and construction of earthwork and foundations.

CMGT 3801 - Soils and Foundations Laboratory

Formerly CMGT 3767

0

2 lab hours per week. P: Minimum grade of C (2.0) in CMGT 2600; minimum overall GPA of 2.0; GEOL 1500, GEOL 1501; MATH 1074 or 1075 or equivalent; PHYS 1250, PHYS 1251. Fundamentals of soil mechanics as related to soil classification and construction of earthwork and foundations.

CMGT 3900 - Construction Project Safety Management

Formerly CMGT 3726

3
P: Minimum grade of C (2.0) in CMGT 3500; minimum overall GPA of 2.0. Use of safety management as a company profit center with focus on estimating and scheduling of required safety standards as they impact CSI divisions. Includes safety control strategies based on training, programs, and culture.

CMGT 3950 - Residential Development

3Formerly CMGT 3558

P: Minimum grade of C (2.0) in CMGT 3150; minimum overall GPA of 2.0. Introduction to the selection criteria for land development, planning principles, codes and regulations, and design approaches for residential construction of small to large units.

CMGT 4000 - Construction Estimating I

3Formerly CMGT 4660

P: Minimum grade of C (2.0) in CMGT 3500; minimum overall GPA of 2.0; P/C: CMGT 3400 3010. Procedures to quantify materials, labor, and equipment for construction. Emphasis on classification of work, quantity survey techniques, cost estimating and understanding of schedule of values with coordination to construction documents.

CMGT 4010 - Construction Estimating II

3

P: Minimum overall GPA of 2.0; CMGT 4000. Advanced procedures utilizing industry software to classify work, perform quantity take-offs, and develop schedule of values.

CMGT 4100 - Construction Planning and Scheduling

3Formerly CMGT 4662

P: Minimum overall GPA of 2.0; P/C: CMGT 4000. Applies planning and scheduling techniques to construction projects. Emphasis on bar charts, critical path method (CPM), cost allocation, schedule updating, cash flow, and resource scheduling with coordination to construction documents.

CMGT 4200 - Construction Scheduling and Cost Control

3

P: Minimum grade of C (2.0) in CMGT 4100; minimum overall GPA of 2.0; CMGT 4100. Project-level cost control and construction economics. Emphasizes labor cost control, project cash flow, and analysis of capital expenditures. Other topics are order of magnitude estimating, equipment cost control, material cost control, subcontract cost control, and construction claims.

CMGT 4300 - Construction Quality and Human Resource Management
P: Minimum grade of C (2.0) in CMGT 4100; P/C: CMGT 4200; minimum overall GPA of 2.0. Issues in construction quality and human resource management incorporating safety methods, utilizing group and individual relationships among construction personnel to comply with laws and regulations.

CMGT 4310 - Infrastructure Construction Techniques

3

P: Minimum overall GPA of 2.0; P/C: CMGT 4200. Plans and specifications of infrastructure systems including construction techniques and processes. Schedule management of infrastructure projects using CPM and linear scheduling.

CMGT 4320 - Global Sustainable Construction Sustainability

3 WI GD

P: Minimum overall GPA of 2.0; senior standing. Open to all students. Concepts of sustainability and design as applied in construction, including means, methods, and practices associated with sustainability in the global built environment.

CMGT 4340 - Construction Economics

3

P: Minimum overall GPA of 2.0; ECON 2133. Economic and financial factors that influence managerial decisions in the construction industry. Emphasis on decisions involving the time-value of money.

CMGT 4380 - Equipment Management

3 Formerly CMGT 4666

P: Minimum overall GPA of 2.0; CMGT 3400, CMGT 3800. Productivity, performance, and maintenance requirements of construction equipment.

CMGT 4400 - Construction Capstone

3 Formerly CMGT 4664

P: Minimum grade of C (2.0) in CMGT 4300; minimum overall GPA of 2.0; CMGT 4200. Senior level capstone class that integrates all aspects of the construction management process. Emphasis on team interactions, project management, decision making, and problem solving utilizing current construction documents. Specific course sections designated for program concentration.

CMGT 4500 - Construction Work Experience and Professional Development
CMGT 4501 - Laboratory Problems: Construction Management

3

6 lab hours per week. P: Minimum overall GPA of 2.0; consent of CMGT instructor. Independent study to gain further expertise in particular area of construction management.

CMGT 4502 - Independent Study: Construction

1

P: Minimum overall GPA of 2.0; consent of chair. Special topics in selected areas of construction. Exploration and research in personal areas of interest.

CMGT 4503 - Independent Study: Construction

2

P: Minimum overall GPA of 2.0; consent of chair. Special topics in selected areas of construction. Exploration and research in personal areas of interest.

CMGT 4504 - Independent Study: Construction

3

P: Minimum overall GPA of 2.0; consent of chair. Special topics in selected areas of construction. Exploration and research in personal areas of interest.

CMGT 4505 - Special Projects

1-3 WI

P: Minimum overall GPA of 2.0; consent of chair. Develop and submit business and management documents that pertain to varied aspects of construction.

http://catalog.ecu.edu/preview_entity.php?catoid=7&ent_oid=655&returnto=449
Department of Construction Management

Syed Ahmed, Chair, 346 Rawl Building

Admission

Admission requirements are specified based on the entry status of potential students: freshman, transfer students, technical degree transfer students, ECU transfer students, or second degree students. Progression through the major is two-tiered: lower division requirements and upper division requirements. Potential majors should refer to the departmental website for full descriptions of each entry status category and the associated requirements for admission. Admission to the university does not guarantee admission to the construction management degree program.

Students are admitted to the lower division and must apply for admission to the upper division. The complete listing of admission requirements can be found on the departmental website or at the College of Engineering and Technology Advising Center. Once admitted, successful progression through the major requires a minimum cumulative grade point average of 2.0. Students falling below a 2.0 cumulative grade point average will not be allowed to take construction management classes and will be placed on departmental probation for one semester. Summer sessions are not part of the departmental probation period. Probation status will be allowed for a maximum of one semester; after that time students with a cumulative grade point average below 2.0 will be dropped from the department.

CMGT majors and minors are required to achieve a minimum grade of C (2.0) in the following courses in order to progress to subsequent courses: CMGT 2210, CMGT 2400, CMGT 2600, CMGT 3500, CMGT 3950, CMGT 4000, CMGT 4100, CMGT 4200, CMGT 4300, CMGT 4310 and CMGT 4400. Students earning less than a C (2.0) in any of these courses must repeat the course before any subsequent CMGT course may be taken. Students required to repeat any CMGT course will not be permitted to register for that course in the semester or summer school immediately following unless a seat is available on the last day of regular registration. Should a student be found in violation of this policy, he/she will be administratively dropped (no matter what point in the semester) from that CMGT course.

The Department of Construction Management requires all construction management students to complete a minimum of 500 documented hours of construction work with state licensed general contractor, subcontractor, construction management company, or other approved employment. The work experience must be completed, submitted and approved prior to the final semester of study.

The Department of Construction Management requires students to have a laptop computer in order to accomplish academic work. The ACE Student Computer Support Center at www.ecu.edu/ace lists the current computer specifications meeting the department’s requirements.

Programs

Bachelor’s

- Construction Management, BS

Minor
• Construction Management Minor

Other

• Construction Management Transfer Option

Courses

Construction Management

• CMGT 2200 - Introduction to the Sustainable Built Environment
• CMGT 2210 - Construction and Civil Materials
• CMGT 2211 - Construction and Civil Materials
• CMGT 2400 - Building Systems and Codes
• CMGT 2401 - Building Systems and Codes Laboratory
• CMGT 2600 - Construction Documents and Analysis
• CMGT 2650 - Structural Analysis
• CMGT 2700 - Soils and Foundations
• CMGT 2701 - Soils and Foundations Laboratory
• CMGT 2750 - Mechanical and Electrical Construction
• CMGT 2900 - Construction Project Safety Management
• CMGT 2950 - Construction Surveying
• CMGT 2951 - Construction Surveying Laboratory
• CMGT 3010 - Construction Modeling and Information Technology
• CMGT 3150 - Residential Construction Techniques
• CMGT 3400 - Structural Analysis
• CMGT 3500 - Construction Contracts and Specifications
• CMGT 3600 - Mechanical and Electrical Construction
• CMGT 3700 - Construction Surveying
• CMGT 3701 - Construction Surveying Laboratory
• CMGT 3710 - Infrastructure and Highway Materials
• CMGT 3711 - Infrastructure and Highway Materials Laboratory
• CMGT 3800 - Soils and Foundations
• CMGT 3801 - Soils and Foundations Laboratory
• CMGT 3900 - Construction Project Safety Management
• CMGT 3950 - Residential Development
• CMGT 4000 - Construction Estimating I
• CMGT 4010 - Construction Estimating II
• CMGT 4100 - Construction Planning and Scheduling
• CMGT 4200 - Construction Scheduling and Cost Control
• CMGT 4300 - Construction Quality and Human Resource Management
• CMGT 4310 - Infrastructure Construction Techniques
• CMGT 4320 - Global Sustainable Construction Sustainability
• CMGT 4340 - Construction Economics
• CMGT 4380 - Equipment Management
• CMGT 4400 - Construction Capstone
• CMGT 4500 - Construction Work Experience and Professional Development
• CMGT 4501 - Laboratory Problems: Construction Management
• CMGT 4502 - Independent Study: Construction
• CMGT 4503 - Independent Study: Construction
Construction Management Transfer Option

The construction management option requires **43** s.h. of credit.

Applicable to technical degree transfer students only. Students who hold an associate degree of applied science from an approved technical program must transfer courses and take courses at ECU that meet the competencies of the construction management core listed above. Students may be admitted directly to the upper division upon completion of MATH 1065 and PHYS 1250, PHYS 1251 (or equivalent) **within one academic year**. Students must complete at ECU a minimum of **28 39** s.h. of the **78** s.h. required major credit hours. Students must complete the following CMGT courses: CMGT 2700, 2701, CMGT 3010, CMGT 3500, CMGT 4000, CMGT 4010, CMGT 4100, CMGT 4200, CMGT 4300, CMGT 4320, CMGT 4340, CMGT 4380, and CMGT 4400. Students must complete the following CMGT courses: CMGT 2700, 2701, CMGT 3010, CMGT 3500, CMGT 4000, CMGT 4010, CMGT 4100, CMGT 4200, CMGT 4300, CMGT 4400, and CMGT 4500) and 6 s.h. from 2000 level or above. Students must choose one concentration. Additional courses may be necessary to meet required prerequisites. Construction management courses completed at ECU and technical transfer courses must total a minimum of **43** s.h. including the course credits from a concentration area. Courses needed to meet requirements must meet as scheduled classes.

Construction Management, BS

The construction management program is accredited by the American Council for Construction Education. Minimum degree requirement is **126 120** s.h. credit as follows:

1. Foundations curriculum requirements including those listed below - **42** s.h.

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

   - COMM 2410 - Public Speaking or
   - COMM 2420 - Business and Professional Communication or
   - COMM 2020 - Fundamentals of Speech Communication
   - ECON 2113 - Principles of Microeconomics
   - ECON 2133 - Principles of Macroeconomics
2. Core - \textbf{51-66 s.h.}

\textbf{Lower Division Core Courses:}

- CMGT 2200 - Introduction to the Sustainable Built Environment
- CMGT 2210 - Construction and Civil Materials
- CMGT 2211 - Construction and Civil Materials Laboratory
- CMGT 2400 - Building Systems and Codes
- CMGT 2401 - Building Systems and Codes Laboratory
- CMGT 2600 - Construction Documents and Analysis

\textbf{Upper Division Core Courses:}

- CMGT 2650 - Structural Analysis
- CMGT 2700 - Soils and Foundations
- CMGT 2701 - Soils and Foundations Laboratory
- CMGT 2750 - Mechanical and Electrical Construction
- CMGT 2900 - Construction Project Safety Management
- CMGT 2950 - Construction Surveying
- CMGT 2951 - Construction Surveying Laboratory
- CMGT 3010 - Construction Modeling and Information Technology
- CMGT 3150 - Residential Construction Techniques
- CMGT 3400 - Structural Analysis
- CMGT 3500 - Construction Contracts and Specifications
- CMGT 3600 - Mechanical and Electrical Construction
- CMGT 3700 - Construction Surveying
- CMGT 3701 - Construction Surveying Laboratory
- CMGT 3800 - Soils and Foundations
- CMGT 3801 - Soils and Foundations Laboratory
- CMGT 3900 - Construction Project Safety Management
• CMGT 3710 - Infrastructure and Highway Materials
• CMGT 3711 - Infrastructure and Highway Materials Laboratory
• CMGT 4000 - Construction Estimating I
• CMGT 4010 - Construction Estimating II
• CMGT 4100 - Construction Planning and Scheduling
• CMGT 4200 - Construction Scheduling and Cost Control
• CMGT 4300 - Construction Quality and Human Resource Management
• CMGT 4320 - Global Construction Sustainability
• CMGT 4340 - Construction Economics
• CMGT 4380 - Equipment Management
• CMGT 4400 - Construction Capstone
• CMGT 4500 - Construction Work Experience and Professional Development

3. Concentration Options - 9 s.h.

General Construction

• All lower and upper level CMGT courses
• Any three (3) CMGT elective courses

Residential Construction

• All lower and upper level CMGT courses
• CMGT 3150—Residential Construction Techniques
• CMGT 3950—Residential Development
• CMGT 4320—Construction Sustainability

Infrastructure Construction

• All lower and upper level CMGT courses
• CMGT 3710—Infrastructure and Highway Materials
• CMGT 3711—Infrastructure and Highway Materials
• CMGT 4310—Infrastructure Construction Techniques
• CMGT 4380—Equipment Management

4.3. Cognates - 24 12 s.h.
• ACCT 2101 - Survey of Financial and Managerial Accounting
• EHST 3060 - Environmental Issues in Construction
• EHST 3061 - Environmental Issues in Construction
• FINA 2244 - Legal Environment of Business
• MATH 1074 - Applied Trigonometry or transfer credit for MATH 1075 or equivalent.
• MATH 2283 - Statistics for Business
• MGMT 3202 - Fundamentals of Management
• MKTG 3832 - Marketing Management

Choose 3 s.h. computer-related elective from:

1. ITEC 2000 - Industrial Technology Applications of Computer Systems
2. MIS 2223 - Introduction to Computers
3. Electives to complete requirements for graduation.

5. Electives to complete requirements for graduation.