Replace ETGR 3071 with ETGR 3295 in the CM, Civil ET, Electrical ET, and Fire Safety ET degree programs.

Engineering Technology and Construction Management

**DATE RECEIVED** | **DATE FORWARDED** | **COMMENTS:** APPROVED, APPROVED WITH REVISIONS, ETC. | **SIGNATURES**
--- | --- | --- | ---
8/5/2015 | 10/21/15 | Approved | Bruce Gehrig
10/21/15 | 10/21/15 | Approved | Anthony Bazzendine
11/9/15 | 11/9/15 | Approved | [signature]

**PERSON ORIGINATING PROPOSAL**
Bruce Gehrig

**DEPARTMENT CHAIR**
Anthony Bazzendine

**COLLEGE CURRICULUM COMMITTEE CHAIR**
Mehdi Niri

**COLLEGE DEAN**
[signature]

**GENERAL EDUCATION**
(If applicable; for General Education courses only)

**HONORS COLLEGE**
(If applicable; for Honors courses & programs)

**UNDERGRADUATE COURSE & CURRICULUM COMMITTEE CHAIR**
(For undergraduate courses only)

**GRADUATE COUNCIL CHAIR**
(For graduate courses only)

**FACULTY GOVERNANCE ASSISTANT**
(Received and processed in Academic Affairs)
Remove ETGR 3071 – Engineering Technology Professional Seminar as a required course in the Construction Management, Civil Engineering Technology, Electrical Engineering Technology, and Fire Safety Engineering Technology degree programs. In its place, add existing course ETGR 3295 – Multidisciplinary Professional Development as a required course in the Construction Management, Civil Engineering Technology, Electrical Engineering Technology, and Fire Safety Engineering Technology degree programs. This change does not result in a change of total credit hours in any of the degree programs.

This change will bring the ETCM Department’s curricula into alignment with the rest of the College of Engineering and will eliminate unnecessary duplication of effort between ETGR 3071 and ETGR 3295.

Also, the Mechanical Engineering Technology program currently has both ETGR 3071 and ETGR 3295 in their curriculum and will be keeping both courses. As a result, it is proposed that the writing intensive designation (W) be removed from ETGR 3071 as the MET program already has sufficient writing intensive credit hours in other courses.
ETGR 3071 - Engineering Technology Professional Seminar. (1) ($\bullet$) Provides an introduction to the department of Engineering Technology, the William States Lee College of Engineering, and UNC Charlotte. Addresses professional issues such as ethics, corporate culture, and team work. Relies heavily on computer usage outside of class.

**FOR CONSULTATION WITH OTHER DEPARTMENTS:**

1. Does the proposed change affect other departments (including additions and/or changes to degree requirements or prerequisites offered in other departments)?
   
   _____ X _____ Yes  _____ No

2. If Yes, please list the other departments affected by the proposed change:

   ETGR 3295 is taught by faculty from the College of Engineering's Office of Student Development and Success (OSDS)

3. Have you consulted with each department listed in item 2 regarding the proposed change?

   _____ X _____ Yes  _____ No

   Result(s) of Consultation(s) (please attach documentation):

   OSDS has agreed to accommodate the additional seats that will be required in ETGR 3295.

4. For a new course or for major modification of an existing course, include Consultation on Library Holdings.

   Not applicable

5. For proposals involving Honors courses or programs, include written consultation with the Honors Council.

   Not applicable

**RESOURCES:**

1. For a new course or revisions to an existing course, check all the statements that apply:

   _____ This course will be cross listed with another course.

   _____ There are prerequisites for this course.

   _____ There are co-requisites for this course.

   _____ This course is repeatable for credit.

   _____ This course will affect the number of credits hours for its program.

   _____ X This proposal results in the deletion of an existing course(s) from the degree program and/or catalog.

   _____ This proposal will alter an agreement with a North Carolina community college.

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For all items checked above, applicable statements and content must be reflected in the proposed catalog copy.

2. Indicate the additional resources required, if any, to implement and maintain the proposed change.

No additional resources will be required.

**CREDIT HOUR (Mandatory if new and/or revised course in proposal):**
Review statement and check box once completed.

☒ The appropriate faculty committee has reviewed the course outline/syllabus and has determined that the assignments are sufficient to meet the University definition of a credit hour.

**PROPOSED CATALOG COPY:** For existing courses copy and paste the current catalog copy and use the Microsoft Word “track changes” feature (or use red text with “strike-through” formatting for text to be deleted, and adding blue text with “underline” formatting for text to be added). For new courses, draft comprehensive catalog copy.

**ACADEMIC PLAN OF STUDY (UNDERGRADUATE ONLY):** Does the proposed change impact an existing Academic Plan of Study?

☒ Yes. If yes, please provide updated Academic Plan of Study in template format.

☐ No.

**STUDENT LEARNING OUTCOMES (UNDERGRADUATE & GRADUATE):** Does this course or curricular change require a change in SLOs or assessment for the degree program?

☐ Yes. If yes, please provide updated SLOs in template format.

☒ No.

**TEXTBOOK COSTS:** It is the policy of the Board of Governors to reduce textbook costs for students whenever possible. Have electronic textbooks, textbook rentals, or the buyback program been considered and adopted?

☒ Yes. Briefly explain below.

☐ No. Briefly explain below.

No textbook is required for this course.

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**IMPORTANT NOTE:** A Microsoft Word version of the final course and curriculum proposal should be sent to facultygovernance@uncc.edu upon approval by the Undergraduate Course and Curriculum Committee and/or Graduate Council chair.

Revised 05/06/14
OAA/mjw
Bachelor of Science in Construction Management (BSCM)

Degree Requirements
4-Year Program (128 hours)

General Education Courses (18 hours)
- LBST 110X The Arts & Society (3)
- LBST 2101 Western Cultural and Historical Awareness (3)
- LBST 2102 Global and Intercultural Connections (3)
- LBST 221X Ethical and Cultural Critique (3)
- UWRT 1101 Writing and Inquiry in Academic Contexts I (3)*
- UWRT 1102 Writing and Inquiry in Academic Contexts II (3)*

Mathematics and Science Courses (23 hours)
- CHEM 1251 General Chemistry I (3)
  or GEOL 1200 Physical Geography (3)
- ETGR 2272 Engineering Analysis II (3)
- MATH 1103 Precalculus Mathematics for Science and Engineering (3)*
- MATH 1121 Calculus for Engineering Technology (3)*
  or ETGR 2171 Engineering Analysis I (3)*
- PHYS 1101 Introductory Physics I (3)*
- PHYS 1101L Introductory Physics I Lab (1)*
- PHYS 1102 Introductory Physics II (3)
- PHYS 1102L Introductory Physics II Lab (1)
- STAT 1220 Elements of Statistics I (BUSN) (3)

Business and Management Courses (12 hours)
- ACCT 2121 Principles of Accounting I (3)*
- ACCT 2122 Principles of Accounting II (3)*
- BLAW 3150 Business Law I (3)*
  or CMET 4127 Construction Law and Regulatory Issues (3)
- ECON 2101 Principles of Economics--Macro (3)*

Major Courses (69 hours)
- CMET 1680 Professional Development I: Construction Safety (1)*
- CMET 2680 Professional Development II: Sustainable Engineering and Construction (1)
- CMET 3123 Cost Estimating (3)
- CMET 3224 Construction Project Administration (3)
- CMET 3680 Professional Development III: Professional Ethics (1)
- CMET 4126 Project Scheduling and Control (3)
- CMET 4129L Construction Planning Lab (1) (W)
- CMET 4130 Infrastructure Systems (3)
- CMET 4272 Capstone Project (3) (O, W)
- CMET 4680 Professional Development IV (1)
- ETCE 1104 Civil/Construction CAD Applications (2)*
- ETCE 1211 Construction Surveying I (3)*
- ETCE 1211L Construction Surveying I Lab (1)*
- ETCE 1222 Construction Materials (3)*
- ETCE 1222L Construction Materials Lab (1)*
- ETCE 2105 Plan Reading and Quantity Takeoff (3)
- ETCE 2221 Construction Means and Methods (3)
- ETCE 2410 Introduction to Environmental Engineering Technology (3)
- ETCE 3131 Soil Mechanics and Earthwork (3)
- ETCE 3131L Soil Testing Lab (1) (W)
- ETCE 3163 Structural Analysis and Design I (3)
- ETCE 3163L Structures and Materials Lab (1) (W)

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ETCE 3271  Building Systems (3)
ETCE 3271L  Building Systems Lab (1) (W)
ETCE 4350  Construction Geotechnics and Foundations (3)
ETGR 1100L  Engineering Technology Computer Applications Lab (1)*
ETGR 1103  Technical Drawing I (2)*
ETGR 1201  Introduction to Engineering Technology (2)*
ETGR 2101  Applied Mechanics I (3)*
ETGR 2102  Applied Mechanics II (3)
ETGR 3271  Engineering Technology Professional Seminar (1) (W)
ETGR 3295  Multidisciplinary Professional Development (1)
ETGR 3222  Engineering Economics (3)*

*Course must be completed with a grade of C or above.

Major Electives (6 hours)
Major Electives (3)
Major Electives (3)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

Degree Requirements
2+2-Year Program (64 hours)

General Education Courses (12 hours)
LBST 110X  The Arts & Society (3)
LBST 2101  Western Cultural and Historical Awareness (3)
LBST 2102  Global and Intercultural Connections (3)
LBST 221X  Ethical and Cultural Critique (3)

Business and Management Courses (9 hours)
ACCT 2121  Principles of Accounting I (3)*
ACCT 2122  Principles of Accounting II (3)*
BLAW 3150  Business Law I (3)*
or CMET 4127  Construction Law and Regulatory Issues (3)

Major Courses (37 hours)
CMET 3123  Cost Estimating (3)
CMET 3224  Construction Project Administration (3)
CMET 3680  Professional Development III: Professional Ethics (1)
CMET 4126  Project Scheduling and Control (3)
CMET 4129L  Construction Planning Laboratory (1) (W)
CMET 4130  Infrastructure Systems (3)
CMET 4272  Capstone Project (3) (W,O)
CMET 4680  Professional Development IV (1)
ETCE 3131  Soil Mechanics and Earthwork (3)
ETCE 3131L  Soil Testing Laboratory (1) (W)
ETCE 3163  Structural Analysis and Design I (3)
ETCE 3163L  Structures and Materials Lab (1) (W)
ETCE 3271  Building Systems (3)
ETCE 3271L  Building Systems Lab (1) (W)
ETCE 4350  Construction Geotechnics and Foundations (3)
ETGR 3271  Engineering Technology Professional Seminar (1) (W)
ETGR 3295  Multidisciplinary Professional Development (1)
ETGR 3222  Engineering Economics (3)*

*Course must be completed with a grade of C or above.

Revised 05/06/14
OAA/mjw
Major Electives (6 hours)  
Major Electives (3)  
Major Electives (3)  

*Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.*

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**BSET in Civil Engineering Technology**

**Degree Requirements**

*4-Year Program (128 hours)*

**General Education Courses (21 hours)**

- LBST 110X The Arts & Society (3)
- LBST 2101 Western Cultural and Historical Awareness (3)
- LBST 2102 Global and Intercultural Connections (3)
- LBST 221X Ethical and Cultural Critique (3)
- UWRT 1101 Writing and Inquiry in Academic Contexts I (3)*
- UWRT 1102 Writing and Inquiry in Academic Contexts II (3)*

*Plus one Social Science Elective from:*

- ANTH 1101 Introduction to Anthropology (3)*
- GEOG 1105 The Location of Human Activity (3)*
- POLS 1110 American Politics (3)*
- ECON 1101 Economics of Social Issues (3)*
- ECON 2101 Principles of Economics – Macroecon (3)*
- SOCY 1101 Introduction to Sociology (3)*

**Mathematics and Science Courses (29 hours)**

- CHEM 1251 General Chemistry I (3)
- ETGR 2272 Engineering Analysis II (3)
- ETGR 3171 Engineering Analysis III (3)
- or ETGR 4272 Engineering Analysis IV (3)
- GEOL 1200 Physical Geography (3)
- MATH 1103 Precalculus Mathematics for Science and Engineering (3)*
- MATH 1121 Calculus for Engineering Technology (3)*
  - or ETGR 2171 Engineering Analysis I (3)*
- PHYS 1101 Introductory Physics I (3)*
- PHYS 1101L Introductory Physics I Lab (1)*
- PHYS 1102 Introductory Physics II (3)
- PHYS 1102L Introductory Physics II Lab (1)
- STAT 1220 Elements of Statistics I (BUSN) (3)

**Major Courses (71 hours)**

- CMET 1680 Professional Development I: Construction Safety (1)*
- CMET 2680 Professional Development II: Sustainable Engineering and Construction (1)
- CMET 3224 Construction Project Administration (3)
- CMET 3680 Professional Development III: Professional Ethics (1)
- CMET 4680 Professional Development IV (1)
- ETCE 1104 Civil/Construction CAD Applications (2)*
- ETCE 1211 Construction Surveying I (3)*
- ETCE 1211L Construction Surveying I Lab (1)*
- ETCE 1222 Construction Materials (3)*
- ETCE 1222L Construction Materials Lab (1)*
- ETCE 2105 Plan Reading and Quantity Takeoff (3)

*Revised 05/06/14  
OAA/mjw*
ETCE 2221 Construction Means and Methods (3)
ETCE 2410 Introduction to Environmental Engineering Technology (3)
ETCE 3131 Soil Mechanics and Earthwork (3)
ETCE 3131L Soil Testing Lab (W) (1)
ETCE 3163 Structural Analysis and Design I (3)
ETCE 3163L Structures and Materials Lab (1)
ETCE 3242 Hydraulics and Hydrology (3)
ETCE 3242L Hydraulics Lab (W) (1)
ETCE 3264 Structural Analysis II (3)
ETCE 4165 Structural Steel Design (3)
ETCE 4251 Highway Design and Construction (3)
ETCE 4266 Reinforced Concrete Design (3)
ETCE 4272 Capstone Project (3) (O, W)
ETCE 4350 Construction Geotechnics and Foundations (3)
ETGR 1100L Engineering Technology Computer Applications Lab (1)*
ETGR 1103 Technical Drawing I (2)*
ETGR 1201 Introduction to Engineering Technology (2)*
ETGR 2101 Applied Mechanics I (3)*
ETGR 2102 Applied Mechanics II (3)
ETGR 2071 Engineering Technology Professional Seminar (1) (W)
ETGR 3295 Multidisciplinary Professional Development (1)
ETGR 3222 Engineering Economics (3)

*Course must be completed with a grade of C or above.

Major Electives (7 hours)
Major Elective (3)
Major Elective (3)
Major Elective Lab (W) (1)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

Degree Requirements
2+2-Year Program (64 hours)

General Education Courses (12 hours)
LBST 110X The Arts & Society (3)
LBST 2101 Western Cultural and Historical Awareness (3)
LBST 2102 Global and Intercultural Connections (3)
LBST 221X Ethical and Cultural Critique (3)

Mathematics and Science Courses (6 hours)
CHEM 1251 General Chemistry I (3)*
or GEOL 1200 Physical Geography (3)*
ETGR 3171 Engineering Analysis III (3)
or ETGR 4272 Engineering Analysis IV (3)

*Transfer students with an AAS may have completed different science courses at the community college. Generally, AAS transfer students entering the Civil ET programs take Chemistry in the Junior year at UNC Charlotte; however, the following chart provides additional guidance for fulfilling the science requirement at UNC Charlotte:

<table>
<thead>
<tr>
<th>Transfer Students with an AAS Degree who have previously taken:</th>
<th>Shall Take at UNC Charlotte:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 semesters of physics and no chemistry</td>
<td>CHESM 1251 with lab</td>
</tr>
<tr>
<td>1 semester of physics and</td>
<td>PHYS 1102 with lab</td>
</tr>
<tr>
<td>1 semester of chemistry</td>
<td></td>
</tr>
<tr>
<td>2 semesters of physics and</td>
<td>GEOL 1200 with lab</td>
</tr>
</tbody>
</table>

Revised 05/06/14
OAA/mjw
Major Courses (39 hours)
CMET 3224  Construction Project Administration (3)
CMET 3680  Professional Development III: Professional Ethics (1)
CMET 4680  Professional Development IV (1)
ETCE 3131  Soil Mechanics and Earthwork (3)
ETCE 3131L  Soil Testing Lab (1) (W)
ETCE 3163  Structural Analysis and Design I (3)
ETCE 3163L  Structures and Materials Lab (1) (W)
ETCE 3242  Hydraulics and Hydrology (3)
ETCE 3242L  Hydraulics Lab (1) (W)
ETCE 3264  Structural Analysis II (3)
ETCE 4165  Structural Steel Design (3)
ETCE 4251  Highway Design and Construction (3)
ETCE 4266  Reinforced Concrete Design (3)
ETCE 4272  Capstone Project (3) (O,W)
ETCE 4350  Construction Geotechnics and Foundations (3)
ETGR 3071  Engineering Technology Professional Seminar (1) (W)
ETGR 3295  Multidisciplinary Professional Development (1)
ETGR 3222  Engineering Economics (3)

Major Electives (7 hours)
Major Elective (3)
Major Elective (3)
Major Elective Lab (W) (1)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

BSET in Electrical Engineering Technology

Degree Requirements
4-Year Program (128 hours)

General Education Courses (21 hours)
LBST 110X  The Arts & Society (3)
LBST 2101  Western Cultural and Historical Awareness (3)
LBST 2102  Global and Intercultural Connections (3)
LBST 221X  Ethical and Cultural Critique (3)
UWRT 1101  Writing and Inquiry in Academic Contexts I (3)*
UWRT 1102  Writing and Inquiry in Academic Contexts II (3)*

Plus one Social Science Elective from:
ANTH 1101  Introduction to Anthropology (3)*
GEOG 1105  The Location of Human Activity (3)*
POLS 1110  American Politics (3)*
ECON 1101  Economics of Social Issues (3)*
ECON 2101  Principles of Economics – Macro (3)*
SOCY 1101  Introduction to Sociology (3)*

Mathematics and Science Courses (26 hours)
CHEM 1251  General Chemistry I (3)
ETGR 2272  Engineering Analysis II (3)*
ETGR 3171  Engineering Analysis III (3)

Revised 05/06/14
OAA/mjw
MATH 1103 Precalculus Mathematics for Science and Engineering (3)*
MATH 1121 Calculus for Engineering Technology (3)*
PHYS 1101 Introductory Physics I (3)*
PHYS 1101L Introductory Physics I Lab (1)*
PHYS 1102 Introductory Physics II (3)
PHYS 1102L Introductory Physics II Lab (1)
STAT 1220 Elements of Statistics I (BUSN) (3)

Major Courses (75 hours)
ELET 1101 Simulation and Schematic Capture (1)*
ELET 1111 DC Circuits (3)*
ELET 1111L DC Circuits Lab (1)*
ELET 1212 AC Circuits (3)*
ELET 1212L AC Circuits Lab (1)*
ELET 1231 Digital Circuits (3)*
ELET 1231L Digital Circuits Lab (1)*
ELET 2121 Electronics I (3)*
ELET 2121L Electronics I Lab (1)*
ELET 2141 Introduction to Power Systems (3)
ELET 2201 C Programming (3)
ELET 2231 Microprocessor Fundamentals (3)
ELET 2241 Instrumentation and Controls (3)
ELET 2241L Instrumentation Lab (1)
ELET 2290 Sophomore Practicum (2)
ELET 3113 Network Analysis (3)
ELET 3132 Digital Systems (3)
ELET 3132L Digital Systems Lab (1) (W)
ELET 3191 Junior Practicum I (1)
ELET 3222 Electronics II (3)
ELET 3222L Electronics II Lab (1) (W)
ELET 3232 Microcontroller Systems (3)
ELET 3292 Junior Practicum II (1)
ELET 4123 Active Filters (3)
ELET 4142 Power Electronics (3)
ELET 4151 Communication Systems (3)
ELET 4151L Communication Systems Lab (1) (W)
ELET 4242 Control Systems (3)
ETGR 1100L Engineering Computer Applications Lab (1)*
ETGR 1201 Introduction to Engineering Technology (2)*
ETGR 2122 Technical Programming (3)
ETGR 3271 Engineering Technology Professional Seminar (1) (W)
ETGR 3295 Multidisciplinary Professional Development (1)
ETGR 3222 Engineering Economics (3)
ETGR 4100 Capstone Design Project I (2) (O, W)
ETGR 4200 Capstone Design Project II (2) (O, W)

*Course must be completed with a grade of C or above.

Major Electives (6 hours)
Major Elective (3)
Major Elective (3)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

Revised 05/06/14
OAA/mjw
Degree Requirements
2+2-Year Program (64 hours)

General Education Courses (12 hours)
LBST 110X The Arts & Society (3)
LBST 2101 Western Cultural and Historical Awareness (3)
LBST 2102 Global and Intercultural Connections (3)
LBST 221X Ethical and Cultural Critique (3)

Mathematics and Science Courses (6 hours)
CHEM 1251 General Chemistry I (3)*
ETGR 3171 Engineering Analysis III (3)
or ETGR 4272 Engineering Analysis IV (3)

*Transfer students with an AAS may have completed differing science courses at the community college. Generally, AAS transfer students entering the Electrical ET programs take Chemistry in the Junior year at UNC Charlotte; however, the following chart provides additional guidance for fulfilling the science requirement at UNC Charlotte:

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<tbody>
<tr>
<td>2 semesters of physics with lab and no chemistry</td>
<td>CHEM 1251</td>
</tr>
<tr>
<td>1 semester of physics with lab and 1 semester of chemistry</td>
<td>PHYS 1102 with lab</td>
</tr>
<tr>
<td>2 semesters of physics with lab and 1 semester of chemistry</td>
<td>GEOL 1200, BIOL 1110, PHYS 1130, or CHEM 1252</td>
</tr>
</tbody>
</table>

Major Courses (40 hours)
ELET 3113 Network Analysis (3)
ELET 3132 Digital Systems (3)
ELET 3132L Digital Systems Lab (1) (W)
ELET 3191 Junior Practicum I (1)
ELET 3222 Electronics II (3)
ELET 3222L Electronics II Lab (1) (W)
ELET 3232 Microcontroller Systems (3)
ELET 3292 Junior Practicum II (1)
ELET 4123 Active Filters (3)
ELET 4142 Power Electronics (3)
ELET 4151 Communication Systems (3)
ELET 4151L Communication Systems Lab (1) (W)
ELET 4242 Control Systems (3)
ETGR 2122 Technical Programming (3)
ETGR 3071 Engineering Technology Professional Seminar (1) (W)
ETGR 3295 Multidisciplinary Professional Development (1)
ETGR 3222 Engineering Economics (3)
ETGR 4100 Capstone Design Project I (2) (O, W)*
ETGR 4200 Capstone Design Project II (2) (O, W)

*Course must be completed with a grade of C or above.

Major Electives (6 hours)
Major Elective (3)
Major Elective (3)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

Revised 05/06/14
OAA/mjw
BSET in Fire Safety Engineering Technology with Concentration in Fire Protection

Degree Requirements
4-Year Program (125 hours)

General Education Courses (21 hours)
LBST 110X The Arts & Society (3)
LBST 2101 Western Cultural and Historical Awareness (3)
LBST 2102 Global and Intercultural Connections (3)
LBST 221X Ethical and Cultural Critique (3)
UWRT 1101 Writing and Inquiry in Academic Contexts I (3)*
UWRT 1102 Writing and Inquiry in Academic Contexts II (3)*

Plus one Social Science Elective from:
ANTH 1101 Introduction to Anthropology (3)*
GEOG 1105 The Location of Human Activity (3)*
POLS 1110 American Politics (3)*
ECON 1101 Economics of Social Issues (3)*
ECON 2101 Principles of Economics – Macro (3)*
SOCY 1101 Introduction to Sociology (3)*

Mathematics and Science Courses (26 hours)
CHEM 1251 General Chemistry I (3)
ETGR 2171 Engineering Analysis I (3)
or MATH 1121 Calculus for Engineering Technology (3)
ETGR 2272 Engineering Analysis II (3)
ETGR 3171 Engineering Analysis III (3)
or ETGR 4272 Engineering Analysis IV (3)
MATH 1103 Pre-Calculus Mathematics for Science and Engineering (3)*
PHYS 1101 Introductory Physics I (3)*
PHYS 1101L Introductory Physics I Lab (1)*
PHYS 1102 Introductory Physics II (3)
PHYS 1102L Introductory Physics II Lab (1)
STAT 1220 Elements of Statistics I (BUSN) (3)*

Major Courses (73 hours)
ETFS 1120 Fundamentals of Fire Protection (3)*
ETFS 1232 Fire Protection Hydraulics and Water Supply (3)*
ETFS 2124 Fundamentals of Fire Prevention (3)
ETFS 2126 Fire Investigation (3)
ETFS 2132 Building Construction for Fire Protection (3)
ETFS 2144 Fire Protection Systems (3)*
ETFS 2264 Fire Behavior and Combustion (3)
ETFS 2264L Fire Behavior and Combustion Lab (1) (W)
ETFS 3103 Principles of Fire Behavior (3)
ETFS 3103L Principles of Fire Behavior Lab (1) (W)
ETFS 3113 Building Fire Safety (3) (W)
ETFS 3123 Industrial Hazards and Electricity (3)
ETFS 3144 Active Fire Protection (3)
ETFS 3233 Introduction to Performance-Based Fire Safety (3)
ETFS 3242L Fire Testing and Measurement Lab (1) (W)
ETFS 3283 Fire Hazard Analysis (3)
ETFS 3344 Introduction to Structural Fire Safety (3)

Revised 05/06/14
OAA/mjw
ETFS 3344L  Introduction to Structural Fire Safety Lab (1) (W)
ETGR 1100  Engineering Technology Computer Applications (1)*
ETGR 1103  Technical Drawing I (2)*
ETGR 1201  Introduction to Engineering Technology* (2)
ETGR 2101  Applied Mechanics I (3)
ETGR 2106  Electrical Circuits (3)
ETGR 2021  Engineering Technology Professional Seminar (1) (W)
ETGR 3295  Multidisciplinary Professional Development (1)
ETGR 3222  Engineering Economics (3)
ETME 3123  Strength of Materials (3)
or ETGR 2102  Applied Mechanics II (3)
ETME 3133  Fluid Mechanics (3)
ETME 3143  Thermodynamics (3)
ETME 3244  Applied Heat Transfer (3)

*Course must be completed with a grade of C or above.

Major Electives (5 hours)
Major Elective (3)
Major Elective (2)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

Degree Requirements
2+2-Year Program (61 hours)

General Education Courses (6 hours)
LBST 2102  Global and Intercultural Connections (3)
LBST 221X  Ethical and Cultural Critique (3)

Mathematics and Science Courses (9 hours)
CHEM 1251  General Chemistry I (3)
ETGR 2272  Engineering Analysis II (3)
ETGR 3171  Engineering Analysis III (3)
or ETGR 4272  Engineering Analysis IV (3)

Major Courses (43 hours)
ETFS 3103  Principles of Fire Behavior (3)
ETFS 3103L  Principles of Fire Behavior Lab (1) (W)
ETFS 3113  Building Fire Safety (3) (W)
ETFS 3123  Industrial Hazards and Electricity (3)
ETFS 3144  Active Fire Protection (3)
ETFS 3233  Introduction to Performance-Based Fire Safety (3)
ETFS 3242L  Fire Testing and Measurements Lab (1) (W)
ETFS 3283  Fire Hazard Analysis (3)
ETFS 3344  Introduction to Structural Fire Safety (3)
ETFS 3344L  Introduction to Structural Fire Safety Lab (1) (W)
ETGR 2106  Electrical Circuits (3)
or ETGR 2021  Engineering Technology Professional Seminar (1) (W)
ETGR 3295  Multidisciplinary Professional Development (1)
ETGR 3222  Engineering Economics (3)
ETME 3123  Strength of Materials (3)
or ETGR 2102  Applied Mechanics II (3)
ETME 3133  Fluid Mechanics (3)
ETME 3143  Thermodynamics (3)
ETME 3244  Applied Heat Transfer (3)

Revised 05/06/14
OAA/mjw
BSET in Fire Safety Engineering Technology with Concentration in Fire Safety

Degree Requirements
4-Year Program (125 hours)

General Education Courses (21 hours)
LBST 110X The Arts & Society (3)
LBST 2101 Western Cultural and Historical Awareness (3)
LBST 2102 Global and Intercultural Connections (3)
LBST 221X Ethical and Cultural Critique (3)
UWRT 1101 Writing and Inquiry in Academic Contexts I (3)*
UWRT 1102 Writing and Inquiry in Academic Contexts II (3)*

Plus one Social Science Elective from:
ANTH 1101 Introduction to Anthropology (3)*
GEOG 1105 The Location of Human Activity (3)*
POLS 1110 American Politics (3)*
ECON 1101 Economics of Social Issues (3)*
ECON 2101 Principles of Economics – Macro (3)*
SOCY 1101 Introduction to Sociology (3)*

Mathematics and Science Courses (17 hours)
CHEM 1251 General Chemistry I (3)
MATH 1100 College Algebra and Probability (3)*
PHYS 1101 Introductory Physics I (3)*
PHYS 1101L Introductory Physics I Lab (1)*
PHYS 1102 Introductory Physics II (3)
PHYS 1102L Introductory Physics II Lab (1)
STAT 1220 Elements of Statistics I (BUSN) (3)*

Major Courses (76 hours)
ETFS 1120 Fundamentals of Fire Protection (3)*
ETFS 1232 Fire Protection Hydraulics and Water Supply (3)*
ETFS 1252 Fire Protection Law (3)*
ETFS 2124 Fundamentals of Fire Prevention (3)
ETFS 2126 Fire Investigation (3)*
ETFS 2132 Building Construction for Fire Protection (3)
ETFS 2144 Fire Protection Systems (3)*
ETFS 2230 Hazardous Materials (3)
ETFS 2264 Fire Behavior and Combustion (3)
ETFS 2264L Fire Behavior and Combustion Lab (W) (1)
ETFS 3103 Principles of Fire Behavior (3)
ETFS 3113 Building Fire Safety (3) (W)
ETFS 3123 Industrial Hazards and Electricity (3)
ETFS 3124 Risk Management for Emergency Service (3)
ETFS 3144 Active Fire Protection (3)

* Course designates a course with a co-requisite lab.

Revised 05/06/14
OAA/mjw
ETFS 3233 Introduction to Performance-Based Fire Safety (3)
ETFS 4123 Community Threat Assessment and Mitigation (3)
ETFS 4243 Research Methodology (3) (O, W)
ETFS 4323 Advanced Fire Service Administration (3)
ETGR 1100 Engineering Technology Computer Applications (1)*
ETGR 1103 Technical Drawing I (2)
ETGR 1201 Introduction to Engineering Technology* (2)
ETGR 3071 Engineering Technology Professional Seminar (1) (W)
ETGR 3295 Multidisciplinary Professional Development (1)
or ETFS 3611 Professional Leadership Seminar (1) (O, W)
ETGR 3222 Engineering Economics (3)
POLS 3119 State and Local Government (3)
POLS 3126 Introduction to Public Administration (3)
PSYC 2171 Introduction to Industrial / Organizational Psychology (3)
PSYC 3174 Organizational Psychology (3)

*Course must be completed with a grade of C or above.

Electives (11 hours)
Major Elective (3)
Major Elective (3)
Major Elective (3)
Major Elective (2)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.

Degree Requirements
2+2-Year Program (61 hours)

General Education Courses (6 hours)
LBST 2102 Global and Intercultural Connections (3)
LBST 221X Ethical and Cultural Critique (3)

Mathematics and Science Courses (3 hours)
CHEM 1251 General Chemistry I (3)

Major Courses (43 hours)
ETFS 3103 Principles of Fire Behavior (3)
ETFS 3113 Building Fire Safety (3) (W)
ETFS 3123 Industrial Hazards and Electricity (3)
ETFS 3124 Risk Management for Emergency Service (3)
ETFS 3144 Active Fire Protection (3)
ETFS 3233 Introduction to Performance-Based Fire Safety (3)
ETFS 4123 Community Threat Assessment and Mitigation (3)
ETFS 4243 Research Methodology (3) (O, W)
POLS 3126 Introduction to Public Administration (3)
ETFS 4323 Advanced Fire Service Administration (3)
ETGR 3071 Engineering Technology Professional Seminar (1) (W)
ETGR 3295 Multidisciplinary Professional Development (1)
or ETFS 3611 Professional Leadership Seminar (1) (O, W)
ETGR 3222 Engineering Economics (3)
POLS 3119 State and Local Government (3)
PSYC 2171 Introduction to Industrial / Organizational Psychology (3)
PSYC 3174 Organizational Psychology (3)

Major Electives (9 hours)

Revised 05/06/14
OAA/mjw
Major Elective (3)
Major Elective (3)
Major Elective (3)

Major Electives are courses approved by the Department of Engineering Technology and Construction Management for the respective program. A list is maintained in and published by the department.
B.S.E.T. in Civil Engineering Technology
Academic Plan of Study
William States Lee College of Engineering
Department of Engineering Technology and Construction Management
et.uncc.edu

PROGRAM SUMMARY

- **Credit Hours:** 128
- **Concentration Areas:** Applied Energy and Sustainable Systems
- **Declaring the Major:** Minimum GPA of 2.0 required. Prerequisite courses typically include MATH 1100/1103 or higher, PHYS 1101 with laboratory, and 6 or more credits of ETGR, ETCE, ETME, ELET, or CMET courses completed with a 2.0 or higher. Change of major forms are accepted year-round; orientation/advising sessions are required for new students.
- **Advising (For the Major):** Required upon admission to the major and before each semester. Assigned advisors hold group advising sessions, followed by individual advising by appointment.
- **Advising (For General Education):** By Student Service Specialists in the department.
- **Minimum Grades/GPA:** GPA of 2.0 in the major required for graduation. A grade of C or better is required in all freshman level courses, as shown on the Suggested Plan of Study.
- **Teacher Licensure:** No.
- **Evening Classes Available:** Some upper division (junior/senior) classes are available late afternoon or evening on a rotating basis. It is highly unlikely that students would be able to complete the degree requirements through evening courses alone.
- **Weekend Classes Available:** No.
- **Other Information:** Students have the option of completing the requirements of the Civil Engineering Technology degree as a dual major with the B.S.C.M. in Construction Management. This plan of study typically takes two additional semesters to complete. Students who complete an Associate in Applied Science degree (AAS) in a related field before enrolling at UNC Charlotte are eligible for the Civil Engineering Technology 2+2 Program, which allows students to complete their B.S.E.T. degree with approximately two additional years of coursework.
- **Contact(s):** Ms. Courtney Green, Faculty Associate (csgreen2@uncc.edu)
  Dr. Thomas Nicholas, PhD, Program Coordinator (tnichols@uncc.edu)

PROGRAM REQUIREMENTS

The Civil Engineering Technology program at UNC Charlotte includes education, research, and technology development in the areas of structures, construction, transportation, water resources, and geotechnics. In the first two years, emphasis is placed on fundamental mathematical, scientific, and communication skills through topics including the fundamentals of engineering technology, surveying, construction materials, methods, environmental technology, and structures. The third and fourth years provide emphasis on analysis and design with specialized courses in soil mechanics, foundation design, structural analysis, design of steel, concrete, and timber structures, and highway design and construction.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Credit Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pre-Major/Prerequisites</td>
<td></td>
<td>Any student declaring a major in the Civil Engineering Technology program at UNC Charlotte must submit a Change of Major application for review. AAS transfer students must fulfill a series of specified prerequisite courses before proceeding with upper-division coursework. All new CSET majors are required to meet with their Student Support Specialist for pre-registration advising.</td>
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<tr>
<td>Major</td>
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<td>Major courses are specified by the department.</td>
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<tr>
<td>General Education (not satisfied by other major requirements)</td>
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<td>First-Year Writing courses/Basic Skills of Information Literacy &amp; Technology (WRT 1101 &amp; 1102); Mathematical &amp; Logical Reasoning (MATH 1103 &amp; STAT 1220); Social Science (ANTH 1101/GEOG 1105/ESOC 1101 or 2101/ETGR 1105/Geography 1101); Natural Science (PHYS 1101 &amp; 1101L, PHYS 1102 &amp; 1102L); Themes of Liberal Education (LIBST 110X, 2101, 2102, and 221X).</td>
</tr>
<tr>
<td>Related Work</td>
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<tr>
<td>Foreign Language</td>
<td></td>
<td>-</td>
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<tr>
<td>Electives</td>
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<td>Students must complete two 3 credit hour major elective courses, and one major elective lab worth 1 credit hour. Major electives are selected from the list of approved core Civil Engineering Technology electives, or approved by the advisor.</td>
</tr>
<tr>
<td>Total Credit Hours</td>
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<td>-</td>
</tr>
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</table>

Page 1 | B.S.E.T. in Civil Engineering Technology | Academic Plan of Study

Updated March 2014
# Suggested Plan of Study

## Freshman Year

<table>
<thead>
<tr>
<th>Course Number</th>
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<td>ETCE 1222</td>
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<td>ETCE 1223</td>
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<td>ETGR 1160</td>
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<td>ETGR 1103</td>
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<td>ETGR 1201</td>
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<td>MATH 1101</td>
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## Sophomore Year

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<td>ETCE 1015</td>
<td>Plane Reading &amp; Quantity Takeoff</td>
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<td>XXXX XXXX</td>
<td>Science Elective: CHEM 1251 or ENG 1120</td>
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<td>ETGR 2277</td>
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<td>PHYS 1101</td>
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<td><strong>Total Credit Hours for Year</strong></td>
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## Junior Year

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<td>ETCE 3113</td>
<td>Construction Project Administration</td>
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<tr>
<td>ETCE 311L</td>
<td>Soil Mechanics &amp; Earthwork</td>
<td>3</td>
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<td>ETCE 313L</td>
<td>Soil Testing Laboratory</td>
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<td>ETCE 3163L</td>
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<td>LBST Series: Arts &amp; Social Science</td>
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## Senior Year

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<tbody>
<tr>
<td>XXXX XXXX</td>
<td>Science Elective: CHEM 1251 or ENG 1120</td>
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<tr>
<td>ETCE 4165</td>
<td>Structural Steel Design</td>
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<td>ETCE 4251</td>
<td>Highway Design &amp; Construction</td>
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<td>ETGR 1222</td>
<td>Engineering Economics</td>
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<tr>
<td>XXXX XXXX</td>
<td>Major Elective</td>
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### Additional Information
- Updated March 2014
ADVISING RESOURCES

- General Education Requirements for ALL Students: ucol.uncc.edu/general-education
- Undergraduate Catalog: catalog.uncc.edu
- Central Advising website: advising.uncc.edu
- Department of Engineering Technology advising website: et.uncc.edu/advising.html
- William States Lee College of Engineering advising website: coe.uncc.edu/current-students/advising.html
- University Advising Center website: advisingcenter.uncc.edu
Bachelor of Science in Construction Management
Academic Plan of Study
William States Lee College of Engineering
Department of Engineering Technology and Construction Management
et.uncc.edu

PROGRAM SUMMARY

- **Credit Hours:** 128
- **Concentrations:** Applied Energy and Sustainable Systems
- **Declaring the Major:** Minimum GPA of 2.0 required. Prerequisite courses typically include: MATH 1100/1103 or higher, PHYS 1101 with laboratory, and 6 or more credits of ETGR, ETCE, ETME, ELET, or CMET courses completed with a 2.0 or higher. Change of Major forms are accepted year-round; orientation/advising sessions are required for new students.
- **Advising (For the Major):** Required upon admission to the major and before each semester. Assigned advisors hold group advising sessions, followed by individual advising by appointment.
- **Advising (For General Education):** By Student Services Specialists in the department.
- **Minimum Grades/GPA:** GPA of 2.0 in the major required for graduation. Grades of C or better required in all freshman year-level courses, as shown on Suggested Plan of Study.
- **Teacher Licensure:** No.
- **Evening Classes Available:** Some upper division (junior/senior) classes are available late afternoon or evening on a rotating basis. It is highly unlikely that students would be able to complete degree requirements through evening courses alone.
- **Weekend Classes Available:** No.
- **Other Information:** Students have the option of completing the requirements of the Civil Engineering Technology degree as a dual major with the B.S.E.T. in Civil Engineering Technology. This plan of study typically takes two additional semesters to complete. Students who complete an Associate in Applied Science Degree (AAS) in a related field before enrolling at UNC Charlotte are eligible for the Construction Management 2+2 Program, which allows students to complete their B.S.C.M. degree with two additional years of coursework.

**Contact(s):**
- Ms. Laura Holland, Student Services Specialist, lholla12@uncc.edu
- Dr. Thomas Nicholas, Program Coordinator, tnichols@uncc.edu

PROGRAM REQUIREMENTS

The Construction Management program at UNC Charlotte includes education, research, and technology development in the areas of structures, construction, transportation, water resources, and geotechnics. The program is further enhanced by a business management core. In the first two years, emphasis is placed on fundamental mathematical, scientific, and communication skills through topics including the fundamentals of engineering technology, surveying, construction materials, construction methods, environmental technology, and structures. The third and fourth years provide emphasis on civil infrastructure, including foundations and earthwork, elementary structures, building systems, and highway design and construction, and construction project management areas, including scheduling & control, contracting, planning, and cost estimating. The technical core utilizes state-of-the-practice software applications.

<table>
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<tr>
<th>Areas</th>
<th>Credit Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pre-Major/Prerequisites</td>
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<td>Any student declaring a major in the Construction Management program at UNC Charlotte must submit a Change of Major application for review. AAS transfer students must fulfill a series of specified prerequisite courses before proceeding with upper-division coursework. All new CMET majors are required to meet with the CMET Student Services Specialist for pre-registration advising.</td>
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<td>Major</td>
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<td>Major courses are specified by the department.</td>
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<td><strong>General Education</strong></td>
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<td>First-Year Writing courses/Basic Skills of Information Literacy &amp; Technology (UWRT 1101 &amp; 1102; MATH 1103 &amp; STAT 1220), Social Science (ANTH 1101/GEOG 1105/ECON 1101 or 2101/POLS 1110/SCOTY 1101), Natural Science (PHYS 1101 &amp; 1102, PHYS 1102 &amp; 1102L), Themes of Liberal Education (LBST 110X, 2101, 2102, and 221X).</td>
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<tr>
<td>Related Work</td>
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<td>Students must complete two major elective courses of 3 credit hours each. Major electives are selected from the list of approved core Construction Management electives, or approved by the advisor.</td>
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<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>128</strong></td>
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</table>
# Suggested Plan of Study

<table>
<thead>
<tr>
<th>Course Number</th>
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<td>SFSC 1001</td>
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<td>Construction Surveying I</td>
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<td>ETOR 1212</td>
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<td>ETOR 2211</td>
<td>Construction Seismic Design &amp; Seismic Behavior</td>
<td>3</td>
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<tr>
<td>ETOR 2212</td>
<td>Introduction to Environmental Engineering Technology</td>
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<td>PHYS 1112</td>
<td>Introductory Physics II</td>
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<td>PHYS 1112L</td>
<td>Introductory Physics Laboratory</td>
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<td>STAI 1120</td>
<td>Elements of Statistics I</td>
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<td><strong>Junior Year</strong></td>
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<td>ACCY 2171</td>
<td>Principles of Accounting I</td>
<td>3</td>
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<td>CMT 3222</td>
<td>Construction Project Administration</td>
<td>3</td>
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<tr>
<td>ETOR 3311</td>
<td>Soil Mechanics and Earthwork</td>
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<td>ETOR 3311L</td>
<td>Soil Testing Laboratory</td>
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<td>ETCR 3115X</td>
<td>Soil Mechanics and Design I</td>
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<tr>
<td>ETCR 3115L</td>
<td>Structures and Materials Laboratory</td>
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<td>ETCR 3205L</td>
<td>Multi-Disciplinary Professional Development</td>
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<td>CMBT 3123</td>
<td>Cost of Estimating</td>
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<td>CMBT 3690</td>
<td>Prof. Development III: Professional Ethics</td>
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<td>ETCR 3202</td>
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<td>Engineering Economics</td>
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<td>LBST 1110X</td>
<td>LBST 1110: Science, Arts, and Society</td>
<td>3</td>
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<td>LAWS 4150</td>
<td>Business Law I or CMBT 4127</td>
<td>3</td>
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<tr>
<td>CMBT 4130</td>
<td>Infrastructure Systems</td>
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<td>CMBT 4140</td>
<td>Program Planning &amp; Control</td>
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<td>CMBT 4140L</td>
<td>Construction Planning Laboratory</td>
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<td>LBST 2101</td>
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<tr>
<td>CMBT 4272</td>
<td>Construction Project</td>
<td>3</td>
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<td>W/O Course</td>
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<tr>
<td>CMBT 4272L</td>
<td>Capstone Project</td>
<td>3</td>
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<tr>
<td>CMBT 4380</td>
<td>Prof. Development IV: Structural Analysis &amp; Design</td>
<td>3</td>
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<td>ETCB 4550</td>
<td>Structural Analysis &amp; Design</td>
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<tr>
<td>ETCR 4112</td>
<td>Global and Intercultural Connections</td>
<td>3</td>
<td>X</td>
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<td>LBST 2212</td>
<td>LBST 2206: Series, Ethical Issues and Cultural Critique</td>
<td>3</td>
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<tr>
<td>XXXX XXXX</td>
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<td>3</td>
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<td>Grade of C or better required</td>
</tr>
</tbody>
</table>

33 Credit Hours for Year

33 Credit Hours for Year

33 Credit Hours for Year

33 Credit Hours for Year

32 Credit Hours for Year

Updated March 2014
ADVISING RESOURCES
- General Education Requirements for ALL Students: ucof.uncc.edu/general-education
- Undergraduate Catalog: catalog.uncc.edu
- Central Advising website: advising.uncc.edu
- William States Lee College of Engineering advising website: coe.uncc.edu/current-students/advising.html
- Department of Engineering Technology advising website: et.uncc.edu/advising.html
- University Advising Center website: advisingcenter.uncc.edu
PROGRAM SUMMARY

- Credit Hours: 128
- Concentrations: None
- Declaring the Major: Minimum GPA of 2.0 required. Prerequisite courses typically include: MATH 1100/1103 or higher, PHYS 1101 with laboratory, and 9 or more credits of ETGR, ETCE, ETME, ELET, or CMET courses completed with a 2.0 or higher. Change of Major forms are accepted year-round; orientation/advising sessions are required for new students.
- Advising (For the Major): Required upon admission to the major and before each semester. Assigned advisors hold group advising sessions, followed by individual advising by appointment.
- Advising (For General Education): By Student Services Specialists in the department.
- Minimum Grades/GPA: GPA of 2.0 in the major required for graduation. Grades of C or better required in all freshman-level courses, as shown on Suggested Plan of Study.
- Teacher Licensure: No.
- Evening Classes Available: Some upper division (junior/senior) classes are available late afternoon or evening on a rotating basis. It is highly unlikely that students would be able to complete degree requirements through evening courses alone.
- Weekend Classes Available: No.
- Other Information: Students who complete an Associate in Applied Science Degree (AAS) in a related field before enrolling at UNC Charlotte are eligible for the Electrical Engineering Technology 2+2 Program, which allows students to complete their BSET degrees with two additional years of coursework. The ETCM Department also offers a Distance Education option for students interested in earning the BSET in Electrical Engineering Technology. This program, which is set up on a part-time basis, is designed to meet the academic needs of individuals who currently hold an AAS in an appropriate field of study but cannot attend classes on campus during regular semesters.
- Contact(s): Dr. Deborah Sharer, Program Coordinator (dsharer@uncc.edu) Ms. Melissa Herman, Student Services Specialist (miphug@uncc.edu)

PROGRAM REQUIREMENTS

The Electrical Engineering Technology (ELET) program prepares graduates of the BSET program for careers across a broad spectrum of technologies. In general, coursework in the program includes experience in the following areas: Linear Circuits; Digital Logic and Systems; Microprocessors, Microcontrollers and Embedded Systems; Electronic Circuits and Systems; Control Systems; and Power Systems. The first two years of Electrical Engineering Technology concentrate on fundamentals of mathematics and science along with the development of written and oral communications skills. The third and fourth years of the BSET program provide students with classes intended to expand upon the fundamentals covered in the first two years. Greater emphasis is placed on principles rather than on introductory topics. Computer simulation, as well as more advanced mathematical tools, allows treatment of technologies in greater depth and over a wider range. The program culminates in a Capstone Project in which a student is expected to demonstrate not only an understanding of electrical technologies, but also the ability to plan, execute, and provide written and oral reports about a project.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Major/Prerequisites</td>
<td>3-42</td>
<td>Any student declaring a major in the Electrical Engineering Technology program at UNC Charlotte must submit a Change of Major application for review. AAS transfer students must fulfill a series of specified prerequisite courses before proceeding with upper-division coursework. All new ELET majors are required to meet with the ELET Student Services Specialist for pre-registration advisement.</td>
</tr>
<tr>
<td>Major</td>
<td>89-94</td>
<td>Major courses are specified by the department according to a highly structured curriculum that students are advised to follow by semester throughout the ELET program.</td>
</tr>
<tr>
<td>General Education (not satisfied by other major requirements)</td>
<td>31-42</td>
<td>First-Year Writing Courses / Basic Skills of Information Literacy &amp; Technology (UWRT 110 &amp; 1102 or UWRT 1103); Mathematical / Logical Reasoning (MATH 1103 &amp; STAT 1220); Social Science (ANTH 1101/GEOG 1105/ECON 1101 or 2101/POLS 1110/SOCI 1101); 2 Natural Science Courses (PHYS 1101/1102 with Lab, CHEM 1251); Theories of Liberal Education (LJST 110X, 2101, 2102, &amp; 211X).</td>
</tr>
<tr>
<td>Related Work</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td>Students must complete two major elective courses of 3 credit hours each. Major electives are selected from the list of approved core electives, or approved by the advisor.</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>128</td>
<td>-</td>
</tr>
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Page 1 | B.S. in Electrical Engineering Technology | Academic Plan of Study

Updated March 2014
## Suggested Plan of Study

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<th>Notes</th>
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<tbody>
<tr>
<td>Full Semester</td>
<td>UEWT 1100</td>
<td>Writing and Inquiry in Academic Contexts I</td>
<td>3</td>
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<td>MATH 1203</td>
<td>Precalculus for Science and Engineering</td>
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<tr>
<td>ELEK 1110</td>
<td>Engineering Technology Computer Applications Lab</td>
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<tr>
<td>EGR 1201</td>
<td>Intro to Engineering Technologies</td>
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<td>Most complete with a grade of C or better.</td>
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<tr>
<td>Spring Semester</td>
<td>UEWT 1102</td>
<td>Writing and Inquiry in Academic Contexts II</td>
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<tr>
<td>MATH 1211 OR</td>
<td>ET Calculus OR Engineering Analysis I</td>
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<tr>
<td>EGR 2171</td>
<td>Digital Circuits I</td>
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<td>EGR 2172</td>
<td>Digital Circuits II</td>
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<td>SOCS XXXX</td>
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## Sophomore Year

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<tr>
<td>Full Semester</td>
<td>PHYS 1100 L</td>
<td>Elements of Statistics I</td>
<td>3</td>
<td>X</td>
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<td>ELET 1221 L</td>
<td>Introductory Physics I + Introductory Physics I Lab</td>
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<tr>
<td>ELET 1211</td>
<td>Electronics I</td>
<td>3</td>
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<td>Most complete with a grade of C or better.</td>
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<td>BTGR 1211</td>
<td>Engineering Analysis</td>
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<td>ELET 1222</td>
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<td>Spring Semester</td>
<td>BTGR 2271</td>
<td>Engineering Analysis II</td>
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<td>ELET 2221</td>
<td>Instrumentation + Instrumentation Lab</td>
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<td>ELET 2220</td>
<td>Semiconductor Fabrication</td>
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<td>CHEM 2451</td>
<td>Principles of Chemistry</td>
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<td>ELET 3221 L</td>
<td>Digital Systems + Digital Systems Lab</td>
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<td>ELET 3211</td>
<td>Network Analysis</td>
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<td>ELET 3291</td>
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<td>BTGR 3271 OR</td>
<td>Engineering Analysis III OR Engineering Analysis IV</td>
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<tr>
<td>LIST 110X</td>
<td>Arts &amp; Society</td>
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<td>Requirement both if interested in Graduate School</td>
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<td>Spring Semester</td>
<td>ELET 3222 L</td>
<td>Electronics II + Electronics II Lab</td>
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<td>ELET 3223</td>
<td>Microprocessor Systems</td>
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<td>BTGR 3292</td>
<td>Junior Practicum II</td>
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<td>Programming Techniques</td>
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<td>LIST 3201</td>
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## Senior Year

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<td>ELET 4122</td>
<td>Active Filters</td>
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<td>ELET 4142</td>
<td>Power Electronics / Networks</td>
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<td>ELET 4151 L</td>
<td>Communication Systems + Communication Systems Lab</td>
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<td>BTGR 4100</td>
<td>ET Senior Design Project I</td>
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<td>BTGR 4290</td>
<td>Multidisciplinary Professional Development</td>
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<td>BTGR 4322</td>
<td>Control Systems</td>
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<td>LIST 210X</td>
<td>Ethical &amp; Cultural Critique</td>
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## Advising Resources
- General Education Requirements for ALL Students: onl.uncc.edu/general-education
- Undergraduate Catalog: catalog.uncc.edu
- Central Advising website: advising.uncc.edu
- Department of Engineering Technology advising website: et.uncc.edu/advising.htm
- William States Lee College of Engineering advising website: coe.uncc.edu/current-students/advising.html
- University Advising Center website: advisingcenter.uncc.edu

Page 2 | B.S. in Electrical Engineering Technology | Academic Plan of Study

Updated March 2014
B.S.E.T. in Fire Safety Engineering Technology
Academic Plan of Study
William States Lee College of Engineering
Department of Engineering Technology and Construction Management
eet@unc.edu

PROGRAM SUMMARY

- **Credit Hours:** 125 hours
- **Concentrations:** Fire Safety, Fire Protection
- **Declaring the Major:** Minimum GPA of 2.0 required. Pre-requisite courses typically include Math 1100/1103 or higher, Physics 1101 w/laboratory, and 9 or more credits of ETGR, ETGE, ETME, ELET, CMET or ETFS courses completed with a 2.0; change of major form accepted year-round; orientation/advising session required.
- **Advising (For the Major):** Required upon admission to the major and before each semester. Assigned advisors hold group advising followed by individual advising by appointment.
- **Advising (For General Education):** by Student Service Specialists in the department
- **Minimum Grades/GPA:** GPA of a 2.0 in the major required for graduation. A grade of C or better is required in all freshman level courses as shown on the Suggested Plan of Study.
- **Teacher Licensure:** No
- **Evening Classes Available:** Some upper division (junior/senior) classes are available late afternoon or evening on a rotating basis. It is highly unlikely that students would be able to complete the degree requirements through evening courses alone.
- **Weekend Classes Available:** No.
- **Other Information:** Students who complete an Associate in Applied Science degree (AAS) in a related field before enrolling at UNC Charlotte are eligible for the Fire Safety Engineering Technology 2+2 Program either on campus or as a distance education student. This allows 2+2 on campus students to complete their B.S.E.T. degree with approximately two additional years of coursework and the 2+2 distance education students would be allowed to complete their BSET degree in approximately four years.
- **Contact(s):** Dr. Jozef Urbas, Program Coordinator (jurbas@unc.edu)
  Ms. Laura Holland, Student Services Specialist (lhholla12@unc.edu)

PROGRAM REQUIREMENTS

The Fire Safety Engineering Technology program at UNC Charlotte leads to a Bachelor of Science degree in Fire Safety Engineering Technology. The program has emphasis on both technical and non-technical aspects in the fields of fire and safety. The program is directed toward those seeking positions within the fire service (Fire Safety Concentration) as well as those preparing for work in fire protection (Fire Protection Concentration) related occupations.

The Fire Safety Concentration curriculum is designed to prepare students for increasingly responsible roles in leadership and management. In addition, the program provides comprehensive classes dealing with fire behavior, active and passive protection systems as well as the foundational principles of research investigation.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Major/Prerequisites</td>
<td></td>
<td>Any student declaring a major in the Fire Safety Engineering Technology program must submit a Change of Major application for review. AAS transfer students must fulfill a series of specified prerequisite courses before proceeding with upper-division coursework. All new BSET majors are required to meet with their Student Support Specialist for pre-registration advising.</td>
</tr>
<tr>
<td>Major (Fire Safety Concentration)</td>
<td>81</td>
<td>Fire Safety requires 66 hours of major courses; FSET also requires 15 hours of Political Science/Psychology as part of the major.</td>
</tr>
<tr>
<td>General Education (not satisfied by other major requirements)</td>
<td>34</td>
<td>Fire Safety ET requires the following: 6 hours English &amp; Math (UWRT 1101 &amp; UWRT 1102), (MATH 1100 &amp; STAT 1231); 7 hours Natural Science (PHYS 1101 &amp; 1102, 2101, 2102, 221X); 3 hours Social Science (ANTH 1111, GEOG 1105, ECON 1111 OR 2101, POLS 1110, SOCY 1110).</td>
</tr>
<tr>
<td>Related Work</td>
<td>4</td>
<td>4 hours Natural Science (PHYS 1102 &amp; 1102).</td>
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<tr>
<td>Foreign Language</td>
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<tr>
<td>Electives</td>
<td>6</td>
<td>Major electives are selected from the list of approved electives, or approved by the advisor.</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>125</td>
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</table>
The **Fire Protection Concentration** curriculum is designed to prepare students for increasingly responsible roles in leadership and management. In addition, the program provides comprehensive classes dealing with fire behavior, active and passive protection systems, fire hazard analysis, fire safety design and fire testing as well as the foundational principles of research investigation.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Pre-Major/Prerequisites</td>
<td>-</td>
<td>Any student declaring a major in the Fire Safety Engineering Technology program must submit a Change of Major application for review. AAS transfer students must fulfill a series of specified prerequisite courses before proceeding with upper-division coursework. All new FSET majors are required to meet with their Student Support Specialist for pre-registration advising.</td>
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<tr>
<td>Major (Fire Protection Concentration)</td>
<td>78</td>
<td>Fire Protection concentration requires 78 hours of major courses.</td>
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<tr>
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<td>Fire Protection requires the following: 6 hours English (UWRT 1101 &amp; UWRT 1102); 6 hours Math-(MATH 1101, STAT 1220); 7 hours Natural Science-(PHYS 1101+L, CHEM 1251); 12 hours Liberal Studies-(LIBST 110X, 2101, 2102,22DX); 3 hours Social Science-(ANTH 1101, GEOG 1105, ECON 1101 or 2101, POLS 1110, SOCY 1101)</td>
</tr>
<tr>
<td>Related Work</td>
<td>10</td>
<td>6 hours Math-( ETGR 2171 or MATH 1121, ETGR 3171 or ETGR 4272); 4 hours Natural Science (PHYS 1102+L)</td>
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<tr>
<td>Foreign Language</td>
<td>-</td>
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<tr>
<td>Electives</td>
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<td>Major electives are selected from the list of approved electives, or approved by the advisor.</td>
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<tr>
<td>Total Credit Hours</td>
<td>125</td>
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## Suggested Plan of Study – Fire Safety Engineering Technology, Concentration:

### Fire Safety

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>General Education</th>
<th>W/O Course</th>
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<tbody>
<tr>
<td>ETPS 1101</td>
<td>Writing and Inquiry in Academic Contexts I</td>
<td>3</td>
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<td>ETPS 120</td>
<td>Fundamentals of Fire Protection</td>
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<tr>
<td>ETPS 1101L</td>
<td>Engineering Technology - Computer Applications</td>
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<td>ETPS 1202</td>
<td>Fire Protection Law</td>
<td>3</td>
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<td>ETPS 1201</td>
<td>Intro to Engineering Technology</td>
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<td>MATH 1101</td>
<td>College Algebra and Probability</td>
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<td>Writing and Inquiry in Academic Contexts II</td>
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<td>ETPS 1232</td>
<td>Fire Protection Hydraulics and Water Supply</td>
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<td>ETPS 1244</td>
<td>Fire Protection Systems</td>
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<tr>
<td>LAST 100X</td>
<td>Arts and Society</td>
<td>3</td>
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<td>STAT 1220</td>
<td>Elements of Statistics I</td>
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**32 Credit Hours for Year**

### Sophomore Year

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<tr>
<td>ETPS 2124</td>
<td>Fundamentals of Fire Protection</td>
<td>3</td>
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<tr>
<td>PHYS 1101</td>
<td>Introductory Physics I</td>
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<td>PHYS 1101L</td>
<td>Introductory Physical Laboratory</td>
<td>3</td>
<td>X</td>
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<td>Principles of Fire Behavior</td>
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<td>ANTH 1101</td>
<td>Principles of Cultural Psychology</td>
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<td>ST 102</td>
<td>Cultural and Social</td>
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<td>PHYS 1102</td>
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<td>PHYS 1102L</td>
<td>Introductory Physics Laboratory</td>
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**32 Credit Hours for Year**

### Junior Year

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<tbody>
<tr>
<td>ETPS 3113</td>
<td>Building Fire Safety</td>
<td>3</td>
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<tr>
<td>ETPS 3124</td>
<td>Risk Management for the Emergency Services</td>
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<td>ETPS 3252</td>
<td>Multidisciplinary Professional Development</td>
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<td>ETPS 3222</td>
<td>Engineering Economics</td>
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<td>CHEM 121</td>
<td>Principles of Chemistry I</td>
<td>3</td>
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<tr>
<td>PSYC 2111</td>
<td>Introduction to Industrial/Organizational Psychology</td>
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<tr>
<td>Spring Semester</td>
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<td>ETPS 3103</td>
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<td>ETPS 4123</td>
<td>Community Threat Assessment and Mitigation</td>
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<tr>
<td>LRST 1102</td>
<td>Global Connections</td>
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<td>XXXX</td>
<td>State and Local Government</td>
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<td>XXXX</td>
<td>Major Elective</td>
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**31 Credit Hours for Year**

### Senior Year

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<tr>
<td>ETPS 3144</td>
<td>Active Fire Protection</td>
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<td>LRST 212X</td>
<td>LRST 212X Series: Ethical Issues and Cultural Critique</td>
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<td>X</td>
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<td>Choose from (2211, 2212, 2213, 2214, 2215)</td>
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<td>PSYC 3174</td>
<td>Organizational Psychology</td>
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<td>Major Elective</td>
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<td>Spring Semester</td>
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<td>ETPS 3123</td>
<td>Industrial Hazards and Society</td>
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<td>ETPS 3233</td>
<td>Introduction to Performance-Based Fire Safety</td>
<td>3</td>
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<td>Prerequisite ETPS 3103</td>
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<tr>
<td>ETPS 4243</td>
<td>Research Methodology</td>
<td>3</td>
<td>X</td>
<td>W</td>
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<tr>
<td>POLS 3126</td>
<td>Administrative Behavior</td>
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<td>Major Elective</td>
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</table>

**39 Credit Hours for Year**

## Advising Resources
- General Education Requirements for ALL Students: [unacc.edu/general-education](http://unacc.edu/general-education)
- Undergraduate Catalog: [catalog.uncc.edu](http://catalog.uncc.edu)
- Central Advising website: [advising.uncc.edu](http://advising.uncc.edu)
- Department of Engineering Technology advising website: [et.uncc.edu/advising.html](http://et.uncc.edu/advising.html)
- William States Lee College of Engineering advising website: [coe.uncc.edu/current-students/advising.html](http://coe.uncc.edu/current-students/advising.html)
- University Advising Center website: [advisingcenter.uncc.edu](http://advisingcenter.uncc.edu)

Page 3 | B.S.E.T. in Fire Safety Engineering Technology | Academic Plan of Study

Updated March 2014
## Suggested Plan of Study - Fire Safety Engineering Technology, Concentration: Fire Protection

### Freshman Year

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
<td>EWFT 1120</td>
<td>Writing and Inquiry in Academic Context I</td>
<td>3</td>
<td>X</td>
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<tr>
<td>ETFS 1100</td>
<td>Fundamentals of Fire Protection</td>
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<tr>
<td>ETGR 1100</td>
<td>Engineering Tech Computer Applications</td>
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<tr>
<td>ETOR 1102</td>
<td>Technical Drawing</td>
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<td>Most complete with a grade of C or better</td>
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<tr>
<td>ETOR 1202</td>
<td>Intro to Engineering Technology</td>
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<tr>
<td>MATH 1102</td>
<td>Precalculus for Science &amp; Engineering</td>
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### Sophomore Year

<table>
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<tr>
<th>Course Number</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ETFS 2124</td>
<td>Fundamentals of Fire Prevention</td>
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<td>ETFS 2132</td>
<td>Building Construction for Fire Protection</td>
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<td>ETFS 1101</td>
<td>Introductory Physics I</td>
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<td>ETFS 1102</td>
<td>Introductory Physics II</td>
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<tr>
<td>ETGR 2101</td>
<td>Applied Mechanics I</td>
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<td>XXXX XXXX</td>
<td>ETGR 2171 Engineering Analysis I OR MATH 1212 Calculus (ET)</td>
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<td>XXXX XXXX</td>
<td>ETGR 2171 Engineering Analysis II OR MATH 1212 Calculus (ET)</td>
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### Junior Year

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<td>CHER 3251</td>
<td>Principles of Chemistry I</td>
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<tr>
<td>ETFS 3113</td>
<td>Building Fire Safety</td>
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<td>ETGR 3255</td>
<td>Multi-disciplinary Professional Development</td>
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<tr>
<td>ETOR 2202</td>
<td>Engineering Analysis II</td>
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<td>XXXX XXXX</td>
<td>ETME 3123 Strength of Materials OR ETOR 2101 Applied Mech. II</td>
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<td>Prerequisites (for both) ETOR 2401 with a grade of C or better</td>
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<td>ETME 3133</td>
<td>Fluid Mechanics</td>
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<td>JTFR 1103</td>
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<td>ETFS 3101L</td>
<td>Principles of Fire Behavioral Lab</td>
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<td>Thermodynamics</td>
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<td>ETOR 2406</td>
<td>Electrical Circuits</td>
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<td>ETOR 3111</td>
<td>ETGR 3171 Engineering Analysis III OR ETOR 4272 Reg. Acad. IV</td>
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<td>Choose Social Science Course for General Education</td>
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### Senior Year

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<tr>
<th>Course Number</th>
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<tr>
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<td>Fire Testing and Measurement Lab</td>
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<td>ETFS 3344L2</td>
<td>Global and International Connections</td>
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<td>JTFR 3244</td>
<td>Applied Heat Transfer</td>
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<td>ETFS 3200 Family of Political Science and Cultural Critique</td>
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</tr>
</tbody>
</table>

### Advising Resources

- General Education Requirements for ALL Students: ucol.uncc.edu/general-education
- Undergraduate Catalog: catalog.uncc.edu
- Central Advising website: advising.uncc.edu
- Department of Engineering Technology advising website: et.uncc.edu/advising.html
- William States Lee College of Engineering advising website: cee.uncc.edu/current-students/advising.html
- University Advising Center website: advisingcenter.uncc.edu

Updated March 2014