GENERAL EDUCATION PROGRAM

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Fundamental Studies</strong></td>
<td></td>
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<tr>
<td>Types: GENED (4 courses)</td>
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</tr>
<tr>
<td>Academic Writing (FSAW) - ENGL 101</td>
<td>3</td>
</tr>
<tr>
<td>Professional Writing(FSPW) ENGL 393</td>
<td>3, 60</td>
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<tr>
<td>Oral Communications (FSOC)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Distributive Studies:</strong></td>
<td></td>
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<tr>
<td>History and Social Sciences (DSHS)</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>Humanities (DSHU)</td>
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<tr>
<td>Scholarship in Practice (DSSP)</td>
<td>3</td>
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<tr>
<td>(DSSP must be out of major)</td>
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I-Series (SCIS) (2 courses)

- I-Series I
- I-Series II

Diversity (4-6 credits / 2 classes)

- Understanding Plural Societies (DVUP) 3
- Plural Societies or Cultural Competence (DVCC/DVUP) 1-3

MAJOR REQUIREMENTS

Basic Sciences

- CHEM 135 - Chem for Eng co-requisite MATH 140 3
- PHYS 161 - General Physics I co-requisite MATH141 3
- PHYS 260 - Gen Physics II MATH 141, PHYS 161 3
- PHYS 261 - Gen Physics II Lab PHYS 260 1
- MATH 140 - Calculus I 4
- MATH 141 - Calculus II MATH 140 4
- MATH 241 - Calculus III MATH 141 4
- MATH 246 - Differential Equations MATH 241 & one of MATH240 or ENES102 or PHYS161 or PHYS171 3

Science Elective: choose one from: BSCI160 Principles of Ecology; ENSP101 Environmental Science; GEOL100 Physical Geology. Other courses might be considered but need approval

Engineering Sciences

ENES100 Intro to Eng Design co-requisite MATH 140 3
ENES102 Mechanics I co-requisite MATH 140 3
ENES220 Mechanics II ENES102, MATH141, PHYS161 3

Major Requirements

ENCE100 - Intro to Civil Eng 1
ENCE200 - CE Computation MATH141, ENES100, ENES102 3
ENCE200 - Tech & Consequence 3
ENCE201 - Eng Info Processing MATH141, ENES220 co-requisite MATH246 3
ENCE215 - Eng for Sustainability CHEM 135 3
ENCE300 - Fund of Eng Materials ENES 220 3
ENCE302 - Probability & Stat for CEE MATH246, ENCE201 3
ENCE305 - Fund of Eng Fluids ENES220 3
ENCE360 - Analysis of CE Systems MATH 140, ENCE201 3
ENCE465 - C & Env Eng Design I ENCE467 2
ENCE467 - C & Env Eng Design II ENCE465 2

45cr benchmark; Prerequisites in red; Eligible Courses in blue

TRACK REQUIREMENTS

<table>
<thead>
<tr>
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<tr>
<td><strong>Environmental/ Water Resources Track</strong></td>
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</table>
| ENCE205 - Bio for C & Env Engineers pre- or co-reg MATH140 3
| ENCE 310 - Intro to Environ Eng PHYS 260, ENCE215 3
| ENCE 411 - Environ Eng Science ENCE310 3
| ENCE 412 - Environ Eng Unit Operation ENCE305, ENCE 310 3
| ENCE 422 - ProjCostAccounting&Econ. 3
| ENCE 431 - Hydrologic Eng ENCE305 3
| ENCE 432 - Ground Water Hydrology ENCE305 3
| ENCE Breadth Electives (2 courses from the same group) 6
| Two from: ENCE 340, 353, 441, 444, 454; 6
| OR Two from: ENCE 320/325**, 370, 402, 470, 472 6
| Technical Electives (2 courses) *** 6

**Geotechnical & Structural Engineering Track** |
ENES 221 - Dynamics ENES 102, MATH 141, PHYS161 3
ENCE 320 OR ENCE 325** - Eng Project Management 3
ENCE 340 - Fund of Geotechnical Eng ENES220 3
ENCE 353 - Intro to Structural Analysis ENES220, MATH246 3
ENCE 441 - Foundation Design ENCE340 3
ENCE 444 - ExpMethodsGeotech&Struct ENCE340, 353 3
ENCE 454 - Design Concrete Structures ENCE353 3
ENCE Breadth Electives (2 courses from the same group) 6
Two from: ENCE 370, 402, 422, 470, 472; 6
OR Two from: ENCE 310, 411, 412, 431, 432 6

Technical Electives (2 courses) *** 6

**Transportation / Project Management Track** |
ENCE 320 OR 325** - Eng Project Management 3
ENCE 370 - Intro to Transportation ENCE201, PHYS 260/261 3
ENCE 402 - Simulation & Design of Experiments ENCE302 3
ENCE 422 - ProjCostAccounting&Econ. 3
ENCE 423 - ProjPlanning,Scheduling&Co. ENCE 320 3
ENCE 470 - Highway Engineering ENCE302, ENCE370 3
ENCE 472 - Transportation Eng ENCE302, ENCE370 3
ENCE Breadth Electives (2 courses from the same group) 6
Two from: ENCE 340, 353, 441, 444, 454; 6,
OR Two from: ENCE 310, 411, 412, 431, 432 6

Technical Electives (2 courses) *** 6

*In each TRACK no more than 3 total ENCE with the same first 2 digits (example ENCE42x). With any minor a MAX of two courses may double count.

**ENCE320/325 ONLY ONE will count in BS degree (major & minor).

*** Electives 3XX, 4XX, or 6XX with Advisor Approval:
- At least (1) one from civil (ENCE):
- Usable non-ENCE elective need advisor approval and should have:
  i) science oriented technical content, and,
  ii) math/science prerequisites.
- No more of one ENCE 489 (except ENCE 489x courses with a letter designation).

NOTES:
- Prepare and submit your own Plan of Study during Advising
- Example available at: http://www.eng.umd.edu/advising/four-year-plan
- Check course scheduling for all remaining semesters in both TESTUDO, and: http://www.cee.umd.edu/content/schedule-classes
- Courses offered ONLY in Fall: ENCE 432, 441, 454, 470, 465
- Courses offered ONLY in Spring: ENCE 402, 412, 421, 431, 472, 467

All engineering (ENXX) and technical (i.e., MATH, PHYS, CHEM) courses must be completed with a grade of C- or better. All degree courses must be taken for a regular grade. A minimum of 120 credits and completion of all degree requirements is required for graduation.

The responsibility for meeting all graduation requirements in any curriculum rests with the student. Consult the Uachieve for further grade and GPA requirements related to GEN ED and civil major courses.

https://uachieve.umd.edu/

for further grade and GPA requirements related to GEN ED courses.