

**CIVIL ENGINEERING – GEN ED Curriculum**  
(for students matriculated in Fall 2012 and later semesters)

**GENERAL EDUCATION PROGRAM**

<u>Requirements</u>	<u>Credits</u>
<b>Fundamental Studies Types: GENED (4 courses)</b>	
Academic Writing (FSPW) - ENGL 101 _____	3
Professional Writing(FSPW) ENGL 393 ENGL 101 &>60 credits _____	3
Oral Communications (FSOC) _____	3
<b>Distributive Studies:</b>	
History and Social Sciences (DSHS) _____	3
History and Social Sciences (DSHS) _____	3
Humanities (DSHU) _____	3
Humanities (DSHU) _____	3
Scholarship in Practice (DSSP) _____	3
(DSSP must be out of major)	
<b>I-Series (SCIS) (2 courses)</b>	
I-Series _____	3
I-Series _____	3
<b>Diversity (4-6 credits / 2 classes)</b>	
Understanding Plural Societies (DVUP) _____	3
Plural Societies or Cultural Competence (DVCC/DVUP) _____	1-3

**MAJOR REQUIREMENTS**

<b>Basic Sciences</b>	
CHEM 135 - Chem for Eng _____	3
co-requisite MATH 140	
PHYS 161 - General Physics I _____	3
co-requisite MATH141	
PHYS 260 - Gen Physics II _____	3
MATH 141, PHYS 161	
PHYS 261 - Gen Physics II Lab _____	1
PHYS 260	
MATH 140 - Calculus I _____	4
MATH 141 - Calculus II _____	4
MATH140	
MATH 241 - Calculus III _____	4
MATH 141	
MATH 246 - Differential Equations _____	3
MATH 241 & one of MATH240 or ENES102 or PHYS161 or PHYS171	
Science Elective: choose one from: _____	4/3
BSCI160 Principles of Ecology; ENSP101 Environmental Science; GEOL100 Physical Geology.	

**Engineering Sciences**

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

**Major Requirements**

ENCE100 - Intro to Civil Eng _____	1
ENCE200–CE Computation _____	3
MATH141, ENES100, ENES102	
ENCE201 - Eng Info Processing _____	3
MATH141, ENES220	
co-requisite MATH246	
ENCE215 –Eng for Sustainability _____	3
CHEM 135	
ENCE300 - Fund of Eng Materials _____	3
ENES 220	
ENCE302 - Probability & Stat for CEE _____	3
MATH246, ENCE201	
ENCE305 - Fund of Eng Fluids _____	3
ENES220	
ENCE360 – Analysis of CE Systems _____	3
MATH 140, ENCE201	

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

**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
- Courses offered ONLY in Spring: ENCE 402, 412, 421, 431, 472

**TRACK REQUIREMENTS**

<u>Requirements</u>	<u>Credits</u>
<b>Environmental/ Water Resources Track*</b>	
BIOE 120 - Biology for Engineers _____	3
pre- or co-req MATH140	
ENCE 310 - Intro to Environ Eng _____	3
PHYS 260, ENCE215	
ENCE 411 - Environ Eng Science _____	3
ENCE310	
ENCE 412 - Environ Eng Unit Operation _____	3
ENCE305, ENCE 310	
ENCE 422 - ProjCostAccounting&Econ. _____	3
ENCE 431 - Hydrologic Eng _____	3
ENCE305	
ENCE 432 - Ground Water Hydrology _____	3
ENCE305	
ENCE 466 - Design of Civil Eng Systems _____	3
ENCE Breadth Electives (2 courses from the same group) _____	6
Two from: ENCE 340, 353, 441, 444, 454;	
<b>OR</b>	
Two from: ENCE 320/325**, 370, 402, 423, 470, 472	
Technical Electives (2 courses) *** _____	6

**Geotechnical & Structural Engineering Track\***

ENES 221- Dynamics _____	3
ENES 102, MATH 141, PHYS161	
ENCE 320 OR ENCE 325** - Eng Project Management _____	3
ENCE 340 - Fund of Geotechnical Eng _____	3
ENES220,	
ENCE 353 - Intro to Structural Analysis _____	3
ENES220, MATH246	
ENCE 441 - Foundation Design _____	3
ENCE340	
ENCE 444 –ExpMethodsGeotech&Struct _____	3
ENCE340, 353	
ENCE 454 - Design Concrete Structures _____	3
ENCE353	
ENCE 466 - Design of Civil Eng Systems _____	3
ENCE Breadth Electives (2 courses from the same group) _____	6
Two from: ENCE 370, 402, 422, 423, 470, 472;	
<b>OR</b>	
Two from: ENCE 310, 411, 412, 431, 432	
Technical Electives (2 courses) *** _____	6

**Transportation / Project Management Track\***

ENCE 320 OR 325** - Eng Project Management _____	3
ENCE 370 - Intro to Transportation _____	3
ENCE201, PHYS 260/261	
ENCE 402 - Simulation & Design of Experiments _____	3
ENCE302	
ENCE 422 - ProjCostAccounting&Econ. _____	3
ENCE201	
ENCE 423 - ProjPlanning,Scheduling&Co. _____	3
ENCE 320	
ENCE 466 - Design of Civil Eng Systems _____	3
ENCE 470 - Highway Engineering _____	3
ENCE302, ENCE370	
ENCE 472 - Transportation Eng _____	3
ENCE302, ENCE 370	
ENCE Breadth Electives (2 courses from the same group) _____	6
Two from: ENCE 340, 353, 441, 444, 454;	
<b>OR</b>	
Two from: ENCE 310, 411, 412, 431, 432	
Technical Electives (2 courses) *** _____	6

\* In each TRACK no more that 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.** 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.