

CIVIL ENGINEERING – GEN ED Curriculum

GENERAL EDUCATION PROGRAM

Requirements *Credits*

Fundamental Studies Types: GENED (4 courses)

Academic Writing (FSAW) - ENGL 101 _____ 3
 Professional Writing(FSPW) ENGL 393 ENGL 101 &>60 credits 3
 Oral Communications (FSOC) _____ 3

Distributive Studies:

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)

I-Series (SCIS) (2 courses)

I-Series _____ 3
 I-Series _____ 3

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 _____ MATH140 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: _____ 4/3

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
 ENES200-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-CEngEng Dsg I _____ ENCE201, ENCE215 1
 ENCE467-CEngEng Dsg II _____ co-req ENCE302/ENCE305, ENCE465 2
 45cr benchmark; Prerequisites in red; Eligible Courses in blue

TRACK REQUIREMENTS

Requirements *Credits*

Environmental/ Water Resources Track*

ENCE205 - Bio for C&Env Engineers _____ pre- or co-req MATH140 3
 ENCE 310 - Intro to Environ Eng _____ PHYS 260, ENCE215 3
 ENCE 411 - Environ Eng Science _____ ENCE205, 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;
OR Two from: ENCE 320/325**, 370, 402, 470, 472

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;
OR Two from: ENCE 310, 411, 412, 431, 432

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, ENCE 370 3
 ENCE Breadth Electives (2 courses from the same group) _____ 6
 Two from: ENCE 340, 353, 441, 444, 454;
OR 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.

- 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/>

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