

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 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.
 Other courses might be considered but
 need approval

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
 ENES200-Tech&Consequence 3
 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
 ENCE465-CEngEng Dsg I 1 ENCE201, ENCE215
 ENCE467-CEngEng Dsg II 2 co-req ENCE302/ENCE305, ENCE465
 45cr benchmark; Prerequisites in red; Eligible Courses in blue

TRACK REQUIREMENTS

Requirements *Credits*

Environmental/ Water Resources Track*

ENCE205 - Bio for C&Env Engineers 3 pre- or co-req MATH140
 ENCE 310 - Intro to Environ Eng 3 PHYS 260, ENCE215
 ENCE 411 - Environ Eng Science 3 ENCE205, 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 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

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 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

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
 ENCE 423 - ProjPlanning,Scheduling&Co. 3 ENCE 320
 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;

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/>

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