

CIVIL ENGINEERING – 2012 GEN ED Curriculum
(for students matriculated in Fall 2012)

GENERAL EDUCATION PROGRAM

Requirement _____ *Credits*

Fundamental Studies Types: GENED (4 courses)

Academic Writing (FSPW) - 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 115 _____ 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

BSCI106 Principles of Biology;
 ENSP101 Environmental Science;
 GEOL100 Physical Geology.

Engineering Sciences

ENES100- Intro to Eng Design _____ co-requisite MATH 140 _____ 3
 ENES102- Statics _____ co-requisite MATH 140 _____ 3
 ENES220-Mechanics of Materials _____ ENES102, MATH141,PHYS161 _____ 3

Major Requirements

ENCE100 - Intro to Civil Eng _____ 1
 ENCE200-CE Computation _____ MATH141, ENES100, ENES102 _____ 3
 ENCE201 - Eng Info Processing _____ MATH141, ENES220 _____ 3
 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

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

Fall only courses: ENCE 432, 441, 454, 470
 Spring only courses: ENCE 402, 412, 421, 431, 472

Environmental/ Water Resources Track

BIOE 120 - Biology for Engineers _____ 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 466 - Design of Civil Eng Systems _____ 3
 ENCE Breadth Elective* _____ 3
 ENCE Breadth Elective* _____ 3
 * Two courses from: ENCE 340, 353, 441, 444, 454;
 or, two courses from: ENCE 320, 370, 402, 423, 470, 472
 ENCE Elective** _____ 3
 ENCE Elective** _____ 3

Geotechnical & Structural Engineering Track

ENES 221- Dynamics** _____ ENES 102, MATH 141, PHYS161 _____ 3
 ENCE 320 - Intro to 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 466 - Design of Civil Eng Systems _____ 3
 ENCE Breadth Elective* _____ 3
 ENCE Breadth Elective* _____ 3
 * Two courses from : ENCE 370, 402, 422, 423, 470, 472 ;
 or, two courses from : ENCE 310, 411, 412, 431, 432
 ENCE Elective** _____ 3
 ENCE Elective** _____ 3

Transportation / Project Management Track

ENCE 320 - Intro to Project Management _____ 3
 ENCE 370 - Intro to Transportation Eng & Planning _____ ENCE201, PHYS 260/261 _____ 3
 ENCE 402 - Simulation & Design of Experiments _____ ENCE302 _____ 3
 ENCE 422 - ProjCostAccounting&Econ. _____ ENCE201 _____ 3
 ENCE 423 - ProjPlanning,Estim&Scheduling _____ ENCE 320 _____ 3
 ENCE 466 - Design of Civil Eng Systems _____ 3
 ENCE 470 - Highway Engineering _____ ENCE302, ENCE370 _____ 3
 ENCE 472 - Transportation Eng _____ ENCE302, ENCE 370 _____ 3
 ENCE Breadth Elective* _____ 3
 ENCE Breadth Elective* _____ 3
 * Two courses from: ENCE 340, 353, 441, 444, 454;
 or, two courses from ENCE 310, 411, 412, 431, 432
 ENCE Elective** _____ 3
 ENCE Elective** _____ 3

**3XX, 4XX, or 6XX with Department Approval; At Least 1 From ENCE; NO more of one ENCE 489; IN EACH TRACK No More that 3 total ENCE with same first 2 numbers.

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 Degree Navigator at <http://www.testudo.umd.edu/dnentry.html> for further grade and GPA requirements related to GEN ED courses.