CIVIL ENGINEERING PROGRAM – University of Connecticut, Storrs, CT

(Catalog of 2019-2020)

SEMESTER BY SEMESTER COURSE SEQUENCE (128 credits)

FIRST YEAR - First Semester	**Cr.**	**Second Semester**	**Cr.**
CHEM 1127Q or 1147Q General Chemistry	4	**CHEM 1128Q or 1148Q** General Chemistry	4
MATH 1131Q Calculus I	4	**MATH 1132Q** Calculus II	4
ENGR 1000 Orientation to Engineering	1	**ENGR 1166** Foundations of Engineering	3
CSE 1010 Intro to Computing for Engineers	3	(1)(2) GenEd: CA 1 (_____)	3
(1) **ENGL 1010** Seminar in Academic Writing **or ENGL 1011** Sem. in Writing thru Literature	4	(1)(2) GenEd: CA 2 (_____)	3
TOTAL	**16**	**TOTAL**	**17**

SECOND YEAR - First Semester		**Second Semester**	
PHYS 1501Q Physics for Engineers I	4	**PHYS 1502Q** Physics for Engineers II	4
MATH 2110Q Multivariable Calculus	4	**MATH 2410Q** Elem. Differential Equations	3
CE 2110 Applied Mechanics I	3	(3) **CE 2251** Probability and Statistics in CEE	3
(3) **CE 2211** Engineering Economics	1	**CE 3110** Mechanics of Materials	3
(3) **CE 2411** Intro to Computer Aided Design	1	(2)(3) GenEd: CA 2 (_____)	3
(3) **PHIL 1104** Philosophy & Ethics (CA 1)	3		
TOTAL	**16**	**TOTAL**	**16**

THIRD YEAR - First Semester		**Second Semester**	
CE 2710 Transportation Engineering	3	(4) **CE 3520** Civil Engineering Materials **or ENVE 3200** Environmental Engr. Lab	3
CE 3220 Principles of Construction I	3	(4) **ENVE 3120** Fluid Mechanics	4
(4) **CE 3610** Basic Structural Analysis	3	(4) **ENVE 2310** Environ. Engr. Fundamentals	3
CE 3510 Soil Mechanics	3	(5) Science Elective (_____)	3 or 4
(2) GenEd: CA 4-int. (_____)	3	(2) GenEd: CA 4 (_____)	3
TOTAL	**15**	**TOTAL**	**16(6)**

FOURTH YEAR – First Semester		**Second Semester**	
CE 4900W Civil Engineering Projects I	2	**CE 4920W** Civil Engineering Projects II	2
(5) Civil Proficiency Area Req.(_____)	3	(5) Civil Proficiency Area Req.(_____)	3
(5) Civil Proficiency Area Req.(_____)	3 or 4	(5) Civil Proficiency Area Req.(_____)	3 or 4
(5) Professional Requirement (_____)	3	(5) Prof. Req. (_____)	3
(5) Professional Requirement (_____)	3	(6) Elective(s) (_____)	3
(6) Elective(s) (_____)	3	(6) Elective(s) (_____)	1
TOTAL	**17(6)**	**TOTAL**	**15(6)**

(1) These courses may be taken either semester in the first year.
(2) GenEd CA = Content Area in General Education Requirements (For current lists of GenEd courses, visit http://geoc.uconn.edu). These courses may be taken at any time.
(3) These courses may be taken either semester in the second year.
(4) These courses may be taken either semester in the third year.
(5) See details on next page.
(6) The credit totals for the last three semesters and the number of credits of free electives depend on how many structural design courses are chosen and when they are taken. If any 4 credit courses are selected for the professional requirements or the science elective, the number of free elective credits is reduced by one for each of these courses.

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CIVIL PROFICIENCY AREA REQUIREMENTS

All CE students must take one course in each of the seven (7) technical areas listed in the table below as required courses. In addition, for the Professional Requirements, each student must take a second course from **four (4)** of these areas listed as "Proficiency Courses". (F) and (S) indicates if the course is typically offered in the Fall or Spring semester. Some are offered in alternate years as indicated.

Technical Areas	**Required Courses**	**Proficiency Courses** (4 required @ 1 each from 4 Different Areas)
Construction Engineering & Management	CE 3220 Principles of Construction I (F)	CE 4210 Operations Research in CEE (S) or CE 4220 Principles of Construction II (S)
Environmental	ENVE 2310 Environmental Engr. Fundamentals (F, S)	ENVE 3220 Water Quality Engineering (S) or ENVE 4310 Environmental Modeling (S)
Geotechnical	CE 3510 Soil Mechanics (F)	CE 4510 Foundation Design (S) or CE 4530 Geoenvironmental Engr (S – odd) or CE 4541 Advanced Soil Mechanics (F – even) or ENVE 4540 Design of Groundwater Systems (S – even)
Hydraulic / Water Resources	ENVE 3120 Fluid Mechanics (F, S)	ENVE 4810 Engineering Hydrology (F) or ENVE 4820 Hydraulic Engineering (S)
Structural	CE 3610 Basic Structural Analysis (F, S)	CE 3630 Steel Structure Design (S) or CE 3640 Reinforced Concrete Structure Design (F)
Surveying / Geodetic	CE 2411 Intro. to Computer Aided Design (F, S)	CE 2500 Intro. to Geographic Info. System (S) or CE 4410 Computer Aided Site Design (S)
Transportation	CE 2710 Transportation Engineering (F)	CE 4710 Case Studies in Transp. Engr. (F) or CE 4720 Highway Engr. – Design (S) or CE 4750 Pavement Design (F – even)

PROFESSIONAL REQUIREMENTS

Professional requirements are satisfied by eighteen (21) credits of 2000-level or higher courses in engineering, science, mathematics or statistics including MGMT 5335 and OPIM 3801. Following are restrictions:

Restrictions on Professional Requirement Courses:

The remaining 9 credits may be satisfied by any course offered by the School of Engineering at the 2000 level or higher, or any science, mathematics or statistics course that were not used to meet another requirement in the curriculum. Following are specific restrictions to take note of:

- CE 3520 Civil Engineering Materials (F, S) or ENVE 3200 Environmental Engineering Laboratory (S) may be used only if the other was taken for the laboratory requirement
- "Science or mathematics" means any course with one of the following subject designations: BIOL, CHEM, EEB, GEOG, GSCI, LAND, MARN, MATH, MCB, NRE, PHYS, SOIL, TURF, STAT

SCIENCE ELECTIVE

One of the following (or an approved substitution) must be taken:

- BIOL 1107: Principles of Biology (4)
- CHEM 2241 Organic Chemistry (3)
- CHEM 2443 Organic Chemistry (3)
- EEB 2208: Intro to Conservation Biology (3)
- GEOG 1300: Climate, Weather and the Environment (3)
- GEOG 1302: GIS Modeling of Environmental Change (4)
- GEOG 2300: Intro to Physical Geography (3)
- GSCI 1050/1051: Earth and Life Through Time (4 or 3)
- MARN 1002: Intro to Oceanography (3)
- NRE 1000 Environmental Science (3)
- NRE 1235 Environmental Conservation (3)
- NRE 2215 Intro to Water Resources (3)
- NRE 3105: Wetlands Biology and Conservation (3)
- NRE 3145 Meteorology (3)
- PSYC 1100: General Psychology I (3)