ENVIRONMENTAL ENGINEERING PROGRAM – University of Connecticut

(Catalog of 2021-2022)

NORMAL SEMESTER BY SEMESTER COURSE SEQUENCE (128 credits)

FIRST YEAR - First Semester	Cr.	Second Semester	Cr.
CHEM 1127Q General Chemistry	4	**CHEM 1128Q** 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 Computing for Engineers (F/S)	3	**ENVE 1000** Environ. Sustainability (CA2)	3
ENGL 1007 Seminar in Academic Writing	4	(1) CA 1 (_____)	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 (F/S)	3	(2, 3) Biological or Earth Science Requirement	3
ENVE 2310 Environ. Eng. Fundamentals	3	**CHEG 2111 or ME 2233** Thermodyn. (F/S)	3
CE 2251 Probability & Statistics in CEE (F/S)	3	**PHIL 1104** Philosophy & Ethics (CA1)	3
TOTAL	**17**	**TOTAL**	**16**

THIRD YEAR - First Semester		Second Semester	
ENVE 3220 Water Quality Engineering	3	**ENVE 3230** Air Pollution Control	3
ENVE 4210 Environ. Engineering Chemistry	3	**ENVE 4320** Ecological Principles & Eng.	3
ENVE 3201 Environ. Eng. Laboratory I	1	**ENVE 3202** Environ. Eng. Laboratory II	1
ENVE 3120 Fluid Mechanics (F/S)	4	(2,3) Biological or Earth Science Requirement	3
ENVE 2411 Introduction to CAD	1	(4) Professional Elective	3
Free Elective	3	(1) GenEd: CA 4(I) (_____)	3
TOTAL	**15**	**TOTAL**	**16**

FOURTH YEAR – First Semester		Second Semester	
ENVE 4910W Environmental Eng'g Design I	2	**ENVE 4920W** Environmental Eng'g Design II	2
ENVE 4810 Engineering Hydrology	3	**ENVE 4310** Environmental Modeling	3
(4) Professional Elective	3	**ENVE 4530** Geoenvironmental Engineering **or** **ENVE 4540** Design of Groundwater Systems	3
(4) Professional Elective	3	(4) Professional Elective	3
(1) GenEd: CA 4 (_____)	3	(1) GenEd: CA 2 (_____)	3
CE 2211 Engineering Economics (F/S)	1	Free Elective	2
TOTAL	**15**	**TOTAL**	**16**

NOTES: (F/S): these courses are offered both Fall and Spring semesters

The sequence of ENVE courses is critical (particularly 2310 and 3120). You should take those in the years indicated. Other elective courses may be taken at any time.

ENVE 3220/4210/3210 and ENVE 3230/4320/3202 are corequisites and should be taken in the same semester.

(1) CA = Content Area in General Education (GenEd) Requirements (For current lists of GenEd courses, visit http://geoc.uconn.edu).

(2) Earth Science Requirement *(1 Course): GSCI 1051 or 3710/ENVE 3530; MARN 1002; NRE 3145, 3146 or 4135; SPSS 2120, 3420 or 4420

(3) Biological Science Requirement (1 Course): BIOL 1108; EEB 2100E; ENVE 3270; NRE 3105, 3205, 3265, or 4340

(4) Professional Electives (4 Courses/12 credits): At least one course from the area of Management and Policy; At least one course from any 3000-level or higher CE or ENVE courses; At least two courses from any 3000-level or higher courses in engineering or science (BIOL, CHEM, EEB, GEOG, GSCI, LAND, MARN, MATH, MCB, NRE, PHYS, SOIL, TURF), or CE 2500 or CHEM 2241, 2443. See suggested courses on the next page.

Three credits of ENVE 4897 Thesis may fulfill one professional elective. Honors students must fulfill one professional elective using Thesis credits. Thesis or research courses (ENVE 3996, 4996) are recommended as professional electives for students planning to pursue graduate studies.

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ENVE Professional Electives (F: Fall semester, S: Spring semester)
Note: Course scheduling may change for departments other than CEE

Management and Policy:

AH 3275. HAZWOPER (F)
ARE 3434. Environment and Resource Policy (S)
ARE 4462. Economics of Natural Resource Use
EEB 3205. Current Issues in Environmental Science (F, odd years)
ENVE 3100 Climate Resilience and Adaptation (F)
GEOG 3320W. Environmental Evaluation and Assessment (S, online)
GEOG 3340. Environmental Planning and Management
LAND 3230W. Environmental Planning and Landscape Design
MEM 2221. Principles of Engineering Management
NRE 3245. Environmental Law (F)
OPIM 3801. Project Management

Suggested courses in other Engineering or Science Programs:

CHEG 3151. Process Kinetics
CHEG 4147. Process Dynamics and Control
CHEM 2241 or CHEM 2443. Organic Chemistry
GEOG 3400. Climate and Weather (F)
MARN 3030. Coastal Pollution and Bioremediation
MARN 4030W. Chemical Oceanography (F)
ME 3239. Combustion for Energy Conversion
ME 3263 Introduction to Sensors and Data Analysis
ME 3270 Fuel Cells (S, even yrs)
ME 3285 Sustainable Energy Sources and Systems (S, odd yrs)
NRE 3105. Wetlands Biology and Conservation (F)
NRE 3125 Watershed Hydrology (F)
NRE 3145. Meteorology (F)
NRE 3146 Climatology (S)
NRE 3155. Water Quality Management (F, even yrs)
NRE 3205. Stream Ecology (F, odd yrs)
NRE 3535 Remote Sensing of the Environment (F)
NRE 4135.Groundwater Hydrology (F)*
NRE 4165. Soil and Water Management and Engineering (S, odd yrs)
NRE 4340 Ecotoxicology (S, odd yrs)
SPSS 3420. Soil Chemistry Components (F, even yrs)
SPSS 4420. Soil Chemistry Processes (F, odd yrs)

Suggested courses in CE and ENVE (note, you must select one in this category but may select up to three):

CE 2500 Introduction to GIS (S)
CE 3220.Principles of Construction Management I (F)
CE 2410 Geomatics & Spatial Measurement (F)
CE 3510. Soil Mechanics (F)
CE 4210. Operations Research in Civil and Environmental Engineering (S)
CE 4220. Principles of Construction Management II (S)
CE 4410. Computer Aided Site Design (S)
ENVE 3110 Brownfield Redevelopment
ENVE 3530. Engineering and Environmental Geology
ENVE 4820. Hydraulic Engineering (S)
ENVE 4850. Sustainable and Resilient Water Governance and Management (F)
ENVE 3995. Special Topics in Environmental Engineering (F/S)

Examples:
Ecohydrology
Hydroclimatology
Environmental Organic Chemistry
Biodegradation and Bioremediation
Environmental Remediation
Vadose zone hydrology

ENVE 3997. Directed Research in ENVE
ENVE 4997. Independent Research in ENVE
ENVE 4999. Independent Study (F/S, by arrangement)