ENVIRONMENTAL ENGINEERING B.S.EV.

The curriculum leading to a B.S. degree in Environmental Engineering provides a strong foundation in mathematics, physical, natural and engineering sciences. Instruction in environmental engineering includes air pollution, surface and groundwater hydrology, water and wastewater engineering, and geoenvironmental engineering. The B.S. in Environmental Engineering curriculum is embedded with several courses that meet the University's Sustainability (SU) requirement. The degree as a whole also meets the Sustainability requirement, as approved by the University's Sustainability Curriculum Review Committee.
An Environmental Engineering degree is excellent preparation for immediate employment in consulting firms, government agencies, non-profits, and industry. Additionally, many graduates continue their education at the graduate-level.

A systems approach to engineering problem solving is central to the curriculum and involves integrating the short and long-term social, environmental and economic aspects and impacts into sustainable engineering solutions. Hands-on laboratories and/or project-based learning are incorporated into each year of the Environmental Engineering curriculum. As part of this approach, service-learning projects with local communities and non-profit groups are featured in some courses. Real-world engineering design culminates in a required major design experience in the senior year, which draws upon prior course work and focuses on technical and non-technical issues and expectations of professional practice. Other aspects of the program include opportunities for laboratory and research experience, development of communication and professional skills, and participation in a community of students and the faculty in the program.

Students are encouraged to pursue minors or focus areas in other disciplines that complement their engineering experience. International education, work experiences and participation in student clubs are also encouraged. Students should consult their advisors early in their program in order to plan accordingly.

ENVIRONMENTAL ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

The educational objectives of the environmental engineering program are to provide our graduates with disciplinary breadth and depth to fulfill complex professional and societal expectations by:

1. Pursuing careers as practicing engineers or using their program knowledge in a wide range of other professional, educational and service activities.

2. Assuming leadership roles and seeking continuous professional development.

3. Contributing to their profession and society while appreciating the importance of ethical and sustainable practices, diversity, and inclusion.

REQUIREMENTS

THE CURRICULUM FOR THE B.S. IN ENVIRONMENTAL ENGINEERING

All students must meet the Degree and University Requirements.

All students must meet the Catamount Core Curriculum Requirements.

All students must meet the College Requirements.

Students must meet University requirements. Note that the University's Sustainability (SU), Quantitative and Data Literacy (QD), Global Citizenship (GC), Writing & Information Literacy Tier 2 (WIL2), Natural Sciences (N2) and Mathematics (MA) requirements are built into the Environmental Engineering curriculum. Minimum of 129 credits required.

GENERAL EDUCATION REQUIREMENTS (21 Credits) [1]		
University WIL1: Writing & Information Literacy		3
University D1: Diversity 1		3
University D1/D2: Diversity 1 or Diversity 2		3
University AH1/AH2/AH3: Arts and Humanities		6
University S1: Social Sciences		6
MATHEMATICS & STATISTICS REQUIREMENTS (21 CREDITS)		
MATH 1234	Calculus I	4
MATH 1248	Calculus II	4
MATH 2248	Calculus III	4
MATH 2522	Applied Linear Algebra	3
MATH 3201	Adv Engineering Mathematics	3
STAT 2430	Statistics for Engineering	3
COMPUTING & SCIENCE REQUIREMENTS (19-20 Credits)		
CS 1210	Computer Programming I	3
BIOL 1400	Principles of Biology 1	4
CHEM 1400	General Chemistry 1	4
GEOL 1400	Environmental Geology	4
PHYS 1510	Physics Problem Solving I (Optional)	1
PHYS 1500	Physics for Engineers I	4
CIVIL & ENVIRONMENTAL ENGINEERING COURSE REQUIREMENTS (55 Credits)		
CEE 1000	Intro to Civil & Envir Engr [2]	2
CEE 1150	Applied Mechanics	3

CEE 1900	Career Preparation	1
CEE 2000	Geomatics	4
CEE 2120	Environmental Systems	3
CEE 2130	System Focused Design Engr	3
CEE 3415	Transportation Climate Environ	3
CEE 3510	Water Quality Engineering	3
CEE 3520	Env Eng Chemistry & Microbio	3
CEE 3530	Environmental Quanti. Analysis	4
CEE 3610	Hydraulics Lab	2
CEE 3615	Hydraulics for Environ Engnrg	3
CEE 3815	Geoenvironmental Engineering	3
CEE 4950	Capstone Design	3
Design Electives [3]		6
Environmental Engineering Electives [5]		9
ADDITIONAL ENGINEERING COURSE REQUIREMENTS (13 Credits)		
CEMS 1500	CEMS First Year Seminar [2]	1
ENGR 1020	Graphical Communication	2
ME 1210	Thermodynamics	3
EE 2175	Electrical Circuits & Sensors	4
CEE/Science/Technical Elective [5]		3

1 General education requirements need to satisfy Catamount Core Requirements including Diversity (D1 & D1/D2 for 6 credits), Arts & Humanities (AH1 & AH2 for 6 credits), and Social Sciences (S1 for 6 credits). It is possible that a single course can be counted toward more than one category. A minimum of 12 credits should be on D1/D2, AH1/AH2, and S1 courses. Up to 6 credits could be applied to Free Electives (e.g. a combination of internship credits, courses toward a minor, another major or double major, etc.). To satisfy 3 credits of Writing & Information Literacy (WIL1), students must take ENGL 1001 or HCOL 1000 (only for students enrolled in the Honors College).

2 CEMS 1500 & CEE 1000 are degree requirements designed for first-year students. Internal and external transfer students may substitute with any engineering (BME, CE, EE, EMGT, ENGR, ME credits except ENGR 1100ENGR 1100) credits not used to satisfy other requirements.

3 Design Electives: CEE 4440, CEE 4570, CEE 4650, CEE 4810 and some CEE 3990 (Special Topics) courses (consult advisor).

4 Environmental Engineering Electives: All Design Electives plus CEE 4600, CEE 4710 and some CEE 3990 (Special Topics) courses (consult advisor).

5 Any 2000-level or higher course in CEE as well as BME, EE, ENGR, EMGT (except EMGT 2041), ME or Science (BIOL, CHEM, GEOL, PHYS, MMG).