

ENGINEERING B.S.E.

The College of Engineering and Mathematical Sciences offers instruction leading to the Bachelor of Science in Engineering degree. This degree is designed for those students desiring a program with a strong technical science base and flexibility to pursue interdisciplinary applications of engineering in the humanities, arts, and sciences. Each student will be expected to declare a concentration before completing the first four semesters of study. At that time, the student and advisor(s) will plan an integrated series of courses directed towards the concentration and tailored to the student’s interest.

REQUIREMENTS

THE CURRICULUM FOR THE B.S. IN 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.

Note that the University's Quantitative and Data Literacy (QD), Natural Sciences (both N1 and N2), and Mathematics (MA) requirements are built into the BS Engineering curriculum. Minimum of 128 credits required.

Requirement Description	Credits
UNIVERSITY & BSE GENERAL EDUCATION AND FREE REQUIREMENTS (30 Credits) ¹	
University WIL1: Writing & Information Literacy Tier 1	3
University WIL2: Writing & Information Literacy Tier 2	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
Free Electives ²	6
MATHEMATICS & STATISTICS REQUIREMENTS (21 Credits)	
MATH 1234 Calculus I	4
MATH 1248 Calculus II	4
MATH 2248 Calculus III	4
MATH 2544 Linear Algebra	3
MATH 3201 Adv Engineering Mathematics	3
STAT 2430 Statistics for Engineering	3
or STAT 2510 Applied Probability	

COMPUTING & SCIENCE REQUIREMENTS (14 Credits)		
CS 1210	Computer Programming I	3
CHEM 1400	General Chemistry 1	4
PHYS 1500	Physics for Engineers I	4
PHYS 1550	Physics for Engineers II	3
ENGINEERING SCIENCE CORE REQUIREMENTS (13 Credits)		
CEMS 1500	CEMS First Year Seminar ³	1
CEE 1100	Statics	3
EE 2125	Circuits I	4
or EE 2175	Electrical Circuits & Sensors	
or EE 2145	Electrical Engr Concepts	
ENGR 1020	Graphical Communication	2
ME 1210	Thermodynamics	3
ENGINEERING SCIENCE ELECTIVES (30 Credits) ⁴		
ENGINEERING DESIGN REQUIREMENTS (8 Credits)		
BME 1600	BME Design 0 ⁵	2
or CEE 1000	Intro to Civil & Envir Engr	
or EE 1100	EE Principles and Design	
or ME 1010	First-Year Design Experience	
BME 4600	BME Capstone Design I ⁶	3
or CEE 2130	System Focused Design Engr	
or EE 4100	Capstone Design I	
or ME 4010	Capstone Design I	
BME 4650	BME Capstone Design II ⁶	3
or CEE 4950	Capstone Design	
or EE 4200	Capstone Design II	
or ME 4020	Capstone Design II	
TECHNICAL ELECTIVES (12 Credits) ⁷		
RECOMMENDED/OPTIONAL COURSES (2 Credits)		
PHYS 1510	Physics Problem Solving I	1
PHYS 1560	Physics Problem Solving II	1
Total		128

¹ University General Education Requirements include: 3 credits of Writing & Information Literacy (WIL1). Students must take ENGL 1001 or HCOL 1000 (only for students enrolled in the Honors College) to satisfy this requirement.

- A single course can satisfy multiple requirements in this category.
- ² Free Electives: Students may use free elective credits to pursue coursework germane to their interests. Students are encouraged to work with their advisor(s) to select courses that complement their curricula and support their academic and career goals. Students should select one course that meets the University Sustainability Requirement (SU) if they have not taken an SU engineering course. Students should also select a course to satisfy the University Global Citizenship (GC) Requirement if they have not taken a GC engineering course.
 - ³ The First Year Seminar CEMS 1500 is designed for all first-year students in the college. Students entering the college after their first semester should work with their academic advisor to identify an appropriate substitution as approved for their major. The course used to fulfill the CEMS 1500 requirement cannot be used to fulfill another requirement in the major.
 - ⁴ Engineering Science Electives: All BME, CEE, CMPE, EE, ENGR, ME and EMGT courses (except ENGR 1100). Must have a minimum of 9 credits at the 3000-level.
 - ⁵ First Year Curriculum: This degree requirement is designed for first-year students. Internal and external transfer students may substitute additional 2000-level or higher engineering (BME, CEE, CMPE, EE, ENGR, ME, EMGT) credits for this requirement.
 - ⁶ Satisfies the CEMS Professional Development Requirement. Capstone Design I and II courses must have the same course prefix.
 - ⁷ Technical Electives: Any 2000-level or higher course in CEMS or BSAD; natural sciences courses with advisor approval. BSE students may not double count BSAD courses as both Tech Electives and General Education.