School of Engineering

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Degrees Offered & Accreditation

The School of Engineering offers four-year programs leading to Bachelor of Science in Engineering (B.S.E.) degrees (134-credits) in:
- Civil Engineering*
- Computer Science & Engineering*
- Computer Engineering
- Electrical Engineering*
- Environmental Engineering
- Mechanical Engineering*
- Metallurgy & Materials Engineering
- Bachelor of Science (B.S.) degree (120-credits) in Computer Science
- Bachelor of Science (B.S.) degree (139-credits) in Management & Engineering for Manufacturing (jointly offered with the School of Business Administration)

The BSE programs shown above that are asterisked (*), are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The BSE in Computer Science & Engineering is also accredited by the Computer Science Accreditation Board (CSAB). The BSE programs in Environmental Engineering, Computer Engineering, and Metallurgy & Materials Engineering, and the BS program in Management & Engineering for Manufacturing will be submitted for EAC/ABET accreditation at the next evaluation. The BS program in Computer Science will be submitted for CSAB accreditation at the next evaluation.

The School of Engineering and the College of Liberal Arts and Sciences offer a five-year, double-degree EUROTECH program leading to a B.S. degree in Engineering and a B.A. degree in German. The program includes German Language courses specially designed to include engineering content, engineering courses taught partly in German, and a six-month internship in a company in Germany.

Students who wish to concentrate their elective work in a second field within the School of Engineering may elect a double major program. This program requires the completion of all requirements in both majors.

The School of Engineering also offers Minors in Biomedical Engineering, in Environmental Engineering, and in Metallurgy & Materials Engineering

Admission Requirements. See Admission to the University. All students admitted to the School of Engineering are required to take a placement examination in mathematics prior to registration for their first semester. Students who make unsatisfactory grades in these examinations may be required to take additional preparatory work that may not be counted toward graduation.

Admission to Junior Year. Students should select their major by the second semester of their sophomore year. All students, to be admitted to their junior year in their selected major in the School of Engineering, must have a cumulative grade point average of at least 2.0 in all courses in mathematics, physics, chemistry, and engineering applicable toward the degree. For Management & Engineering for Manufacturing majors, the cumulative grade point average requirement also includes Management & Engineering for Manufacturing courses. Students need the approval of the Director of Advising to change majors.

School Academic Requirements.

All majors are required to complete:
- A Plan of Study form submitted in the first semester of their junior year
- University General Education requirements (see Appendix)
- MATH 115Q and 116Q (or MATH 112Q, 113Q, and 114Q), ENGR 100, and CSE 123C
- PHIL 104
- The University writing (W) course requirement must be met through required major-specific W course work. Most programs have two W courses specified in the curriculum although in some curricula, an equivalent number of Partial Writing (P) courses are required.

- All majors, except BS in Computer Science majors, are required to complete:
  - CHEM 127Q (or CHEM 129Q)
  - MATH 210Q and 211Q
  - PHYS 151Q and 152Q
  - CE 211
- All majors, except BS in Computer Science and BS in Management & Engineering for Manufacturing majors, are required to complete:
  - CHEM 128Q (or 130Q)

Bachelor of Science in Engineering in Chemical Engineering

Chemical Engineering majors are required to complete the following:
- CHEG 203, 211, 212, 223, 224, 237W, 239W, 243, 247, and 251
- CHEG Electives (6 credits minimum)
- CHEM 240, 243, 244, 256, 263Q, and 264Q*
- ENGR 166
- Professional Requirements (12 credits)
- Elective courses (5 credits)

*Students may select CHEM 232Q, MCB 203, MCB 204 or MCB 229 as a replacement for CHEM 264Q.

Selection of Professional Requirements courses must include engineering design work as detailed in the Chemical Engineering Guide to Course Selection. At least three credits of Professional Requirements must be outside of Chemical Engineering.

Bachelor of Science in Engineering in Civil Engineering

Civil Engineering majors are required to complete the following:
- EE 220 and ME 233
- ENGR 166
- Professional Requirements courses (18 credits)
- Elective courses (9 credits)

CE 291 must be taken twice before CE 280W. Professional Requirements include one course each from two of these four technical areas:
- Environmental and Water Resources Engineering - CE 260, 262, 265, 266, 267, 268 and 279
- Geotechnical Engineering - CE 241 and 242
- Structural Engineering - CE 222, 234, 237, 238, and 239
- Transportation Engineering – CE 251, 256, 274, 275 and 276

The Professional Requirements must satisfy engineering design credit and other distribution requirements as specified in the Civil Engineering Guide to Course Selection.
Bachelor of Science in Engineering in Computer Engineering
(jointly offered by the Departments of Computer Science & Engineering and Electrical & Systems Engineering)

Computer Engineering majors are required to complete the following:

- CSE 124C, 207, 208W, 221, 231, 233, 243, 254, and 258
- EE 201, 202, 204, 209W, and 242
- Cross-listed courses CSE/EE 252, 257, 290, and 291
- MATH 227Q
- STAT 224Q

Professional Requirements courses (12 credits)
Design Laboratory courses (6 credits)
Elective courses (3 credits)

Further details and course sequences are given in the Computer Engineering Guide to Course Selection.

Bachelor of Science in Computer Science

Computer Science majors are required to complete the following:

- CSE 124C, 201, 230, 233, 254, 258 and 259
- MATH 227Q, and either 210Q or 211Q
- One of MATH 231Q, STAT 220Q, 224Q, or 230Q

One two-semester laboratory course sequence from either chemistry [CHEM 127Q - 128Q, 129Q - 130Q, or 137Q - 138Q] or physics [PHYS 131Q - 132Q, 141Q - 142Q, or 151Q - 152Q]

One additional science course [from BIOL 107Q, 108Q, or 110Q; CHEM 127Q, or 128Q; GEOL 102; PHYS 131Q, 132Q, 141Q, 142Q, 151Q, or 152Q]

but not in the same department as the two-semester sequence

One course from each of the three following groups:
- Computer Applications – CSE 255, 275, or 282
- Computer Architecture – CSE 228, 240 or 245
- Computer Languages – CSE 237 or 244

Two courses from CSE 261, 262, 263, 265, 268, and 269
CSE 200-level courses [6 credits]

A minimum of three 3-credit courses at the 200-level in a single related area forming a cohesive body of knowledge outside of Computer Science

Further details and course sequences are given in the Computer Science Guide to Course Selection.

Bachelor of Science in Engineering in Computer Science and Engineering

Computer Science & Engineering majors are required to complete the following:

Two CSE design laboratory courses
- MATH 227Q

One of MATH 231, STAT 220Q, 224Q, or 230Q
- EE 201, 202, and 209W

Professional Requirements courses (9 credits)
Elective courses (10 credits)

Further details and course sequences are given in the Computer Science & Engineering Guide to Course Selection.

Bachelor of Science in Engineering in Electrical Engineering

Electrical Engineering majors are required to complete the following:

- CSE 207, and 208W
- EE 201, 202, 204, 205, 209W, 232, 240, 241, 245, 261, and 262W
- CSE/EE 290 and 291
- ENGR 166 or CSE 124C
- STAT 224Q

Professional Requirements courses (12 credits)
Design Laboratory courses (6 credits)
Elective courses (7-8 credits)

Further details and course sequences are given in the Electrical Engineering Guide to Course Selection.

Bachelor of Science in Engineering in Environmental Engineering

Environmental Engineering majors are required to complete the following:

- CE 211, 251, and 263 (or ENVE 263)
- ANSC 226
- CHEG 211, 212, 223, 224, and 285
- EEB 244W
- ENGR 166
- MARN 244, 247, 251, 280, and 283
- CHEM 141, 232Q, 263Q - 264Q, 270W
- CE 265
- GEOG 205, 206, 215, 237, and 286
- Geol 206, 234C, and 245
- IMGT 210
- MARN 244, and 280W
- ME 239
- NRME 204, 210, 236Q, 237, 239, 240, 260Q, and 263
- PHARM 150
- SOCI 259W
- PLSC 259C

The Professional Requirements are specified in the Environmental Engineering Guide to Course Selection.

Bachelor of Science in Management and Engineering for Manufacturing
(jointly offered by the School of Business Administration and the School of Engineering)

Management & Engineering for Manufacturing majors are required to complete the following:

- ACCT 210
- ANTH 100 or GEOG 160
- BLAW 271
- CE 212, and 287
- ECON 113
- EE 220
- FNCE 201
- HIST 101
- ME 221, 222, 227, 233, and 260W
- MEM 151, 210, 211, 215W, 221, 225, and 231
- MGMT 201, and 290
- MKTG 201
- MMAT 201
- OPIM 203C, and 252
- STAT 110V

Technical Electives courses (6 credits)

The Technical Electives course must be 200-level or higher listed in the departments listed in the School of Business Administration and the School of Engineering as specified in the Management & Engineering for Manufacturing Guide to Course Selection. Students are encouraged to seek faculty-supervised manufacturing summer internships prior to their junior and senior years. Such internships may be shown on the student records by registering for MEM 296 – Manufacturing Internship, with instructor and advisor approval.
**Bachelor of Science in Engineering in Mechanical Engineering**

Mechanical Engineering majors are required to complete the following:

- CE 212, and 287
- EE 220
- ENGR 166
- MMAT 201, and 202
- ME Requirement [6 credits]
- Professional Requirements (6 credits)
- Electives [4 credits]

Details on the ME and Professional Requirements are specified in the *Mechanical Engineering Guide to Course Selection.*

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**Bachelor of Science in Engineering in Metallurgy and Materials Engineering**

Metallurgy & Material Engineering majors are required to complete the following:

- CE 212, and 287
- MMAT 243, 244, 255, 256, 265, 266, 267, 276, 277, 283, 284, 285W, 286W, 287, and 288
- ME 233 or CHEM 263Q
- ENGR 166
- EE 220
- CHEG 256
- Professional Elective courses (9 credits from EE 246, ME 217, and 228, and MMAT 206, 207, 217, 219, 229, 232, 234, 236, and 238)
- Technical Elective courses (6 credits from BIOL 107; CHEM 243, 244, 263Q, and 264Q; MCB 203; ME 218, 253, and 255; MATH 214Q, 215Q, 227Q, and 231Q; PHYS 216Q, and 262Q; and STAT 220Q, 221Q, and 224Q)
- Elective courses (2 credits)

Selection of courses is detailed in the *Metallurgy & Materials Engineering Guide to Course Selection.*

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**School of Engineering Website**

http://www.eng2.uconn.edu/