

**Courses with Communication Emphasis in Your Major Field: 3 credits.
(Typically Senior Design or Capstone Course.)**

Most engineering students will have a senior design course required in their field, and that design course should count here. If your program's design course is not listed, contact us for adding it to the list.

Non-engineering students should find a senior-level course in their major field that has a substantial communication element to it, and propose that it be added to our list (or propose that we count it).

B M E 400: Capstone Design Course in Biomedical Engineering
3 credits

Prerequisites: BME 301, 310, 315, 430, Sr st in biomed engr or cons inst

Course Description: This capstone course applies classroom study to solve a directed client-based biomedical engineering design project. (Fall)

CIV ENGR 578: Senior Capstone Design
4 credits

Prerequisites: Completion of at least 1 crse which carries 3 cr of design

Course Description: The application of theoretically and academically acquired knowledge to a civil and environmental engineering problem in as near "real-world" as possible. (Fall/Spring)

GLE 479: Senior Capstone Design, 3 credits. **Course Description:** The application of theoretically and academically acquired knowledge to a geological engineering problem in as near "real-world" as possible. (Fall/Spring)

E M A 469: Design Problems in Engineering
3 credits

Prerequisites: EMA 221, 307; ECE 376; ME 363, 361; MS&E 350; or cons inst

Course Description: The design philosophy is presented. Students will be required to apply their knowledge of elementary mechanics, engineering and basic science to arrive at acceptable solutions to a variety of design problems. (Fall)

I S Y E 450: Senior Design Project
3 credits

Prerequisites: Senior standing in ISyE, and ISyE 313, ISyE 323, ISyE 349, ISyE 350, and either ISyE 415 or ISyE 417 (or concurrent registration in one of them), and EPD 397 (or concurrent registration in EPD 397)

Course Description: This course will provide students a team-based project experience to address a real-world design challenge posed by an external organization. Student-teams will work in close collaboration with the project client to design a new system or process, or redesign an existing one, by integrating and applying appropriate ISyE knowledge, methodologies and tools for problem definition and analysis; idea generation; solution development, evaluation and justification; and implementation planning and impact assessment.

I SY E 476: Industrial Engineering Projects

3 credits

Prerequisites: I SY E 320, 321, 349; EPD 397; or cons inst

Course Description: Complete design of an industrial engineering system in a real world setting, e.g., manufacturing, hospital, communications, food processing, distribution, transportation, etc. (Fall/Spring)

M E 349: Engineering Design Projects

3 credits

Prerequisites: ME 314, 342 & 364

Course Description: Applied engineering design projects. Emphasis on design of practical mechanical engineering systems, devices and/or components. Two 2-hr labs and one lecture per week. Lecture focuses on the design process, creativity, patents, and other applications to practical problems. (Fall/Spring/Summer)

M E 351: Interdisciplinary Experiential Design Projects I

3 credits

Prerequisites: Sr st in ME or cons inst

Course Description: First of a two-course sequence in which students design and fabricate systems and devices, typically having an interdisciplinary aspect. In the first course, emphasis will be on project planning, team dynamics, problem identification, and conceptual design and evaluation. (Fall/Spring)

M E 352: Interdisciplinary Experiential Design Projects II

3 credits

Prerequisites: ME 351 & Sr st in ME or cons inst

Course Description: Second of a two-course sequence in which students design and fabricate systems and devices, typically having an interdisciplinary aspect. In the second course, emphasis will be on detailed design, fabrication, testing, and modification of concepts developed in the previous course. (Fall/Spring)

MSE 470/471: Senior Capstone Design. (1/3 credits)

NE 413: Nuclear Reactor Design. 5 credits. Reactor design projects, reactor hazards, economics.

N E 571: Economic and Environmental Aspects of Nuclear Energy

3 credits

Prerequisites: NEEP 405 & NEEP 411

Course Description: Economics of the nuclear fuel cycle. Economic and environmental impact the nuclear fuel cycle. Impact on design, plant siting and regulation. (Spring)