

# ENG - ENGINEERING

ENG Class Schedule (<https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/ENG/>)

## Courses

**ENG 100 Grainger Engineering Orientation Seminar credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/100/>)

Introduces students to the Grainger College of Engineering and their respective departments. Students will explore the academic environment at Illinois, developing skills that will aid in learning both inside and outside the classroom, build their leadership and collaborative skills, and build community inside and outside the classroom. Through class discussion and assignments, students will explore campus resources, examine and set goals for academic, personal, and professional development, and develop skills to work in diverse teams through a class project.

**ENG 101 Engineering at Illinois credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/101/>)

Introduction to undergraduate programs of study available in The Grainger College of Engineering and the potential careers of graduates of those programs. Intended for Division of General Studies students who may be interested in becoming an engineering major or other students who wish to explore engineering careers.

**ENG 110 Communicating and Presenting in Engineering credit: 2 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/110/>)

Technical communications skills for engineering students. Emphasis on identifying content for audience for a given presentation setting, critiquing presentations on the basis of content, delivery, and visual aids, designing slides that increase effectiveness of communication and delivery of content, and interactions in teams to design slides and present topics. Same as TE 110.

**ENG 111 MEP Mentoring credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/111/>)

Prepares traditionally underrepresented minority engineering students towards a successful campus experience. Students will build their academic and professional understanding through the development of a working academic success final report. This final report will help students identify, understand, and prepare to exceed expectations of them on campus, in the engineering curriculum, and in professional interactions with faculty and industry. Prerequisite: Instructor Approval Required. Restricted to First time Freshmen.

**ENG 177 Engineering First-Year Experience Seminars credit: 1 to 2 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/177/>)

Provides first-year students with opportunities to participate in interdisciplinary courses designed to help explore what it means to be an engineer and develop skills required in the engineering workplace, be it team dynamics, leadership skills, intercultural competency, or communication techniques. Students will explore topic areas offered as separate sections under the course heading. Each section uses a hands-on, interactive, discussion/team-based approach. The courses use active learning exercises in addition to reflections, readings, and project work. May be repeated in the same or separate terms for a maximum of 4 hours.

**ENG 198 Special Topics credit: 1 to 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/198/>)

Subject offerings of new and developing areas of knowledge in engineering intended to augment the existing curriculum. See Class Schedule or college course information for topics and prerequisites. Approved for both letter and S/U grading. May be repeated in the same or separate terms if topics vary.

**ENG 199 Undergraduate Open Seminar credit: 0 to 5 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/199/>)

Topics will vary. See class schedule. Approved for Letter and S/U grading. May be repeated in the same or separate semesters, if topics vary.

**ENG 211 Empowering Academic Success credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/211/>)

Engages engineering students in the development of learning skills for lifelong success and wellness. This course serves as exposure to a variety of study strategies and methods for making healthy choices for a balanced academic, personal, and professional life. Students build skills for a successful academic experience that will continue into professional settings. Prerequisite: Restricted to undergraduate engineering students only, including ABE and ChBE.

**ENG 261 Technology & Mgmt Seminar credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/261/>)

Same as BADM 261. See BADM 261.

**ENG 298 Special Topics credit: 1 to 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/298/>)

Subject offerings of new and developing areas of knowledge in engineering intended to augment the existing curriculum. See Class Schedule or college course information for topics and prerequisites. Approved for both letter and S/U grading. May be repeated in the same or separate terms if topics vary.

**ENG 299 Engineering Study Abroad credit: 0 to 18 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/299/>)

Illinois credit placeholder for foreign study and mechanism to maintain continuous Illinois enrollment while studying abroad. A detailed proposal must be submitted by the student for approval by the student's department and the college office prior to such study abroad. Final determination of credit and its application toward the degree is made by the college office after a review of the student's work abroad. (Summer Session, 0 to 6 hours). Approved for Letter and S/U grading. May be repeated.

**ENG 300 Engineering Transfer Orientation credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/300/>)

Orientation required of off-campus transfer students in the College of Engineering. Prerequisite: Restricted to first time Transfer Engineering students.

**ENG 310 Engineering Internship credit: 0 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/310/>)

Engineering Internship is for engineering undergraduate students who are completing full-time or part-time internship or co-op that is related to their major field of study and an integral or important part of their program of study. Students participating in research-based projects should contact the Office of Undergraduate Research in Engineering to identify an appropriate course. Approved for S/U grading only. May be repeated in separate terms.

**ENG 377 Pedagogy and Mentoring for Engineering Learning Assistants credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/377/>)

Designed to support new Engineering Learning Assistants (ELAs). The purpose of the course is to provide pedagogical and mentorship training for ELAs to successfully teach. May be repeated if topics vary, in separate terms to a maximum of 2 undergraduate hours. Prerequisite: Instructor Approval Required.

**ENG 398 Special Topics credit: 1 to 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/398/>)

Subject offerings of new and developing areas of knowledge in engineering intended to augment the existing curriculum. See Class Schedule or college course information for topics and prerequisites. Approved for both letter and S/U grading. May be repeated in the same or separate terms if topics vary.

**ENG 411 Engineering Ambassadors Leadership Training credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/411/>)

Serves as a weekly meeting and professional development for current Engineering Ambassadors members. The course provides instruction in preparing for and managing classroom visits as well as practice for presentation skills. In addition, guest speakers are brought in from campus to help with professional development of the members. Graduate members have additional responsibility to be team leaders and complete a project for the society. 1 undergraduate hour. 1 graduate hour. May be repeated. This course is repeatable for as long as a student is active in Engineering Ambassadors. As students progress through the program, they are still growing and developing as ambassadors. Students will benefit from hearing from the guest lectures, which vary each offering, and also act as mentors for younger members during classroom visits and in group activities during class. It is a benefit to both the older and younger members to have a variety of experiences in the class. Prerequisite: ENG 110 or instructor permission.

**ENG 471 Seminar Energy & Sustain Engrg credit: 1 Hour.** (<https://courses.illinois.edu/schedule/terms/ENG/471/>)

Challenges of developing energy systems and civil infrastructure that are sustainable in terms of resource availability, security, and environmental impact. Guest lecturers focus on: (i) global challenges – future energy demand, geologic sources of energy, climate change, energy-water nexus, energy and security; (ii) markets, policies and systems – economic incentives, policy and law, life cycle analyses; (iii) opportunities for change – CO<sub>2</sub> sequestration, renewable power, bioenergy feedstocks, biofuels for transportation, energy use in buildings, advanced power conversion, the smart grid. 1 undergraduate hour. 1 graduate hour. Prerequisite: MATH 220 or MATH 221; one of CHEM 104, CHEM 204, PHYS 101, PHYS 211. Recommended: NPRE 201.

**ENG 491 Interdisciplinary Design Proj credit: 1 to 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/491/>)

Disciplined, multi-department, team-structured project design experience with an overall (or major phase) end-of-term completion date. Projects involve design specification through a proposal, analyses of cost and other tradeoffs among alternative designs, design review, fabrication and assembly, functional and environmental testing, and demonstrations (as applicable). Reports and presentations at the end of each term. Individual engineering activities as well as team responsibilities. 1 to 4 undergraduate hours. No graduate credit. Senior standing required. May be repeated. Credit toward the degree is determined by the student's major department. Prerequisite: Consent of instructor.

**ENG 498 Special Topics credit: 1 to 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/498/>)

Subject offerings of new and developing areas of knowledge in engineering intended to augment the existing curriculum. See Class Schedule or college course information for topics and prerequisites. 1 to 4 undergraduate hours. 1 to 4 graduate hours. Approved for Letter and S/U grading. May be repeated in the same or separate terms if topics vary.

**ENG 510 Engineering Practice credit: 0 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/510/>)

Engineering Practice is for engineering graduate students who are completing curricular practical training, either full-time or part-time, that is related to their major field of study and an integral or important part of their program of study. Approved for S/U grading only. May be repeated.

**ENG 571 Theory Energy & Sustain Engrg credit: 3 or 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/571/>)

Mathematical, scientific, engineering, and economic bases needed to analyze sustainable energy systems and civil infrastructure. Evaluation of current practice and future development of (i) energy extraction and conversion processes from geological, biological, and non-biological resources; (ii) energy usage for transportation, in residential and commercial buildings, and by industry. Prerequisite: Credit or concurrent registration in ENG 471.

**ENG 572 Professional Practicum credit: 1 to 8 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/572/>)

Internship or equivalent experience as it relates to the student's field of study. Student will complete a comprehensive written report, develop a website, and/or give an oral presentation that relates to his/her internship experience. May be repeated in separate terms to a maximum of 8 hours.

**ENG 573 Capstone Project credit: 1 to 8 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/573/>)

Design project pertinent to student's field of study. Student will complete a comprehensive written report, develop a website, and/or give an oral presentation that relates to his/her project. May be repeated in separate terms to a maximum of 8 hours.

**ENG 580 Teaching and Leadership skills for Graduate Engineering Students and Teaching Assistants credit: 1 or 2 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/580/>)

Develop professional skills through practical training in classroom management and leadership; review pedagogy and theory of learning. Create communities of practice through discussions and classroom observations; become familiar with campus resources for teaching improvement; discover cutting-edge teaching methods, including active learning and project-based learning through exposure to educational research topics. Develop leadership skills that will be useful in academia, industry, or government careers. Same as ECE 592. Approved for S/U grading only.

**ENG 591 Engineering Advanced Seminar credit: 0 or 1 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/591/>)

Seminar on topics of current interest as announced in the Class Schedule. Approved for S/U grading only. May be repeated if topics vary. Prerequisite: As specified for each topic offering, see Class Schedule for course description.

**ENG 598 Special Topics credit: 1 to 4 Hours.** (<https://courses.illinois.edu/schedule/terms/ENG/598/>)

Subject offerings of new and developing areas of knowledge in engineering intended to augment the existing curriculum. See Class Schedule or college course information for topics and prerequisites. May be repeated in the same or separate terms if topics vary.