**ENGINEERING (ENG)**

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

**Courses**

**ENG 100  Engineering Orientation  credit: 0 Hours.** (https://courses.illinois.edu/schedule/terms/ENG/100)
Orientation required of new freshmen in the College of Engineering. Approved for S/U grading only.

**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 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 is 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 191  International Dimens of Engrg  credit: 1 Hour.** (https://courses.illinois.edu/schedule/terms/ENG/191)
Global views of the engineering profession presented by guest speakers. Key factors for success in global engineering practice, including industrial values, economics, politics, language, cultural values, and social trends. Development of individual plans to engage in international education to enhance career preparation.

**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 201  Cooperative Engrg Seminar  credit: 0 Hours.** (https://courses.illinois.edu/schedule/terms/ENG/201)
Discussion seminar addressing insights students have gained during co-op experiences. Presentations by co-op participants and discussion of presentation skills. Approved for S/U grading only. For on-campus Cooperative Education students only.

**ENG 202  Cooperative Engrg Practice  credit: 0 Hours.** (https://courses.illinois.edu/schedule/terms/ENG/202)
Full-time practice of engineering in an off-campus government, industrial or research laboratory environment. Written work report, on-line Experiential Learning Report, and on-line ABET report required. Approved for S/U grading only. May be repeated. Approval of the Director of College of Engineering Experiential Learning Programs required to enroll. For Cooperative Education students only.

**ENG 210  Engineering Apprenticeship  credit: 0 Hours.** (https://courses.illinois.edu/schedule/terms/ENG/210)
Part-time practice of engineering science in an on-campus research laboratory environment; summary report required. Approved for both letter and S/U grading. May be repeated.

**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).

**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.

Information listed in this catalog is current as of 03/2020
ENG 315 Learning in Community credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/ENG/315](https://courses.illinois.edu/schedule/terms/ENG/315)) Service-learning dedicated to benefiting nonprofit organizations. Learning through inquiry, acquisition of skills and knowledge to address projects, and development of project and team skills. Student teams work on a project of importance proposed by and in partnership with each organization. Projects vary by term. See Class Schedule. May be repeated in the same term to a maximum of 6 hours. May be repeated in separate terms to a maximum of 12 hours.

ENG 397 Undergraduate Research Abroad credit: 1 to 4 Hours. ([https://courses.illinois.edu/schedule/terms/ENG/397](https://courses.illinois.edu/schedule/terms/ENG/397)) Research completed under faculty supervision at a location outside of the United States. Topics and type of assistance vary. No graduate credit. May be repeated in separate terms up to 6 hours. Prerequisite: Consent of instructor; Department and college approval of research plan submitted prior to enrollment. Not available to freshman.

ENG 398 Special Topics credit: 1 to 4 Hours. ([https://courses.illinois.edu/schedule/terms/ENG/398](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 440 International Water Project I credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/ENG/440](https://courses.illinois.edu/schedule/terms/ENG/440)) First of two courses that assists an international rural community in establishing a sustainable water system. Serve a developing community effectively by working closely with alumni mentors and professional advisors on conceptual design development. Have the opportunity to travel to Honduras during Winter Break. Open to students in all majors. Same as LAST 440. 3 undergraduate hours. No graduate credit.

ENG 441 International Water Project II credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/ENG/441](https://courses.illinois.edu/schedule/terms/ENG/441)) Second of two courses that assists an international rural community in establishing a holistic water system. Complete final engineering designs, project funding documents and governance guidance by working closely with alumni mentors and professional advisors. Open to students in all majors. Same as LAST 441. 3 undergraduate hours. No graduate credit. Prerequisite: ENG 440 or instructor approval.

ENG 451 Success in the Workplace credit: 2 Hours. ([https://courses.illinois.edu/schedule/terms/ENG/451](https://courses.illinois.edu/schedule/terms/ENG/451)) Guided experiential learning that facilitates the development of professional skills for students participating in career-related internships. Basic business skills such as reading a financial statement and annual report, understanding contracts, and understanding corporate strategy. Interpersonal skills necessary to succeed in industry such as networking, leadership, and communication. 2 undergraduate hours. No graduate credit.

ENG 471 Seminar Energy & Sustain Engrg credit: 1 Hour. ([https://courses.illinois.edu/schedule/terms/ENG/471](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 – CO2 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](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](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](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. 0 graduate hours. No professional credit. 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](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. 3 or 4 graduate hours. No professional credit. 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](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. 1 to 8 graduate hours. No professional credit. 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. 1 to 8 graduate hours. No professional credit. May be repeated in separate terms to a maximum of 8 hours.

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. 0 or 1 graduate hours. No professional credit. 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.