ENGINEERING (ENG)

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

Courses

ENG 100  Engineering Orientation credit: 0 Hours.
Orientation required of new freshmen in the College of Engineering. Approved for S/U grading only.

ENG 101  Engineering at Illinois credit: 1 Hour.
Introduction to undergraduate programs of study available in the 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. Approved for S/U grading only.

ENG 191  International Dimens of Engrg credit: 1 Hour.
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. Approved for both letter and S/U grading only.

ENG 198  Special Topics credit: 1 to 4 Hours.
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.
Approved for both letter and S/U grading. May be repeated.

ENG 201  Cooperative Engrg Seminar credit: 0 Hours.
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.
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.
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.
Same as BADM 261. See BADM 261.

ENG 298  Special Topics credit: 1 to 4 Hours.
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.
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  Engrg Transfer Orientation credit: 0 Hours.
Orientation required of off-campus transfer students in the College of Engineering. Approved for S/U grading only.

ENG 310  Engineering Internship credit: 0 Hours.
Full-time or part-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.

ENG 315  Learning in Community credit: 3 Hours.
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. Students team 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.
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.
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.
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.
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.
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.  
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.  
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.  
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. 
Additional fees may apply. See Class Schedule. 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.  
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.  
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  Energy Systems Practicum  credit: 1 to 8 Hours.  
Literature research and development of written and oral communication 
skills for preparing for undertaking, completing, and reporting on an 
internship or equivalent experience. Written report, development of a Web 
site, and oral presentation required on how experience in an internship 
or equivalent experience relates to pertinent reading material. 1 to 8 
graduate hours. No professional credit. May be repeated in separate 
terms to a maximum of 8 hours. Prerequisite: NPRE 481 recommended.

ENG 573  Energy Systems Project  credit: 1 to 8 Hours.  
Design project pertinent to energy systems. Report, development of a 
Web site, and oral presentation required. 1 to 8 graduate hours. No 
professional credit. May be repeated in separate terms to a maximum of 
8 hours. Prerequisite: Recommended: NPRE 481.

ENG 591  Engineering Advanced Seminar  credit: 0 or 1 Hours.  
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.  
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.