Engineering

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.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>37823</td>
<td>Lecture-Discussion</td>
<td>PD</td>
<td>03:00 PM - 04:50 PM</td>
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<td>2436 - Digital Computer Laboratory</td>
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</table>

Credit Hours: 3 hours
IEFX Professional Development
Meets 12-Jun-17 - 03-Aug-17.
Restricted to students with Freshman class standing.
IEFX Professional - Many students are drawn to engineering by its technical focus, but little thought is given to the definition of the profession, the associated responsibilities, the diverse skill set needed to be an effective engineer, and the preparation work required to successfully emerge from college into the working world. This course will help students understand the role an engineer plays in society and how they can best prepare themselves to be stellar practicing professionals. Meets in 2436 DCL. Restricted to Summer Scholars.

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<tr>
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<th>Time</th>
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<td>37086</td>
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<td>PRJ</td>
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<td>2320 - Digital Computer Laboratory</td>
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</table>

Credit Hours: 3 hours
IEFX Projects
Meets 12-Jun-17 - 03-Aug-17.
Restricted to students with Freshman class standing.
IEFX Projects - Reinforcing the fundamental as you will work in small teams on real engineering projects led by experienced instructors. You learn problem-solving strategies and build skills in group formation, project management, communication, and teamwork. The subject of the projects will help you explore your interests and aspirations. Projects may be of your own creation or chosen from an instructor prepared list. Meets in 2320 DCL. Restricted to Summer Scholars.

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<tr>
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<th>Time</th>
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</table>

Credit Hours: 3 hours
IEFX Research
Meets 12-Jun-17 - 03-Aug-17.
Restricted to students with Freshman class standing.
IEFX Research - One reason to experience Engineering at Illinois is the research, and this class is an introduction. You will learn about methods and conduct a project, presenting your results at the Summer Scholars Explorations event in August. You will
explore options to be involved beyond the class, and if interested, you may initiate contact with faculty to join a research project/team or start your own. Restricted to Summer Scholars.

ENG 199  Undergraduate Open Seminar  credit: 0 TO 5 hours.
Approved for both letter and S/U grading. May be repeated.

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<tr>
<th>CRN</th>
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Summer REU Program
Meets 15-May-17 - 03-Aug-17.
Instructor Approval Required
This section is restricted for students in a summer Engineering REU program.

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).

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<th>CRN</th>
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</table>

Credit Hours: 6 hours
Departmental Approval Required
Meets 15-May-17 - 03-Aug-17.

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.

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<tr>
<td>39214</td>
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</tbody>
</table>
Engnrng Internship - Full-Time
Meets 15-May-17 - 03-Aug-17.
Departmental Approval Required
Restricted to Engineering.

- Internship/Co-Ops relevant to student’s field of study are required to enroll in Eng 310 and must be approved by the student’s academic department. Students working full-time are expected to work at least 12 weeks during the semester and may not enroll in additional courses to maintain full-time student status.
- Students must complete the short course survey found on Compass2G before the 10th day of classes. Failure to do so will result in the student being charged all on-campus fees for the semester. No refunds will be given. Students must check their Illinois email account on a regular basis for any course announcements. Failure to complete the assignment by the deadline will result in an unsatisfactory grade.
- Students on F1 visa must be approved for CPT by International Student and Scholar Services (ISSS). International students cannot formally accept an internship without having their CPT officially approved by the department, college, and ISSS.
- S/U grading only.

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</table>

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.

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</table>

Independent Study
Meets 12-Jun-17 - 03-Aug-17.
Instructor Approval Required

ENG 450  **Startups: Inc, Fund, Contracts, IP**  credit: 3 hours.

Explore legal tools used in constructing and operating companies. Topics include: issues with business formation, intellectual property, NDA, contracts, and other corporate legal issues impacting startups. Same as TE 450. 3 undergraduate hours. 3 graduate hours.

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</table>

Meets 15-May-17 - 03-Aug-17.
Explore legal tools used in constructing and operating companies. Topics include: issues with business formation, intellectual property, NDA, contracts, and other corporate legal issues impacting startups.

ENG 461  Technology Entrepreneurship  credit: 3 hours.
Product design, marketing, financials, and the general business planning preparation required for start-up companies. Many start-up companies have emerged from this course. Students can work in teams (members can be from outside of class) or individually. Students without a particular idea may be provided an option to participate in PIRL (Product Innovation Research Lab) with the School of Art & Design, but spots are limited. Same as TE 461. 3 undergraduate hours. 3 graduate hours. Prerequisite: MATH 231.

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</table>

Meets 30-May-17 - 03-Aug-17.
Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS:Mechanical Engineering -UIUC, MS: Aerospace Engr-Online-UIUC, NDEG:Grad Nondegree-CE-UIUC, NDEG:Undergrad Nondeg-CE-UIUC, or MENG:Mech Engineering Onl-UIUC. Product design, marketing, financials, and the general business planning preparation required for start-up companies. Many start-up companies have emerged from this course. Students can work in teams (members can be from outside of class) or individually. Students without a particular idea may be provided an option to participate in PIRL (Product Innovation Research Lab) with the School of Art & Design, but spots are limited.

ENG 466  High-Tech Venture Marketing  credit: 2 hours.
Cornerstone marketing concepts for innovators and engineers to enable analysis of products and technologies from a marketing perspective: engineering product development and adoption life cycle; objectives and strategies; marketing management; communication skills; sales process and tactics; special considerations for new high-tech engineering products and innovations. Same as TE 466. 2 undergraduate hours. 2 graduate hours. Credit is not given for both ENG 466 and BADM 365. Prerequisite: ENG 360.

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Meets 30-May-17 - 03-Aug-17.
Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS:Mechanical Engineering -UIUC, MS: Aerospace Engr-Online-UIUC, NDEG:Grad Nondegree-CE-UIUC, NDEG:Undergrad Nondeg-CE-UIUC, or MENG:Mech Engineering Onl-UIUC. Cornerstone marketing concepts for innovators and engineers to enable analysis of products and technologies from a marketing perspective; engineering product development and adoption life cycle, objectives and strategies; marketing management; communication skills; sales processes and tactics; special considerations for new high-tech engineering products and innovations.

ENG 471  Seminar Energy & Sustain Engrg  credit: 1 hours.
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.

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</tbody>
</table>
Uddin, R |

Meets 30-May-17 - 07-Aug-17.
Restricted to online non-degree, online MCS, online MSME, online MSCEE, and online MSAE students. Center for Innovation in Teaching & Learning (CITL) restrictions and assessments apply, see http://www.oce.illinois.edu. For more details on this course section, please see http://engineering.illinois.edu/online/courses/.

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.

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Independent Study
Meets 15-May-17 - 03-Aug-17.
Instructor Approval Required

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.

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<td>30636</td>
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Meets 15-May-17 - 03-Aug-17.
Departmental Approval Required
Students working full-time need to register for this section (A). Students who wish to complete this course must seek approval from the Office of Engineering Graduate, Professional and Online Programs by completing the form located at http://engineering.illinois.edu/academics/graduate/eng-510-cpt-policy.html. International students on F1 visa must seek CPT approval at all levels to be eligible for a CPT experience. For information on the CPT process, please visit www.isss.illinois.edu/students/employment/f1cpt.html. S/U grading only. Range IV tuition and applicable fees apply.

<table>
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<tr>
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<td>Dankowicz, H</td>
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</table>

Meets 15-May-17 - 03-Aug-17.
Departmental Approval Required
Students working part-time need to register for this section (B). Students who wish to complete this course must seek approval from the Office of Engineering Graduate, Professional and Online Programs by completing the form located at http://engineering.illinois.edu/academics/graduate/eng-510-cpt-policy.html. International students on F1 visa must seek CPT approval at all levels to be eligible for a CPT experience. For information on the CPT process, please visit www.isss.illinois.edu/students/employment/f1cpt.html. S/U grading only. Range IV tuition and applicable fees apply.

ENG 565  **Technol Innovation & Strategy**  credit: 2 hours.
Concepts and frameworks for analyzing how firms can create, commercialize and capture value from technology-based products and services. Business, commercialization, and management aspects of technology. Emphasis on reasons that existing firms or startups which have successfully commercialized products or services fail to sustain their success as technology changes and evolves. Same as TE 565. Prerequisite: STAT 400.

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<td>35131</td>
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</table>
ENG 566  Finance for Engineering Mgmt  credit: 2 hours.
Cornerstone financial concepts for engineering management to enable analysis of engineering projects from a financial perspective: income statements; the balance sheet; cash flow statements; corporate organization; the time value of money; net present value; discounted cash flow analysis; portfolio theory. Same as TE 566. 2 graduate hours. No professional credit.

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Meets 30-May-17 - 03-Aug-17.
Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS:Mechanical Engineering -UIUC, MS: Aerospace Engr-Online-UIUC, NDEG:Grad Nondegree-CE-UIUC, or MENG:Mech Engineering Onl-UIUC.

ENG 567  Venture Funded Startups  credit: 1 hours.
Concepts, tools, and language used by venture capitalists (VCs). Venture-scale opportunity assessment and articulation; venture capital financing and valuation; deal structure; term sheets; financial plans for startups; customer development and marketing; product iterations; sales execution. Same as TE 567. Prerequisite: ENG 566.

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Meets 30-May-17 - 03-Aug-17.
Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS:Mechanical Engineering -UIUC, MS: Aerospace Engr-Online-UIUC, NDEG:Grad Nondegree-CE-UIUC, or MENG:Mech Engineering Onl-UIUC.

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.

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<tr>
<th>CRN</th>
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<th>Days</th>
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<td>W</td>
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<td>Uddin, R</td>
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Meets 12-Jun-17 - 03-Aug-17.
Restricted to Engineering. Restricted to Graduate - Urbana-Champaign.
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.

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<td>W</td>
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Energy Systems Practicum
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