Class Schedule - Summer 2015

Engineering

Engineering
Program Administrator: Umberto Ravaioli
Program Office: 206 Engineering Hall, 1308 West Green, Urbana
Phone: 217-333-2280
www.engr.illinois.edu
Subjects associated with this department include: Engineering (ENG) and Technology and Management (TMGT)

ENG 198  Special Topics  credit: 0 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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<tr>
<th>CRN</th>
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<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>
<td>MTW</td>
<td>-</td>
<td>Witmer, A</td>
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<tr>
<td>37086</td>
<td>Lecture-Discussion</td>
<td>PRJ</td>
<td>09:00 AM - 10:50 AM</td>
<td>MTW</td>
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<td>Bradley, J</td>
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<tr>
<td>37824</td>
<td>Lecture-Discussion</td>
<td>RSC</td>
<td>01:00 PM - 02:50 PM</td>
<td>MW</td>
<td>-</td>
<td>Mena, I</td>
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Credit Hours: 3 hours
IEFX Professional Development
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.

Credit Hours: 3 hours
IEFX Projects
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.

Credit Hours: 3 hours
IEFX Research
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>
<td>29928</td>
<td>Laboratory</td>
<td>REU</td>
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Summer REU Program
Instructor Approval Required
This section is restricted for students in a summer Engineering REU program.

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<tbody>
<tr>
<td>37827</td>
<td>Conference</td>
<td>SS</td>
<td>03:00 PM - 04:50 PM</td>
<td>R</td>
<td>112 - Huff Hall</td>
<td>Conner-Gaten, L</td>
</tr>
</tbody>
</table>

Conference SS 05:00 PM - 05:50 PM T 112 - Huff Hall Conner-Gaten, L

Summer Scholars Seminar
Restricted to students with Freshman class standing.
Summer Scholars Seminar - You will be introduced to campus resources, engineering faculty, and company representatives.

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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<tr>
<td>29929</td>
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Credit Hours: 6 hours
Departmental Approval Required

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Credit Hours: 6 hours
Departmental Approval Required

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<td>34813</td>
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<td>ARRANGED -</td>
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<td>Finis, T</td>
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Departmental Approval Required

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.
CRN | Type   | Section | Time       | Days | Location | Instructor       |
-----|--------|---------|------------|------|----------|-------------------|
30633| Practice| A       | ARRANGED - |      |          | Fruehling, A Ng, J|

Instructor Approval Required
Instructor Approval Required. Students working full-time are expected to work at least 8 weeks during the semester. Please submit enrollment requests through http://go.illinois.edu/EngineeringInternship. Please allow 2-3 business days for your requests to be processed. Students on F1 visa must also submit CPT documents to International Student and Scholar Services (ISSS). S/U grading only.

ENG 333  Creativity, Innovation, Vision  credit: 4 hours.

Personal creativity enhancement via exploration of the nature of creativity, how creativity works, and how to envision what others may not. Practice of techniques and processes to enhance personal and group creativity and to nurture a creative lifestyle. Application to a major term project providing the opportunity to move an idea, product, process or service from vision to reality.

CRN | Type          | Section | Time       | Days | Location | Instructor       |
-----|---------------|---------|------------|------|----------|-------------------|
38566| Lecture-Discussion | CIV   | 09:00 AM - 11:50 AM | TR   |          | Gast, E Jahnke, K Litchfield, J |

May count as business or technical elective; please check with your advisor.

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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-----|---------------|---------|------------|------|----------|-------------------|
37234| Lecture-Discussion | BL   | ARRANGED - |      |          | Litchfield, J |

Independent Study
Instructor Approval Required

33599| Online | ONL | ARRANGED - |      |          | Barich, J       |

Credit Hours: 3 hours
Legal Issues in Eng Entreprenu
Restricted to online non-degree, online MCS, online MSAE, online MSME, and online MSCE students. Center for Innovation in Teaching & Learning (CITL) restrictions and assessments apply, see http://www.citl.illinois.edu. For more details on this course section, please see http://engineering.illinois.edu/online/courses/. Credit for this course is not applicable toward the MSAE, MSCE, MCS, or MSME degree.

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.

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<td>37466</td>
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<td>Zehr, S</td>
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Instructor Approval Required
ENG 451 SW1 is an online course worth two hours of credit and counts toward the Other Social Sciences/Humanities requirement for engineering students. This course is restricted to students who have a career-related internship or co-op during the Summer 2015 term. If you do not meet this requirement you will be disqualified from the course. Please contact Sarah Zehr at szehr@illinois.edu or 217-333-1960 with questions about this policy.

ENG 460  **Entrepreneurship for Engineers**  credit: 1 hours.
Fundamental concepts of entrepreneurship and commercialization of new technology in new and existing engineering and high-tech businesses. Guest speaker topics vary, but typically include: evaluation of technologies and business ideas in general; commercializing new technologies; financing through private and public sources; legal issues; product development; marketing; international business issues. Same as TE 460. 1 undergraduate hour. 1 graduate hour. Credit is not given for both ENG 360 and ENG 460.

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<td>35614</td>
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Online
Restricted to MS: Civil Engr - Online - UIUC, MCS:Computer Sci Online -UIUC, MS: Mechanical Engineering -UIUC, MS: Aerospace Engr-Online/UIUC, or MCS: Computer Sci Online/UIUC.
Restricted to online MSME, online MSCEEE and online MCS students. Center for Innovation in Teaching & Learning (CITL) restrictions and assessments apply, see http://www.citl.illinois.edu. For more details on this course section, please see http://engineering.illinois.edu/online/courses/.

ENG 461  **Technology Entrepreneurship**  credit: 3 hours.
Critical factors affecting technology-based ventures: opportunity assessment; the entrepreneurial process; founders and team building; preparation of a business plan including market research, marketing and sales, finance, and manufacturing considerations. Same as TE 461. 3 undergraduate hours. 3 graduate hours. Prerequisite: MATH 231.

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<td>36520</td>
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ENG 466  **High-Tech Venture Marketing**  credit: 1 OR 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. 1 or 2 undergraduate hours. 1 or 2 graduate hours. Credit is not given for both ENG 466 and BADM 365. Prerequisite: ENG 360.
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.

ENG 510  Engineering Practice  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 560  Managing Advanced Technol I  credit: 1 hours.
Business perspective of managing advanced technology in industry: strategic context of advanced technology; analytical financial tools used to estimate its potential value; legal concepts important in its management; interpersonal issues related to leading and advocating on behalf of advanced technology groups. Same as TE 560.

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<tr>
<td>36223</td>
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Restricted to online grad non-degree, online MSAE, online SMSE, online MSCEE and online MCS students. Center for Innovation in Teaching & Learning (CITL) restrictions and assessments apply, see http://www.citl.illinois.edu. For more details on this course section, please see http://engineering.illinois.edu/online/courses/.

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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<tr>
<td>35131</td>
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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. Prerequisite: STAT 400.

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Restricted to online grad non-degree, online MSAE, online SMSE, online MSCEE and online MCS students. Center for Innovation in Teaching & Learning (CITL) restrictions and assessments apply, see http://www.coe.illinois.edu. For more details on this course section, please see http://engineering.illinois.edu/online/courses/.

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.
CRN | Type   | Section | Time          | Days | Location | Instructor
---|--------|---------|---------------|------|----------|------------
35616 | Online | ONL     | ARRANGED -    | -    | -        | Chopra, S

Online
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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.

CRN | Type                   | Section | Time          | Days | Location | Instructor
---|------------------------|---------|---------------|------|----------|------------
38524 | Lecture-Discussion     | CIV     | 09:00 AM - 11:50 AM | TR   | -        | Gast, E Jahnke, K Litchfield, J

Credit Hours: 4 hours
Creativity, Innovation, Vision
May count as business or technical elective; please check with your advisor.