Engineering Courses

Courses

ENGR 1050. Engineering Leadership I.
Engineering Leadership I. Prerequisite: Departmental approval required. Restricted to majors of: PREE, CE, CS, EE, IE, ME, and MT
Department: Engineering
0 Credit Hours
2 Total Contact Hours
0 Lab Hours
2 Lecture Hours
0 Other Hours

ENGR 1100. Engineering Seminar.
Engineering Seminar (1-0) This course will prepare entering students to succeed in the college and introduce students to careers in engineering and science. The course cannot be counted toward a degree in an engineering discipline. Prerequisite: Department approval.
Department: Engineering
1 Credit Hour
1 Total Contact Hour
0 Lab Hours
1 Lecture Hour
0 Other Hours

ENGR 1300. Intro To Science & Engineering.
Introduction to Science and Engineering (3-0) This course will help the student to develop learning, study, and group skills, improve math application skills, and develop critical thinking and basic computer skills and problem solving skills. Basic concepts in engineering and science will be introduced.
Department: Engineering
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

ENGR 1301. Intro-Eng Design & Innovation.
Experience engineering: design, simulate, build, and test creative solutions to problems. Project-based learning environment helps students acquire an appreciation for the central ideas of engineering design as an on-time, on-budget and fit-for-purpose solutions to a poorly specified, open-ended problem. Students build key skills, including concept development, critical thinking and evaluation skills, clear communication, research and information literacy skills and the skills involved in successfully functioning within a team environment to complete a given task. Prerequisite: Departmental approval required.
Department: Engineering
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

ENGR 1400. Intro To Engineer & Phys Sci.
Introduction to Engineering and Physical Sciences (3-3) This course will help students develop critical thinking skills, improve problem solving skills, increase learning, study, and group skills, develop basic computer skills and improve math application skills. Basic concepts in science and engineering will be introduced and explored through projects. The course is designed for pre-science and pre-engineering students who are not yet enrolled in MATH 1508. Prerequisite: MATH 0311, which may be taken concurrently with ENGR 1400.
Department: Engineering
4 Credit Hours
6 Total Contact Hours
3 Lab Hours
3 Lecture Hours
0 Other Hours
ENGR 1401. Introduction to ENGR & Design.
Introduction to Engineering and Design (3-3) This course will introduce the student to effective procedures for solving engineering and design problems using mathematics, computers, basic measuring systems and devices, computational tools and statistical concepts. The course will also introduce the student to the engineering profession, including the role and responsibilities of the engineer in today's society. Prerequisites: MATH 1411, ENGL 1311, and department approval. MATH 1411 and ENGL 1311 and both may be taken concurrently with ENGR 1401.
Department: Engineering
4 Credit Hours
6 Total Contact Hours
3 Lab Hours
3 Lecture Hours
0 Other Hours
Corequisite(s):

ENGR 1402. Foundations of ENGR & Design.
Foundations of Engineering and Design (3-3) This course will introduce the student to foundations for computer programming, engineering design, project management, engineering economy, safety, human factors, engineering ethics, and legal aspects of engineering practice. These topics will be integrated with design projects that include written and oral presentations. Prerequisites: ENGR 1401 with a grade of "C" or better and MATH 1411. MATH 1411 may be taken concurrently with ENGR 1402.
Department: Engineering
4 Credit Hours
6 Total Contact Hours
3 Lab Hours
3 Lecture Hours
0 Other Hours

ENGR 2050. Engineering Leadership II.
Prerequisites: ENGR 1050 with a grade of P AND departmental approval. Restricted to majors: PREE, CE, CS, EE, IE, ME, and MT.
Department: Engineering
0 Credit Hours
2 Total Contact Hours
0 Lab Hours
2 Lecture Hours
0 Other Hours

ENGR 3050. Engineering Leadership III.
Prerequisites: ENGR 2050 with a grade of P AND departmental approval. Restricted to majors of: PREE, CE, CS, EE, IE, ME and MT.
Department: Engineering
0 Credit Hours
2 Total Contact Hours
0 Lab Hours
2 Lecture Hours
0 Other Hours

ENGR 4320. Innovation in Technology.
Development of design skills for advanced students in engineering and computer science, building on the students' technical knowledge to help them identify and find novel solutions for difficult design problems. The course enables students to improve their innovation skills and to understand the role of innovation in technology-based enterprises. Working with the innovation techniques, the course focuses on activities to build creativity. Students will apply these techniques to develop computer-game scenarios, mobile applications, and, more broadly, ideas for technology-based business and public-sector start-ups. Students will also develop perspective on how design affects translation to commerce or other use.
Department: Engineering
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

ENGR 4330. Innovation Technology.
Department: Engineering
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours
This course introduces students to intellectual property law, with particular attention to topics of interest for the fields of engineering and computing. The course focuses on the constitutional provisions, laws and court decisions that create and define rights in intellectual property, with primary attention to patents and copyrights, and with secondary attention to trade secrets. Students will gain basic skills in critical thinking, reading, understanding and explaining statues and cases relating to intellectual property.

**Department:** Engineering

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours

**Prerequisite(s):** (EL 4331 w/C or better) AND (POL 4325 w/C or better)

ENGR 4332. Law and Commercialization.
This course introduces students to the technology commercialization process, with particular attention to topics of interest for the fields of engineering, science, and business. The course focuses on the practical aspects of invention disclosure, patent protection, marketing, and licensing, and technology start-up formation and fundraising. Students will gain skills in invention triaging, patent claim amendments, drafting patent marketing materials, and negotiating commercialization-related contracts.

**Department:** Engineering

**3 Credit Hours**

**3 Total Contact Hours**

0 Lab Hours

3 Lecture Hours

0 Other Hours