

General Engineering (GNEG)

Courses

GNEG 11003. Introduction to Engineering. 3 Hours.

This introductory course for first year engineering students introduces them to the fields of engineering and many of the modeling and problem solving techniques used by engineers. It also introduces the students to the engineering profession and some of the computer tools necessary for pursuing a degree in engineering. This course is designed for current and future transfer students. Freshman engineering students on campus should select GNEG 12001 or GNEG 11101 as appropriate. Pre- or Corequisite: MATH 11003 or MATH 12003 or MATH 13004 or MATH 24005 or MATH 24004 or MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. Corequisite: Engineering major. (Typically offered: Fall, Spring and Summer)

GNEG 11101. Introduction to Engineering I. 1 Hour.

Fundamentals of engineering problem-solving including skills from mathematics, science, and computing. Introduction to the engineering design process through team-based activities. Study of the contemporary engineering profession and the disciplines within the College of Engineering. Corequisite: Drill component and MATH 13004 or MATH 24005 or MATH 24004 or MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. Prerequisite: Engineering First-Year, Exploring Engineering, or Engineering Transfer majors only. (Typically offered: Fall and Spring)

GNEG 111H1. Honors Introduction to Engineering I. 1 Hour.

Fundamentals of engineering problem-solving including skills from mathematics, science, and computing. Introduction to the engineering design process through team-based activities. Study of the contemporary engineering profession and the disciplines within the College of Engineering. Corequisite: Drill component and MATH 13004 or MATH 24005 or MATH 24004 or MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. Prerequisite: (Engineering First Year or Exploring Engineering majors) and Honors College students only. (Typically offered: Fall and Spring)

This course is equivalent to GNEG 11101.

GNEG 11201. Introduction to Engineering II. 1 Hour.

Further study of engineering problem-solving including skills from mathematics, science, and computing. Experience with the engineering design process through a major, team-based project. Selecting a major within the College of Engineering. Discussion of academic and professional opportunities for engineering students. Corequisite: Drill component and MATH 24005 or MATH 24004 or MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. Prerequisite: GNEG 11101 or GNEG 111H1 and Engineering First-Year or Exploring Engineering majors only. (Typically offered: Fall and Spring)

GNEG 112H1. Honors Introduction to Engineering II. 1 Hour.

Further study of engineering problem-solving including skills from mathematics, science, and computing. Experience with the engineering design process through a major, team-based project. Selecting a major within the College of Engineering. Discussion of academic and professional opportunities for engineering students. Corequisite: Drill component and MATH 24005 or MATH 24004 or MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. Prerequisite: (GNEG 111H1 or GNEG 11101), ((Engineering First-year or Exploring Engineering majors) and Honors College students only). (Typically offered: Fall and Spring)

This course is equivalent to GNEG 11201.

GNEG 12001. Fundamentals of Success in Engineering Study. 1 Hour.

Assisting Engineering First Year students in developing skills for successful completion of engineering course work. Building a supportive learning community, assisting students in developing positive attitudes and productive behaviors resulting in both academic and personal success, and informing students of the resources available for maintaining their academic and personal wellness. Corequisite: Drill component and MATH 11003 or MATH 13004. Prerequisite: Engineering First-Year or Exploring Engineering students only. (Typically offered: Fall and Spring)

GNEG 131H1. Honors Research Experience I. 1 Hour.

An initial undergraduate research experience for a select group of Engineering First Year students enrolled in the Honors College. Corequisite: GNEG 111H1 and MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. (Typically offered: Fall)

GNEG 132H1. Honors Research Experience II. 1 Hour.

Continuation of GNEG 131H1 culminating with the annual Freshman Engineering Program Honors Research Symposium. Pre- or Corequisite: MATH 25004. Prerequisite: GNEG 131H1. (Typically offered: Spring)

GNEG 141H1. Honors Innovation Experience I. 1 Hour.

An initial undergraduate innovation experience for a select group of Engineering First Year students enrolled in the Honors College. Corequisite: GNEG 111H1 and MATH 25004 or MATH 26004 or MATH 25804 or MATH 30803 or MATH 26103. (Typically offered: Fall)

GNEG 142H1. Honors Innovation Experience II. 1 Hour.

Continuation of GNEG 141H1. Pre- or Corequisite: MATH 25004. Prerequisite: GNEG 141H1 and honors standing. (Typically offered: Spring)

GNEG 16000. Undergraduate Research Assistant. 0 Hours.

Undergraduate research. (Typically offered: Fall, Spring and Summer)

GNEG 1900V. Special Topics. 1-5 Hour.

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. (Typically offered: Irregular)

GNEG 211H1. Engineering Honors Colloquium: Navigating Excellence in Diverse Fields. 1 Hour.

This dynamic Engineering Honors Colloquium is designed for honors students within the College of Engineering. Offering an in-depth exploration of the honors curriculum, it seamlessly integrates theoretical knowledge with practical application. The course's primary object is to equip students for a rewarding journey, culminating in a high-caliber thesis and laying a robust foundation for future professional endeavors. It methodically introduces students to the nuances of the honors program, focusing on program-specific requirements and key skills essential for both academic excellence and career success. Students must enroll in the specific section corresponding to their major. The course may not be repeated for credit. Prerequisite: Honors standing. (Typically offered: Fall and Spring)

GNEG 26000. Undergraduate Research Assistant. 0 Hours.

Undergraduate research. (Typically offered: Fall, Spring and Summer)

GNEG 31103. Special Topics-Study Abroad. 3 Hours.

Students travel abroad to gain a global perspective on a particular facet of the engineering discipline. Students are required to complete pre-travel investigative or background assignments, participate in all activities of the actual trip and will produce a post travel reflective or comparative product relative to the special topic. Prerequisite: Instructor consent. (Typically offered: Irregular) May be repeated for up to 9 hours of degree credit.

GNEG 311H3. Honors Special Topics-Study Abroad. 3 Hours.

Students travel abroad to gain a global perspective on a particular facet of the engineering discipline. Students are required to complete pre-travel investigative or background assignments, participate in all activities of the actual trip and will produce a post travel reflective or comparative product relative to the special topic. Prerequisite: Instructor consent and honors standing. (Typically offered: Irregular) May be repeated for up to 9 hours of degree credit.

This course is equivalent to GNEG 31103.

GNEG 36000. Undergraduate Research Assistant. 0 Hours.

Undergraduate research. (Typically offered: Fall, Spring and Summer)

GNEG 371H2. Honors Research Experience I. 2 Hours.

Introduction to the research of the faculty of the College of Engineering for the purpose of matching students with an undergraduate research advisor. Development of skills in using electronic resources to conduct background research on individuals and topics in the engineering academic community. Development of an undergraduate research white paper with a corresponding presentation. Prerequisite: Honors College and ENGR students only, and instructor consent. (Typically offered: Spring)

GNEG 38001. Parallel Cooperative Education. 1 Hour.

Part time supervised experience in industry where students apply classroom skills to problems specific to their discipline in a professional workplace setting. Credit may not be applicable to degree programs in engineering. Prerequisite: Instructor permission. (Typically offered: Fall, Spring and Summer)

GNEG 38101. Alternating Cooperative Education. 1 Hour.

Full time supervised experience in industry where students apply classroom skills to problems specific to their discipline in a professional workplace setting. Application of credit to a degree program is at the discretion of the department owning the degree program. Prerequisite: Instructor consent. (Typically offered: Fall, Spring and Summer) May be repeated for up to 3 hours of degree credit.

GNEG 3900V. Special Topics. 1-4 Hour.

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. (Typically offered: Irregular) May be repeated for up to 4 hours of degree credit.

GNEG 390HV. Honors Special Topics. 1-4 Hour.

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. (Typically offered: Irregular) May be repeated for up to 4 hours of degree credit.
This course is equivalent to GNEG 3900V.

GNEG 46000. Undergraduate Research Assistant. 0 Hours.

Undergraduate research. (Typically offered: Fall, Spring and Summer)

GNEG 58001. Parallel Cooperative Education. 1 Hour.

Part time supervised experience in industry where students apply focused, discipline specific, classroom and research skills to problems directly related to their area of study in a professional work place setting. May be repeated for up to 3 hours of non-degree credit. Prerequisite: Instructor permission. (Typically offered: Fall, Spring and Summer)

GNEG 5900V. Special Topics. 1-4 Hour.

Consideration of current engineering topics not covered in other courses. Prerequisite: Instructor's consent. (Typically offered: Irregular) May be repeated for up to 16 hours of degree credit.