Freshman Honors Engineering

What is the Freshman Honors Engineering program?

• The Honors Engineering program at Purdue is designed to give the more ambitious students an added challenge.

• Students are required to take a minimum of seven honors designated credit hours both semesters of their freshman year.

• Main courses include Engineering Problem Solving, Engineering Fortran and C, and most students take honors-designated math or chemistry.

• It consists of approximately 200 students, about half of which live in a residential learning community.

• Students have the opportunity to visit several different corporations’ engineering facilities to get a first-hand idea of what engineers do at that company.
Peer leaders

• The peer leaders in our group are previous honors students who wish to volunteer their time helping the next year’s class adjust.

• The selection process consists of a basic application followed by interviews.

• Their duties include leading one small-group section of the seminar class for half of the semester and attending preparatory meetings once a week.

• At the start of the semester a guest speaker from the school of Liberal Arts who researches learning methods talked to them about how to ease the transition to college for the students.
Honors Freshman Engineering

Benefits of the Honors program include:

• Honors Learning Communities – students may choose to spend their first year living with other honors engineers who take many of the same classes and get to partake in community activities such as a trip to Chicago.

• Each team in the Engineering Problem Solving class get to use a Tablet PC for the semester to help make sharing information within the team easier.

• Lego Mindstorms robots are used to give some hands-on programming experience in both Engineering Problem Solving and in Engineering Programming.
Integrating Peer Leadership into First-Year Programs

Minority Engineering Program

&

National Society of Black Engineers
The Minority Engineering Program (MEP)

Since its beginnings in 1974, the goal of the Minority Engineering Program (MEP) has been to attract, retain, and graduate the very best minority engineering talent from across the country.

• To attain these goals, the MEP…
  
   Attracts students with programs such as PROMISE and PREVIEW, where some of the best minority high school students are brought to campus to experience both engineering and Purdue.
   Retain students by offering free tutorial services, employment opportunities, and mentorship programs.

• The Purdue University MEP staff have also served as the Advisors to the Alpha Chapter of the National Society of Black Engineers (NSBE) since 1974, when NSBE was founded at Purdue.
The MEP & NSBE – Collaborating to Make a Difference

Peer Leadership and Leadership Development Opportunities

• Minority Engineering Program
  ▶ Students often serve as program facilitators and mentors to over 200 pre-college students participating in summer programs sponsored by the MEP for students as young as 6th grade.

• Within the Purdue Chapter of the National Society of Black Engineers
  ▶ There is, separate from the general membership, a freshmen-run Freshmen Council.
    ▶ Besides the freshmen elected officers, there are also committee chairs within the Freshmen Council
    ▶ The Council manages their own budget and
    ▶ Plans its own events including community service projects and social events.

• Through these things, the NSBE freshmen gain valuable experience later applicable to other organizations and their careers.
To its’ freshman students, the Minority Engineering Program offers…

- *Minority Engineering Student Seminar*, a semester class engineered to assist in the adjustment to the university environment
- A number of Merit Scholarships
- Access to free tutors available through-out the year
- Opportunity to participate in a program where students are paired with graduate student mentors.

The Purdue Chapter of the National Society of Black Engineers offers…

- Upper-class undergraduate mentors for each freshman member
- Networking opportunities with other students as well as corporate entities
- Organized community service as well as the opportunity to participate in an engineering project.
Integrating Peer Leadership into First-Year Programs

Purdue University

• Indiana’s Land Grant University
  – West Lafayette, Indiana
• Doctoral/Research - Extensive
• 38,000 Students
  – 9,000 Graduate Students
  – 29,000 Undergraduates
• 6,000 engineering undergraduate
  – 1600 First-Year Engineering Students
Integrating Peer Leadership into First-Year Programs

Freshman Engineering Department

- 2,400 Students
  - 1,650 new students each fall
  - 20% female and 15% international
- 7 Faculty
- 4 Academic Advisors
- 3 Professional Staff
- Advising shared between student affairs professionals, student advisors, and faculty
Peer Leaders

- Peer leaders are integrated to many activities for first-year engineering students
  - Academic advising
  - Teaching - first-year seminars
  - Mentoring for special population
  - Tutoring
  - Outreach
  - Recruiting
  - Alumni and industrial relations
The PSEF Mission:
To develop a further understanding of engineering and its role in modern society through programs targeted toward students before they attend Purdue, as freshmen, and as alumni.

PSEF’s Role In Freshman Engineering
The Freshman Program team organizes and directs an upperclassmen led supplemental seminar to familiarize freshmen engineering students with campus life, the different fields of engineering, and Purdue in general.
Engineering 104 - Mentors

- Upperclassmen in the field of engineering

- Selected through an application and interview process, in which they present a typical class they would hold for their freshmen students.

- Responsibilities are to:
  - Be a support for the freshmen
  - Put in the time required to plan an interactive and beneficial class
  - Present the school of engineering in a positive light

- Attend training sessions in the spring to cover the roles of a mentor

- Supported by the Freshman Programs team.
Engineering 104 – Benefits for Mentees

- Help with transition into college life
- Help balancing academic and personal life
- Encouragement to participate in extracurricular activities
- Gain a realistic perspective of engineering
- Learn about resumes
- Stress-management skills
Integrating Peer Leadership into First-Year Programs

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Integrating Peer Leadership into First-Year Programs

Women In Engineering

First Year Seminar
ENGR 194: The Women In Engineering Seminar

• Average annual enrollment of 200 first year women
• One credit elective course:
  • Weekly peer group led by junior and senior women engineering students
    • Provides information and promotes supportive relationships among peers with similar academic and career goals
  • Stimulates involvement and interaction with other women engineering students as well as organizations on campus
  • Provides information and strategies for the academic and interpersonal skills needed to succeed in engineering
• Weekly lecture-format presentation by practicing alumnae engineers
ENGR 194: The Women In Engineering Seminar

Peer Group Leaders

• Junior and Senior engineering women are eligible to become a peer group leader
• Leaders selected upon personal maturity, academic success, and personability
• Responsibilities include:
  • Weekly training meetings with course coordinator and other group leaders
  • Leading two weekly sections of 10 first year women
ENGR 194: The Women In Engineering Seminar

Guest Speakers
• Present topics of interest including:
  • Dual-career couples
  • Opportunities outside of engineering, including law and medicine
  • Technical vs. Management path
  • Challenges of being a gender minority in your field