Pre-Engineering in the Division of General Studies

Presentation Outline

- Overview of Pre-Engineering (PREP)
- Students admitted directly into PREP
- Application requirements & process for students who plan to transfer into PREP
- Details about transferring from PREP to Engineering

What is Pre-Engineering (PREP)?

- Pre-Engineering (PREP) is a part of the Division of General Studies (DGS)
- PREP students are DGS students who will receive specialized advising from PREP advisors and access to courses and resources that are usually only open to students already in the College of Engineering
- PREP provides an opportunity for qualified students not admitted into Engineering to prepare for possible transfer into Engineering
- Any student who wants to transfer to Engineering must first be admitted into PREP
  - Any students admitted Fall 2016 or earlier will follow previous ICT requirements

Engineering Majors that Require PREP

Do NOT Require PREP First

- Chemical and Biomolecular Engineering
- Computer Science + Anthropology
- Computer Science + Astronomy
- Computer Science + Chemistry
- Computer Science + Crop Sciences
- Computer Science + Linguistics
- Computer Science + Mathematics
- Computer Science + Statistics
- LAS Physics

Do Require PREP First

- Aerospace Engineering
- Agricultural and Biological Engineering
- Bioengineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Engineering Mechanics
- Engineering Physics
- Systems Engineering and Design
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Nuclear, Plasma, and Radiological Engineering

For Students
ADMITTED into PREP

Who are PREP students

- Approximately 240 students began in PREP this fall 2017
- Almost all students who started this fall were “re-directs” from the College of Engineering
- Students with high test scores
- Students with high school grades that suggest they can begin in Calculus I
- Students who have experience in Chemistry & Physics

First-year Students in Pre-Engineering

- Must remain in PREP for at least 2 semesters
- Guaranteed admission to an Engineering major provided that they meet GPA thresholds
  - Some majors require higher GPAs and/or competitive review
  - NOTE: Our GPA thresholds for current PREP students differ slightly than those for students who will enter PREP in Fall 2018
- Must take the same technical coursework (Math, Chemistry, Physics) as Engineering students
- Have access to many Engineering-specific courses (CS, ECE, SE courses)

"Typical" First Year Schedule for PREP Student

Mathematics
- Calculus I – MATH 220/221
- Calculus II – MATH 231
- Calculus III – MATH 241

Chemistry
- General Chemistry I – CHEM 102/CHEM 103
- General Chemistry II – CHEM 104/CHEM 105 (if required by major)

Physics
- Physics – PHYS 100
- Mechanics – PHYS 211
- Electricity & Magnetism – PHYS 212

Engineering 100 & Engineering 101

Engineering elective or intro courses
- CS 125, 173, 225
- ECE 110, 120, 210, 220
- ME 170
- SE 101

Composition I and/or General Education courses
- RHET 105 – Writing and Research

Biology
- Molecular & Cellular Basis of Life – MCB 150 (for Bioengineering)

Tuition Differential for PREP

- Students in Pre-Engineering will pay the Engineering differential tuition rate
  - The rate is the same for LAS students in CS+, Chemical Engineering, & Physics
  - https://registrar.illinois.edu/ug-rates-engineering-1718

- This differential provides access to:
  - ENG 100 & 101 (Engineering orientation)
  - Intro courses like CS 125, ECE 110 or 120
  - A designated PREP advisor

For Students
APPLYING to ICT into PREP

Applying to Pre-Engineering

- Students must apply in **May** of their freshman year
  - Application is open from May 1 – May 15
- Students do NOT need to have a specific major in mind – we ask for a preference, but that will not affect their admission to Pre-Engineering
- Sophomores, juniors, and seniors are not eligible.
  - Starting Fall 2018 transfer students will need to apply directly to the College of Engineering
- Students will need to be in PREP for at least one semester before applying to transfer to Engineering
- We anticipate accepting about 300 ICTs to PREP for Fall 2018

PREP Admission Criteria

- Students must have either completed or be in progress and on track to receive a B or higher in the following courses:
  - MATH 220/221
  - CHEM 102/103
    - NOTE: Lab may not be necessary if a student has AP or proficiency credit for CHEM 102 or CHEM 102 & 104
  - PHYS 100 (if recommended) or higher
    - NOTE: If a student tests into PHYS 211 and is AT LEAST in Math 231, then they should take PHYS 211

- Students must begin in at least MATH 115 (Precalculus) their first semester to be eligible for PREP
  - Students who begin in MATH 101 or 112 will NOT be eligible

Course Sequencing

Students who have credit for MATH 220/221, CHEM 102/103, and/or PHYS 100 are expected to continue the technical sequence and receive a B or higher for transfer consideration

- MATH 220/221 → MATH 231 → MATH 241
- CHEM 102/103 → CHEM 104/105 (if needed)
  - Majors that need CHEM 104/105: ABE, Bioengineering, Civil Engineering, Engineering Mechanics, Materials Science
- PHYS 100 → PHYS 211 (if in MATH 231) → PHYS 212 (if in MATH 241)

"Typical" First Semester for Student Applying to PREP

Course	Credit Hours
Precalculus or Calculus (I, II, or III)	3-5
Introductory Chemistry, General Chemistry I, or General Chemistry II + lab	3-4
Physics 100, 211, or 212	2-4
GS 101 / other orientation course	1
General Education course, or Elective	0-4
	TOTAL: 14 – 16 credit hours

ICT Application for PREP

The application for PREP includes:

- Two or three essays (250-500 words each):
  - One essay about the student's professional goals
  - One essay about how a student's participation in campus organizations, volunteer work, or research has developed their skill set for Engineering
  - One OPTIONAL essay addressing special, extenuating circumstances related to their academic performance at Illinois
- A professional resume
- A competitive review of the student's overall & technical GPAs
  - A 3.0 is the minimum needed to apply, but the competitiveness of the pool will determine the average GPA

Transferring into Engineering: How It Works

GPA Criteria by Major

Competitive Review Majors	• Bioengineering • Computer Science • Mechanical Engineering	3.75 overall & tGPA + **competitive review based on space available**
Restricted Capacity Majors	• Computer Engineering • Electrical Engineering	3.75 overall & tGPA
Limited Capacity Majors	• Aerospace Engineering • Civil Engineering	3.50 overall & tGPA
Moderate Capacity Majors	• Industrial Engineering	3.25 overall & tGPA
Open Capacity Majors	• Agricultural and Biological Engineering • Engineering Mechanics • Engineering Physics • Materials Science and Engineering • Nuclear, Plasma and Radiological Engineering • Systems Engineering and Design (formerly General Engineering)	3.0 overall & tGPA

Transferring from PREP to Engineering

- Prepared and competitive PREP students will still need to submit an application to transfer into Engineering

- PREP students will be encouraged to identify more than 1 major and up to 3 majors when they apply
  - Students interested in the top 5 competitive majors will need to pick just ONE of those programs
  - Students should strongly consider a limited, moderate, or open capacity major in addition to a competitive or restricted one

Transferring from PREP to Engineering

- Admission to Engineering is based on overall & technical GPA, completion of required coursework, and completion of the application

- Since the demand for Engineering majors can vary over time, the guaranteed admissions requirement are subject to review
  - Competitive review majors do **NOT** have guaranteed admission

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How Students Can Learn More About ICTing into PREP

Fall 2017

- ICT Information Sessions: http://dgs.illinois.edu/pre-engineeringict

Spring 2018

- Application Workshops
- More programming – details to come soon!

Contact Information

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Questions?