OVERVIEW

• Preparing for your academic advising appointment
  • Options for engineering degree programs
  • Required classes and prerequisites
  • Course schedule load
  • Course registration process
• Campus support resources
• College of Engineering opportunities
• University policies and procedures

IOWA STATE UNIVERSITY
## Degree Offerings

- Aerospace
- Agricultural
- Biological Systems
- Chemical
- Civil/Environmental
- Construction
- Computer

## Minors

- Biomedical Engineering
- Cyber Security
- Energy Systems
- Nondestructive Evaluation
- Sales Engineering

**Undecided? Choose Undeclared Engineering**
- Evaluate engineering majors during Basic Program
- Declare a major after selecting one matching your interests
Engineering Basic Program Classes (BP)

- Classes required by all engineering majors
- Typically takes 2-3 semesters to complete
- Enables students to easily change engineering majors early in their program
- Need a 2.0 grade point average in BP and 2.0 ISU cumulative *before* moving to upper level engineering courses
## Basic Program – 24 credits

<table>
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<tr>
<th>Credits</th>
<th>Course</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>4.0</td>
<td>Math 165</td>
<td>Calculus I</td>
</tr>
<tr>
<td>4.0</td>
<td>Math 166</td>
<td>Calculus II</td>
</tr>
<tr>
<td>3.0</td>
<td>Engl 150</td>
<td>Critical Think/Comm</td>
</tr>
<tr>
<td>4.0</td>
<td>Chem 167 or Chem 177</td>
<td>Chemistry</td>
</tr>
<tr>
<td>3.0</td>
<td>Engr 160</td>
<td>Engineering Problems</td>
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<tr>
<td>5.0</td>
<td>Phys 221</td>
<td>Classical Physics I</td>
</tr>
<tr>
<td>R</td>
<td>Engr 101</td>
<td>Engineering Orientation</td>
</tr>
<tr>
<td>1.0</td>
<td>Lib 160</td>
<td>Information Literacy (Library)</td>
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</tbody>
</table>

4 year plans in university catalog show all courses required to graduate for each major [catalog.iastate.edu/undergraduatemajors-alpha/](catalog.iastate.edu/undergraduatemajors-alpha/)
English Placement

ENGL 150: Critical Thinking and Communication

- ACT-English ≥ 24 or SAT-EWR (Evidence-based Writing & Reading) ≥ 600
  - Placement into ENGL 250 as first English class at ISU

*Must pass ENGL 250 with “C” or better at ISU to get credit for ENGL 150 from ACT/SAT scores

English AP exam ≥ 3 Language or ≥ 4 Literature = 150 credit
English Placement and Library 160

ENGL 250: Written, Oral, Visual, Electronic Communication
- Take after ENGL 150 (unless already met entry criteria for 150 credit)
- Students typically take sophomore year

ENGL 150/250 Test-out opportunity
- Offered 2nd week of class
- $100 fee and must complete online registration form

LIB 160: Information Literacy (some take fall semester, some spring)
- Take with first English class at ISU
- May take it second half of the semester
- Test-out opportunity available during the semester
  - $100 fee and must complete registration form
English for Non-Native Speakers

Students whose native language is not English:

- Must take **English Placement Test (EPT)** for non-native speakers of English
  - Offered at beginning of each semester
  - Exemption for students graduating from U.S. high school with ACT-E 16+ or SAT-EWR 450+
  - Exemption for students placing into ENGL 250 based on ACT or SAT score
  - Transfer credit for ENGL 150/250 **does not** exempt students from EPT

- If placed in ENGL 101B or 101C, must complete **before** taking ENGL 150 or ENGL 250
- If placed in ENGL 99S ($480 fee*), can take with ENGL 150/250
- These additional EPT English classes are considered prerequisites and **must be completed as part of the engineering Basic Program**

*Fees subject to change*
Math Placement

Placement based on online placement assessment and college transfer courses
- All students are required to take the ALEKS math placement assessment prior to being scheduled in a math course unless college credit with final grades of “C” or better in both Calc I and II has been transferred to ISU

Trigonometry and Algebra background required prerequisites to calculus and engineering
- Need to take these courses unless passed Trig/Algebra in ALEKS placement assessment or have college transfer credit equivalent
- Math placement score determines your math course for first semester

Options for starting schedules in math:
- Math 10 (Algebra—$530 fee*, not college credit)
- Math 140 (College Algebra)
- Math 143 (Trigonometry/Prep for Calculus)
- Math 165 (Calculus I)
- Math 166 (Calculus II)
- Higher: Math 265 (Calculus III), Math 266/267 (Differential Equations)

*Fees subject to change
Chemistry Placement

CHEM 177: General Chemistry *(must be in Math 143 or higher)*
- Lab must be taken with the class
- Required for Chemical (Ch E), Civil (C E), and Materials (Mat E) engineering majors

CHEM 167: Chemistry for Engineers *(must be in Math 143 or higher)*
- Required for non-chemistry based engineering majors
- Lab required for Agricultural (A E) and Biological Systems (BSE) engineering majors
- CHEM 177 credits can be used for CHEM 167 (additional chemistry may be needed)

CHEM 50: College Chemistry Preparation ($350 fee*)
- Required prerequisite for students who do not have the equivalent of one year of high school chemistry

*Fees subject to change
Engineering and Physics Classes

ENGR 160: Engineering problem solving and computer programming
• Two-part class: must pass both problem-solving and programming to pass class
• Some majors offer a departmental version: ABE 160; AER E 160; C E 160; CH E 160; CPR E/E E/SE 185; I E 148; M E 160
• Any version of ENGR 160 taken meets requirement for any major
• Must be finished with Math 143 and enrolled in Math 165 for AER E 160, CPR E/E E/SE 185, ENGR 160, C E 160, CH E 160, M E 160
  • Or enrolled in Math 143 for ABE 160 or I E 148

PHYS 221: Calculus-based Physics
• Credit or enrollment in Math 166 is required for Phys 221
• Time-consuming course with 10-15 hours of homework per week
• Avoid Phys 221 first semester, if possible, to allow for adjustment to ISU
Orientation to Engineering

“R” credit course – required for your major

Engr 101 Objectives:

- Weekly adviser contact
- Meet engineering students and connect for study groups
- Learn about policies, procedures and campus resources
- Acquire/improve study skills
- Choose or confirm an engineering major
  - What are the disciplines and specialties within the major?
Examples of Other Required Engineering Courses

ENGR 170: Engineering Graphics and Design
- Required for A E and BSE (ABE 170); C E and ConE (C E 170); and M E (M E 170)
- Credit or enrollment in Math 143 for ME 170

COM S 227: Intro Object Oriented Programming
- Required for Cpr E, Cyb E, and S E
- Placement into Math 143 or higher

CHEM 178 and lab: General Chemistry II
- Required for C E (environmental), Ch E, Mat E
- Continuation of Chem 177

IE 305: Engineering Economics
- Required for A E, BSE, Con E, E E, I E
- Must have completed Math 166

C E 274: Engineering Statics
- Required of all majors except Ch E, Cpr E, Cyb E, E E, Mat E, SE
- Must have completed Math 166 and Phys 221

PHYS 232/232L: Introduction to Classical Physics II
- Required for all majors except A E, BSE, C E, Cyb E, S E
- Must have completed Phys 221 and Math 166

MAT E 273: Principles of Materials Science and Engineering
- Required for AER E, A E, I E, M E
- Must have completed Chem 167 or 177 and Math 165
Social Sciences/Humanities (General Education Courses)

- 12-15 credits over academic career required for all engineering majors
- Examples – Psychology, Sociology, History, Economics, World Languages, Anthropology, Political Science
- 3 credits must be from U.S. Diversity list and 3 credits from International Perspective list
- Some departments require specific courses and/or have sequence requirements
- Typically take at least one Gen Ed elective first year

*Consider interest areas prior to your registration appointment!*
All engineering students must have the equivalent of 2 years of high school world language.

Requirement can be met by sending ISU:
- High school transcript showing 2 years of a single world language
- College transcript showing 2 semesters of a single world language

Students not meeting the above requirement must take the equivalent of 2 semesters of a single world language in college for their engineering degree.
Minors/Double Majors

- Languages and Cultures for Professions (LCP)
  - World language minor/major for engineering students
  - Take online placement assessment to determine first course if have had 3-4 years of world language in high school and want to start at 300 level

- 5 Engineering Minors
- Other common minors: Business, Economics, Math, Music Technology, Physics, Sustainability Studies, Entrepreneurial Studies

- Must declare major before adding minor/second major
Advanced Placement/International Baccalaureate (AP/IB)

- It is the student’s responsibility to tell adviser of AP/IB courses (and to have scores sent to Iowa State)
- Chemistry department must review AP lab notebook material and syllabus before chem lab credits applied
- All other AP/IB credits applied automatically
- You have the option to repeat these courses at ISU

Scores required:
- 4 in AP Chem or 5 in IB HL Chem for Chem 177/178
- 5 in AP Com S A for Com S 227
- 4 in AP Math AB or 3 in AP Math BC for Math 165
- 4 in AP Math BC for Math 165 and Math 166
- 6 in IB HL Math 165
- 4 in AP Phys C-Mech=Phys 221 or 4 on Elec & Mag =Phys 222
Transfer Credits

• The Transfer Credit Evaluation (TCE) from the Office of Admissions shows how a class transfers into ISU (shown in student record on AccessPlus).

• If a transfer class shows up as a 1T, 2T, 3T, 4T it will not count towards an engineering degree unless it is reviewed and approved by a faculty member from the course content area.

  Students must initiate this review with their academic adviser during the school year.

• TRANSIT allows you to enter courses and see how they transfer to your engineering degree www.transit.iastate.edu/

• Engineering accepts credits for transfer courses with a grade of “C” or better only.

• Up to 65 transfer credits from a 2-year school may apply to degree.

• No credit limit for 4-year schools; final 32 credits must be taken at ISU.
Plan Your Schedule for Success

- Schedule no more than three problem solving courses first semester and fewer if heavy outside commitments
  
Examples of problem solving classes:

- Math
- Chemistry
- Computer Science
- Engineering 160
- Physics

- Problem solving courses take more time than other classes to complete homework so need to allow for this time in your schedule
- Important to not get behind in problem solving courses (very difficult to catch up)
## Example 1st Semester Schedules

<table>
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<tr>
<th>Example A</th>
<th>Example B</th>
<th>Example C</th>
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<td>Chem 167 (4)</td>
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<td>Engr 101 (R)</td>
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</table>

|___________|___________|___________|
|15 Credits|15 Credits|15 Credits|

Typically take between 14-16 credits (problem-solving courses shown in bold above)
Tips: Class Formats

- M W F – Lecture (large class)
  - T or R – Recitation (small class)
  - *Both lecture and recitation times go on your schedule when you enter the section number*
- ENGR 160 (or equivalent) – 1 hour and 50 minutes M W or T R
- Chemistry Labs – 2 hours and 50 minutes one time per week
- Section XW (online classes) are off-campus – typically extra fee

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<th>8:00 a.m.</th>
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<th>10:00 a.m.</th>
<th>11:00 a.m.</th>
<th>12:10 p.m.</th>
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<th>2:10 p.m.</th>
<th>3:10 p.m.</th>
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Use support resources!

- Advisers
- Academic Success Center
- Instructors
Advisers: Facilitators of Information

3 Types: Financial Aid, Residential, Academic

Academic advisers provide
- Course guidance and selection
- Referrals to resources, student advocacy and support
- Assistance with making informed career-related decisions
- Answers to questions when you’re not sure what to do

Advising in the College of Engineering
- Faculty adviser, professional adviser, or both, depending on department
Student Support Resources

Academic Success Center
- Supplemental Instruction (SI)
- Study Skills Class (Psych 131)

Help Rooms/Sessions
- Chemistry
- English

Other Resources
- Multicultural Liaison Officer
- Student Accessibility Services
- Student Counseling

- Tutoring Services
- Academic Coaching
- Math
- Physics
- Veterans Center
- Student Clubs & Organizations
- International Student Liaison

Remember, your assigned academic adviser is a source of help, too
Tips for Success

• First 2-4 weeks are critical
• Problems build on the knowledge learned from prior assigned problems
• Don’t be afraid to ask for help (use your resources early in the semester)

• Read the syllabus – and follow it
• Attend class
• Read your ISU email—this is how faculty/advisers will communicate with you
• Use online CANVAS resources and tools—click sign-ons (top right) ISU home page then your CANVAS “Courses” will show all courses utilizing it
• Visit with your instructor as often as possible
Study Abroad

The College of Engineering maintains partnerships with universities worldwide
- Examples: Australia, Germany, Ireland, Singapore, France
- Summer, semester, full-year options
- Credits may transfer to Engineering degree
- English and non-English speaking programs
- Plan early with your academic adviser

For more information, contact:
Engineering International Programs
engineering.iastate.edu/studyabroad/
Student Clubs
More than 90 engineering student clubs and organizations

Information on all university student clubs and organizations found at stuorg.iastate.edu

Professional Organizations

The Engineering Ambassador & Mentor Program (TEAM)

Engineers’ Week

Solar Car
Engineering Work Experience

Paid Internship/Work experiences
• Summer, semester, full-year options

Benefits
• Salary earnings average $3,000/month
• Higher placement rate at graduation

For more information, contact:
Engineering Career Services
engineering.iastate.edu/ecs
Policies and Procedures

• All university policies and requirements for graduation are found in the university catalog at https://catalog.iastate.edu/

• Schedule changes during first week of each semester
  • Student can complete online through AccessPlus

• All students must validate enrollment in each course
  • Attend one of the first two class sessions to validate enrollment or instructor may assign seat to another student
  • Student must initiate drop of course if enrollment not validated—does not drop automatically
Policies and Procedures

- **Schedule changes after first week of classes**
  - Adviser and instructor signatures required

- **Withdrawing from the university**
  - Adviser signature required if classes have already begun
  - Refund rates correspond with the date of withdrawal

- **Last day to drop a full-semester course or withdraw from university**
  - Typically one week after mid-term grade reports
    - 1st line under each course on AccessPlus schedule shows drop deadline date for the course
Policies and Procedures

• **Maximum course drops for ISU degree:**
  • Transfer students - May drop no more than 4 classes
  • Dropped courses during the first semester at ISU and the first week of class each semester are not counted against this limit

• **Maximum “Designated Repeats” for retaking courses:**
  • 15 Credits (new class grade replaces old grade for cumulative GPA)
  • Repeats above 15-credit limit will have both new class grade and old grade averaged for cumulative GPA
What’s Next

Noon-1:00 Bring lunch and join other students in Campanile room
1:00 - 5:00 Attend assigned academic advising appointment
2:10 - 3:00 Campus tour
OR
3:10 - 4:00 Campus tour

Get ISUCard and set up CyMail (ISU email) before leaving campus

Assigned instructors and classrooms will post on AccessPlus schedule near the beginning of the semester
BE > YOU IMAGINED

Questions? We are here to help!