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
### 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>
<thead>
<tr>
<th>Credits</th>
<th>Course</th>
<th>Course</th>
</tr>
</thead>
<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>
</tr>
<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>
</tr>
</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 $\geq 24$ or SAT-EWR (Evidence-based Writing & Reading) $\geq 600$
  - 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 $\geq 3$ Language or $\geq 4$ Literature = 150 credit
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
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!*
Engineering World Language Requirement

• 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 232/232 lab
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/](http://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>
<thead>
<tr>
<th>Example A</th>
<th>Example B</th>
<th>Example C</th>
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<tbody>
<tr>
<td>Engl 150 (3)</td>
<td>Math 166 (4)</td>
<td>Math 267 (4)</td>
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<tr>
<td>Math 143 (4)</td>
<td>Engr 160 (3)</td>
<td>Phys 232/L (5)</td>
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<tr>
<td>SSH (3)</td>
<td>Chem 167 (4)</td>
<td>CE 274 (3)</td>
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<td>Chem 177 (4)</td>
<td>Lib 160 (1)</td>
<td>Engr 101 (R)</td>
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<tr>
<td>Chem 177L (1)</td>
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</tr>
<tr>
<td>15 Credits</td>
<td>15 Credits</td>
<td>15 Credits</td>
</tr>
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</table>

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

<table>
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<tr>
<th>Times Days</th>
<th>8:00 a.m.</th>
<th>9:00 a.m.</th>
<th>10:00 a.m.</th>
<th>11:00 a.m.</th>
<th>12:10 p.m.</th>
<th>1:10 p.m.</th>
<th>2:10 p.m.</th>
<th>3:10 p.m.</th>
<th>4:10 p.m.</th>
<th>5:10 p.m.</th>
<th>6:10 p.m.</th>
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<tr>
<td>MON (M)</td>
<td>CHEM 177</td>
<td>MATH 165</td>
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<td>TUES (T)</td>
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<td></td>
<td>MATH 165</td>
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<td>MATH 165</td>
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<td>CHEM 177L</td>
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<td>THURS (R)</td>
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<td>ENGR 160</td>
<td>ENGR 160</td>
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<tr>
<td>FRI (F)</td>
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<td>MATH 165</td>
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</tbody>
</table>
Registration Flowchart

Start Here
Building your schedule in AccessPlus

Login to AccessPlus
Go to Class Registration

Three Ways to Register:

Use Course/Section
Add course to schedule

Use Search for Class
Check for schedule conflicts under “Class Schedule”

Yes
No

Finished?

Yes

Logout of AccessPlus

Drop Course from Schedule
Change Section for a course on schedule

Click “Drop” next to course on Class Registration, confirm on next page

Find a new section for the course...

Click Add

Check for schedule conflicts under “Class Schedule”

Click Details for Restricted Sections; click Next 20 for more options

Enter the Reference Number
First step for Learning Community students

Use RAN from Adviser to login

See AccessPlus Registration video for further details at https://www.registrar.iastate.edu/students

Questions? We are here to help!

IOWA STATE UNIVERSITY
College of Engineering
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

Professional Organizations

The Engineering Ambassador & Mentor Program (TEAM)

Engineers’ Week

Solar Car

Information on all university student clubs and organizations found at stuorg.iastate.edu/
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/](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!