# Afternoon Agenda

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Engineering Curriculum</td>
<td>1:45 - 2:35pm</td>
</tr>
<tr>
<td>Break</td>
<td>2:35 - 2:45pm</td>
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<tr>
<td>Academic Opportunities &amp; Resources</td>
<td>2:45 - 3:10pm</td>
</tr>
<tr>
<td>Advising Appointment Cards</td>
<td>3:10 - 3:15pm</td>
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<tr>
<td>Web Registration Presentation</td>
<td>3:15 - 3:45pm</td>
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</table>

The purpose of this session is to get you ready for your advising appointment!
Welcome Video
Degree Offerings

- Aerospace
- Agricultural
- Biological Systems
- Chemical
- Civil & Environmental
- Computer
- Construction
- Electrical
- Industrial
- Materials
- Mechanical
- Software

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

Certificate
- Leadership in Engineering

Undecided? Choose Undeclared Engineering
- Evaluate engineering majors during Basic Program
- Declare a major after selecting one matching your interests
Orientation Worksheet – Question #1

Circle all engineering majors you are currently considering
Engineering Basic Program (BP) Classes

• Classes required by all 12 engineering majors
• Enables students to easily change engineering majors
• Typically takes 2-3 semesters to complete
• Need 2.0 grade point average in BP and 2.0 cumulative grade point average (GPA) before moving to upper level engineering courses
• Employers are typically looking for a minimum 3.0 GPA
## Basic Program – 27 credits

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>MATH 165</td>
<td>Calculus I</td>
</tr>
<tr>
<td>4</td>
<td>MATH 166</td>
<td>Calculus II</td>
</tr>
<tr>
<td>3</td>
<td>ENGL 150</td>
<td>Critic Think/Comm</td>
</tr>
<tr>
<td>3</td>
<td>ENGL 250</td>
<td>WOVE Composition</td>
</tr>
<tr>
<td>4</td>
<td>CHEM 167 or 177</td>
<td>Chemistry</td>
</tr>
<tr>
<td>3</td>
<td>ENGR 160</td>
<td>Engr. Problems</td>
</tr>
<tr>
<td>5</td>
<td>PHYS 221</td>
<td>Physics I</td>
</tr>
<tr>
<td>R</td>
<td>ENGR 101</td>
<td>Orientation</td>
</tr>
<tr>
<td>1</td>
<td>LIB 160</td>
<td>Library</td>
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</tbody>
</table>
English Placement

• ENGL 150: Critical Thinking and Communication
  • ACT-E 24+ or ACT-E 23 and HSR in top 25% = credit for ENGL 150**
  • SAT (Prior to March 2016)
    • SAT 550+ or SAT 540 and HSR in top 25% = credit ENGL 150**
  • SAT (March 2016 or after)
    • SAT 600+ or SAT 590 and HSR in top 25% = credit ENGL 150**
  • English AP exam: 3 Language or 4 Literature = credit ENGL 150

**Must pass ENGL 250 with “C” or better at ISU to get credit for ENGL 150 from the ACT/SAT scores above...
English Placement and Library 160 Class

ENGL 250: Written, Oral, Visual, Electronic (WOVE) Communication
- Taken after ENGL 150, unless you meet the criteria for ENGL 150 credit
- Usually taken in spring or 2nd year
- Honors students take ENGL 250H in fall

ENGL 250 Test Out:
- $100 fee - Must register prior to exam
- Held 2nd week of classes (3-hr, 2-part exam)
  - Recommend ACT-E 29 & Top 5% HS rank
  - Not available to Honors students

LIB 160: Information Literacy
- Typically taken with first English class at ISU
- May take it 2nd half of the semester
English for Non-Native Speakers

Students Whose Native Language is not English:

• Must take English Placement Test (EPT) for Non-Native Speakers of English before taking an English class
  • Offered at beginning of each semester: Ask Adviser for info
  • Exemption for students graduating from U.S. High School with ACT-E 16+, SAT of 410+ (prior to March 2016), or SAT of 450+ (March 2016 or after)

• 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

• English 101 or 99S are considered part of the Basic Program

*Tuition and fees are subject to change without notice
Orientation Worksheet – Question #2

List English and Library classes you need to take
Mathematics Placement

Placement based on online ALEKS Math placement assessment:

• Engineering students can start at any math level
  • Need a strong foundation in math for problem solving classes
• Trig/Algebra are required prerequisites to Engineering
  • Must take Trig/Algebra if not placed into Calculus I
  • ALEKS Math placement determines math course and Academic Adviser for 1st semester as well as any required academic programing

• Other math test out options:
  • Need 4-5 in AP Calculus AB or 3 in AP Calculus BC for MATH 165 credit
  • Need 4-5 in AP Calculus BC for MATH 165 and 166 credit
  • Need 6 in IB HL MATH for MATH 100 level and 165 credit
### Mathematics Placement

<table>
<thead>
<tr>
<th>ALEKS % (S)</th>
<th>Class Placement</th>
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<tbody>
<tr>
<td>S&lt;39</td>
<td>MATH 10 ($530 Fee*)</td>
</tr>
<tr>
<td>39-50</td>
<td>MATH 140 (Algebra)</td>
</tr>
<tr>
<td>51-75</td>
<td>MATH 143 (Pre-Calc)</td>
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<tr>
<td>76-100</td>
<td>MATH 165 (Calc I)</td>
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<tr>
<td>80+ and 14/20 on Canvas Calc II assessment</td>
<td>MATH 166 (Calc II)</td>
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<tr>
<td>80+ and transfer/AP credit for MATH 166</td>
<td>MATH 265/266/267 (Calc III/Differential Equations)</td>
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*Tuition and fees are subject to change without notice*
ALEKS Retake

- If you would like to try for a higher placement, or if you have not taken your ALEKS, we encourage you to do so tonight
  - Handouts with locations for taking ALEKS will be available later
- Click “Cancel” if asked for a code when reentering the system
- Take a photo/screenshot of your score and bring it with you to your advising appointment tomorrow
Calculus I (MATH 165) Credit

• Considerations for students with High School MATH 165 credit from AP or transfer class
  • If your MATH 165 material in HS was covered over two semesters instead of one, think about if you want to retake MATH 165 your 1st semester at ISU
    • MATH 166 (Calculus II) is considered the most difficult of the calculus series
    • MATH 166 is a one semester course so the material will be covered twice as fast as your MATH 165 material
  • You need good time management and study skills to make sure you can keep up with new material presented in Calc II
Orientation Worksheet – Question #2

List the math class you plan to take
Chemistry Placement Options

CHEM 177: General Chemistry *(must be in MATH 143 or higher)*
- Lab must be taken with the lecture
- Required for CH E, C E, MAT E majors
- Need 4-5 in AP CHEM or 5 in IB HL Chemistry for CHEM 177/178
- Chemistry Dept. must review lab notebook first week of fall semester before chemistry lab credits will be applied

CHEM 167: Chemistry for Engineers *(must be in MATH 143 or higher)*
- Required for non-chemistry based Engineering majors
- Lab required for A E and B S E majors
- Chemistry transfer credits for engineering will come in as CHEM 177; credits can be used for all engineering majors (additional chemistry may be needed)

CHEM 50: College Chemistry Preparation ($350 Fee*)
- Students without the equivalent of 1 year of high school chemistry

*Tuition and fees are subject to change without notice*
Orientation Worksheet – Question #2

List the chemistry class you plan to take
Importance of Meeting Others/ Finding Study Groups

Let’s play People Bingo!

Please find the yellow sheet in your packets and then listen for instructions.
Engineering Classes

ENGR 101: Orientation to Engineering

- Weekly adviser contact
- “R” credit course—Required for your major
- Meet engineering students and connect for study groups
- Learn about policies, procedures, and campus resources
- Acquire study skills
- Choose or confirm an engineering major
  - What are the disciplines and specialties within the major?
Engineering Classes

ENGR 160: Engineering Problem Solving & Computer Programming

- 2-part class: Must pass both problem solving & programming to pass course
- ENGR 160 meets requirements for all majors
- Some majors offer a departmental version: A B E 160; AER E 160; C E 160; CH E 160; CPR E/E E/S E 185; I E 148; M E 160
- If in MATH 143 (Prep for Calculus), will need to wait until 2nd semester to take ENGR 160
  - Some Departmental versions can be taken while enrolled in MATH 143
Physics Class

**PHYS 221: Calculus-based Physics**
- Must take MATH 166 before or with PHYS 221
- Time consuming course with 10-15 hours of homework per week
- Avoid PHYS 221 first semester, if possible, to allow for adjustment

**Physics Test-Out Options:**
- AP Physics C exam – need **4-5** on Mechanics for PHYS 221
- AP Physics C exam – need **4-5** on Elec/Mag for PHYS 222
- AP Physics 1 or 2 exam will only provide credit for PHYS 111/112
  - Does not count for Engineering majors
- No IB credit available

**PHYS 50: Introduction to Physics Preparation**
- **Optional** class to prepare students for PHYS 221
- Recommended for students without high school Physics
Orientation Worksheet – Question #2

List the Engineering/Physics classes you plan to take
Other Potential Engineering Courses

**Engineering Graphics and Design**
- Introduction to engineering graphics and design
- Credit or enrollment in MATH 143 required
  - M E 170 - Required for M E majors
  - A B E 170 - Required for A E and B S E majors
  - C E 170 - Required for C E and CON E majors

Project Lead the Way (PLTW): *Introduction to Engineering Design* may = 170
Other Potential Engineering Courses

COM S 227: Intro to Object Oriented Programming
• Required for CPR E and S E
• 5 on AP Computer Science A exam = COM S 227
• 4 on AP Computer Science A exam, or 4 on IB HL COM S exam = COM S 107, which does not count for Engineering majors
• 6 on IB HL COM S exam = COM S 207 (counts for E E tech elective)

CHEM 178 and Lab: General Chemistry II
• Required for C E (Environmental), CH E, and MAT E
• Need 4-5 in AP Chemistry or 5 in IB HL Chemistry for CHEM 177/178
• Chemistry Dept. must review lab notebook first week of fall semester before chemistry lab credits will be applied
List other required engineering classes you plan to take
Examples of Other Courses

Required Seminar Courses

- ENGR 104  Leadership Engineering Academic Diversity (LEAD) Students
- HON 121  Honors Students
- U ST 101A  Hixson Award Students
- U ST 101B  Multicultural Vision Program (MVP) Award Students
- U ST 101C  Science Bound Students
- U ST 101D  Student Athletes
- U ST 105  George Washington Carver (GWC) Students
Examples of Other Courses

Please list if you plan to participate in any Music or ROTC courses

**Music Courses**
- Marching Band
- Concert Band
- Ensembles (Jazz or Wind)
- Symphonic Band
- Choir
- Symphony Orchestra

**ROTC Courses**
- Military Science
- Naval Science
- Air Force Aerospace Studies
List any of these “other” classes you plan to take
Social Science/Humanities Courses (SSH)

- 12-15 credits over academic career (depending on major)
- Examples – PSYCH 101, SOC 134, History, ECON 101, World Languages, ANTHR 201, POL S 215
- Some departments require specific courses
- Typically take at least one Gen Ed elective first year
- May have AP/Transfer credit for some SSH courses
  - Do not select SSH courses if you have pending credit
Orientation Worksheet – back page

CIRCLE FOUR

SSH/General Education classes
10 minute break

If you have questions, advisers will be available at the front
Minors/Double Majors

• All minors/double majors
  • Recommend waiting one year before declaring to allow time to explore
  • Must declare major before adding a minor or second major
  • Minor: Typically 5 classes

• Languages & 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 above the 100-level
    • Placement assessment taken online (20 minutes) from World Languages & Cultures ISU website for Chinese, French, German, Russian, and Spanish
    • Opportunity to take placement assessments at 3:45pm today
    • Take your score sheet with you to your academic advising meeting tomorrow

**If you took two years of the same world language in high school, you are not required to complete any further language for the College of Engineering at Iowa State University**
AP/IB Credits
(Advanced Placement/Int’l Baccalaureate)

• Students are responsible for telling Adviser of AP/IB courses
  • Results are not received until after orientation
• CHEM Dept. must review lab notebook before CHEM Lab credits applied
  • All other AP/IB credits applied automatically
• You may repeat these courses at ISU
  • Need 4-5 in AP CHEM or 5 in IB HL CHEM for CHEM 177/178
  • Need 5 in AP COM S A for COM S 227
  • Need 6 in IB HL COM S for COM S 207
  • Need 4-5 in AP MATH AB or 3 in AP MATH BC for MATH 165
  • Need 4-5 in AP MATH BC for MATH 165 and MATH 166
  • Need 6 in IB HL MATH for MATH 100 and MATH 165
  • Need 4-5 in AP PHYS C-Mechanics for PHYS 221
  • Need 4-5 in AP PHYS C-Elec/Mag for PHYS 222
Orientation Worksheet – Question #3

List all AP/IB credits you will have (and scores, if known)
Transfer Credits

• The Transfer Credit Evaluation (TCE) from the Office of Admissions shows how a class transfers into ISU.

• If a transfer class shows up as a 1T, 2T, 3T, 4T it will not count toward an engineering degree unless it is reviewed by a faculty member from the course content area and approved.
  • Students must initiate this review with their Academic Adviser during the school year.

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

• Engineering accepts only credits for transfer courses with a grade of “C” or better and only 65 credits from a 2-year school.
Orientation Worksheet – Question #4

List all transfer courses (and grades, if known)
Plan Your Schedule for Success

• Recommend no more than 3 problem solving courses in your first semester -- fewer if you have many outside commitments (work, extracurricular activities, etc.)
  • Examples of problem solving classes: MATH, CHEM, COM S, ENGR 160, PHYS
• Problem solving classes 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 because it is VERY hard to catch up
## Examples of 1st Semester Schedules

<table>
<thead>
<tr>
<th>Example A</th>
<th>Example B</th>
<th>Example C</th>
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</thead>
<tbody>
<tr>
<td>ENGL 150 (3)</td>
<td>MATH 165 (4)</td>
<td>MATH 166 (4)</td>
</tr>
<tr>
<td>CHEM 177 (4)</td>
<td>ENGR 160 (3)</td>
<td>CHEM 167 (4)</td>
</tr>
<tr>
<td>CHEM 177L (1)</td>
<td>CHEM 167 (4)</td>
<td>ENGR 160 (3)</td>
</tr>
<tr>
<td>MATH 143 (4)</td>
<td>LIB 160 (1)</td>
<td>ENGR 101 (R)</td>
</tr>
<tr>
<td>ENGR 101 (R)</td>
<td>ENGR 101 (R)</td>
<td>SSH (3)</td>
</tr>
<tr>
<td>SSH (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Credits</td>
<td>15 Credits</td>
<td>14 Credits</td>
</tr>
</tbody>
</table>

Typically take between 13-16 credits
(problem-solving courses shown in **bold**

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**Iowa State University**

**College of Engineering**
Use Support Resources

• Advisers
• Learning Communities
• Student Accessibility Services
• Academic Success Center
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

Advising in the College of Engineering
- Faculty or Professional Adviser (or both), depends on the major
Learning Community Video
Learning Communities (LC)

- Required
- Residential
- Common courses
- Social activities
- Optional
- Non-Residential
- LC course
- Service projects

• All engineering majors offer a Learning Community
  • LC have trained Peer Mentors (upper level engineering students)
  • Many residential LC are already filled

• Other Learning Community Option examples:
  - Honors
  - WiSE (Women in Science/Engineering)
  - LEAD (Multicultural)

Talk to your Adviser at your advising appointment about LC options

Free to join!
Student Accessibility Services (SAS)

- SAS coordinates reasonable accommodations for students with qualifying documented disabilities while they are enrolled at the university
- Eligibility and accommodations in college are very different than in high school
  - College students must ‘self identify’ and request assistance
  - College students must provide valid documentation to establish eligibility
- Arrange for accommodations before classes begin—transition from high school to college can be quite challenging
  - Begin the process this summer. Forms found online at www.sas.dso.iastate.edu
  - Meet with SAS staff Day 2 of orientation 1:00-2:30pm at DSO Open House in the Student Services Building Lobby
  - Meet with SAS staff during first week of semester to obtain accommodations notification letter for instructors
- Eligible students work with SAS staff to communicate with their professors/instructors regarding reasonable accommodations needed

Location: 1076 Student Services Building  
Phone: (515) 294-7220  
Email: accessibility@iastate.edu
Student Support Resources

• Academic Success Center
  • Supplemental Instruction (SI) - Tutoring Services
  • Academic Coaching - PSYCH 131 (Study Skills Course)

• Help Rooms/Sessions
  • Chemistry   English   Math   Physics

• Other Resources
  • Student Counseling - Multicultural Liaison Officer (MLO)
  • Clubs & Organizations - International Student Liaison Officer
  • Veterans Center - Center for LGBTQIA+ Student Success
  • Studying Engineering: A Road Map to a Rewarding Career, 4th Edition, by Raymond B. Landis

Remember, your instructor is a source of help as well…
Future Dates and Deadlines

• Residence halls open:
  • Tuesday and Wednesday, 8/14 and 8/15
  • You will be assigned one of these move-in dates
  • Classes start on Monday, 8/20

• Register for and attend *Destination Iowa State* (registration card in orientation binder):
  • Destination Iowa State begins: Thursday, 8/16
  • Cost is included in Orientation Fees
  • Complete card in pocket of binder or register online by August 1

• Complete Orientation Evaluations - Turn in at drop box locations tomorrow
Next . . .

- Cyclone Aide has your advising appointment cards arranged on table in hall
  - Cards listed in alphabetical order by your last name
  - Card has name of adviser, time, and location of appointment
  - Take your advising appointment card and green sheet to your advising appointment tomorrow

We will begin the Web Registration presentation when everyone has their appointment card.
Please return to your seat after you pick-up your card.
We want you to be successful!

*Please ask for help early and often!*