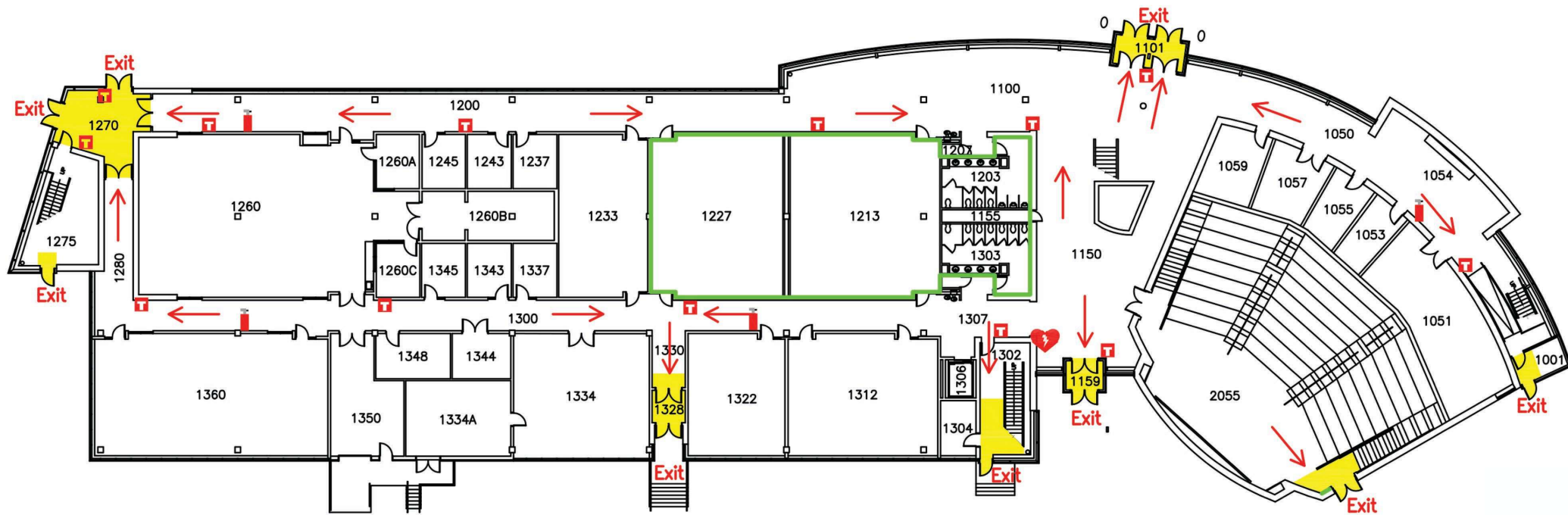# IOWA STATE UNIVERSITY
College of Engineering

∑very1 counts ∑very1 learns ∑very1 Engineers

HOOVER HALL: *First floor emergency map*

AFTERNOON AGENDA →

- Preparation for your academic advising appointment
- College of Engineering curriculum options
- Advising/course registration process
- Academic transitions and resources
- Engineering professional skill development
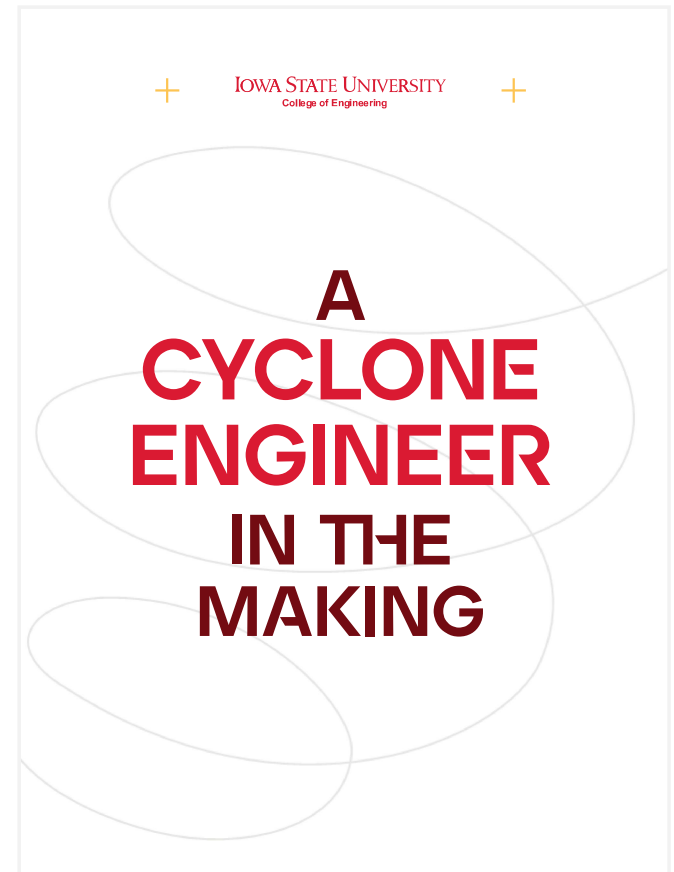- Engineering Career Services

WELCOME! →

What's in your orientation folder?

- A copy of this PowerPoint presentation
- Pre-advising worksheet (Green Sheet)
  - Back side of pre-advising worksheet lists Social Science & Humanities General Education Electives
- Link to 4-Year course plans for each Engineering major (QR code on inside flap)
- Link to Engineering computer Recommendations (QR code on inside flap)
- Link to AP/IB Exam scores (back of folder)
- Link to Transfer Course Equivalencies (back of folder)
- Link to Student Clubs and Organizations: stuorg.iastate.edu

IOWA STATE UNIVERSITY
College of Engineering

A
CYCLONE
ENGINEER
IN THE
MAKING

ADVISOR APPOINTMENT →

- Appointment card picked up with folder has time/location of your advising appt. tomorrow
- Review high school background, placement tests, ACT/SAT/AP scores
- **Review and discuss ALEKS Placement scores**
- Personalized recommendation for courses to include in a schedule of classes for the semester
- Make appropriate referrals
- Discuss learning community options
  - Non-residential options

BEFORE TOMORROW'S ADVISOR APPOINTMENT

Make a list of questions/things to tell your advisor

- "I will be working __ hours a week"
- "I want to be in marching band and a learning team"
- Possible majors or minors
- Any academic or accommodation concerns
- How did I do in high school academically?
- AP, PSEO courses or Transfer credits?

BEFORE TOMORROW'S ADVISOR APPOINTMENT →

Complete the Pre-Advising Worksheet (green sheet) in your folder to hand in to your advisor at your appointment

- Circle what major(s) you're interested in
- Write down what classes you think you'd like to take in your first semester
- Write down any AP or transfer credits you're bringing in (you can check this in Workday or in your Admissions "MyAccount"
- Circle 4-5 SSH/Gen Ed courses that you're potentially interested in taking on the back side of the Pre-Advising Worksheet

TRANSIT (how course transfers to ISU)

Credit by Exam (AP, IB, CLEP, etc.)

DEGREE OFFERINGS →

MAJORS – engineering.iastate.edu/undergraduate-majors-and-minors

- Aerospace
- Agricultural
- Biological Systems
- Biomedical
- Chemical

- Civil
- Computer
- Construction
- Cyber Security
- Electrical

- Environmental
- Industrial
- Materials
- Mechanical
- Software

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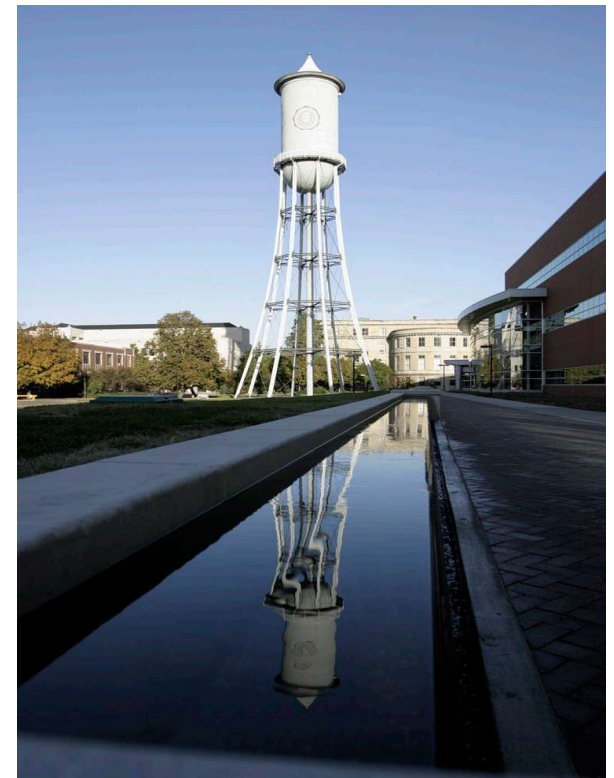- Declare a major after selecting one matching your interests

MINORS

- Biomedical engineering
- Cyber Physical Systems
- Cyber security

- Energy Systems
- Nondestructive Evaluation
- Sales Engineering

Please Note: Students can start taking courses towards minors/double majors in the first semester, but these cannot officially be added to their record until after the fall semester

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
- Needs a 2.0 grade point average in BP and 2.0 ISU cumulative **before** moving to upper-level engineering courses
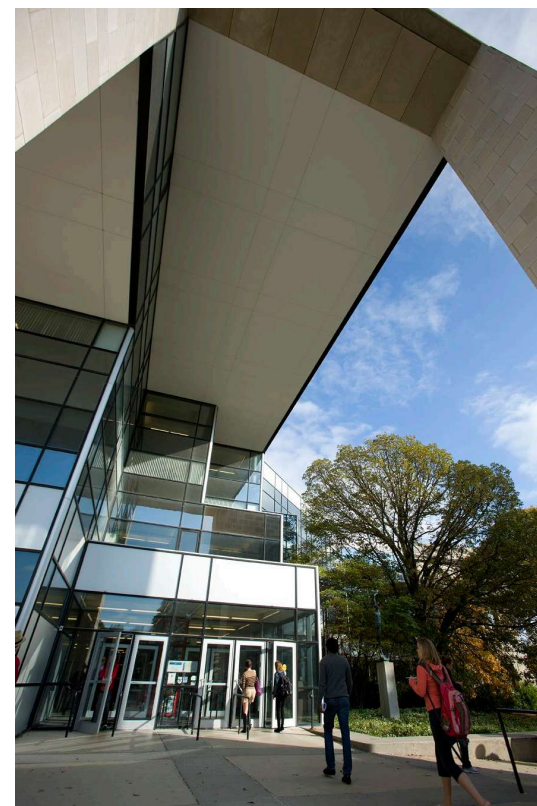
BASIC PROGRAM →

CREDITS		COURSE
4.0	**Math 1650**	Calculus I
4.0	**Math 1660**	Calculus II
3.0	**Engl 1500**	Critical Thinking/Communication
4.0	**Chem 1670** or **Chem 1770**	Chemistry *(Chemical, Materials, Environmental)*
3.0	**Engr 1600**	Engr. Problems *(Dept. or Undeclared Sections)*
5.0	**Phys 2310/lab**	Physics I
R	**Engr 1010**	Orientation
1.0	**Lib 1600**	Intro to College Research

ENGLISH PLACEMENT →

ENGL 1500: **Critical Thinking and Communication**

Advanced Placement Option

- If ACT–English ≥ 24 or SAT-EWR (Evidence-based writing & Reading ≥ 600

OR

- If **no ACT/SAT**, high school GPA ≥ 3.7

Then placement into ENGL 2500 as first English class at ISU is an option

- ***Must pass ENGL 2500 with grade "C" or better at ISU to get credit for ENGL 1500 from ACT/SAT/High school GPA***

English AP exam ≥ 3 Language or ≥ 4 Literature = 1500 credit

ENGLISH PLACEMENT AND LIBRARY 1600 ⟶

ENGL 2500: Written, Oral, Visual, Electronic Communication
- Take after ENGL 1500 (unless criteria met for advanced placement or 1500 credit)
- Students typically take 2nd year
- Honors students take Engl 2500H in fall

ENGL 1500/2500 Test-out opportunity
- 3-hour, 2-part essay exam
- $100 fee and must complete online registration form
- Not available to Honors students

LIB 1600: Intro to College Research (some take fall semester, some spring)
- Must take with English 2500 class at Iowa State
- May take it second half of the semester – 8 week course

ENGLISH FOR NON-NATIVE SPEAKERS →

<u>Students whose primary language is not English:</u>

- Must take **English Placement Test (EPT)** for non-native speakers of English
  - Offered at beginning of each semester; must register prior to exam on EPT website
  - Exemption for students graduating from U.S. high school
  - Exemption for students placed into ENGL 2500 based on ACT or SAT score

- If placed in ENGL 1010B or 1010C from the EPT, must complete before ENGL 1500 or ENGL 2500
- If placed in ENGL 0990S ($480 fee*), can take with ENGL 1500/2500
- These additional EPT English classes are considered prerequisites and **must be completed as part of the engineering Basic Program**

*fees subject to change

MATHEMATICS PLACEMENT ⟶

Placement based on online ALEKS Math placement assessment

- All students are required to take ALEKS before registering for classes to meet prereq
  - Engineering students can start at any math level
  - Need a strong foundation in math for problem solving courses
  - Trig/Algebra are required prerequisites to Engineering
  - Must take Trig/Algebra if not placed into Calculus I (ALEKS score 76)
  - ALEKS Math placement score determines math course for first semester

- Other math credit options:
  - Need **4** in AP Calculus AB or **3** in AP Calculus BC for MATH 1650 credit
  - Need **4** in AP Calculus BC for MATH 1650 <u>and</u> 1660 credit
  - Need **6** in IB HL MATH for MATH 1650 credit

MATHEMATICS PLACEMENT →

ALEKS % (S)	Class Placement
15-38	MATH 1390 and Math 1400 (Algebra)
39-50	MATH 1400 (College Algebra)
51-75	MATH 1430 (Pre-Calc)
76-100	MATH 1650 (Calc I)
80+ and transfer/AP credit for MATH 1650	MATH 1660 (Calc II)
80+ and transfer/AP credit for MATH 1660	MATH 2070/2650/2660/2670 (Linear Alg/Calc III/Differential Equations)

ALEKS RETAKE →

If you would like to try for a higher math placement, or if you have not taken your ALEKS yet, we encourage you to do so tonight.

Your advisor will develop a schedule with you tomorrow based on your highest ALEKS score
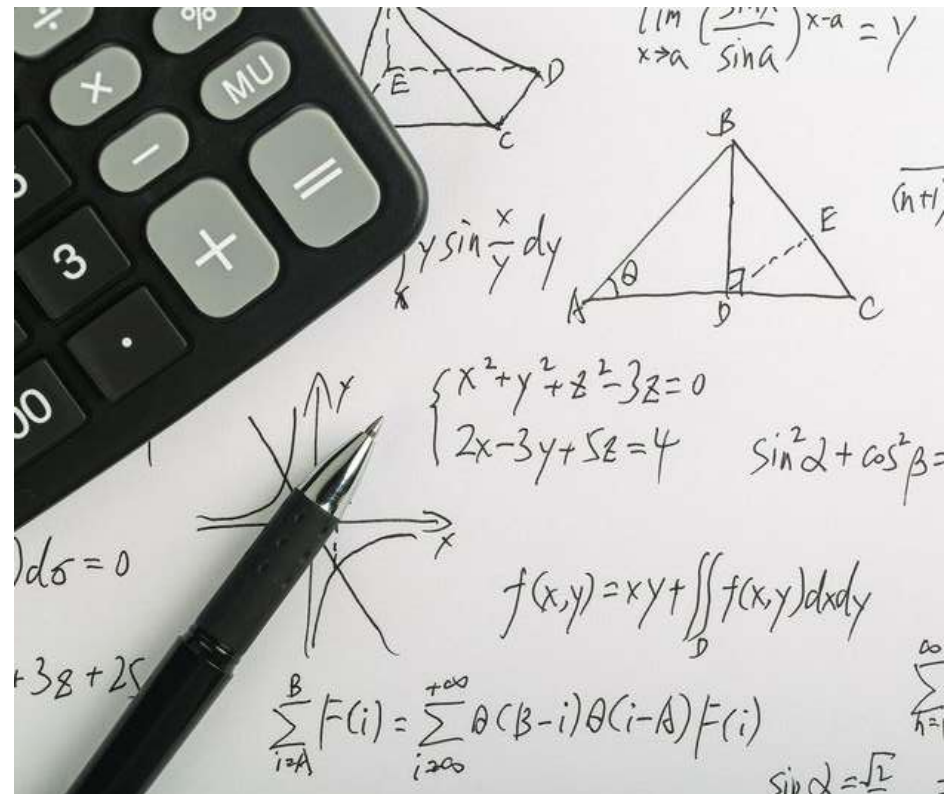
Click "Cancel" if asked for a code when re-entering ALEKS

You must first complete the review module to retake the assessment

Take a photo/ screenshot of your score and bring it with you to your advising appointment tomorrow

CALCULUS I READY STUDENTS ⟶

- Most students who have had Calculus I over two semesters in high school **should consider taking it over.**
  - Taking Calc II your first semester here, at twice the rate students had Calc I in high school *can be a difficult adjustment for some*

CHEMISTRY PLACEMENT OPTIONS $\longrightarrow$

CHEM 1770: General Chemistry I *(must be in MATH 1430 or higher)*
- Lab must be taken with the class
- Required for Chemical, Environmental, and Materials Engineering majors
- Need **4** in AP CHEM or **5** in IB HL Chemistry for CHEM 1770/1780
  - Chemistry Dept. must review lab notebook first week of fall semester before chemistry lab credits will be applied

Chem 1670: General Chemistry for Engineers *(must be in MATH 1430 or higher)*
- Required for *non-chemistry based* engineering majors
- Lab required for Agricultural, Biological Systems, Biomedical and Civil Engineering majors
- Chemistry transfer credits for engineering will come in as CHEM 1770; credits can be used for all engineering majors (additional chemistry may be needed)

CHEM 0500: Preparation for College Chemistry
- $400 fee* - Students without the equivalent of 1 year of high school chemistry

fees subject to change

ENGINEERING CLASSES ⟶

ENGR 1600: Engineering Problems with Computer Applications Lab

- 2-part class: Must pass both problem solving & programming to complete course
- ENGR 1600 meets requirements for all majors (additional programming may be needed)
- Some majors offer a departmental version:
  - ABE 1600; AERE 1600; BME 1600; CE 1600; CHE 1600; CPRE/EE/SE 1850; IE 1600, ME 1600
- If in MATH 1430 (Prep for Calculus), will need to wait until second semester to take ENGR 1600
  - Some Departmental versions can be taken while enrolled in MATH 1430

ENGINEERING CLASSES →

ENGR 1010: **Engineering Orientation**

- Weekly advisor contact
- "R" credit course – ***Required*** for your major
- Meet engineering students and learn how to work in teams
- 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?

ENGINEERING CLASSES →

ENGR 1040 & ENGR 1050: LEAD Learning Community First Year Seminar

- Same format as ENGR 1010
- An interdisciplinary engineering first-year and transfer student learning community program with an optional living (residential) component
- An opportunity for students to develop their academic, professional and social network, knowledge, and skills through unique perspectives
- All first-year and transfer Cyclone Engineers are welcome, including students who are first-generation, low-income, historically underrepresented in engineering, neurodivergent, or international.

PHYSICS CLASS →

<u>PHYS 2310 & PHYS 2310L</u> *(Calculus-based)*
- Credit or enrollment in MATH 1660 is required
- Time-consuming course with 10 hours of homework per week outside of class
- Avoid PHYS 2310 first semester, if possible, to allow for adjustment to college

<u>Physics Test-Out Options:</u>
- AP Physics C exam – need **4** on Mechanics for PHYS 2310/lab
- AP Physics C exam – need **4** on Elec/Mag for PHYS 2320/lab
- AP Physics 1 or 2 exam will only provide credit for PHYS 1310/1320
  - Does <u>not count</u> for Engineering majors
- No IB credit available

<u>PHYS 0500: Preparation for Introductory Physics</u>
- <u>Optional</u> class to prepare students for PHYS 2310
- Recommended for students without high school Physics

OTHER POTENTIAL ENGINEERING COURSES

Engineering Graphics and Design
- Credit or enrollment in MATH 1430 required
  - ME 1700 – Required for all Mechanical majors
  - ABE 1700 – Required for Agricultural and Biosystems majors
  - CE 1700 – Required for Civil and Construction majors
- Project Lead the Way (PLTW): *Intro to Engineering Design* may count as above 1700 course

COM S 2270: Object-oriented Programming
- Required for Computer, Cyber Security and Software majors
- Credit or enrollment in MATH 1430; COMS 1270 or CPRE/SE 1850 or CPRE 1610 credit
- **5** on AP Computer Science A exam = COMS 2270
- 4 on AP Computer Science A exam = COMS 1270
- 6 on IB HL COMS exam = COMS 2070 (counts for Electrical tech elective)

CHEM 1780 & CHEM 1780L: General Chemistry II
- Required for Chemical, Environmental and Materials majors

EXAMPLES OF OTHER COURSES $\longrightarrow$

Seminar Courses

- HON 1210, First-Year Honors Seminar
- UST 1010A, Hixson Award Scholars
- UST 1010C, Science Bound Students
- UST 1010D, NCAA Student Athlete Experience

EXAMPLES OF OTHER COURSES ⟶

Instrumental
- Marching band
- Concert band
- Symphonic Band
- Symphony Orchestra
- Jazz Ensembles
- Wind Ensemble

- Choral
  - Lyrica
  - Cantamus
  - Iowa Statesmen
  - Iowa State Singers

- ROTC
  - Military Science
  - Naval Science
  - Air Force Studies

Please tell your advisor if you plan to participate in Music or ROTC

SOCIAL SCIENCES/HUMANITIES (SSH) →

- All engineering majors require at least 12-15 SSH general education credits over academic career (depending on major)
  - Examples – Psychology, Sociology, History, Economics, World Languages, Anthropology, Political Science, Women's Studies

- 3 credits must be from U.S. Cultures & Communities list and 3 credits from International Perspective list
- Some departments require specific courses or have sequence requirements
- Typically take at least one SSH elective first year
- May have AP/Transfer credit for some SSH courses
  - **Avoid taking SSH courses with pending credit**
- **Make sure to select SSH courses on the back of the Pre-Advising Worksheet (Green Sheet)**

CONTINUING A WORLD LANGUAGE ⟶

Languages & Cultures for Professions (LCP)
- World language minor/major for engineering students
- Take online placement assessment to determine first course if you've had 3-4 years of world language in high school and want to continue language
  - Placement assessment taken online (20 minutes) from World Languages & Cultures Iowa State website for Chinese, French, German, Russian and Spanish language.iastate.edu/placement-exams/
  - Only need to take placement if you want to continue a world language you took in high school
  - **Bring your score with you to your academic advising meeting tomorrow**
    - Score sheet with QR code included in folder if you still need to take assessment

** If you took two years of the same world language in high school, you are not required to complete any further world language requirements for the College of Engineering
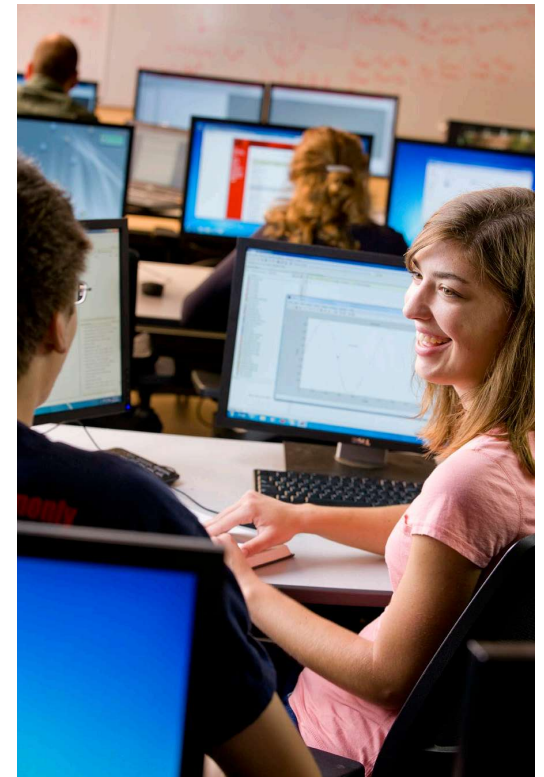
TRANSFER CREDITS →

- **Transfer Credits Granted** from the Office of Admissions shows how a class transfers into Iowa State
  - Official transcripts are required to meet class prereq even if class is in-progress
- If a transfer class is not counting towards an engineering degree under **Academic Progress**, *it can be reviewed by a faculty member from the course content area* to see if it can count
  - **Students must initiate this review with their academic advisor during the school year (Fall/Spring semesters)**
    - Provide syllabus, name of book/author, example assignments
    - Best to have info ready for advisor by beginning of semester planning to start
  - Courses can be entered in TRANSIT website to see how they transfer to Iowa State
  - 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 Iowa State

REGISTERING FOR CLASSES ⟶

- Immediately after the advisor meeting, students go to **2260 Hoover Hall** to register for classes in Workday

- **Students need to complete Workday "onboarding tasks" before they can register for classes -** if you haven't already completed this, please do so tonight

- Cyclone Aides and engineering staff will be in the Hoover Hall registration room to help

- Students will walk out with schedule for semester

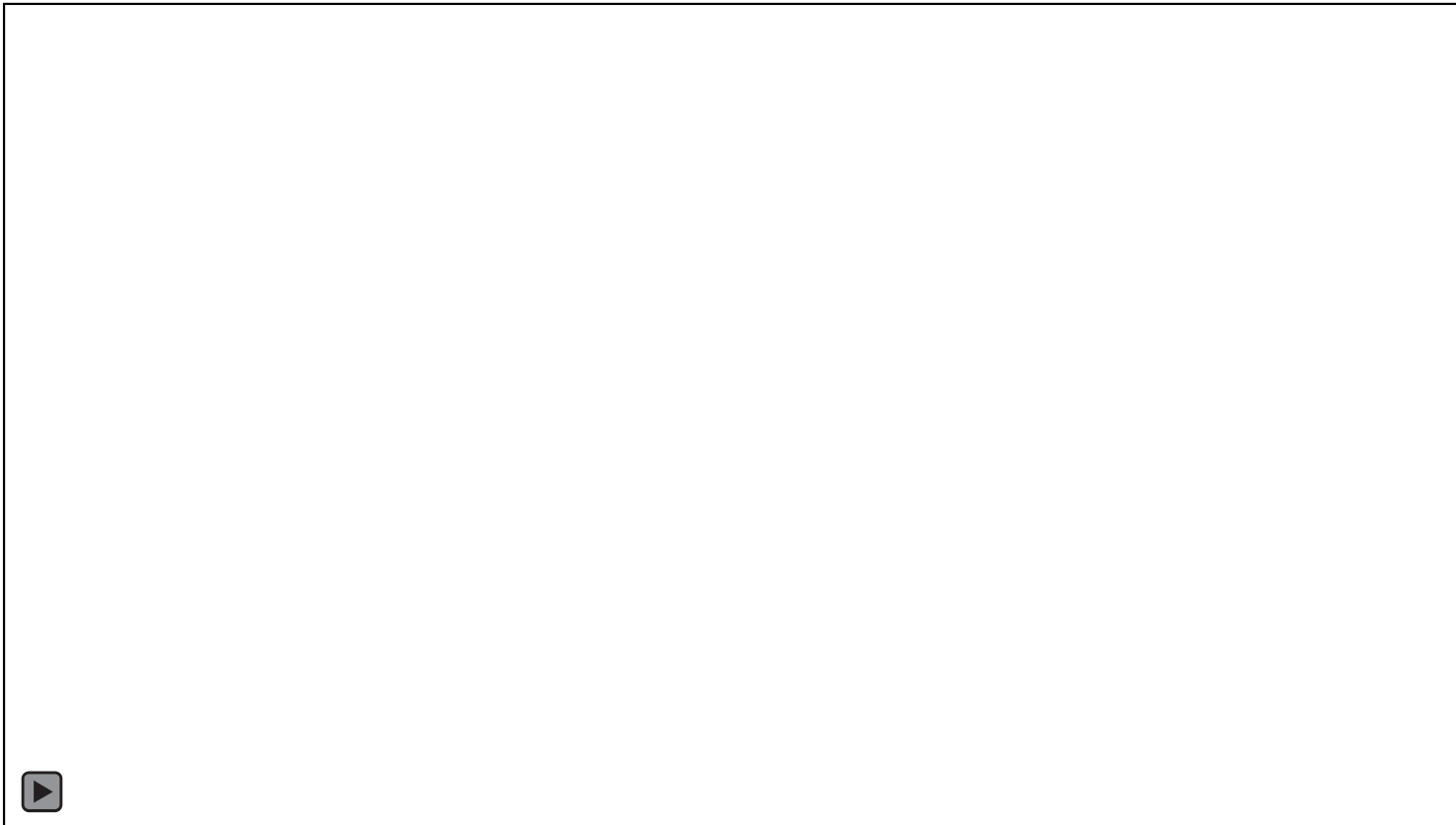- **Help Book** process to resolve scheduling conflicts

TOMORROW →

- Your advising appointment will focus on first semester class scheduling
  - During your first semester at Iowa State, you will have opportunities to meet with your advisor to discuss other topics such as mapping your four-year plan, minors and double majors, study abroad, etc.

- **To register for classes tomorrow, advisors will give students**:
  - Registration Worksheet – list of classes for scheduling
  - Students wanting an Academic Learning Community (LC) will also receive a LC course sheet

Take these with you to **2260 Hoover** to get registered for classes

REGISTRATION VIDEO →

This video shows how to get registered for your courses in the registration room tomorrow after your advising appointment.

Scan the QR code below to access the video:

Video can also be found at: https://iowastate.instructuremedia.com/embed/a0204e0c-31ac-403f-8b05-c14d137be22c

REGISTRATION PROCESS →

- **Show up to your advising appointment on time (time, location and advisor name should all be listed on your appointment card)**
  - Bring your Orientation folder and all of its contents (make sure you have your green Pre-Advising worksheet filled out prior to your appointment)

- **You and your advisor will discuss what courses you should take in your first semester as well as Learning Community options**
  - This is your opportunity to ask your advisor any questions you may have
  - **DO NOT make a "Saved Schedule" in Workday prior to your advising appointment as class times change daily during orientation**

- **Go directly to the Registration Room in 2260 Hoover Hall** once you've finished your advising appointment

ONCE YOU HAVE ARRIVED AT ⟶
2260 HOOVER

- **Check-in with a Cyclone Aide**
- **Sit down at an open computer, log in to Workday, and start registering for classes – if you have questions or need assistance, please ask!**
  - **DO NOT** create a "Saved Schedule" to register, just register course-by-course, one at a time
  - Only register for the courses your advisor listed on your Registration Worksheet
    - Academic Learning Community students will have assigned course sections with other students in their Learning Community that have been reserved
    - Some courses will require you to register for both a lecture and discussion time (some lectures may require specific discussion choices)
    - Some courses may have required labs that you will need to register for
    - If not in a LC, make sure to watch if the class has open seats before trying to add

SCHEDULING WITH PENDING ⟶
AP SCORES

- If a student is still waiting to receive official AP scores for this year, they have the option to "place up" in a learning community if they and their academic advisor feel comfortable doing so
  - Example: if a student feels confident that they will be bringing in AP credit for MATH 1650 Calc I (score of 4 or higher on AP Calc AB), they may be able to "place up" into a MATH 1660 Calc II Learning Community

If a student "places up"...	Student will leave orientation without a complete schedule. Courses requiring the AP score as a prereq will be reserved in the LC and put on the student schedule once student provides the advisor with proof of the official AP score.
If a student waits to "place up" until after official scores arrive...	Student will leave orientation with a complete schedule in the "lower level" course. Once the student provides the advisor with proof of the official AP score, then the advisor will adjust student's schedule accordingly and place them into the "upper level" course.
PLEASE NOTE:	All unused Learning Community seats will be released on ==July 8.== If you want to make any schedule changes due to official AP scores, please work with your academic advisor to do so prior to that date.

ONCE FINISHED BUILDING SCHEDULE ⟶

- **A staff member will assist you in taking a screenshot of your schedule and checking you out of the registration room**

- **Please note:**
  - Not all students will take LIB 1600 during their first semester
  - Not all students will take a CHEM lab- only specific majors require this
  - Textbook requirements can be found in Canvas closer to the start of the fall semester or the ISU bookstore portal
  - Class locations may change, so be sure to re-check your schedule again in August

WHAT TO SCHEDULE FIRST $\longrightarrow$

1. **Academic Learning Community Courses –** add each L C course/section specifically listed on your LC course grid and/or Registration worksheet
   - LC classes are a pre-arranged group that meet at specific times so all students in the learning community are in the same group of classes at the same time together
2. **Special Program Courses –** examples: ROTC courses, Honors seminars, NCAA Student-Athlete seminars, ENGR 1010, etc.
3. **World Language or Music Courses –** these courses usually have limited openings so if you're planning to take one, search for an open section, and then add it after your LC courses
4. **Other courses-** Now add any other courses that were listed on your Registration Worksheet (SSH/ Gen Eds, leadership course, course towards a minor, etc.)
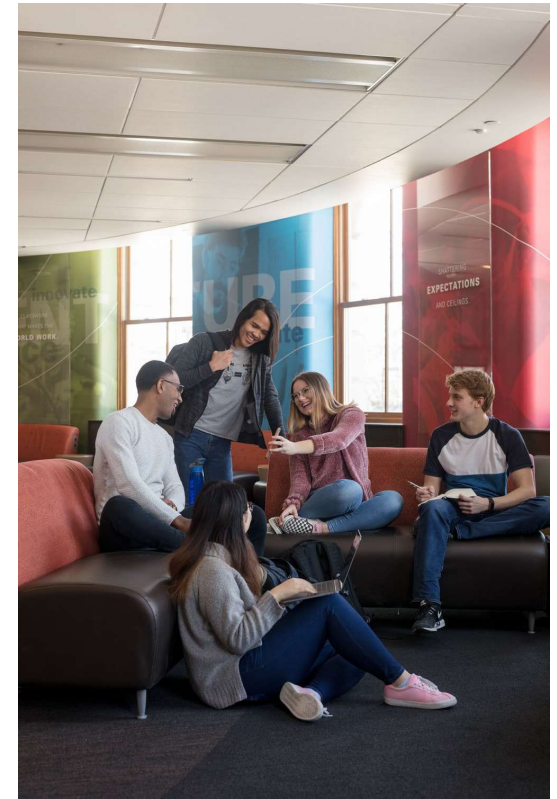
ADDITIONAL INFORMATION ⟶

- A hold will be placed on your schedule after you leave the Registration Room
  - This means you will be unable to adjust your schedule after you leave orientation
  - To make schedule changes, please contact your academic advisor or academic department
  - You will not want to make changes to your Academic Learning Community (LC) classes since they are set class times with a group of other students and changing these things takes you out of the LC

- Instructors and class locations should be posted in Workday

- **Please note: some students may not leave orientation with a full schedule (12 credit hours or more) if they haven't taken ALEKS, don't have transcripts on file, etc.**

ACADEMIC TRANSITIONS →

Academic Expectations/Student Success

- Class attendance
- Time management
  - Avoid procrastination!
  - Study time allotment
  - Commitment
- Advocate for assistance
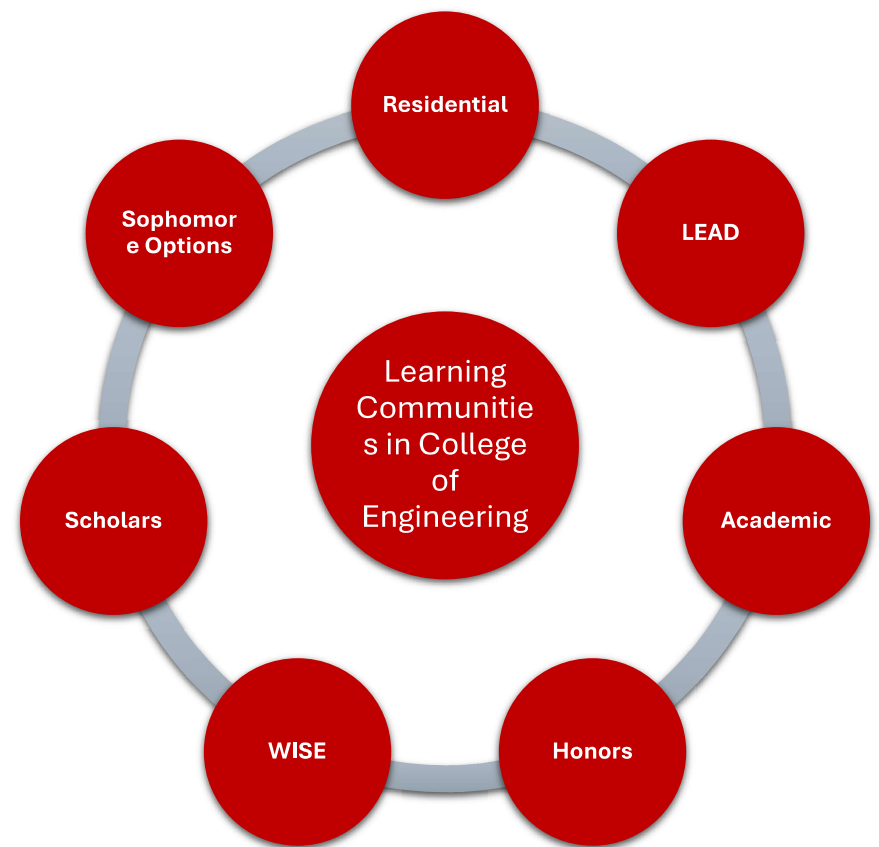- FERPA: Family Rights and Privacy Act

ENGR LEARNING COMMUNITIES →

LEARNING COMMUNITIES IN COE →

- Academic Support
- Relationship Building
- Support with Acclimating to Iowa State
- Opportunity to engage with students with similar interests and backgrounds
- Engineering practice professional skill development

Lead

· LEARNING · LINKING ·
· LEADING ENGINEERING ·

lead is the College Hub for student leadership development and academic success in engineering

· LEARNING · LINKING ·
· LEADING ENGINEERING ·

- **Mission-** to support Cyclone Engineers in:
  - Achieving academic excellence
  - Forming professional and social connections
  - Developing leadership skills

- **Goal** – Empower Cyclone Engineers to successfully launch their careers

LEAD PROGRAMMING STRANDS ⟶

Academic Success

- LEAD one-on-one advising and coaching sessions
- LEAD learning and living communities
- LEAD study tables
- LEAD tutoring support
- LEAD peer connections
- LEAD industry networking and tours
- LEAD professional development opportunities
- LEAD community building

Leadership Development

- Coordinating the Engineering Certificate and Minor in Leadership and Strategy
- Alumni-industrial mentor programs
- Industry visits
- Workshops/professional development opportunities
- Professional networking experiences with faculty, staff, graduate students, peers, and alumni

ENGINEERING CERTIFICATE AND ⟶ MINOR IN LEADERSHIP AND STRATEGY

ENGR 1500: Foundations of Engineering Leadership

ENGR 2500: Leadership in Engineering Teams

ENGR 3500: Dean's Leadership Seminar

LEAD encourages students to take all three courses in completing the Leadership Studies Certificate or Minor for a comprehensive and cohesive learning experience.

Students can enroll in these courses at any time in their academic journey

KEY COMPETENCIES →

of Professional Engineers

- Engineering knowledge
- General knowledge
- Continuous learning
- Initiative
- Cultural adaptability

- Analysis and judgment
- Planning
- Quality Orientation
- Innovation
- Communication

- Integrity
- Professional Impact
- Customer focus
- Safety awareness
- Teamwork

GET INVOLVED YOUR FIRST SEMESTER!

→

- <u>Student organizations:</u>
stuorg.iastate.edu/
  - Over 800 student organizations
  - More than 80 in engineering
  - 12 competition teams

ENGINEERING SCHOLARSHIP PROGRAM →

- One common application
- Required for continuation of renewable engineering scholarships
- Opportunity to compete for nearly 500 scholarships
- Application available Fall 2025 for Fall 2026-Spring 2027 funding

Timeline: Academic Year 2025-2026

| November 1, 2025 | Application **Opens** |
| March 1, 2026 | Application **Closes** |

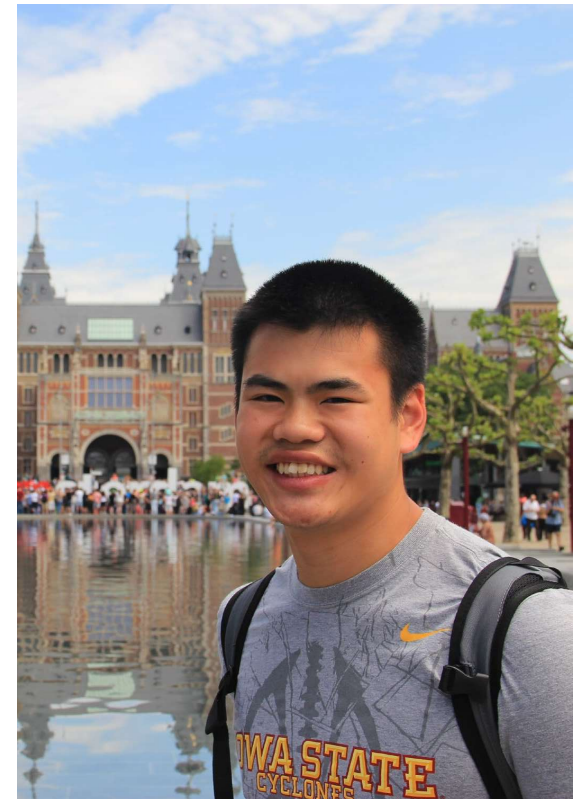# UNIVERSITY STUDENT ACCESSIBILITY SERVICES →

- Coordinates reasonable accommodations for students with qualifying **documented** disabilities
  - Eligibility and accommodations in college are very different than in high school
- 'Self Identify' and Request Assistance:
  - accessibility@iastate.edu or call 515-294-7220
  - Also available from 9am-12pm during orientation. Contact above to make an appointment
- Eligible students work with SAS staff to communicate with their professors/instructors regarding reasonable accommodations needed

COLLEGE STUDY ABROAD →

- 30+ options for engineering students
- Programs designed to integrate with engineering majors
- Winter/spring break, summer, semester, or academic year options
- Affordable
- Scholarships available!

- **More info**:
  - Engineering Student Services International Programs 1300 Marston Hall

TO-DO BEFORE TOMORROW ⟶

- **Complete (or retake) the ALEKS Math Placement Assessment**
  - You will not be able to register for a MATH class tomorrow without an ALEKS score (Calc I placement is 76)
  - Parks Library is open for students who still need to complete this (ALEKS is not mobile friendly)
  - Access ALEKS in your Admissions "MyAccount"
- **Complete all Workday Onboarding Tasks**
  - You will not be able to register for classes until this is complete
  - Parks Library is open for students who still need to complete this
- **Fill out/complete your Pre-Advising Worksheet (Green Sheet) in your orientation folder and bring to your advising appointment (including SSH/Gen Ed classes selected on the back)**
- **Complete the World Language placement assessment** and bring score to appointment if wanting to continue a world language at Iowa State
- **Bring to advising appointment a copy of any college transcripts or grade reports** (even those for in-progress classes) if not already listed on your "Transfer Credits Granted" in "MyAccount"

IOWA STATE UNIVERSITY
College of Engineering

1300
▌ MARSTON

**Engineering
Student
Services**

Please contact us!
(515)-294-7186
engineer@iastate.edu
engineering.iastate.edu/current-students

**We're here
to help!**