



COLLEGE OF ENGINEERING

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

THE YELLOW BOOK

{Orientation Handbook for the Class of 2024}

Center for Undergraduate Engineering Education (CUE²) //

On behalf of the College of Engineering, the CUE² advising staff welcomes you to UAH as you begin your journey to earn your engineering degree. This handbook is intended to support you as an entering and continuing undergraduate in the College of Engineering. The CUE² advising staff prepared it as a handy reference guide to the requirements, programs, policies, and procedures of the college and the university. We hope that you will find the information you need for both planning and understanding your engineering education at UAH. Although this handbook embraces the development of an undergraduate engineering education, it does not constitute a complete or definitive statement of the policies of UAH for all time. When in doubt, ask a CUE² advisor for clarification on any policy or procedure.

We encourage you to seek out and explore courses and activities that support your educational goals as well as help you develop team-building and leadership skills that support your career objectives. The more diverse your UAH experience is, the more valuable your education will be to prepare you for the practice of engineering. The CUE² advising staff is always here to advise, support, and inform you.

We wish you much success at UAH and look forward to seeing you.

Meet the CUE² Staff

DR. JENNIFER ENGLISH

Dr. English joined UAH as a professor of Electrical and Computer Engineering in 2000 after earning a Ph.D. in Electrical Engineering from the Georgia Institute of Technology. Her research interests include microelectromechanical systems, microelectronics, and undergraduate engineering education. She has been recognized several times for outstanding teaching including the 2005 UAH Foundation Award for Teaching. She became the Associate Dean for Undergraduate Education in 2011.

MS. BARBIE GARNER

Barbie completed her Bachelor's Degree in Criminology with minors in Human Development and Family Studies and Business from Auburn University in 1996. She earned a Master's Degree in Sociology in 1999, also from Auburn University. She joined UAH in the Engineering Advising Office (now CUE²) in 1999.

MR. JACOB KERSTIENS

Jacob was born and raised in northern Alabama and earned a Bachelor of Science in Business Administration in 2011 and a Master's Degree in Management in Human Resources in 2017 from UAH. He joined the Engineering Advising Office (now CUE²) in a full-time role starting in 2011.

MS. KIMI FLETCHER

Kimi is originally from Wichita, Kansas and holds a Bachelor's Degree in Biology from UAH in 2012. Recently, she earned a Master's Degree in Higher Education - Student Affairs from Mississippi State University. She joined the CUE² staff in March 2016 after serving as a UAH Admissions Counselor for two years.

UAH Engineering Success—The Basics //

{Just three simple words}

GO

Go to class—every class. And lab. And review session. It really is that simple. Students that regularly attend classes and labs do better than students who don't. It's not enough to just be in the room—be present! Take good notes, ask your instructors questions, engage in the learning process.

ASK

Ask for help. Go to instructor office hours for help with homework and tests. Go to the Student Success Center (SSC) and use the tutoring and academic coaching services. Having trouble adjusting to college life, ask for help from Counseling Services. Not sure what kind of help you need, come to CUE². Remember, you must take the first step—ASK!

JOIN

Join something—a club, an engineering student team, the Student Government Association or a fraternity/sorority. Getting involved on campus helps you with leadership and team-building skills, gives you a way to have fun, and (best of all) you meet people and make friends. If you can't find a club that suits your interests, start one!

{Okay, there are a few more things you should do}

Keep both eyes on your GPA.

Your GPA is important and you need to do what you can to take care of it. It's easy to get behind—really easy. Make sure that you allocate time to study for exams, do homework, and work on your papers and projects. Use resources like tutoring and academic coaching from the SSC when you are having trouble with course material or time management.

Focus on the future.

You should already be thinking about your career. Whether it's your first job or graduate school, there are things you should be doing now for your future. Make an appointment to see the Engineering Career Counselor to start working on your resume and practicing your interview skills and learn about career opportunities like cooperative education and internships. If you are interested in graduate school, learn about the JUMP program and consider doing research with a faculty member. AND remember that your GPA is a measure of your investment in your future.

Know the rules.

It is your responsibility to know the curriculum and graduation requirements for your major as well as the academic policies and deadlines of the College of Engineering and the University. This handbook summarizes many requirements and policies, but when in doubt check the UAH catalog or a CUE² staff member for confirmation.

Engineering Curriculum //

{Engineering Majors & Degree Requirements}

The College of Engineering offers 7 ABET-accredited degree programs that range from 124 to 130 credit hours.

Aerospace	(BSAE)	Cybersecurity	(BSCYB)*
Chemical	(BSCHE)	Electrical	(BSEE)
Civil	(BSCE)	Industrial and Systems	(BSISE)
Computer	(BSCPE)	Mechanical	(BSME)

Each degree program requires general education coursework in math, science, composition, humanities, social sciences and of course, engineering. The degree requirements for each engineering program are included in this handbook and are always available on-line at www.uah.edu/eng/departments/undergraduate-engineering/student-forms.

Also available on-line are flowcharts for each engineering program. The flowcharts provide a suggested schedule to complete the degree requirements in four years (8 semesters). The flowcharts also guide you through the prerequisite chains for all the courses required for your degree.

It is important to understand that some required engineering courses are only taught once per year. Thus, you must be familiar with your program's degree requirements and prerequisite chains to ensure that you don't delay your progress towards graduation. You are encouraged to review your your flowchart regularly.

**Cybersecurity Engineering is a new program that will seek accreditation during the next ABET cycle.*

{Degree Works}

Degree Works is a web-based system that lets students and advisors monitor progress towards degree completion. Degree Works generates a degree audit report, making it easy to identify the courses that are still needed to fulfill degree or program requirements.

All courses and academic credit earned via test scores or transfer coursework will appear in Degree Works. Students can find Degree Works at my.uah.edu and encouraged to review the degree audit every semester.

{JUMP}

The Joint Undergraduate-Masters Program (JUMP) gives students the opportunity to take graduate level classes that will satisfy both undergraduate and master's degree requirements. These classes are typically taken in a student's senior year. Students apply for this program in their junior year and must have a 3.5 or higher GPA. Your junior year will be here before you know it, so plan for JUMP now by keeping that GPA high!

Experiential Learning—Just Do It! //

{Cooperative Education & Internships}

A cooperative education experience, known as a "co-op", provides students with a structured job experience while they pursue their engineering degree. Students alternate work and school terms starting the summer after their second year. The benefits of a co-op include work experience, networking and career clarity. We know that students who participate in co-op graduate at a higher rate than students who don't. Plus, a significant number of co-op students have a job offer from their employer upon graduation. We encourage all students to consider a co-op experience.

For some students, the cooperative experience may not be a good fit. If you don't want to commit to a cooperative experience, you might consider an internship. Similar to a co-op in that students spend a semester working in a structured job experience, internships are typically for a single semester, often in the summer months.

Whenever you have questions about co-op or internships, resume-building, or other career skills, you are encouraged to reach out to UAH Career Services. You can find out more at www.uah.edu/career

Sample Co-Op & Internship Employers

AEgis Technologies
Boeing
Lockheed-Martin
Georgia Pacific
Nucor Steel
Brasfield & Gorrie
Southern Company
Digium
Intergraph Corporation
Dynetics
Adtran
SAIC
General Electric
Honda
Parker Hannifin
Mercedes-Benz
Northrup Grumman
Raytheon

{Undergraduate Research}

Undergraduate engineering research offers you a unique, hands-on learning experience. You will work closely with a faculty member while engaging in cutting edge research. Whether it's through one of our research centers like the Rotorcraft Systems Engineering & Simulation Center or the Propulsion Research Center or working on independent projects with engineering faculty, you can actively engage in scientific research utilizing engineering processes. As you take classes with engineering faculty, ask them about their research. If you like what you hear, ask them if they need an undergraduate research assistant. Chances are the answer will be yes!

{Engineering Student Clubs and Organizations}

The College of Engineering supports several student-led engineering organizations (some are listed below). These groups compete (and win!) in regional and national competitions, perform community service and outreach, network with engineers in their fields and best of all—they practice their engineering skills on real-world projects. We encourage students to join an engineering student organization and get involved. It's a great way for students to meet their peers and grow a new group of friends. All majors are welcome.

Concrete Canoe Team
Reverse Engineering Club
Society of Women Engineers
Society of Black Engineers

Space Hardware Club
Chem-E Car Team
Engineers without Borders
Electric Vehicle Club

SPIE Optical Society
Everyday Engineering: Automation
IEEE Robotics
Moonbuggy Team

CUE² Orientation —Your First Syllabus//

{CUE²ing you in on what Advising is all about}

CUE² Advising Mission:

To provide an environment in which the advisor and the student collaborate to develop, follow and complete a meaningful academic plan that supports the student's educational and career goals and to advocate for student success, including academic progress and retention, experiential learning, and degree completion.

Students will learn how to:

- Confirm that their major meets their goals and understand the degree requirements of their major
- Develop their academic plan using the CUE² advising resources
- Integrate experiential learning and career development into their academic plan
- Assess their progress toward their academic and career goals

Students can expect advisors to:

- Work with students to identify the right engineering major and develop an academic plan to earn a degree
- Use a common sense and compassionate approach to guide students in their academic journey
- Provide accurate and consistent information guidance on course selection, semester course loads, and transfer equivalencies that meet the individual student's needs and challenges
- Connect students with campus support services including the Student Success Center, Career Services, the Counseling Center and Disability Services
- Manage student academic records with a focus on accuracy, timeliness, and confidentiality
- Clarify and evaluate their progress toward completing their academic plan

Students are expected to:

- GO. ASK. JOIN.
- Read and respond to their UAH email—EVERYDAY
- Take advantage of the CUE² Canvas Resources
- Schedule, prepare for, and attend advising appointments
- Follow their academic plan and seek guidance from a CUE² advisor if they wish to change their plan
- Participate fully in the advising experience and take responsibility for their educational decisions

Homework Assignments:

- Read the Yellow Book, Advising Syllabus and the Policies and Procedures Guide (PPG)
- Use the demo videos at www.uah.edu/eng/admitted to navigate through my.uah.edu and learn how to use College Scheduler and register for classes
- Follow us on Instagram @uah_engineering

Fall 2020—Where it all begins! //

{First Year: Engineering Base Camp}

- Simplify the first year curriculum
- Give students the flexibility to explore engineering majors without loss of credit
- Keep engineering students mostly together for the first year

Fall

MATH*	3-4 hrs
CHEMISTRY*	4 hrs
COMPUTING FOR ENG	3 hr

COLLEGE WRITING*	3 hrs
HSBS/HFA	<u>3-6 hrs</u>
TOTAL FALL SEMESTER	15 hrs

Spring

MATH	4 hrs
PHYSICS/CHEMISTRY**	4 hrs
CHARGER SUCCESS	1 hr*

COLLEGE WRITING	3 hrs
HSBS/HFA	<u>3 hrs</u>
TOTAL SPRING SEMESTER =	17 hrs

- *Based on student's test scores/dual-enrollment .*
- ***Chemical Engineering students will take Chemistry II and Physics I*

{Common Engineering Courses}

ENG 101 Introduction to Computing for Engineers (Fall Semester)

Introduces students to the fundamental principles of programming for solving engineering problems. Familiarizes students with the process of computational thinking and the translation of real---life engineering problems to computation problems. Languages may include Matlab, C or C++, or Python.

FYE 101 Charger Success for Engineers (Spring Semester)

Introduces students to UAH, the College of Engineering and Engineering fields & majors. Helps students identify and use campus resources, understanding and leverage their learning style, and develop good study, time management, and test taking skills. Start the career development process and familiarize students with the experiential learning options available. Introduce the engineering design process with a focus on instant challenges and “what-if” problem-solving.

{Math Placement}

Your first math course is determined by your math placement. The table below shows the possible math courses relative to the ACT/SAT math subscores and UAH Placement Test ranges. Note that MA 171 is the first credit-bearing math course for engineering majors. If you are not placed in MA 171, you will be required to take the math prerequisites. You may also take the UAH Math Placement test to improve your placement.

Level	Number	Course	ACT	SAT	UAH Test
0	MA 112L	PreCalc I w/Algebra	0-19	200-440	< 25%
1	MA 112	PreCalc I w/Algebra	20-24	450-550	≥ 25% and < 50%
2	MA 113	PreCalc II w/Trig	25-26	560-590	≥ 50% and < 75%
3	MA 171	Calculus A	27-36	600-800	≥ 75%

{Chemistry Placement}

Your chemistry placement depends on your math placement as shown below:

Math Placement	Chemistry Placement
MA 113 or higher	CH 121/125—Gen. Chemistry I with lab

Students who are not placed into MA 113 or higher for their first math course will not take CH 121/125 their first semester. Students will be advised to take BYS 119—Principles of Biology or CH 101/105 Introductory Chemistry with lab, depending on the majors they are considering.

{College Writing}

Every student is required to take 3-6 hours of college writing (EH 101 and EH 102, EH 103 or EH 105 for Honors College students). Your placement is based on your HS GPA and composite test scores.

ACT/SAT Score	English Placement
26/1240 or higher 3.5 HS GPA or higher	EH 103— Accelerated College Writing or EH 105—Honors English Seminar
20/490 or higher	EH 101— College Writing I or EH 105—Honors English Seminar
19/489 or lower	EH 101S/101L—College Writing I with Studio

{Humanities and Social Sciences}

Every student is required to take 9 hours of Humanities and Fine Arts (HFA) and 9 hours of History, Social and Behavioral Sciences (HSBS) according to following requirements.

History – choose one:

- HY 103 – World History to 1500
- HY 104 – World History from 1500
- HY 221 – The United States to 1877¹
- HY 222 – The United States since 1877¹

Literature – choose one:

- EH 207 – Reading in Literature and Culture I²
- EH 208 – Reading in Literature and Culture II²
- EH 242 – Mythology²

Fine Art – choose one:

- AMS 229 – Ancient & Medieval Worlds
- ARH 100 – Art History Sur: Ancient to Medieval
- ARH 101 – Art History Sur: Renaissance to Modern
- ARH 103 – Art History Survey: Non-Western
- ARS 160 – Introduction to Drawing
- TH 122 – Theater Appreciation
- MU 100 – Music Literature

Social & Behavioral Sciences – choose one:

- PY 101 – General Psychology I
- SOC 100 – Introduction to Sociology
- SOC 102 – Analysis of Social Problems
- SOC 105 – Introduction to Cultural Anthropology
- SOC 150 – Sociological Perspective on Tech & Sci
- SOC 206 – Marriage and Family
- PSC 101 – American Government
- PSC 102 – Comparative Politics & Foreign Govts
- GY 105 – World Regional Geography
- GY 110 – Principles of Human Geography
- ECN 142 – Principles of Macroeconomics
- ECN 143 – Principles of Microeconomics
- GS 200 – Global Systems and Cultures

Sequence Course - 3 Hours

Choose a sequence combination in History or Literature:

- | | |
|-----------------|-----------------|
| HY 103 & HY 104 | EH 207 & EH 208 |
| HY 221 & HY 222 | EH 242 & EH 208 |

HSBS OR HFA Elective - 3 Hours

If Sequence is in History, choose one from the following:

- Another Literature: EH 207, 208, or EH 242
- Another Fine Art: AMS 229, ARH 100, 101, 103; TH 122 MU 100; ARS 160
- CM 113 – Introduction to Rhetorical Communications
- PHL 101 – Introduction to Philosophy
- PHL 102 – Introduction to Ethics
- PHL 150 – Technology, Science, and Human Values
- PHL 201 – Introduction to Logic
- WS 200 – Introduction to Women's Studies
- WLC 204 – International Cinema
- WLC – Foreign Language (101, 102, 201, 202)

If Sequence is in Literature, choose one of the following:

- Another History: HY 103, 104, 221, 222
- Another Social & Behavioral Science: PY 101, PY 201, SOC 100, SOC 102, SOC 105, SOC 150, SOC 206, PSC 101, PSC 102, PSC 260, GY 105, GY 110 ECN 142, ECN 143, GS 200

1. Not open for freshman (< 33 hrs)
2. Must have completed EH 101 & EH 102 or EH 105

{AP, IB and Dual-Enrollment Credit}

If you have credit from AP, IB, or Dual Enrollment courses, those scores or transcripts must be sent to UAH in order to receive credit towards degree requirements. AP or IB credit information may be found at www.uah.edu/images/admissions/Admissions/Documents/AP_IB.pdf.

{Honors College Students}

If you are in the Honors College, you will take Honors versions of courses as appropriate. You should confirm your schedule with the Honors College advisor.

Registration Information //

{Registration, Courses Listings, & College Scheduler}

After student sign up for orientation, an Engineering advisor will send the student's recommended fall and spring course lists. These lists are based on the Common First Year program and the test scores and academic credit that you have sent to UAH at that time. If you have updated test scores or credit, you can use the following google form to submit unofficial copies and receive an updated list of courses.

<https://forms.gle/BHL9WRPhmV7wTaXx9>

When planning your schedule of courses, you are encouraged to use the Schedule Planner tool. You can also register directly under the add/drop classes tab in Banner. You can find a video on how to use the Schedule Planner at www.uah.edu/eng/admitted.

When registering for classes with co-requisite labs (e.g. CH 121/125 or CPE 211/211L), you must add **both** the class **and** the lab section together, then you may submit the request for registration. You may find that a course you want to register is full. You may wait-list for the course if you wish. However, there is no guarantee that you ultimately get a seat in the course. Thus, you should have alternate schedule plans if new seats do not become available.

Each semester, you should check your Banner account to see if you have any holds. Holds are placed when students have unpaid balances, parking tickets, missing paperwork/immunizations, or academic issues. You cannot register for classes or drop classes when you have a hold(s). If you have any problems with registration, you may always contact CUE² for assistance.

If you have questions about registration, you should start by emailing the Engineering Advisors at engineering@uah.edu.

The course listings for each semester are may be found at my.uah.edu. The course listings inform you of classes offered, days/times, class locations and instructors. During the semester registration period, the course enrollment, available seats, and the wait-list numbers are available (although not always in real time).

Important Engineering Academic Policies//

{Prerequisites, GPA and Limits on Attempts}

The College of Engineering requires that a grade of C- or better be earned in every course that serves as a prerequisite or prerequisite with concurrency for another required course. For example, ENG 101 is a prerequisite for MAE 271. If a student does not earn a C- or better in ENG 101, the student may not take MAE 271 in the following semester. Instead, the student must retake ENG 101 and earn a C- or better first.

In order to earn your engineering degree, you must earn a minimum 2.0/4.0 GPA for all courses completed at UAH. You must also earn a 2.0/4.0 for all courses required for the major.

The College of Engineering limits students to three attempts at any course required for the engineering degree. This policy includes courses for which the student has withdrawn and received a W on the transcript. After the third unsuccessful attempt, the student will be required to change their major/college.

{Common Abbreviations}

Courses

Engineering:

CE	Civil Engineering
CHE	Chemical Engineering
CPE	Computer Engineering
EE	Electrical Engineering
ISE	Industrial & Systems Engineering
MAE	Mechanical & Aerospace Engineering

Science:

BYS	Biology
CH	Chemistry
CS	Computer Science
MA	Mathematics
PH	Physics
ST	Statistics

Arts, Humanities & Social Sciences:

ARH	Art History
ARS	Art Studio
CM	Communication Arts
EH	English
FL	Foreign Language
GY	Geography
HY	History
MU	Music
PHL	Philosophy
PY	Psychology
SOC	Sociology
TH	Theater
WS	Women's Studies

Additional:

ECN	Economics
FYE	First Year Experience
HPE	Health & Physical Education
MIL	Military Science
OCS	Office Career Services

Banner

CRN	Course Registration Number
PreReq	Prerequisite
Pre w/Con	Prerequisite with Concurrency

Buildings

Academic:

ENG	Engineering Building
OKT	Technology Hall
OPB	Optics Building
SST	Shelby Center
MSB	Material Science Building
MOR	Morton Hall
ROB	Roberts Hall
BAB	Business Administration Building
WIL	Wilson Hall
NUR	Nursing
LIB	Library

Residence Halls:

CCH	Central Campus Residence Hall
CGV	Charger Village
FFH	Frank Franz Hall
NCH	North Campus Residence Hall
SCH	Southeast Campus Housing

Athletics:

CGP	Charger Park
UPK	University Park
SPR	Spragins Hall

Additional:

CGU	Charger Union
CTC	Conference Training Center
IMF	Intermodal Parking Facility
UFG	University Fitness Center
SSB	Student Services Center

Section Type

H	Honors
O	Online/Web Classes
P	Peer Assisted Study Session (PASS)

Semester & Weekday

F/S/M	Fall/Spring/Summer
MTWRF	Monday/Tuesday/Wednesday/ Thursday/Friday



**UAH
Resources**

Center for Undergraduate Engineering Education

Location: Engineering Building 157

Email: engineering@uah.edu

Phone: 256.824.6877

URL: www.uah.edu/eng/departments/undergraduate-engineering

<u>Name</u>	<u>Location</u>	<u>Number</u>
Mechanical and Aerospace Engineering	OKT N274	(256) 824-6154
Electrical and Computer Engineering	ENG 272	(256) 824-6316
Chemical and Materials Engineering	ENG 117	(256) 824-6810
Civil and Environmental Engineering	OKT S201	(256) 824-6854
Industrial and Systems Engineering	OKT N143	(256) 824-6256
Honors College	FFH 113	(256) 824-6450
Career Services	SSB 205	(256) 824-6741
Student Success Center	LIB, First Floor	(256) 824-2478
Counseling Center	Executive Plaza	(256) 824-6203
OIT Help Desk	LIB, First Floor	(256) 824-3333
Registrar	SSB 120	(256) 824-7777
Financial Aid	SSB 124	(256) 824-6241
Bursar's Office	SSB 123	(256) 824-6226
Wellness Center	WIL 325	(256) 824-6775
University Directory		(256) 824-1000
Campus Safety	IMF	(256) 824-6596
SafeRide		(256) 539-9444