



Department of

AUTOMOTIVE ENGINEERING

Clemson[®] University

Virtual Help Kit 2025-2026

ABOUT THE PROGRAM

- Our undergraduate program in Automotive Engineering, the very first in the country, welcomed its first students in Fall 2023.
- Currently, first-year students in engineering at Clemson originally go into the general engineering program, where the different engineering disciplines are explored
- After their first year, students interested in Automotive Engineering will apply, starting the competitive process to join into AuE
- After being accepted into the program, Sophomore students will continue their studies at Clemson on the main campus



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ABOUT THE PROGRAM



- For their Junior and Senior year, students will be more hands-on in their automotive classes, taking their coursework in the world-class facilities at the International Center for Automotive Research (CU-ICAR), located in Greenville, South Carolina
- The department of Automotive Engineering leads to jobs in top automotive industries, like BMW, Tesla, Volvo, as well as software companies, airlines, military, government agencies, agriculture and motorsports.
- Being in automotive engineering offers a multitude of opportunities, including the opportunity to participate in the Bachelor's to Graduate program. In the program, a student can pursue a Bachelor's while having credits applied to a Master's degree

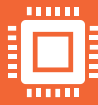


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The Degree



E-Hailing



Semiconductors



Autonomous
Vehicle Sensors



AI, Computing and
Connectivity



Electric Vehicles
& Charging



Batteries



AV Software
& Mapping



Telematics &
Intelligent Traffic



Back End /
Cybersecurity



HMI & Voice
Recognition

A degree in automotive engineering allows for classes that help you learn about the realms above, from battery building to vision systems!

FRESHMAN YEAR							
Term Info		Cr	Course	Term Info		Cr	Course
		4	CH 1010 & 1011 General Chemistry			3	ENGR 1410 & 1411 Programming and Problem Solving ⁴
		3	ENGL 1030 & 1031 Composition and Rhetoric			2	ENGR 2080 & 2081 Engr. Graphics and Machine Design
		3	ENGR 1020 & 1021 Engineering Disciplines and Skills ¹			4	MATH 1080 Calculus of One Variable II
		4	MATH 1060 Calculus of One Variable I ²			3	PHYS 1220 Physics with Calculus I
		3	Arts & Humanities <i>OR</i> Social Science Req ³			1	PHYS 1240 Physics Lab I
						3	Arts & Humanities <i>OR</i> Social Science Req ³
		17				16	
SOPHOMORE YEAR							
Term Info		Cr	Course	Term Info		Cr	Course
		3	AUE 2010 Human Factors and Fundamentals of Vehicle Design*			2	ECE 2070 Basic Electrical Engineering
		3	AUE 2020 Introduction to Automotive Systems*			1	ECE 2080 Basic Electrical Engineering Lab
		3	ME 2050 Statics for Mechanical Engineers			3	ME 2030 Foundations of Thermal & Fluid Systems
		4	MATH 2060 Calculus of Several Variables			3	ME 2060 Dynamics
		3	PHYS 2210 Physics with Calculus II			2	ME 2220 Mechanical Engineering Lab I ⁵
						4	MATH 2080 Int. to Ordinary Differential Eqn.
		16				15	

*Fall Only

**Spring Only

AUE CURRICULUM

FRESHMAN & SOPHOMORE YEAR

The previous year curriculum can be found at this link: [AuE Curriculum 24-25](#)



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JUNIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	AUE 3010 Energy for Mobility ^{*7}		3	AUE 3020 Propulsion Systems Design ^{**}
	3	AUE 3110/3111 Intro to Automotive Manufacturing [*]		3	AUE 4210 Automotive Multibody Systems Design ^{**}
	3	ME 2040 Mechanics of Materials		3	ME 3050 Modeling and Analysis of Dynamic Systems
	3	MATH 3650 Numerical Methods for Engineers		3	Technical Elective ⁶
	3	MSE 2100 Introduction to Materials Science ⁵		3	Technical Elective ⁶
	15			15	
SENIOR YEAR					
Term Info	Cr	Course	Term Info	Cr	Course
	3	AUE 4080 & 4081 Vehicle Testing & Characterization [*]		3	AUE 4310 Automotive Engineering Design Project or ECAS 4960 Interdisciplinary Engineering Design Project
	3	AUE 4600 Dynamic Performance of Vehicles [*]		3	Technical Elective ⁶
	3	AUE 4220 Automotive Electronics Integration [*]		3	Ethics and Professional Practice Requirement ⁸
	3	Technical Elective ⁶		3	Arts & Humanities OR Social Science Req ³
	3	Oral Communication Requirement ³		3	Arts & Humanities OR Social Science Req ³
	15			15	
124 Total Semester Hours					

To graduate, an AuE student will need
124 Total Semester Hours

AUE CURRICULUM

Junior & Senior Year

The previous year curriculum can be found at this link: [AuE Curriculum 24-25](#)



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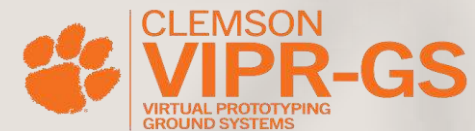
Technical Elective Options

- Advanced & Electrified Powertrains
- Autonomous Vehicle Systems
- Battery Design
- Digital Automotive Manufacturing
- Data Science, Learning & Algorithm
- Electrification of Transportation
- Environmental Sustainability
- Energy Storage
- Human Factors Psychology
- Introduction to Software Engineering
- Lightweight Composites
- Linear Control Systems
- Mechatronics
- Signals & Systems
- ...AND more technical elective options are constantly being added or updated

Opportunities with BS Degree

Work For World Class Centers

- The Automotive Engineering Department has faculty that founded and currently operate, some of the most advanced research centers and laboratories in the world, such as:
 - The Clemson Composites Center
 - VIPR-GS Center
 - Clemson Vehicle Assembly Center
 - Clemson ARMLAB and OpenCAV
 - Advanced Combustion and Renewable Fuels Lab
 - GRAIL



TESLA



BOSCH



RIVIAN



HONDA

SPACEX



Career Pathways

Within Auto Industry

- Opportunities in auto industry areas such as manufacturing, dynamics, robotics, testing, and design
- Potential Employers include the ones listed on the left. . .

...AND MANY MORE!!

Career Pathways

Within Other Industries

- Opportunities in areas other than automotive include aerospace, FAANG, military & government, agriculture, research labs, etc.
- Potential Employers include the ones listed to the right!

...AND MANY MORE!!



JOHN DEERE



Alphabet

SIEMENS



Career Pathways

Possible Job Titles

- Smart Systems Programmer
- Electric Automated Vehicle Designer
- Manufacturing Engineer
- Battery Cell Engineer
- Vision Automation Engineer
- Controls Engineer
- Process Engineer
- Vehicle Design Engineer
- Project Engineer
- Tooling Engineer





WHY AUTOMOTIVE ENGINEERING?

“Since the day I completed my first oil change in my garage, I discovered an interest in understanding how all the parts worked together to allow such a heavy machine to go so fast. When I learned to drive a manual, I fell in love with driving even more. I had always hoped to find a career in the automotive field, so when Clemson announced the first ever undergraduate automotive engineering program, I knew I wanted to be a part of it.”



WHAT WOULD YOU TELL OTHERS THINKING OF DECLARING FOR OUR MAJOR?

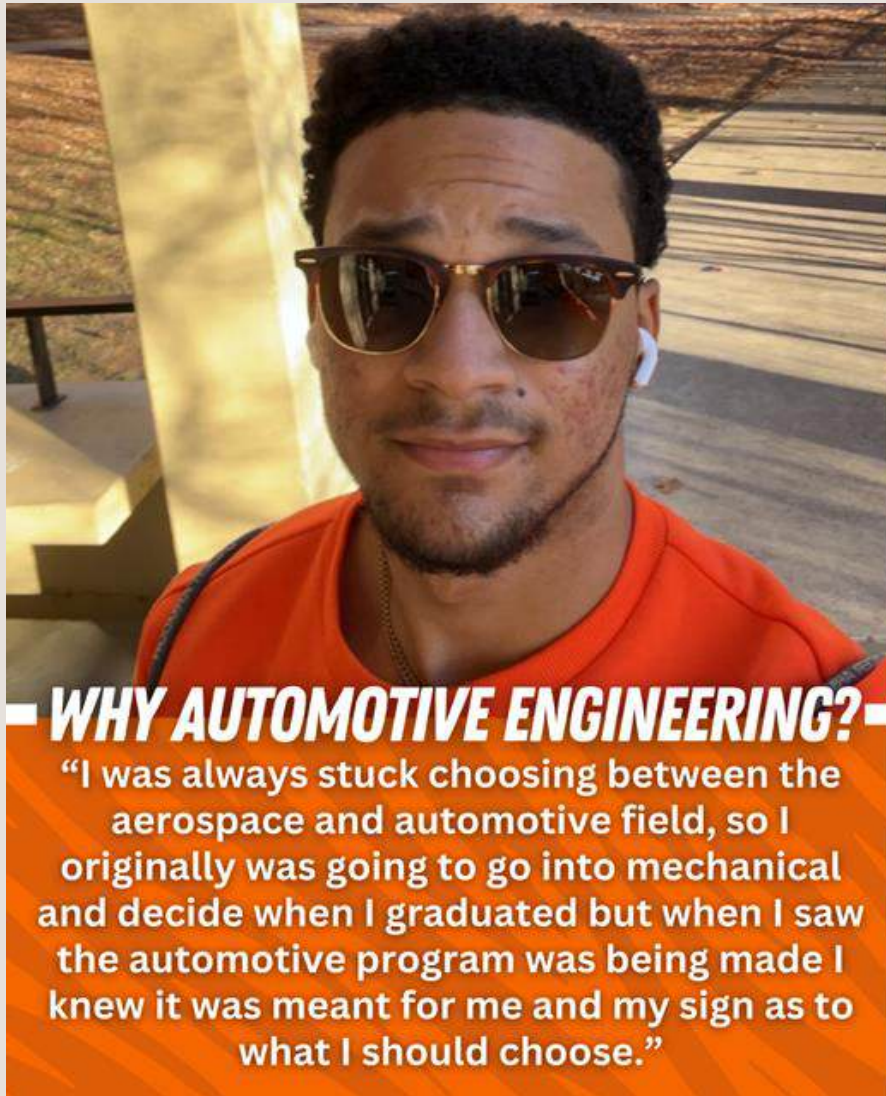
“You don’t need to know a lot about cars. It does not matter the amount of experience you do or don’t have, as long as you have a passion and motivation you will be absolutely fine.”



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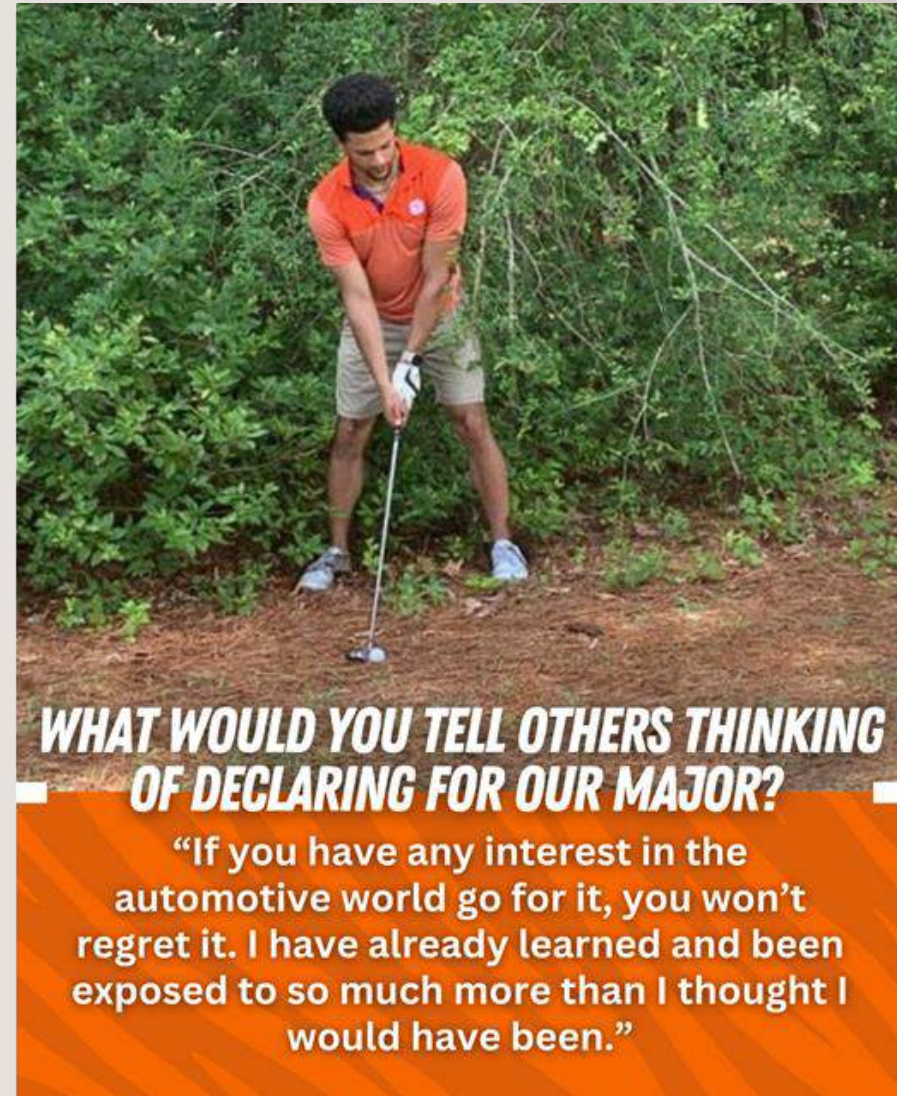
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WHY AUTOMOTIVE ENGINEERING?

“I was always stuck choosing between the aerospace and automotive field, so I originally was going to go into mechanical and decide when I graduated but when I saw the automotive program was being made I knew it was meant for me and my sign as to what I should choose.”



WHAT WOULD YOU TELL OTHERS THINKING OF DECLARING FOR OUR MAJOR?

“If you have any interest in the automotive world go for it, you won’t regret it. I have already learned and been exposed to so much more than I thought I would have been.”



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B.S. IN AUTOMOTIVE ENGINEERING



124 Total Credit Hours

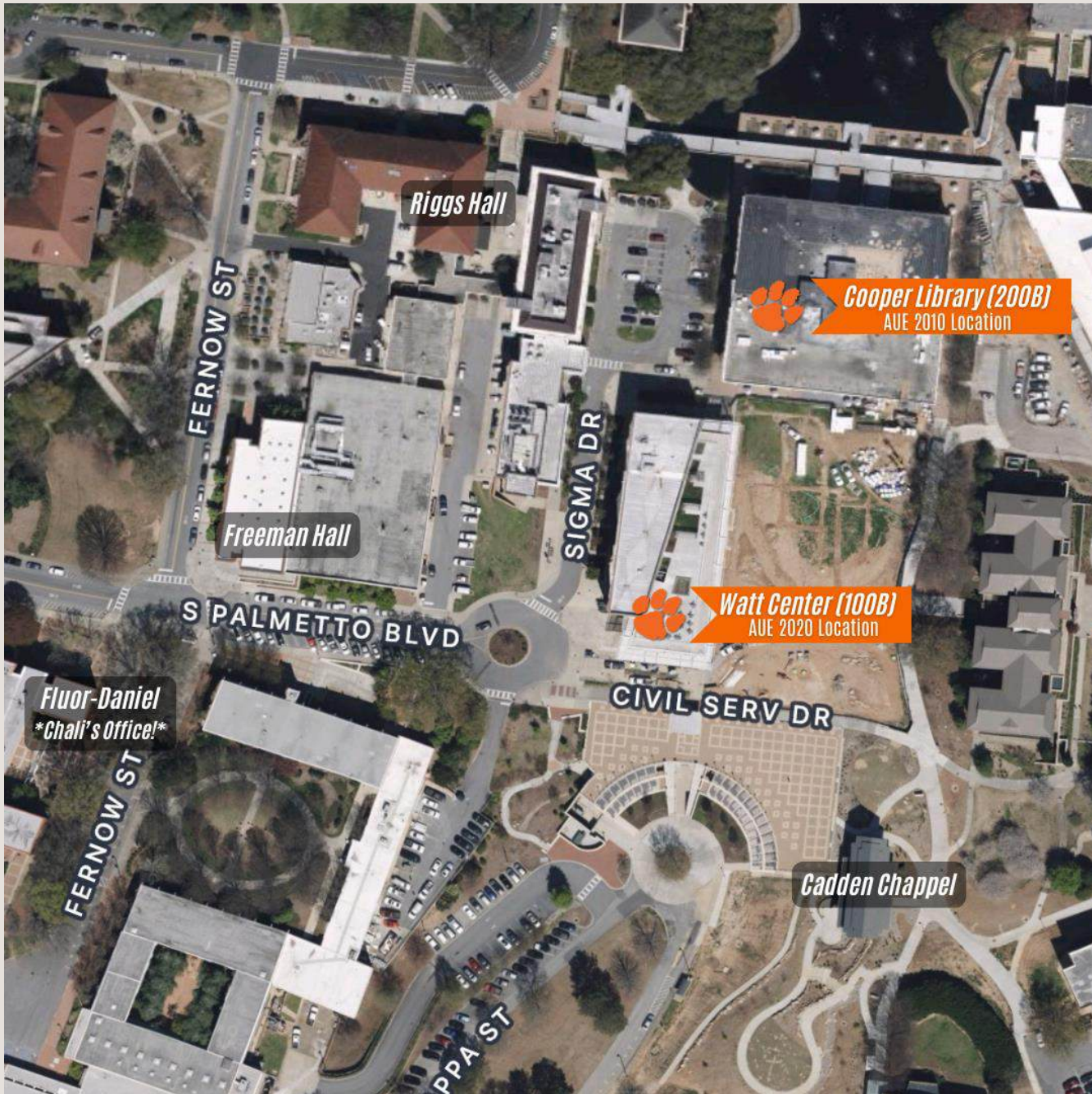
- **Freshman year:** General Engineering, Main Campus
- **Sophomore year:** Automotive Engineering, Main Campus
- **Junior & Senior year:** Automotive Engineering, CU-ICAR and Main Campus



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Main Campus

For the Fall 2025 semesters, your AuE classes will primarily be held in **Cooper Library** and the **Watt Center**

Your advisor will be available for both scheduled and drop-in meetings at Flour-Daniel on the Main Campus (seen on the left corner on the map)

Main Campus Dining

There are a multitude of restaurants on campus, as well as dining halls that are available to students.

- Dining Halls:
 - The Dish
 - Schilletter
 - Community Hub
- Retail Dining on Campus:
 - Chick-Fil-A (multiple locations)
 - Starbucks (multiple locations)
 - Raising Cane's
 - Which Wich
 - Freshens
 - Einstein Bros. Bagels
 - Blenz Bowls (Watt)
 - Panda Express

For more information on where to find these and more dining options on campus: [Dining Options on Main Campus](#)



Einstein Bros. Bagels



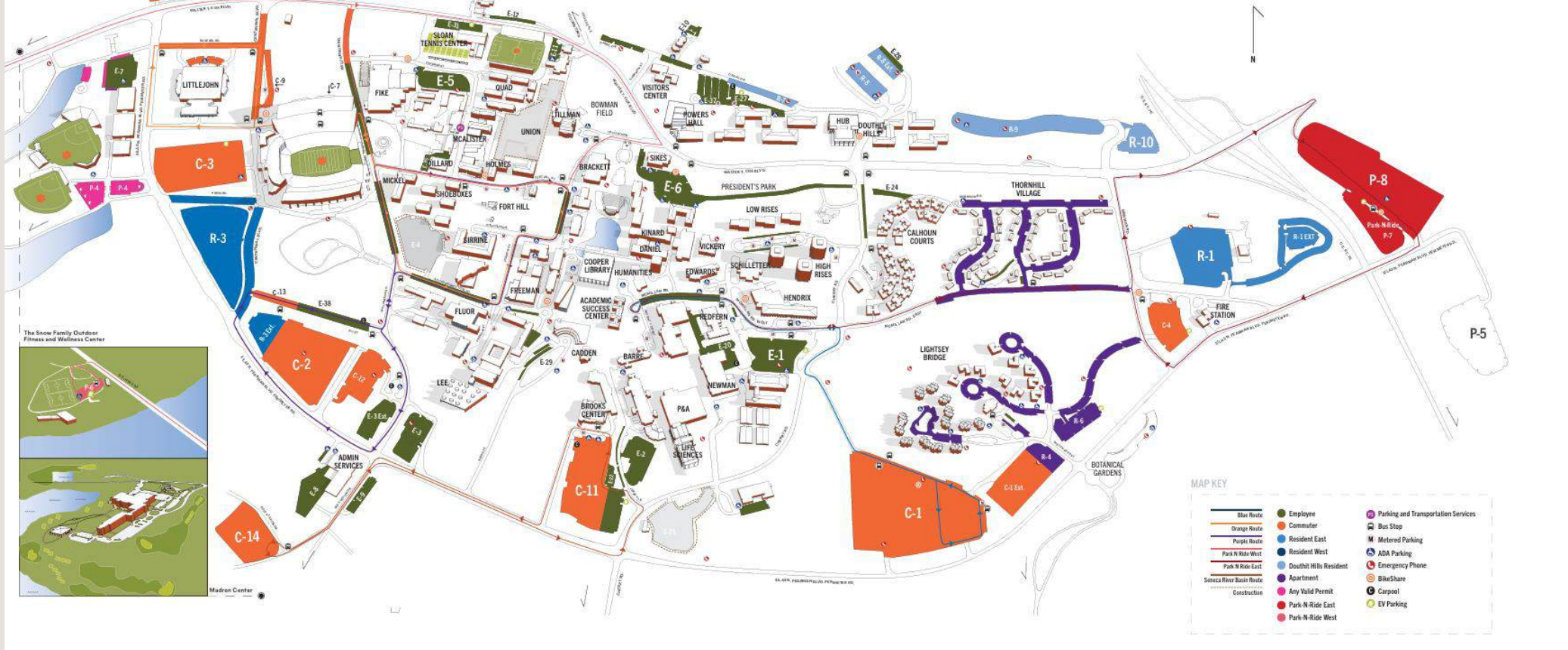
Raising Cane's



Panda Express



Which Wich



Main Campus Parking

Any orange spots on the map are commuter parking spots for students. There are buses that pick-up students from these parking lots, including:

- Blue: C-1, Hendrix, and Employee Parking Spots
- Purple: C-2 & C-12 Lots and Employee parking spots (Easy access to engineering buildings)
- Orange: Lot C-3, C-15 and C-16, near the athletic district (also stops at the engineering buildings)
- See more parking options & transit information here: [Parking Information](#)

CU-ICAR

Clemson University International Center for
Automotive Research

- Parking is free at CU-ICAR as all students have access to parking at the **Parking Garage**.
- Fall 2025 and Spring 2026 classes for Juniors and Seniors are held in the **ORD Building** and **the Campbell Center** (highlighted in orange on the map)
- Your advisor also has an office in the Campbell Center and will be available for both drop-in and scheduled appointments in **Suite 351**



WHY CU-ICAR?

- Last two years features Automotive Engineering courses at CU-ICAR campus in Greenville
- CU-ICAR has a national reputation within the auto industry for producing top quality talent
- World class facilities
- Proximity to auto manufacturers in region
- Deep Orange program





CU-ICAR Dining Options

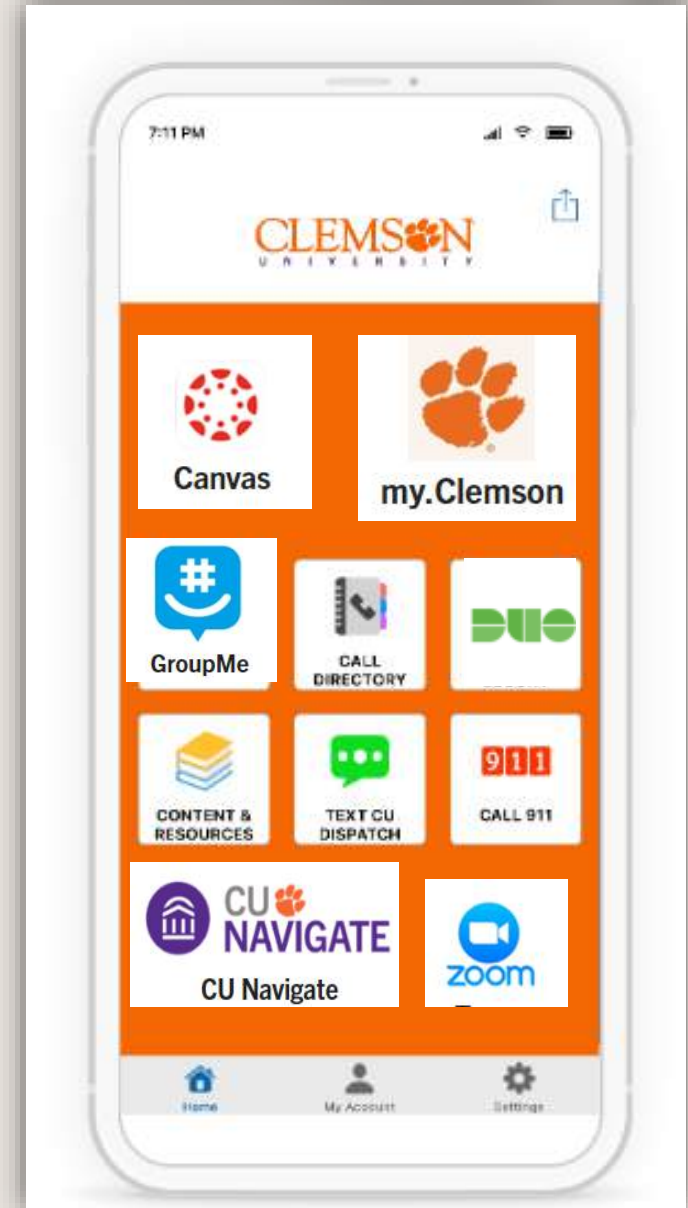
- Laurens Rd. (within 5-10 minutes from CU-ICAR)
 - Burger King
 - Subway
 - Olive Garden
 - Greenfield's Bagels & Deli
 - Arby's
 - McDonald's
 - Bojangles
 - Starbucks
 - Culver's
 - Joy of Tokyo
- On-Campus:
 - CU-ICAR Cafe
- Woodruff Rd. (within 10 minutes from CU-ICAR)
 - Chipotle
 - Cava
 - Panera
 - Poke Bros
 - Viva Chicken
 - Wingstop

****There are many more restaurants available, just look up these areas on Google.**



Helpful Apps for Clemson Students

- **My. Clemson** (find buses, maps, directory, events and more)
- **CUNavigate** (for advising appointments, study buddies, and more)
- **Duo Authentication** (to log into iRoar and Canvas)
- **Rave Guardian** (for safety on campus)
- **Zoom** (for meetings and online classes)
- **GroupMe** (for connecting to study groups, classes, or extracurricular groups)
- **Canvas** (where your classes, assignments, and grades will be found)



Meet Your AuE Professors

Freshman and Sophomore Years



Dr. Dee Kivett

dkivett@clemson.edu

- Dr. Kivett (left) has over 25 years of experience and serves as the Undergraduate Academic Program Director and CEO of NextGen Supply Chain Integrators. She has specialties in supply chain, quality management, aerospace, automotive, Fortune 500, and many more! Dr. Kivett also graduated with her Ph.D. from our program.
- Dr. Brooks (right) is a Human Factors psychologist who works with Deep Orange and does research on automotive manufacturers regarding worker ergonomics, safety issues, and developing tools to enable aging drivers, wounded warriors, and youth with autism!



Dr. Johnell Brooks

jobrook@clemson.edu



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Meet Your AuE Professors

Junior and Senior Years

- Dr. Sapra (left) is a research scientist with a background in Advanced Energy conversion. He has developed and applied tools, models, and experiments in batteries, combustion scenarios, hybrid systems, and fuel cells.
- Dr. Henderson (right) graduated with his Ph.D. in Automotive Engineering from Clemson and now is one of the professors for the program! Dr. Henderson is the owner of his own business, Hendtech LLC, dedicated to improve industrial operations. He also is on the board for the AuE THINKER program.



Dr. Harsh Sapra
hsapra@clemson.edu



Dr. Henderson
ajh@clemson.edu



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Meet Your AuE Advisors

Undergraduate level and Prospective Students



Chali Thompson

christt@clemson.edu

Primary Advisor

(864) 283-7102

- Chali (left) will be your main point of contact for all advising questions. Her advising appointment availability and drop-in availability will be located on CU-Navigate.
- Jeremiah (right) is available for any questions that Chali cannot answer. His availability can be accessed through emailing him.



Jeremiah Farmer

mjfarme@clemson.edu

Student Services Manager



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Advisor Communication Policy

- Email is the best way to reach your advisors.
 - Do not contact advisors through teams, social media, or personal cell phone unless authorized by the staff in special cases (e.g. events)
- Please wait 2 business days to receive a response as advisors have a high influx and respond in the order of the messages received



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Makerspace & ORD Access

Makerspace:

- High-end, hands-on equipment and technology available to anyone with a valid Clemson ID
 - 3D Printers, Laser Cutters/Engravers, Sticker Printer, and Vinyl Cutter
- Locations:
 - Watt Makerspace and Cook Engineering Lab (main campus)
 - ORD (future CU-ICAR location)
- For more Makerspace info click here: [CU Makerspace](#)

- At CU-ICAR if there are issues getting into the ORD building (which holds a Makerspace and AuE classes) follow these directions:
- email TigerOneCard@clemson.edu, and copy Cristina Shorts, cristis@clemson.edu.
- Be sure to include the following details for the quickest resolution:
 - Your name and CUID number (CXXXXXXXX) or Fob Number
 - What specific door(s) you are having trouble with
 - What date and approximate time you tried accessing the door
 - What device did you use to attempt access? (physical ID card or mobile ID; if mobile ID, also include phone type)
 - Make the email subject line specific (“*ORD weekend access issues*” is better than “*Issues entering building*”)



Other Resources

- At Clemson, the Center for Career and Professional Development offers resume workshops, career counseling, co-op information, and UPIC internships and job opportunities
 - Use this link for more information on CCPD and their services: [CCPD](#)
- The Academic Success Center is also offered to students and provides opportunities for tutoring , workshops, and academic counseling
 - Use this link for more information on ASC and student services: [Academic Student Services](#)



**Center for Career and
Professional Development**



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Internships

- Internship opportunities for Undergraduate students include both on-campus, off-campus, and international internships
- To find internships on campus, or UPIC internships, visit: [On-Campus Internships](#)
 - On campus internships can be part-time or full-time and have certain requirements, like GPA and time requirements
- To find off campus internships, visit: [Off-campus Internships](#)
 - Students should remember that while searching for an internship, there are criteria that University looks for before agreeing to award academic internship credit.
 - Sign up for a CCPD appointment before accepting an off-campus internship to make sure it meets Clemson's requirements
- To find international internships, visit: [International Internships](#)
 - There are certain classes an international intern will have to take. For more information you can email tnunama@clemson.edu or visit <https://terradotta.app.Clemson.edu/> and search for the International Internships Program.



First Cohort Internships

- Some examples of what our First Cohort has already accomplished during their first year in Automotive Engineering at Clemson:
- Samson Mellot (top) started an internship at Volvo as a Methods and Repair Workshop Technician intern.
- Thomas Beaver (bottom) has an internship at Scout Motors as a Production and Manufacturing Engineering Intern and previously had an internship with JTEKT North America
- Peter Gaspich (not pictured) was offered an internship at Michelin PRIME (normally offered for Graduate students) at his first automotive engineering career fair at Clemson



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AuE Student Organizations

- Clemson Automotive Engineering Student Association
- Student Ambassadors
- Baja SAE
- Clemson Tiger Racing
- Formula SAE
- Research opportunities
- Creative Inquiry



Undergraduate Student Ambassadors



- Student Ambassadors for the Department of Automotive Engineering represent the department at events and give tours to prospective students.
- Ambassadors are often students within the Automotive Engineering department, any interested Clemson student can sign up regardless of current academic standing.
- The ambassadors in the program do get paid and it also looks great on a resume!
- More information can be found at this link: [AuE Organizations](#)

Clemson Automotive Engineering Student Association

- The AuE student association is an elected position. Annual elections are held for several positions.
- The appointed officers advocate for student concerns directly to faculty and staff in the department, who then can take these considerations and hopefully make positive changes for Automotive Engineering
- This student association is a designed student organization through Clemson University, the highest level a student organization can achieve
- The student association is responsible for planning and executing numerous events throughout the semester
- You can see more at this link: [Student Association](#)





Baja & Formula SAE

- Clemson University Formula SAE (CUFSAE) designs, builds, and races a high-performance Formula-style race car through teamwork, engineering, testing and model validation. This is a student organization dedicated to enriching students by allowing them to apply what they have learned in class. From engineering to marketing, computer programming to graphic design, CUFSAE offers something for every student. The group aims to provide students with the tools to learn as much as possible while exploring employment possibilities in the automotive industry
- Clemson Baja SAE (pictured left) is a non-profit organization that allows students to apply the knowledge acquired in the classroom to a real-world setting. Baja SAE is a collegiate design competition sponsored by the Society of Automotive Engineers. Teams from universities around the world compete in an off-road challenge. Student members work together to design, build, test, promote, and race a rugged, single-seat, off-road vehicle.

For more information on CUFSAE: [Formula SAE](#)

For more information on BSAE: [Baja SAE](#)



Clemson Tiger Racing

- Clemson Tiger Racing (CTR) is a student-led motorsports team that gives students hands-on experience in building, maintaining, and racing real endurance cars. CTR focuses on developing future racing professionals by simulating the structure and intensity of a true race team. Members can explore a variety of roles—from pit crew and driver to race engineer, media, and operations—gaining valuable skills in communication, leadership, and technical performance. Open to students of all majors and experience levels, CTR is a fast-paced, high-energy environment for anyone passionate about motorsports, competition, and teamwork. The team races throughout the Southeast and proudly represents Clemson at grassroots motorsports events.

See more on their YouTube: [CTR](#)

See more on their Instagram: [CTR Insta](#)

The Purple Garage

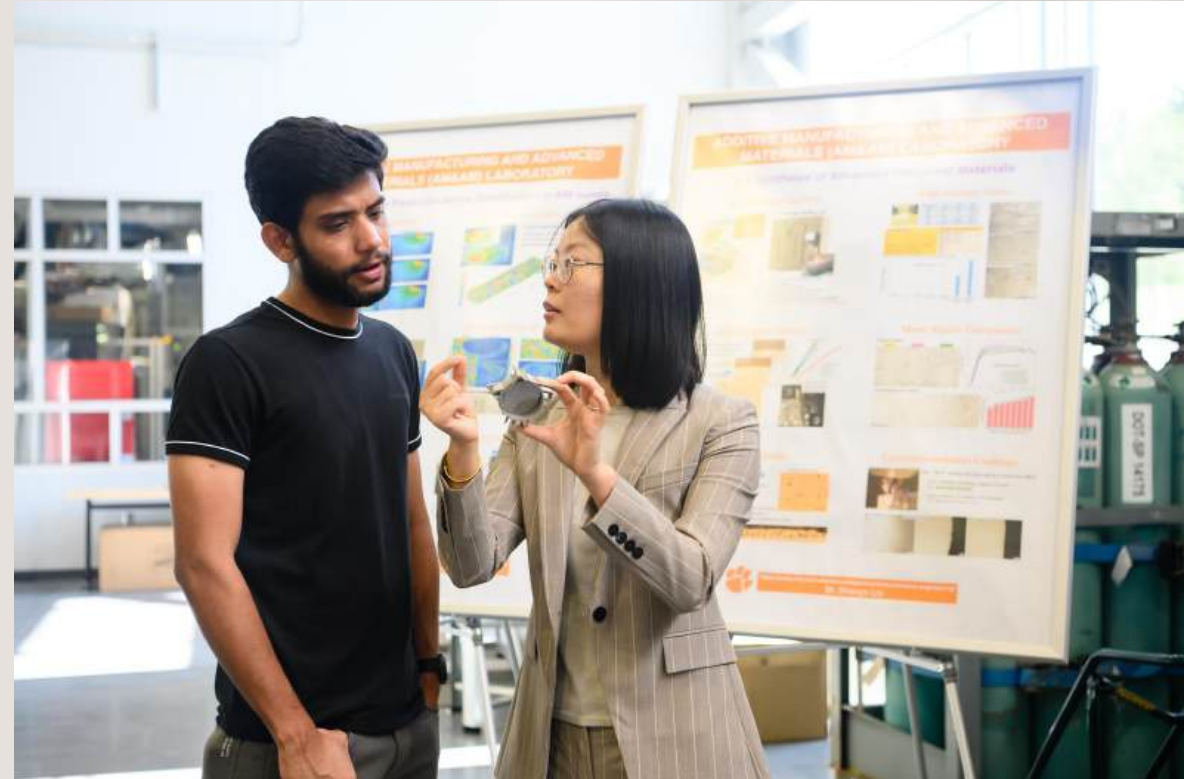
- The Purple Garage is a student organization dedicated to teaching students how to rebuild cars. They work primarily on bringing old Deep Orange vehicles back to life. So far, they have fully rebuilt the powertrain on Deep Orange 9 and gotten Deep Orange 3 running for the first in over 10 years. This group helps others to learn how to do more than just basic maintenance on cars, especially on powertrains. This is also a way to learn more about the complexity of work that goes into building Deep Orange vehicles
- For more information on Deep Orange, please visit this link: <https://cuicardeeporange.com/>



See more on their [YouTube](#)
See more on their [Instagram](#)

Research Opportunities and Creative Inquiry (CI's)

- Creative Inquiry projects offer students the opportunity to engage in long term, team-based projects with an emphasis on undergraduate research but include other academic engagement opportunities (e.g., service-learning, outreach, global engagement, entrepreneurship).
- Participating in a CI project often leads to citable accomplishments, such as presentations at professional society conferences and publication citations in professional, peer-reviewed publications.
- You can look for CIs below or reach out to professors in your major or minor and ask if they are running any creative inquiries or other research opportunities.
- CIs are available for different topics in different majors. To find more information or apply to a CI click here: [Creative Inquiry](#)



TIGERPROWL/TIGERQUEST

- Tiger Prowl is Clemson University's largest student organization and involvement fair where students can explore and connect with a multitude of extra- and co-curricular opportunities. The event happens twice a year: Fall and Spring, with hundred of clubs and organizations being a part.
- If you can't make it to Tiger Prowl to see all the offered clubs, you can visit and search your interests, at TigerQuest.
- TigerQuest is an online database that has all the listing of clubs and organizations with information about the clubs and a contact to reach out to if you are interested.
- For more information on TigerQuest, click this link: [TigerQuest](#)



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Important Contacts

- CUPD (main campus non-emergencies): (864) 656- 2222
- Greenville Police: (864) 271-5333
- CU-ICAR Police: (864) 274-1392
 - Located in the TD Gallery near parking lot
 - Call or visit for emergencies or problems with getting inside buildings
- For any other questions/concerns
 - email Chali Thompson (primary advisor, chrislt@clemson.edu)
 - Email Jeremiah Farmer (Student Services, mjfarme@clemson.edu).
 - We will point you in the right direction 😊
- **For any emergencies dial 911 regardless of the campus**



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Show Off Your AuE Pride!!

- Anyone who loves Clemson and wants to support our Automotive Engineering program can buy flags, hats, t-shirts, and more!
- If you want to view our available merch, click this link: [AuE Swag](#)



Flags



Hats



Apparel



Drinkware & Koozies

Next Steps & Questions?



- Want to know how to declare for Automotive Engineering?
Have more questions you need answered?

- Visit our website, cuautomotive.com
- Email us at automotive@clemson.edu
- Setup Explore AuE appointment in CU Navigate
- Connect with Automotive Engineering Student Ambassadors
- Schedule a Tour of the CU-ICAR campus
- Follow us on Instagram, [@clemsonautomotive](https://www.instagram.com/clemsonautomotive)
- Email the undergraduate student advisor
chrislt@clemson.edu