


ANNUAL REPORT

2025-26

 **ENGINEERING, COMPUTING
AND APPLIED SCIENCES**

Department of General Engineering
110 Holtzendorff Hall, Clemson, SC 29634-0901
P 864-656-2542 | www.clemson.edu/cecas/ge



@clemsonCECAS



GENERAL ENGINEERING



Laying the foundation for the future.

Our Vision

Consistent with Clemson University's vision of becoming a top 20 national public university, the Department of General Engineering will be a leader in engineering education and

student development, attracting and producing students who are prepared to succeed in their upper-level courses and in the engineering profession.

Our Mission

Consistent with the College of Engineering, Computing and Applied Sciences mission, we believe in the challenging yet supportive environment that underlies the Clemson tradition.

General Engineering faculty and college staff work closely inside and outside the classroom to help students understand the challenge and satisfaction of an engineering career. First-year undergraduates are exposed to all engineering disciplines at Clemson from an academic and professional perspective. Students discover their interests, skills, and abilities and are supported in matching these with a major that is the best fit for the individual student.

General Engineering offers introductory courses that teach students basic skills necessary for success in upper-level engineering curricula and in the engineering professions. Our main goal is to guide students in developing the ability to be responsible for their own education.

Our Teaching Philosophy

General Engineering at Clemson utilizes a model called "SCALE-UP." First developed at NC State by Robert Beichner as a method of teaching Physics, SCALE-UP stands for Student-Centered Activities for Large Enrollment Undergraduate Programs. The project focuses on bringing students together to work as teams on hands-

on, interactive assignments. Sitting at round tables allows each team member equal ability to contribute as they engage in discussions. This collaborative study allows increases in problem-solving, conceptual understanding, and overall attitude. As collective dialogue increases, the rate of failure decreases.



Chelsea Spence
Lecturer
cspenc2@clemson.edu



Vishal Thomas
Lecturer
vishalt@clemson.edu



Michael Waldrop
Senior Lecturer
mwaldro@clemson.edu



Kyle Walker
Lecturer
kjwalke@clemson.edu



Joe Watkins
Department Chair
rjwatki@clemson.edu



Nighat Yasmin
Principal Lecturer
yasmin@clemson.edu



Zuo Zhuo
Lecturer
zuoz@clemson.edu

General Engineering Staff



Kristen Inabinet
Student Services Coordinator
kmwhite@clemson.edu



Jennifer Robertson
Office Manager
jrobe25@clemson.edu



Mary Pickers
Student Services Coordinator II
mpicker@clemson.edu

General Engineering Faculty



Evrin Altinkaynak
Lecturer
ealtink@clmson.edu



Steven Brandon
Senior Lecturer
brando4@clmson.edu



Joe Chapa
Lecturer
chapa@clmson.edu



Grace Crocker
Lecturer
gfulmer@clmson.edu



Libby Flanagan
Lecturer
ezanin@clmson.edu



David Kahn
Lecturer
kahn5@clmson.edu



Hema Khedun
Lecturer
hkhedun@clmson.edu



Michael Kiernan
Lecturer
kierna2@clmson.edu



William Martin
Associate Director
Principal Lecturer
wmartin@clmson.edu



Matt Miller
Senior Lecturer
mkmille@clmson.edu



John Minor
Principal Lecturer
jminor@clmson.edu



Andrew Neptune
Senior Lecturer
aneptun@clmson.edu

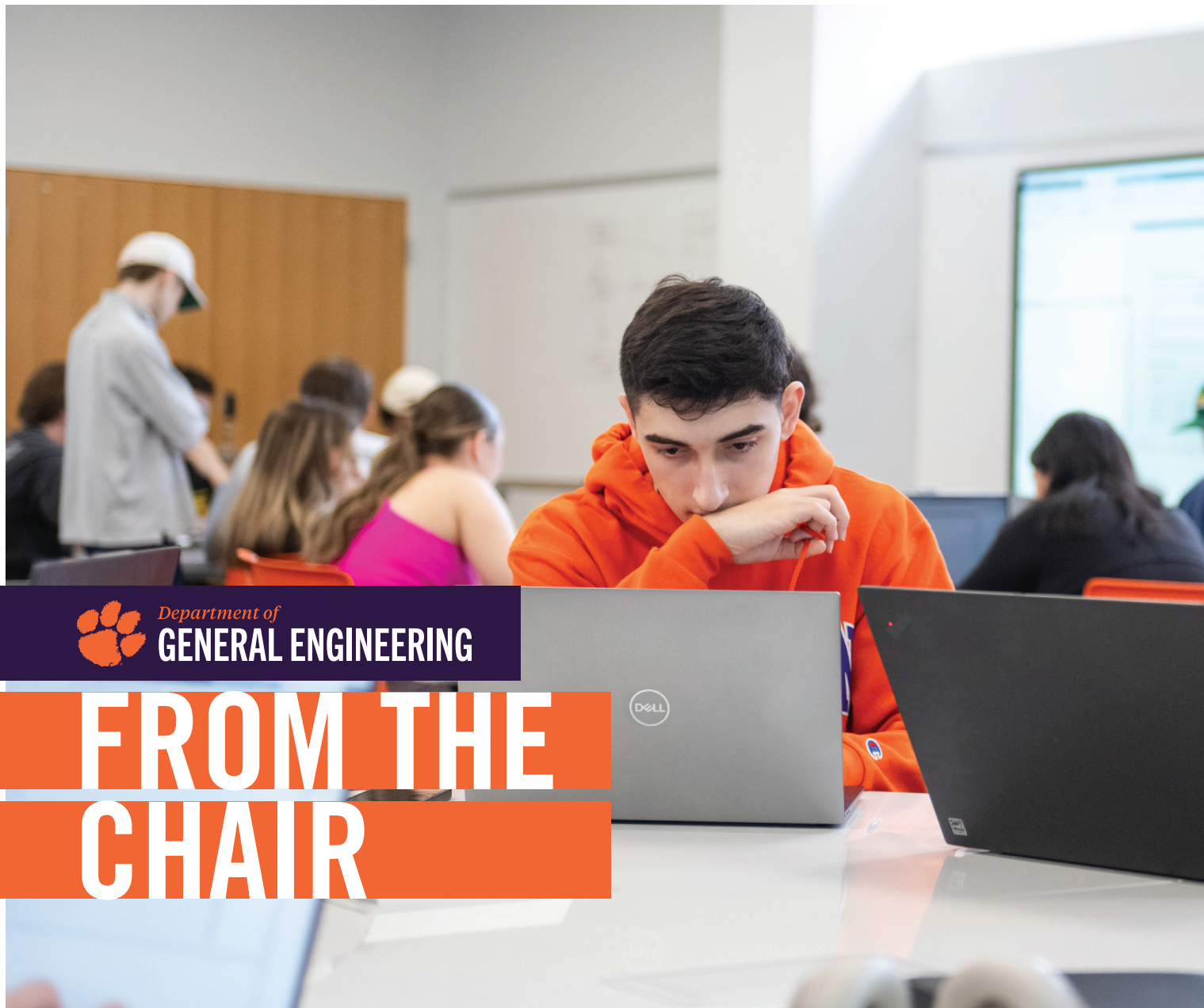


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let's begin →



Department of
GENERAL ENGINEERING

FROM THE CHAIR

This year has been another fantastic year for General Engineering. We had a record enrollment, but our faculty and staff have worked tirelessly to continue providing the number one student experience to all students and to equip them with the tools they need to succeed along their path to an engineering career.

This annual report highlights the many ways General Engineering supports students both in and out of the classroom. From building a strong academic foundation to helping students explore majors and connect with the people and opportunities that shape their future, our focus remains on student success. Check out the articles on the “GELC Learning Success

Panel,” “CO-OP / Internship Report,” and “Major Discovery Night” to explore just a few of the opportunities we offer our students. We are proud of the work being done across the department to help students grow in confidence, skill, and purpose as they begin their journey in engineering.

We have begun a major curriculum transition for our Programming and Problem Solving course to integrate artificial intelligence (AI) use into the class. While the new curriculum will be rolled out next fall, the article “AI Use and Literacy in 1st-Year Engineering Education” includes initial findings about current AI beliefs and usage by our students. Striking the balance between teaching students how to use AI as a tool, but still learn and understand the fundamental concepts, will be



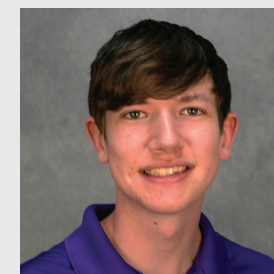
Andrew Fogle

The 2025–2026 Outstanding Undergraduate Teaching Assistant (UTA) for graphics courses (ENGR 2080/2100) is **Andrew Fogle**, a Senior majoring in Mechanical Engineering and graduating in Spring 2026. He has accepted a job at Salas O’Brien down in Charleston, SC, as a Graduate Mechanical Engineer. He is a first year UTA with General Engineering, and based on student and faculty feedback, he is making a positive difference in our program and helping students master SolidWorks.

Comments from students:

“Andrew has been a huge help this semester! I have honestly learned so much from his tips and feel confident in SolidWorks now after his help. He definitely deserves this award because he clearly knows the ins and outs of SolidWorks and is always so helpful and positive! I would have been struggling a lot more in this class without his reliable help.”

“He helps a lot around the class and spends time helping each student who has their hand up. He is the only UTA in the class and somehow helps everyone. He is always super helpful and knows exactly what to do! He is super kind and encouraging and a great help to our class!”



Andrew Fryman

The 2025–2026 Outstanding Undergraduate Teaching Assistant (UTA) for ENGR 1020/1410 goes to **Andrew Fryman**, who is a Sophomore majoring in Civil Engineering. He is very active in the Glenn Department of Civil Engineering, participating in CIs and the Cooperative Education Program. He is a first year UTA with General Engineering, and based on student and faculty feedback, he is making a positive difference in our program.

Comments from students:

“Andrew comes into class every day ready to help, and he does so very well. He also makes the class fun by adding jokes, but staying serious when needed, and helping whenever someone asks. He is always around and runs to help when his name is called.”

“Andrew has helped me many times after class, sacrificing his own time to help me. He also stepped up

when [our professor] was out with medical concerns. He helped me understand a topic before my test, and that really impacted my grade on my 3rd exam.”



Amelia Windsor

Another important role in our department is the Student Assistant, who helps the department with a variety of administrative functions, including preparing materials to distribute to students in our classes, answering the department’s main phone line, greeting visitors, organizing, and moving lab equipment, as well as handling any random requests from A–Z that our faculty and staff may have. **Amelia Windsor**, a junior majoring in Modern Languages and Language & International Business with a minor in Brand Communications, was recognized as the **2025–2026 Outstanding Student Assistant** for her impeccable professionalism and willingness to perform even the most challenging tasks for our department.

Comment from a GE faculty:

“Amelia does a great job assisting our department. She is a motivated self-starter and finds/completes tasks without even being asked. For the past two years, she has also served as our photographer for Major Discovery Night, saving the department hundreds of dollars. After the event, she edits and shares the photos, which are used for promotional items within CECAS and Clemson. She is dependable and professional and a true asset to the department.”



Amy Jordan

Next, we were pleased to recognize **Amy Jordan**, winner of the **Outstanding Boyd Scholar Award**. Amy, from Greer, South Carolina, is a senior graduating with a Bachelor of Biomedical Engineering and a minor in Materials Science and Engineering, and graduated in Spring 2026. This award is presented to the most outstanding graduating senior who began in GELC and joined the Boyd Scholars Program. Amy credits the GELC/Boyd Program for playing a vital role in shaping her academic journey, especially during her transition to college as a female engineering student.



Matt Miller (center) receives the Faculty Mentoring Award from GE Chair Joe Watkins (left) and Dean Anand Gramopadhye (right).

2025-26 AWARDS

It was another busy but exciting year for the GE Awards Committee! We reviewed calls for nominations for the university-level and college-level faculty/staff awards and submitted packages for the Byars Prize Award for Excellence in Teaching, Junior Faculty Award for Excellence in Teaching, and Faculty Mentoring Award.

We continued our tradition of recognizing our most outstanding students among the UTAs, student assistants, and recognized a graduating senior from our Boyd Scholars Program for the fourth year. Our awards presentation was held on Thursday, April 30, 2026, at the WHY lobby in Holtzendorff Hall at Clemson University.

The Annual Awards Celebration commenced with a dinner, followed by remarks from Dr. Watkins, who announced the promotions of Dr. Joe Chapa and Dr. Michael Waldrop to Senior Lecturer and congratulated the award winners. The event continued with recognition of CECAS award recipients and the distribution of General Engineering Awards, highlighting the notable achievements in General Engineering.



Matt Miller

The **Faculty Mentoring Award** honors a CECAS faculty member demonstrating exceptional peer mentoring that fosters junior faculty success. The 2025 recipient, **Matt Miller**, was chosen by the CECAS Faculty Awards Committee for his commitment to supporting and guiding

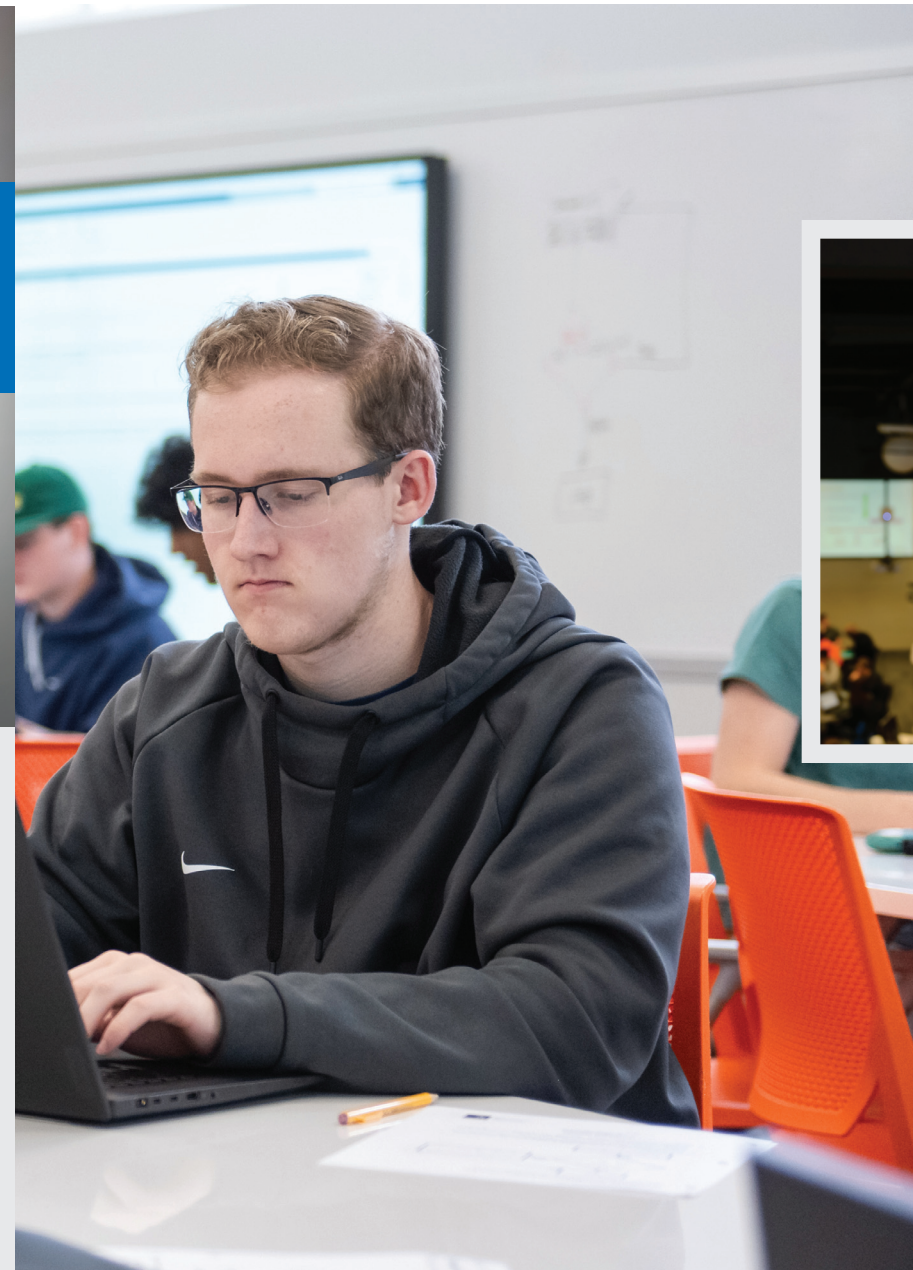
junior colleagues, exemplifying dedication to academic mentorship and community development. Matt anticipated new faculty needs before the semester began by creating a comprehensive resource package (slides, handouts, policies, and guidance) and shared it early, ensuring mentees were prepared despite delayed system access.

Comments from one of Matt Miller's mentees:

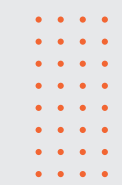
"As an individual, Matt stands out as a highly professional faculty member; he is warm and approachable. He demonstrated non-judgmental and understanding demeanor when I struggled. He provided valuable advice and guidance to rectify the situation."

The Annual Awards Celebration continued with the recognition of the department's outstanding student helpers for the 2025-2026 academic year. Serving more than 1,200 incoming engineering students at Clemson requires the help of many student assistants in the department's administrative, teaching, and grading duties. Their jobs are not easy. The work can be fast-paced and unpredictable, but tedious at times. Our department is fortunate to have many student assistants who are up for the challenge.

The **Outstanding Undergraduate Teaching Assistant (UTA)** award is given to two UTAs who go above and beyond the call of duty in various ways. They often proactively find ways to be helpful without the student or instructor asking them to do it. They go out of their way to ensure students understand a concept, come up with examples on the spot to aid learning, or otherwise demonstrate a high level of commitment to the courses and students they serve. In the current academic year, 109 UTAs were nominated to receive recognition.



Joe Watkins | Chair
Department of General Engineering



critical moving forward.

As we wrap up the year, I would like to give a huge thank you to all our faculty, staff, and student workers. The General Engineering family is focused on student success, and it takes a team effort to make it happen. This year, our family grew with the addition of Mary Pickers as a Student Services Coordinator and Dr. David Kahn. You can read about Dr. Kahn's academic background in the "Faculty Spotlights" section and check out other award-winning members of the General Engineering team in the "2025-2026 Awards" article.

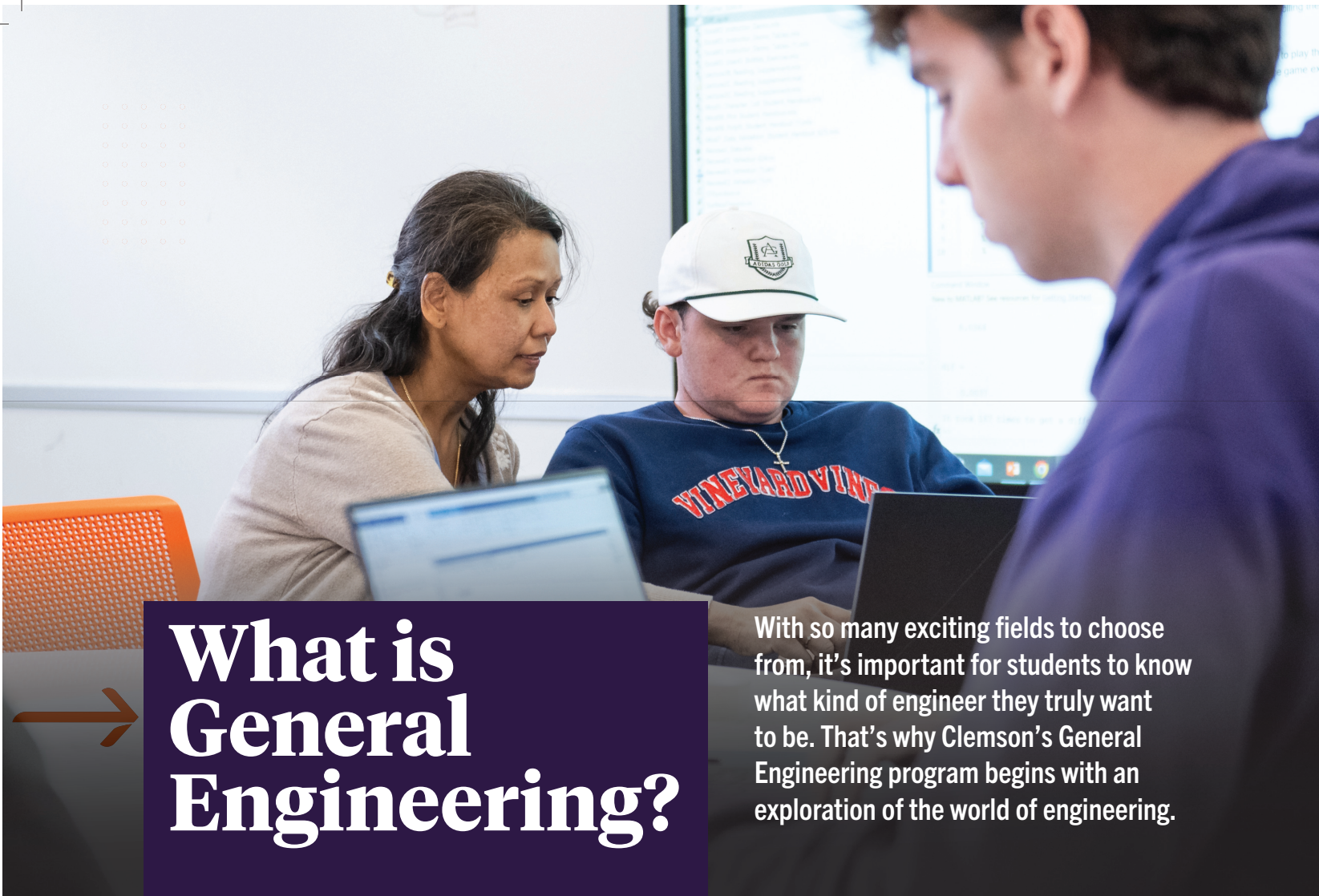
This year also marked an important transition for our department as Dr. Beth Stephan retired

after more than 20 years of dedicated service. Beth's commitment to General Engineering and the care she brought to the department have had a lasting impact on our students, faculty, and staff. We are deeply grateful for all she has done for the department and wish her the very best in retirement.

As I've said before, our people are what make GE a truly amazing program.

Go Tigers!

Joe Watkins



What is General Engineering?

With so many exciting fields to choose from, it's important for students to know what kind of engineer they truly want to be. That's why Clemson's General Engineering program begins with an exploration of the world of engineering.



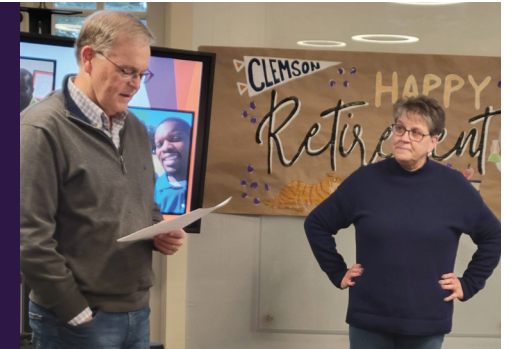
Every student who plans to major in engineering starts with admittance to General Engineering. Students spend their first year taking courses designed to bridge the gap between high school and college-level learning while examining the 11 undergraduate engineering disciplines offered at Clemson. From there, students determine which specialty best fits their talents and interests.

What Students Study

Here's a preview of standard courses for first-year engineering majors:

- ENGR 1020 Engineering Disciplines and Skills**
 Solving basic problems that engineers face is the foundation for a career in engineering. In ENGR 1020, students will demonstrate those growing skills through modeling techniques and determine and interpret the validity of experimental results. Finally, ENGR 1020 fulfills one of the Global Challenges general education requirements by introducing the professional and societal issues typically seen in engineering.
- ENGR 1410 Programming and Problem Solving**
 The formulation and solving of engineering problems using MATLAB is at the heart of ENGR 1410. Throughout the course, students will learn to read, interpret, and write programs utilizing conditional statements and looping structures.

A Legacy of Student-Centered Excellence: Celebrating Beth Stephan's 24 Years at Clemson



After 24 years of dedicated service to Clemson University and more than two decades shaping the General Engineering experience, Dr. Beth Stephan retired in December, leaving behind a legacy of innovation, compassion and student success.

Dr. Stephan's path to engineering was not a traditional one. Initially planning to become a high school teacher, her trajectory changed after transferring from a small private college to a large public university that offered engineering programs.

"My high school principal suggested I look at engineering," she recalls. "I took my first class and was hooked. I loved the challenge of problem solving."

After working in industry and later earning her Ph.D., Dr. Stephan found herself drawn back to education, ultimately coming full circle to a career centered on teaching and mentoring students.

Her journey to Clemson was equally unexpected. When General Engineering needed a lecturer for two courses, Dr. Matt Ohland recommended her to then-department chair Dr. Ben Sill. Following a chance meeting at a Tau Beta Pi initiation ceremony, Dr. Stephan was hired for what was intended to be a one-semester appointment.

"That position was temporary," she says with a smile. "Then I was still here 24 years later."

Throughout her career, Dr. Stephan became one of the architects of the modern General Engineering student experience. Among her proudest accomplishments is the development of the Boyd Scholars Program, an initiative designed to provide first-year engineering students with academic support, community, and financial assistance.

She hopes the program has helped students remain in engineering and at Clemson University by providing the resources they need to succeed during one of the most challenging transitions of their academic careers.

Dr. Stephan also played a pivotal role in shaping the structure and delivery of General Engineering courses. From classroom design and syllabus development to active-learning environments, Canvas course sites, auto-graded assignments, and the undergraduate teaching assistant program, her influence can be found throughout the department.

Beyond programs and curriculum, Dr. Stephan credits much of her fulfillment to the people she worked with.

"The faculty and staff in GE are the best," she says. "I've been privileged to work with so many great people who made the job fun and feel like family."

As she begins retirement, Dr. Stephan is looking forward to spending more time with her husband and children, traveling, and rediscovering hobbies that took a back seat during her career.

When asked how she hopes to be remembered, her answer reflects the values that defined her time at Clemson.

"I hope my coworkers remember me as a hard worker who always strived to do her best," she says. "I hope my students remember the passion I had for teaching and helping them discover the wonder of engineering. I hope I left Clemson with a positive mark from my time there."

There is little doubt that she has. Through her leadership, innovation, and unwavering commitment to students, Dr. Stephan helped shape generations of Clemson engineers and transformed the General Engineering experience for countless students. Her impact will continue to be felt for years to come.



FACULTY SPOTLIGHT

David Kahn | Lecturer



Although I was born in Maryland (with older brothers born in Alabama and California) while my dad was in the Air Force, I grew up in New Jersey.

By the time I was about halfway through high school, my oldest brother was wrapping up his degree in civil engineering at Drexel University in Philadelphia. A childhood spent watching the History Channel, Science Channel, Animal Planet, and the Discovery Channel before they all devolved into reality TV left me with a desire to apply the theories of math and science to meaningfully affect the world.

Talking over my brother's experience as an engineering student at Drexel made it my top choice as I approached the end of high school. Engineering in general seemed like the best fit for me, and I chose early on to specialize in environmental engineering out of a love for the natural world and a desire to minimize the damaging effects that people can have on it.

My experience as an undergraduate at Drexel was fantastic. The standard program there has students engage in three co-op experiences. Mine were at Alaimo Group, an engineering consulting firm near my hometown where I mostly acted as a topographical land surveyor; the Philadelphia Department of Public Property, where I was on the public safety team helping to manage projects related to maintaining police stations, fire stations, and prisons; and the Children's Hospital of Philadelphia, where I worked with the facilities project management team to coordinate and oversee design and construction projects across CHOP's campus. While I kept my named degree as environmental, these work experiences that were not directly environmental taught me a lot about the interconnected—and often competing—interests that drive engineering projects as they progress from conception to reality.

After I graduated (with both bachelor's and master's degrees in environmental engineering, thanks to Drexel's accelerated BS/MS program), I spent most of the following years back at Alaimo Group, this time working as a water/wastewater design engineer and project manager. While projects I worked on there were firmly in the realm of environmental engineering, I was also regularly exposed to the other disciplines as I coordinated with

electrical, mechanical, structural, and other varieties of engineer depending on the project at hand.

This work was worthwhile and rewarding, but I eventually had the urge to go back to school, so I emailed my former advisor at Drexel looking for a recommendation and some advice. Shortly thereafter, I was enrolled as a PhD student in environmental engineering back at Drexel.

While I knew going in that I would be fascinated by the research I conducted at Drexel—largely in the field of quantitative microbial risk assessment (trying to determine the most influential factors that contribute to the spread of pathogenic microbes)—I did not know how much I would enjoy teaching beforehand. Prior to my first semester back at Drexel, my advisor suggested that I apply for a teaching fellowship with the first-year engineering program. It took about another two years of continuous teaching work before I realized that it was something I wanted to do for the rest of my life.

Over and over again, I got to witness the moment of realization on a student's face as they understood a concept with which they were struggling, and more and more often that realization came as the result of something that I had said or done.

As I began to prepare my dissertation defense, I did not yet have a firm plan for my post-Drexel life. Finishing up my research and maintaining my teaching duties were about all that I had room for in my head. Then, while on break in December of 2024, I was forwarded an email from my department's head of graduate studies that had been forwarded to him in a long chain originating from the chair of the search committee in the General Engineering Department at Clemson. The email casually described looking for someone with teaching experience identical to mine, so I opened the link and read an even more detailed description of myself.

Over the next couple of weeks, I scrambled to put together an application package. I could not be more thrilled to have been selected, and my first year at Clemson has been extraordinary. I am more and more impressed with Clemson students every day, and I cannot wait to see what the future brings.

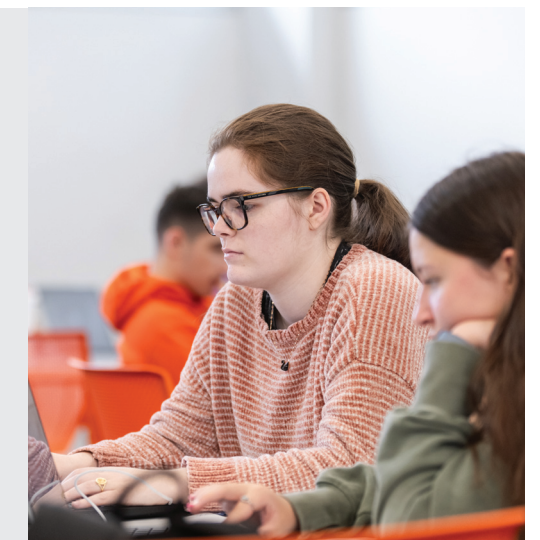


The General Engineering Advantage

Academic Advising: Dedicated advisors provide information, personal counseling, guidance, and motivation in course selection, major choice, success strategies and study techniques tailored to individual needs.

Career Counseling: Faculty work closely inside and outside the classroom to help their students understand the challenge and satisfaction of an engineering career. General Engineering students are exposed to all engineering disciplines at Clemson from both academic and professional perspectives.

Class Size: Small classes are the primary difference between Clemson's General Engineering program and comparable programs at other major universities. First-year engineering courses rarely exceed 50 students per section. A smaller class size facilitates a more personable learning environment.



FALL 2025
GENERAL ENGINEERING
STUDENT HEADCOUNTS

1,193

First-time, Freshman

156

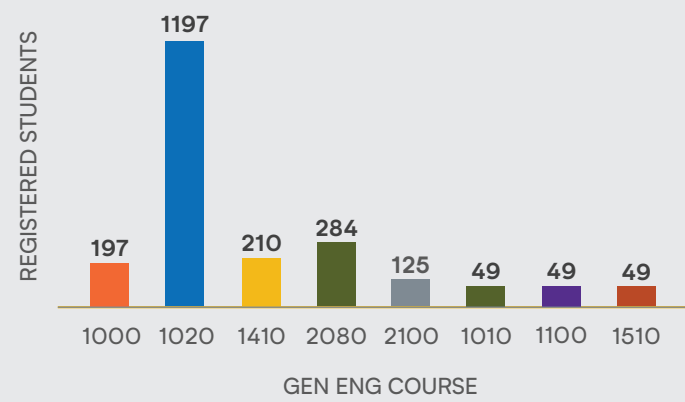
First-time, Transfer

[learn more >> clemson.edu/ge](https://clemson.edu/ge)

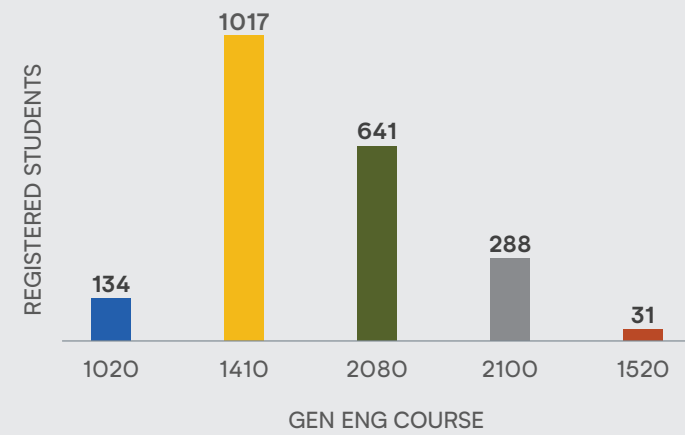
General Engineering

BY THE NUMBERS

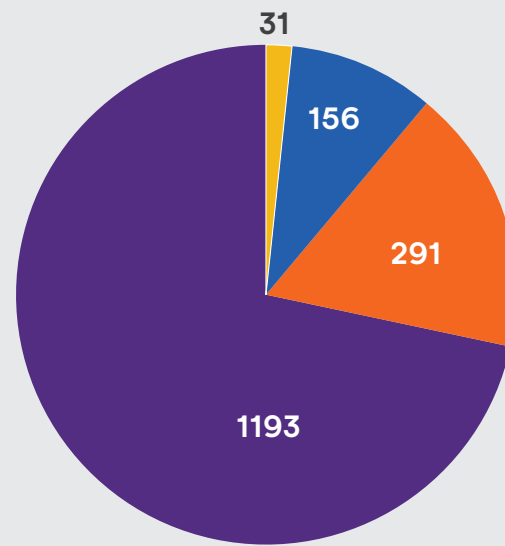
FALL 2025 GENERAL ENGINEERING COURSE ENROLLMENT



SPRING 2026 GENERAL ENGINEERING COURSE ENROLLMENT

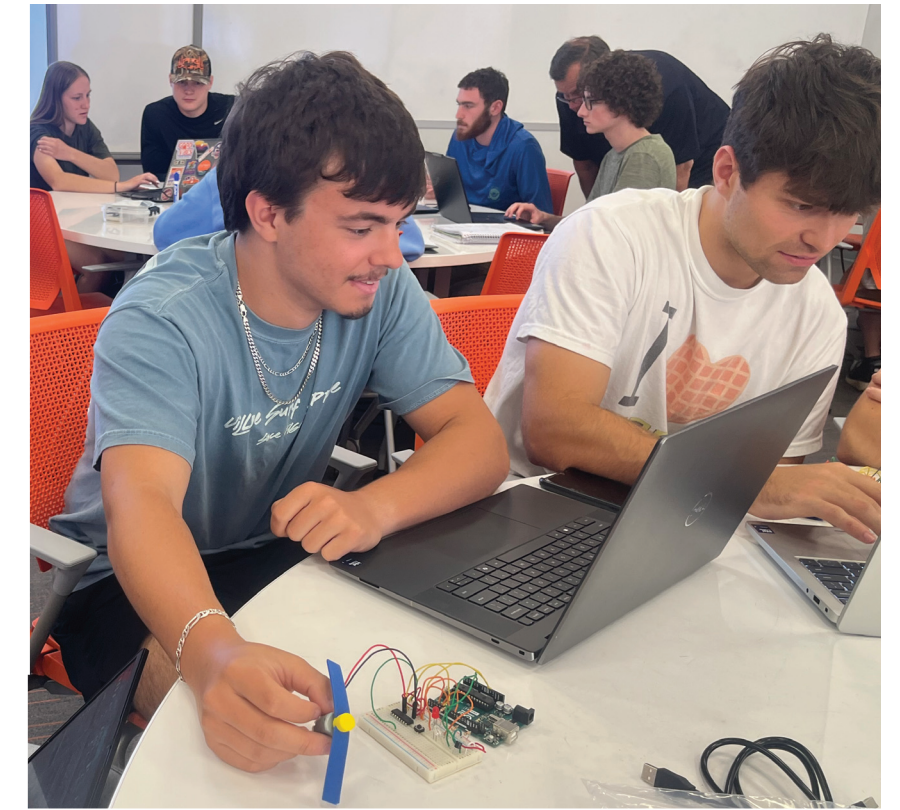
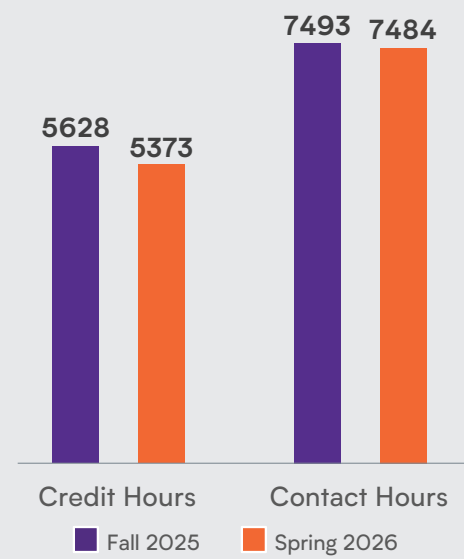


FALL 2025 ALL GENERAL ENGINEERING MAJORS



- New Undergraduate Student
- Transfer
- Continuing Undergraduate
- Former UG Student Returning

CREDIT HOURS VS. CONTACT HOURS FALL 2025/SPRING 2026





A DAY IN THE LIFE GENERAL ENGINEERING

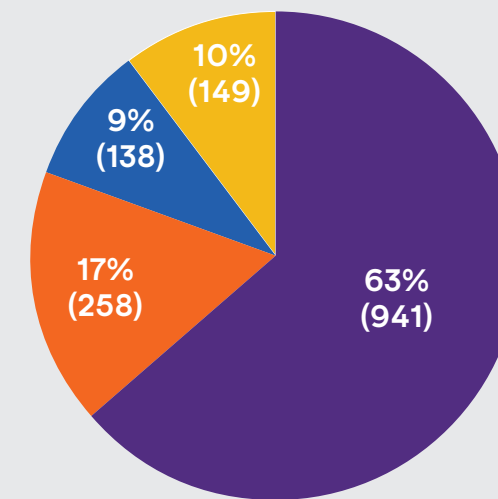


General Engineering One-Year Retention

THIS TABLE REPRESENTS ALL OF THE GENERAL ENGINEERING MAJORS IN THE FALL OF 2024

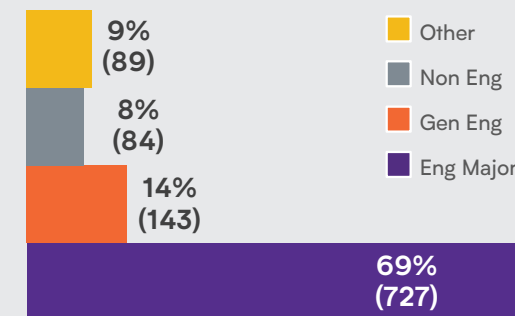
New Undergraduate	1043 (70%)
Continuing Undergraduate	280 (19%)
Transfer	136 (9%)
Former UG Returning	27 (2%)
Total	1486

FALL 2024 TO FALL 2025 RETENTION OF ALL GENERAL ENGINEERING MAJORS



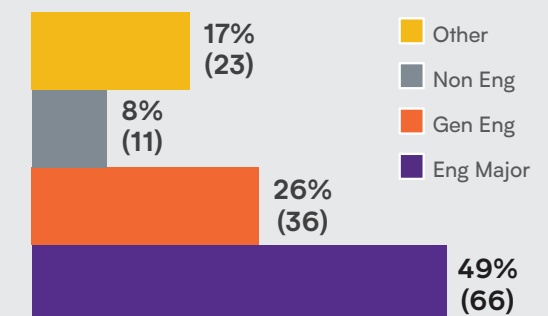
■ Engineering Major ■ General Engineering
■ Non Engineering ■ Other

NEW UNDERGRADUATE STUDENTS
WHERE ARE THEY NOW?



New undergraduate students from Fall 2024 and their major in Fall 2025.

TRANSFER STUDENTS
WHERE ARE THEY NOW?



Incoming transfer students from Fall 2024 and their major in Fall 2025.



BUILDING RESILIENCE IN ENGINEERING

GELC LEARNING SUCCESS PANEL

General Engineering's professional skills and learning strategies course (ENGR 1100) is a foundational component of the General Engineering Learning Community (GELC), supporting students as they transition into the academic expectations of college-level engineering. Through ENGR 1100, students develop essential skills in time management, effective studying, goal setting, and self-reflection.

A signature experience within the course is the annual Learning Success Panel, which students consistently identify as one of the most impactful class sessions of the semester. The panel brings together faculty and staff with engineering backgrounds, along with former GELC students who have progressed into upper-level programs or industry, to share their academic journeys.

The purpose of the panel is to provide students with authentic perspectives from individuals who were once in their same position. Rather than hearing only from course instructors, students gain insight into how others have applied ENGR 1100 concepts in real academic and professional contexts.

What distinguishes the Learning Success Panel from many campus events is its focus on both challenges and achievements. Panelists openly discuss topics such as mindset, study strategies, time management, imposter syndrome, and the demands of engineering

The General Engineering Learning Community is a project bringing together first-year engineering students who are focused on supporting each other's journey to becoming successful students and future engineering professionals.

"Major Discovery Night is our key annual opportunity to connect students with the people and perspectives that shape engineering careers," he said. "These conversations with Clemson engineering alumni and industry leaders help students explore options, ask meaningful questions, and make confident decisions about their major during this final window before April registration." Dozens of prominent companies specializing in areas as diverse as transportation, energy and health innovation to advanced materials, sustainable infrastructure and advanced manufacturing have participated in Major Discovery Night.

For industry partners, the event offers an opportunity to engage with a large, motivated pool of early-stage engineering students,

helping them build relationships, increase visibility, and play an active role in shaping Clemson's future workforce.

Anand Gramopadhye, dean of the College of Engineering, Computing and Applied Sciences, said Major Discovery Night and other events that connect students with industry reflect Clemson's commitment to widening the talent pipeline.

"Major Discovery Night exemplifies how we bring education and industry together in ways that benefit both our students and our partners," he said. "Events like this not only help students make informed decisions, but also ensure our graduates are aligned with the needs of the engineering workforce."

Distinguished companies that have been represented at this event include:

- AECOM Greenville
- Aeronix
- Applied Research Associates
- Arthrex
- ACM Chemistry
- Argonne National Laboratory
- Barrier Island Engineering and Consulting
- BASF
- BMW
- Britt, Peters and Associates
- Buford Goff & Associates
- Catalyst
- ChangeZen Consulting
- Chevron Corporation
- Commercial Metals Company
- Davis & Floyd
- Dorrity & Manning, P.A.
- Duke Energy
- Electrical Contracting Solutions
- Entrust
- ExxonMobil Corporation
- Fluor Corporation
- Fortna
- Garver
- GE Aerospace
- Geosyntec Consultants
- GE Vernova
- Goodwyn Mills Cawood
- H&W Electrical
- Harper General Contractors
- HDR
- Integrated Support Systems
- Isomer Project Group
- ITW Hartness
- Jacobs Engineering Group, Inc.
- Kautex Textron
- Kimley-Horn
- Kinard Stone
- Medpoint
- Michelin
- Milliken
- New South Construction
- Novelis
- Poly-Med
- Prisma
- Racey Engineering
- S & ME, Inc.
- SAGE Automotive Interiors
- SCANA Corporation
- Scientific Research Corporation
- Seamon Whiteside & Associates, Inc.
- Shell Oil Company
- Siemens
- Smith Environmental Consultants, Inc.
- South Carolina Research Authority
- Southeastern Architectural Solutions
- Synterra, Corp.
- Teledyne Brown Engineering
- Terracon Consultants
- Thomas and Hutton Engineering
- TTI - Techtronic Industries
- US Air Force
- US Navy
- Virginia Natural Gas
- Westinghouse
- W.L. Gore & Associates
- Wolfspeed, Inc.
- Woolpert
- ZF Transmissions

Quotes from students discussing their Major Discovery Night experience:

"I gained a greater understanding of multiple majors and am actually reconsidering my own choice of major after the event."

"This event really helped me to hear alumni's experiences in their fields and helped me choose a direction."

"I was able to talk with many alumni about their experiences and ideas which definitely helped me gain a better idea of what I want to do personally in the engineering field."

"The alumni chosen were amazing in terms of being passionate about speaking to students. Everyone I spoke to gave incredibly valuable and applicable information about both my major and my future career, and I can absolutely say I came out of the event even more confident in my engineering ambitions than before it."



MAJOR DISCOVERY NIGHT

Major Discovery Night is the premier networking event for Clemson's aspiring engineers.



More than 450 Clemson University students who are on the cusp of deciding which engineering major to pursue gathered in Hendrix Student Center on March 24 for Major Discovery Night, giving them access to about 120 industry leaders, faculty and staff who stood ready to answer their questions and offer guidance.

Clemson students who want to become engineers begin their studies in General Engineering, where they complete foundational courses such as chemistry, physics, and calculus, along with an introductory engineering course that introduces core engineering principles, problem-solving approaches, and the emerging role of artificial intelligence in modern engineering practice. Students then decide on a more specific engineering discipline before their sophomore year.

The annual Major Discovery Night gives first-year and transfer students a chance to meet with professionals who have direct industry experience across a wide range of engineering disciplines.

Faculty and staff from each of Clemson's undergraduate engineering departments, including General Engineering, were available to answer questions about the curriculum and their experiences as engineers in the field.

Organizers said the event was a resounding success and noted that it marked the 12th consecutive year of this annual program, which will continue to be held each year for the college's engineering freshmen. Joe Watkins, chair of the Department of General Engineering, said Major Discovery Night catches students at a crucial juncture in their journeys from the classroom to the workforce.

programs, while also highlighting the campus resources that supported their success. This transparency helps normalize common struggles and reinforces the importance of seeking help.

Each year, GELC students reflect on the Learning Success Panel and describe how they plan to incorporate panelists' advice into their college experiences. Selected student reflections are organized below by theme.

BUILDING CONFIDENCE AND A GROWTH MINDSET

"I'm going to stop comparing myself to others. This will bring me more confidence and make me realize that everyone in my life is there for a reason."

"I plan to apply these ideas in college by staying curious and continuing to learn new tools and techniques in my classes. I'll also make sure to speak up and share my ideas during group work, even if I'm not the most experienced person in the room. This will help me grow as both a student and a future engineer."

TIME MANAGEMENT AND HEALTHY HABITS

"I will start by formulating proper weekly agendas, both on paper in a planner and digitally, for convenience's sake. I will also seek to learn more from peers, both those within my courses and those who have already passed them. Instead of trying to do everything on my own, I should seek the knowledge of those more informed."

"The most important thing that stuck with me was creating a schedule that revolves around things the human body needs to survive, like sleep, because I tend to put schoolwork before bedtime. From now on, I'll try to get more hours of sleep and put my sleep and mental health before schoolwork."

SEEKING SUPPORT AND USING CAMPUS RESOURCES

"I really just need to reach out to the resources available to students more. I feel like the guidance would help me stay on track instead of trying to figure everything out by myself."

"I will be integrating these tips into my college experience moving forward by recognizing when I am overly frustrated or feeling like giving up, taking a break to reflect on why I chose this path, and talking with friends who feel a similar way."

The Learning Success Panel provides GELC students with a powerful opportunity to hear authentic stories of perseverance, growth, and resilience from those who have navigated similar challenges. By openly discussing setbacks alongside successes, panelists help students recognize that struggle is a normal part of the engineering journey and that support systems, healthy habits, and intentional reflection play critical roles in long-term success. Student reflections demonstrate that the panel encourages meaningful changes in mindset, time management, and help-seeking behaviors. These insights reinforce ENGR 1100's goal of equipping students with applicable strategies and confidence as they begin their engineering careers.



2025-26

BOYD SCHOLAR WINNER

The General Engineering Program is proud to present the Outstanding Boyd Scholar Award to **AMY MARIE JORDAN** from Greer, South Carolina, a senior graduating with Bachelor of Biomedical Engineering with a minor in Material Science and Engineering with a GPA of 3.2. Amy Jordan began her engineering studies as a General Engineering Learning Community (GELC) student in Fall 2022 and joined the Boyd Scholars group in Summer 2023, which is part of the GELC.

Amy credits the GELC/Boyd Program for playing a vital role in shaping her academic journey, especially during her transition to college as a female engineering student. Her low SAT scores and the need for more time to grasp concepts led to feeling of self-doubt. However, the support from the program's faculty and lasting friendships helped her build her confidence and significantly contributed to her personal and academic development, enabling her to overcome obstacles.

Amy stood out to the Awards Committee for her leadership, academic performance, and research accomplishments. During Spring 2024, she interned at the REDDI Lab on campus, where she assisted with diagnostic testing for influenza and COVID-19. This role gave her hands-on laboratory training and exposure to clinical lab operations, including quality control and supervisory responsibilities. During Summer 2025, Amy conducted an independent research project as part of the Individual Summer Creative Inquiry Research Program at Clemson. She designed a research protocol to investigate the effects of low-dose



radiation on triple-negative breast cancer cells. Her study utilized fluorescent assays to analyze mitophagy, DNA concentration, and DNA double-strand breaks. She presented her findings at the Annual Biomedical Engineering Society (BMES) Conference in San Diego.

Her leadership showed most clearly in her Capstone Design Project. Since Fall 2025, she has served as a capstone team member in her senior design group, Mandorla Medical. As part of this team, Amy co-developed "The Iris," a surgical retractor inspired by a camera iris shutter to improve stability, visibility, and ergonomics in surgical settings. During her time at Clemson, Amy served as a Resident Community Mentor for two years, supporting residential students and assisting first-year students in their transition to college.

Amy plans to pursue a Master of Engineering, in Biomedical Engineering at Clemson University and is working toward certification as a Clinical Laboratory Technician, with career goals in cancer research or diagnostics.

enrolled within their intended engineering major (i.e., no longer being a General Engineering major). Being a UTA is a paid position, and most UTAs work around 8-10 hours each week. UTAs provide support for seven General Engineering courses: Engineering Disciplines and Skills (ENGR 1020), Programming and Problem Solving (ENGR 1410), Engineering Skills (ENGR 1510), Engineering Computer Skills (1520), Survey of Mathematical Topics as Applied to Engineering Principles (ENGR 1010), Engineering Graphics and Machine Design (ENGR 2080), and Computer-Aided Design and Engineering Applications (ENGR 2100).

In Fall 2025, the UTA program employed **90 UTAs**. They had an average of **0.8 semesters of experience**, with our most experienced UTA having **four semesters of experience**.

In Spring 2026, the UTA program employed **84 UTAs**. They had an average of **1.75 semesters of experience**, with our most experienced UTA having **six semesters of experience**.

FALL 2025 UTA STUDENT USAGE DATA

Overall, General Engineering students used UTA services **735 times** throughout the Fall 2025 semester. Table 1 presents average UTA service visits for students enrolled in each course that offered out-of-class services.

UTA Services were used by **293 unique student participants** (17.32% of all General Engineering students). Of these students, the average number of visits throughout the semester was **2.51**, which suggested that those who attended found the services very helpful and were likely to return from week to week. A breakdown of student users and average visits for these users by course is provided in Table 2.

SPRING 2026 UTA STUDENT USAGE DATA

Overall, General Engineering students used UTA services **1,099 times** throughout the Spring 2026 semester. Table 3 presents average UTA service visits for students enrolled in each course that offered out-of-class services.

UTA Services were used by **338 unique student participants** (20.23% of all General Engineering students). Of these students, the average number of visits throughout the semester was **3.27**, suggesting that those who attended found the services very helpful and were likely to return from week to week. A breakdown of student users and average visits for these users by course is provided in Table 4.

Table 1. Average UTA Service Visits by Course Fall '25

FALL 2025	1020	1510	1410	2080	2100
# of Students	1197	49	210	284	125
Total # of Visits	440	20	22	245	8
Visits per Student	0.37	0.41	0.10	0.86	0.06

Table 2. Student Participants / Average Use by Course Fall '25

FALL 2025	1020	1510	1410	2080	2100
# of Participants	173	10	44	63	3
% of All Students Enrolled in Course	14.5%	20.4%	21.0%	22.2%	2.4%
Visits per Student Participant	2.54	2.00	0.50	3.89	2.67

Table 3. Average UTA Service Visits by Course Spring '26

SPRING 2026	1020	1520	1410	2080	2100
# of Students	133	31	1018	642	288
Total # of Visits	57	9	195	660	167
Visits per Student	0.43	0.29	0.19	1.03	0.58

Table 4. Student Participants / Average Use by Course Spring '26

SPRING 2026	1020	1520	1410	2080	2100
# of Participants	26	5	102	163	42
% of All Students Enrolled in Course	19.4%	16.1%	10.0%	25.4%	14.6%
Visits per Student Participant	2.19	1.80	2.07	4.05	3.98



UNDERGRADUATE TEACHING ASSISTANT PROGRAM



The Undergraduate Teaching Assistant (UTA) program provides Clemson General Engineering students with opportunities to receive course support from trained upperclassmen peers.

A UTA is an undergraduate student who attends their assigned General Engineering class and holds tutoring hours for students outside of the class session. Since UTAs are also undergraduate students, they understand the problems and relate to the experiences of the students being tutored.

The UTA role has two primary responsibilities: (1) attending class sessions and (2) holding out-of-class drop-in hours. For the in-class component, UTAs are expected to have the knowledge and skills to run demonstrations, explain procedures in terms the students will understand, circulate throughout the class to answer questions, and work with the instructor to determine if the students understand the material. For most courses, there are two UTAs in each section. For the out-of-class component, UTAs provide

opportunities for students to seek individual attention and ask questions about course material, assignments, and/or projects. UTAs assist students during this time through coaching and guiding students on approaches to solving problems, not teaching content or giving answers.

The following sections provide data on the UTAs for Fall 2025 and Spring 2026, followed by usage data for UTA services during the Fall 2025 and Spring 2026 semesters.

UTA INFORMATION

To qualify to become a UTA, students must meet several criteria. These include: (1) receiving an A or B in the course(s) they UTA for, (2) holding a GPA of 3.0 or higher, (3) attaining the academic rank of sophomore or higher, and (4) being



EDUCATIONAL RESEARCH ON AI USE & LITERACY IN 1ST-YEAR ENGINEERING EDUCATION

This year, two related studies examined how first-year engineering students are engaging with generative artificial intelligence (AI) and what that means for engineering education. Together, the studies show that AI is already deeply embedded in students' academic habits, but that many students are still developing the skills needed to use it effectively, critically, and responsibly. The findings provide an important baseline for future instruction and help identify where first-year engineering courses can better support AI literacy, verification, and professional judgment.

The first study, **"First Year Engineering Students' Artificial Intelligence Use,"** surveyed 818 first-year engineering students to understand their baseline use of AI before formal instruction or policy intervention. The results showed that AI use was nearly universal, with students using tools such as ChatGPT, Copilot, and Gemini frequently for studying concepts, brainstorming, problem-solving, coding, and writing support. Students reported moderate trust in AI accuracy but lower confidence in its ethicality and bias, and their verification practices varied widely. At the same time, students expressed strong concern about over-reliance on AI and strong agreement that professional engineers should know how to use AI responsibly. Overall, the study shows that first-year students are already balancing the perceived benefits of AI with concerns about independence, ethics, and professional responsibility, making AI literacy an important part of engineering education.

The second study, **"Developing AI Literacy in First-Year Engineering: Student Prompting, Evaluation, and Implications for Instruction,"** focused more directly on how students prompt AI, evaluate AI-generated responses, and apply those tools in a programming-based engineering task. Using survey responses,

prompt logs, reflections, and student work from an Arduino assignment, the study found that most first-year students were operating at or below a novice level in prompting and critical evaluation. Students who used more specific, constrained prompts tended to have more successful experiences, while many students struggled to identify errors in AI-generated solutions. These findings highlight that exposure to AI alone is not enough; students need explicit instruction in prompt construction, output evaluation, and ethical use.

Taken together, these studies show that AI is no longer a future issue for engineering education; it is already part of students' learning experience. The results establish the need to integrate AI literacy into first-year engineering courses in ways that strengthen problem-solving, support responsible use, and reinforce the habits of thought expected of future engineers.

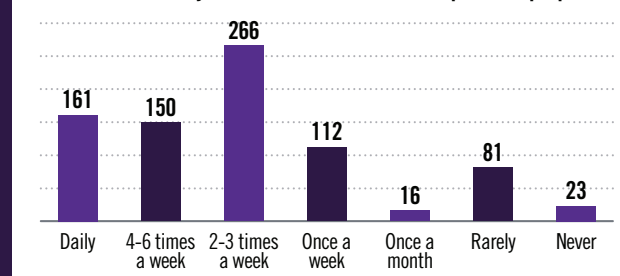
Clemson General Engineering is carefully considering how to teach students to use it wisely, verify its outputs, and understand both its potential and its limits. This work reflects a commitment to preparing Clemson engineers not only to navigate new technologies but to do so with confidence, responsibility, and sound engineering judgment.

Citations:

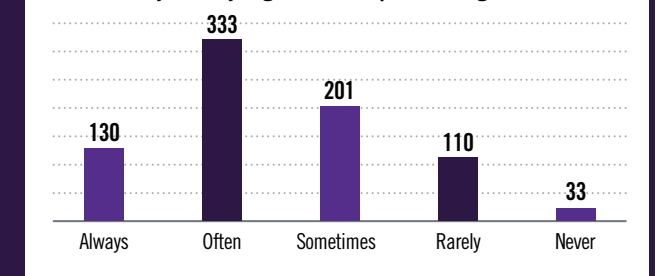
Flanagan, E. (2026, June 21-24). First Year Engineering Students' Artificial Intelligence Use. 2026 ASEE Annual Conference, Charlotte, NC, United States.

Flanagan, E., Crocker, G. (2026, June 21-24). Developing AI Literacy in First-Year Engineering: Student Prompting, Evaluation, and Implications for Instruction. 2026 ASEE Annual Conference, Charlotte, NC, United States.

About how often do you use AI tools for academic/personal purposes?



How often do you verify AI generated responses using another source?





General Engineering continued the tradition of supporting two events in collaboration with the Cooperative Education (Co-Op) and Internship programs at Clemson: in-class guest speaker presentations and the first-year industry expo.

IN-CLASS CO-OP AND INTERNSHIP GUEST SPEAKER PRESENTATIONS

Each semester in ENGR 1020, one class period is dedicated to hosting guest speakers from the Co-Op and Internship programs to encourage engineering students to participate in these programs. On Friday, November 14, all ENGR 1020 classes met in the Hendrix Center Ballrooms so students could hear an overview of program requirements and benefits from Co-Op and Internship staff in addition to current students and alumni now working in industry who have participated in the programs. This decades-long tradition has continued since at least 1998 for the Co-Op program. Dr. Jeff Neal, director of the Cooperative Education Program, shared some insights with us about how this in-class presentation has impacted the program and students:

"I love seeing the students respond to the co-op students and company engineers who present with us. We can lay out the benefits of Co-op being an in-depth learning program, but [first-year] students relate most to the stories of [upperclassmen] who talk about the Co-op Program being one of the best things they ever took part in at Clemson. ... The opportunity to present the Co-op Program to first year engineering students is critical to the health of the program... the program requires a longer-term commitment which can delay graduation one or two semesters. Students need to be convinced early on that it is worth it and our presentations tend to make that point very well. ... As students enroll in

the Co-op Program and begin the matching process, they often tell us that it was the presentations in ENGR 1020 that convinced them to do the program."

The tradition of in-class presentations has continued since at least 2010 for the Internship program, and several of their staff members and industry partners took the time to share benefits of this collaboration from their perspective.

What do you personally enjoy most about participating in the presentation day?

I loved getting to share how my internships at First Quality helped me discover what engineering work I enjoyed, what kind of work I was good at, and the kind of company I wanted to work for after graduation.

— Savannah Nix, First Quality Tissue

I personally enjoy getting the chance to talk with students and start getting the gears turning about their options; letting them know there is a variety of paths available to them. I also really love hearing from our employers, especially when they share what they've gained from having interns on their teams. Presentation Day creates a meaningful space for those conversations.

— Caitlin Abbatiello,
Center for Career and Professional Development

How does your program benefit from the presentation day?

Our freshman engineering students are able to hear directly from employers regarding the benefits of completing an internship and/or co-op, which ignites their interest in experiential education early on in their college experience.

— Ms. Jenna Tucker Grogan,
Center for Career and Professional Development

How do you feel students benefit from the presentation day?

[GE students] asked thoughtful questions, and they demonstrated their eagerness to learn and prepare for their next steps. Several students even stayed afterward to dive deeper into specific topics and seek guidance for future planning. One student was so motivated by the session that she scheduled a follow-up appointment with me to explore summer internship opportunities and refine her résumé. It was clear that the experience empowered them with knowledge, confidence, and actionable next steps.

— Dr. Caren Kelley-Hall,
Center for Career and Professional Development

What feedback do you hear from students about the event when they are preparing to interview for co-ops and internships?

Students have consistently shared how valuable it is to hear directly from employers during the presentation day.

They appreciated learning about the variety of projects, responsibilities, and real-world experiences that past interns have participated in. The general engineering presentations help students to better understand what employers are seeking, gives them insight into workplace culture, and strengthens their confidence as they prepare for upcoming co-op and internship interviews/opportunities.

— Dr. Caren Kelley-Hall,
Center for Career and Professional Development

What feedback do you hear from your industry partners about the event?

It was a real pleasure to share my own co-op and internship experiences with current students to help them explore and understand their options. I truly appreciated the thoughtful engagement they showed through their questions and follow-up conversations.

— Jane G. Teddy, Michelin North America

Swinerton's visit was incredibly rewarding; it was a unique opportunity to provide an inside look into the AEC [Architecture, Engineering, and Construction] industry and demonstrate how rewarding a construction career can be... The eagerness and fresh perspective of young engineers and future AEC professionals brings vibrancy to our workforce.

— Russell Kahn, Swinerton

COOPERATIVE EDUCATION'S FIRST-YEAR INDUSTRY EXPO

The newer tradition GE supported was the second annual First-Year Industry Expo hosted by the Co-Op program. Last year, Monique Elmore, Senior Associate Director of the Co-Op program, saw an opportunity for students to gain interest and awareness about co-op opportunities by networking with representatives from their different industry partners. With the support and collaboration of Dr. Jeff Neal, Director of the Co-Op program, this idea was brought to life. Through this trade-show-style event (similar in format to our Major Discovery Night), students could learn more about opportunities available to Clemson engineering students by hearing directly from representatives from over 20 companies that hire co-op students, in addition to receiving bonus credit in their first-year engineering course for attending. After the success of last year's inaugural event, the Expo was offered a second time on Wednesday, December 4, and was attended by 307 students, a 12% increase over last year!

