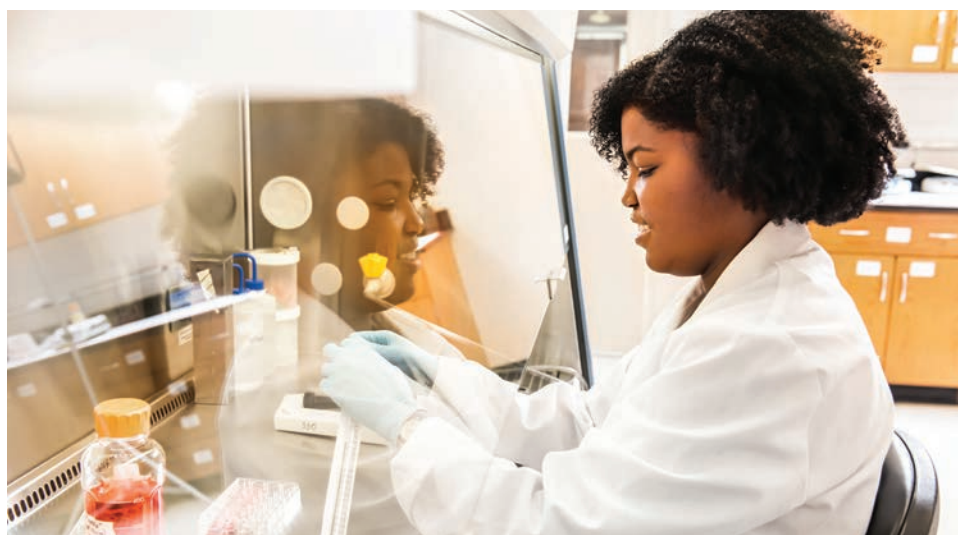
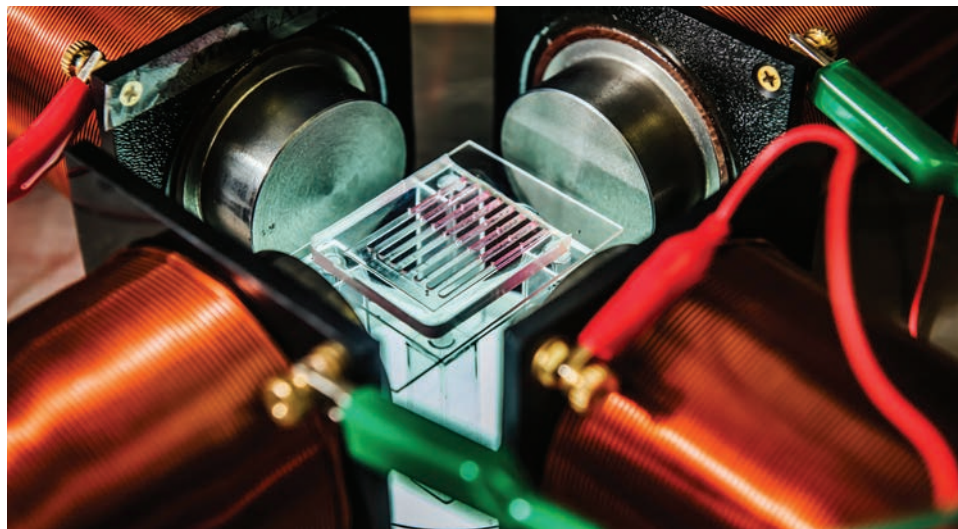


# ENGINEERING COMPASS

A STRATEGIC PLAN TO GUIDE  
THE UNIVERSITY OF GEORGIA COLLEGE OF ENGINEERING



College of Engineering  
UNIVERSITY OF GEORGIA





DEDICATED TO THE MEMORY OF  
*Mr. Timothy Campbell, BSAE 1984, MSAE 1985*





*This strategic plan details our mission, vision, and the core values that will guide our college today and into the near future.*

## FOREWARD

# MESSAGE FROM THE DEAN

The University of Georgia College of Engineering was founded in 2012 to provide opportunities for families in Georgia and beyond, increase the economic impact of the University of Georgia, and increase the breadth of scholarship at the university.

In only six short years we have achieved many of these goals. We have grown from approximately 450 engineering majors in 2011 to more than 2,200 in 2018. We are engaging with communities and agencies across the state and nation in new areas of research and service. We are significantly increasing the size and breadth of our scholarship.

Given our rapid growth in a short period of time it is only fitting that we would step back and assess our progress and chart a course for the future. This document is the culmination of a year-long effort on the part of our faculty and staff to determine our core values, summarize our perspective on these values, and present an initial set of metrics that will define our progress relative to core values. We have focused on creating a document we can use today and into the future to tell us whether we are heading in the right direction.

*(Message From the Dean continued)*

# MESSAGE FROM THE DEAN

*(Message From the Dean continued)*

This document provides an overview of the process by which we arrived at this plan, the next steps in the execution of this plan, and a detailed discussion of the value statements and metrics by which we will gauge our progress.

Our plan is titled **Engineering Compass** because a strategic plan is not a “road map” that tells you how to get from point A to point B to point C. Instead, a strategic plan is a “compass” that needs to be reviewed periodically to tell you whether you are heading toward true north. This document will be our compass.

While we have made significant progress in a short period of time, this strategic plan demonstrates that we aspire to even greater success in the years to come.



**Donald Leo, Ph.D.**

Dean and UGA Foundation Professor  
in Engineering





## STRATEGIC PLANNING PROCESS

*This plan was developed collaboratively by the faculty and staff of the UGA College of Engineering over an approximately fifteen-month period beginning spring semester 2017 and concluding spring 2018.*

**I**n the first stage of the process, the College convened a committee of seven faculty members and two members of its advisory board. This ‘pre-work’ committee was charged with revising the College’s mission and vision statement as viewed through the perspective of an engineering program in a comprehensive, land-grant university that’s focused on creating communities of learning, discovery, and innovation.

The vision and mission statement created by the committee was introduced to the faculty at the August 2017 faculty retreat. Following the retreat, faculty in each of the College’s three schools worked with their school chairs throughout fall semester 2017 to create a set of ‘value statements’ associated with each core value. These value statements formed the basis of a discussion during spring semester 2018 to create college-level and school-level metrics that measured progress for each core value. In parallel with this faculty discussion, College staff held a series of meetings to discuss how the core values identified for the college related to their positions and responsibilities.

The result was a guiding document – a “**compass**” – that detailed our core values, how the UGA College of Engineering expresses these values, and a set of metrics the College will use to gauge its progress over the next three to five years.





## MOVING FORWARD

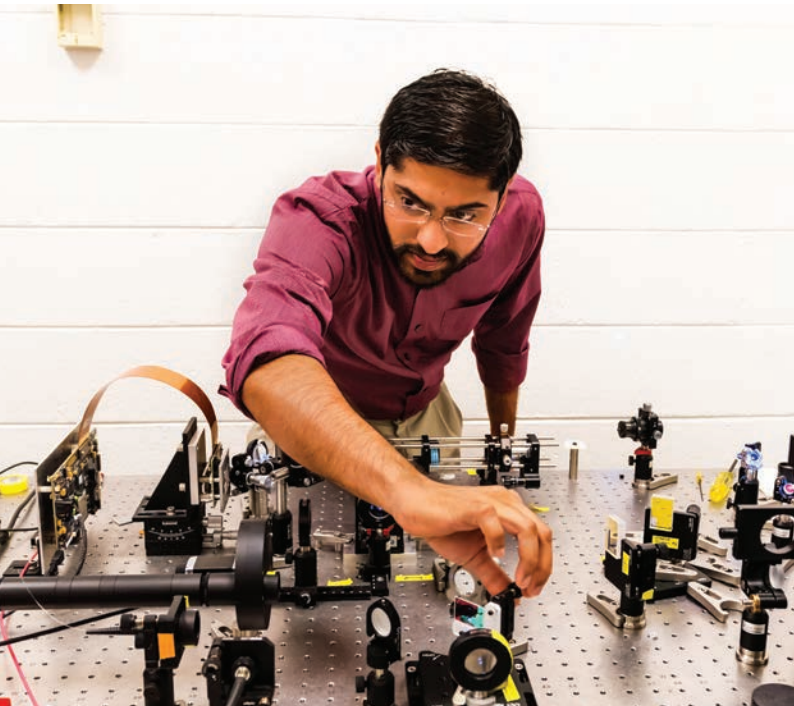
*To ensure the time and energy faculty and staff invested in developing this strategic plan was valuable, the UGA College of Engineering will take the following steps to immediately influence the positive trajectory of its program:*

- 1** Make immediate investments that align with and advance our core values.
- 2** Incorporate the key elements of our plan into our annual faculty evaluation process and, with appropriate faculty governance, our promotion and tenure processes.
- 3** Measure every future investment against our core values to determine if the investment should be made and utilize the metrics that we have stated as a means of assessing our progress towards our goals.
- 4** Assign a group of faculty and staff to periodically review our progress and report to the college.

## VISION

*A premier engineering program in a comprehensive land-grant university.*

The College of Engineering at the University of Georgia will become recognized as a model of excellence for 21st century engineering programs that integrate research, service, and teaching missions through a consistent focus on solutions that make a positive difference in people's lives.



## MISSION

*The College of Engineering at the University of Georgia is a community of visionary researchers, educators and learners embedded in a land-grant liberal arts university. Our highest priorities are to:*

- 1 Create a vibrant environment for learning, discovery, and innovation that relies on teamwork, leadership, and effective communication,
- 2 Reshape the impact of engineers for the 21st century by inspiring students to reach their full potential,
- 3 Create breakthroughs by excellence in education and research, and
- 4 Pursue bold, collaborative research to identify and solve the challenges of our time.

These efforts are motivated by our resolve to help make a purposeful and rounded contribution to help bring about a more capable, responsible and resilient global society.

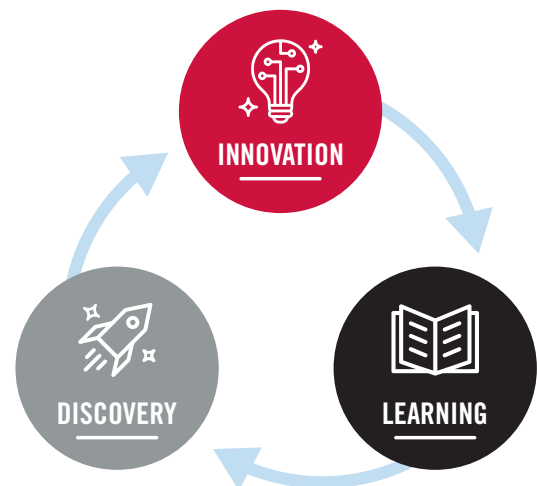


## COMMUNITIES OF LEARNING, DISCOVERY AND INNOVATION

*Our college values the creation of communities of learning, discovery and innovation. These communities are based on the following core values and foundational elements:*

### FOUNDATIONAL ELEMENTS

- Culture
- People
- Infrastructure
- Systems and Processes







*This strategic plan details our mission, vision, and the core values that will guide the University of Georgia College of Engineering today and into the near future.*

## OUR CORE VALUES

The core value of **collaboration** dates back to before the College was formed. Faculty, students, and staff took pride in the fact that UGA had a different type of engineering program, one that did not neatly fit into the traditional programs that had grown at our peer land-grant institutions.

The core value of **expertise and knowledge** is at the heart of the value of a public institution of higher learning. We recognize that our students, faculty, and staff are expected to be recognized experts in their chosen profession through the educational programs we offer, the research we perform, and the services we provide.

**Accessibility, diversity, and inclusion** points to the need for institutions of higher learning to be the great

equalizers of our society; places where people of all backgrounds and socioeconomic conditions are judged on their merit and have equal opportunity to succeed and prosper using the opportunities provided to them by a college degree.

The core value of **resiliency and adaptability** reflect the importance we place on ensuring that our programs, our financial models, and our infrastructure must be prepared for sudden changes in our operating environment.

Our core value of **integrity, transparency, and ethics** firmly demonstrates we must operate with the highest level of professionalism within our organization and must educate our students to value these beliefs as well.

# COLLEGE OF ENGINEERING

*The University of Georgia strives to be a premier engineering program in a comprehensive, land-grant university. With a forward looking mission and vision and a set of core values to guide our decisions, we aspire to give every student, faculty, and staff member the opportunity to achieve their full potential as a professional.*



## CORE VALUE

Collaboration

Knowledge  
and Expertise

Accessibility,  
Diversity, and  
Inclusion

Agility, Adaptability,  
and Resiliency

Integrity,  
Transparency,  
and Ethics





## VALUE STATEMENTS

## METRICS

Catalyze interdisciplinary research, instruction, and service through the development of initiatives and infrastructure that enable collaboration.

Percentage and number of multi-investigator awards in the college

Educate students that are competitive in the marketplace by increasing the quantity and quality of their career placement opportunities and their placement in advanced degree programs; we will apply our knowledge to solving societal challenges in a way that brings resources to our college and increases the stature and impact of our programs; and we will ensure that our staff are continuously improving their professional qualifications to enhance the quality of services in the college.

Placement and salary data for undergraduate and graduate students

Research expenditures per faculty  
Number of graduate students per faculty

Ensure an inclusive environment and increase the accessibility of our programs to an increasingly diverse population, leading to an increase in the diversity of thought through increased participation of underrepresented groups in our programs.

Percentage of underrepresented students and faculty members.

Create a budget model that incentivizes our investments to support our priorities.

Create a funding process that sustains core programs and enables opportunistic investments.

Ensure a culture of integrity and ethics in our students, faculty, and staff, and ensure appropriate communication so that all stakeholders within and outside the college are aware of our values, goals, and progress.

Quantitative assessment of ethics programs in the college

# SCHOOL OF CHEMICAL, MATERIALS AND BIOMEDICAL ENGINEERING

*The School of Chemical, Materials and Biomedical Engineering will attain an international reputation as a thought leader in the industrialization of biology and biological systems. The faculty will have acclaimed expertise in bio-based manufacturing, renewable energy and chemicals, sustainable new materials and next-gen advanced therapeutics and medical devices. Students at both the graduate and undergraduate levels will receive a demanding, high quality education that emphasizes experiential learning and inter-disciplinarity.*

*These value statements were unanimously approved by the faculty of the School of Chemical, Materials and Biomedical Engineering on October 19th, 2017.*

## CORE VALUE

Collaboration

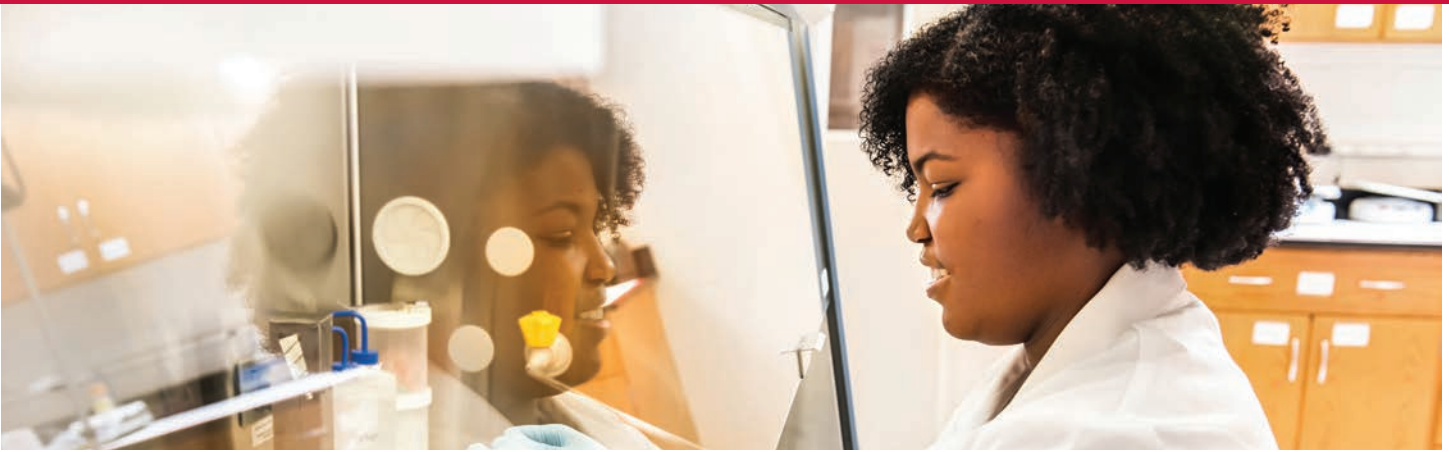
Knowledge  
and Expertise

Accessibility,  
Diversity, and  
Inclusion

Agility, Adaptability,  
and Resiliency

Integrity,  
Transparency,  
and Ethics





## VALUE STATEMENTS

## METRICS

Offer unique, interdisciplinary degree programs.

Number of international partnerships for research and education

Be a **thought leader** in developing creative solutions for human health and wellness and the transition to a sustainable bioeconomy.

Research income/awards

Number of peer-reviewed papers

Be characterized by its **diverse, highly accomplished alumni**.

- Percentage of female graduates
- Percentage of graduates from underrepresented minorities

Foster a culture of **innovation and research excellence**.

- Number of citations per publication for the past five years.
- Number of US patents awarded

Sustain a **reputation** for offering **demanding, high quality programs**.

Number of external, prestigious awards made to CMB students



# SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING



*Building from our heritage of excellence in interdisciplinary education and research, the School of Electrical & Computer Engineering will work to expand and strengthen our undergraduate and graduate programs, build on our foundation of productive cross-disciplinary research and establish a culture that exemplifies operational best practices.*

*By working to achieve these strategic objectives, we seek to build upon our heritage of “engineering without borders” as we grow a world class School of Electrical & Computer Engineering embedded in a strong liberal arts tradition.*

*The faculty of the School of Electrical and Computer Engineering approved these strategic objectives December 12, 2017. The values/metrics matrix included in the strategic plan was approved by ECE faculty by an electronic vote concluding on May 13, 2018.*

## CORE VALUE

Collaboration

Knowledge  
and Expertise

Accessibility,  
Diversity, and  
Inclusion

Agility, Adaptability,  
and Resiliency

Integrity,  
Transparency,  
and Ethics





## VALUE STATEMENTS

## METRICS

Maintain our commitment to highly interdisciplinary research through increasing the scope of our research expertise and ultimately positioning our faculty to lead or partner on high profile, nationally recognized research grants.

Number of multi-investigator publications per ECE Faculty.

Further strengthen our graduate and undergraduate programs by working to ensure that we use the best practices in recruiting, pedagogy and curriculum management and thus provide world class educational programs that inspire our students, faculty and program stakeholders.

Enrollment, rate of matriculation to major, graduation rate and time-to-degree for ECE undergraduate and graduate degree programs.

Foster a culture that values diversity and inclusivity, supports equal opportunities for leadership, and promotes professional success for our students, faculty and staff.

Percentage of women and underrepresented students who serve in leadership roles and are recognized for outstanding achievement both internally and externally.

Develop a culture of continuous improvement that promotes regular evaluation and revitalization of our undergraduate and graduate programs to ensure that we provide our students with world class educational and experiential learning experiences.

Regular review of our programs that accounts for both accreditation requirements and program satisfaction/appeal factors such as enrollment/matriculation rates, time-to-degree, placement, student/staff/faculty satisfaction etc.

Establish a culture that exemplifies operational best practices that foster professional excellence and promote balanced productivity across teaching, research and service.

Percentage, number and distribution (i.e. balance across teaching, research and service) of awards, honors and professional recognitions received by ECE students, faculty and staff.

## SCHOOL OF

# ENVIRONMENTAL, CIVIL, AGRICULTURAL, AND MECHANICAL ENGINEERING

*The University of Georgia School of Environmental, Civil, Agricultural and Mechanical Engineering (ECAM) strives for excellence and global leadership in engineering education, research and service on and beyond the campus of a nationally recognized top twenty land-grant and liberal arts institution.*

*The School of Environmental, Civil, Agricultural and Mechanical Engineering fosters a culture of collaboration among experts across a variety of engineering disciplines and other fields beyond engineering recognizing that technology is embedded in a broader social and environmental context. ECAM promotes the development of well-rounded students with the professional skill sets and perspective needed to effectively solve the grand challenges of civilization (i.e. systems thinking, interdisciplinary problem solving, communication, and empathy).*

*These value statements were approved by the faculty of ECAM on May 25, 2018.*

## CORE VALUE

Collaboration

Knowledge  
and Expertise

Accessibility,  
Diversity, and  
Inclusion

Agility, Adaptability,  
and Resiliency

Integrity,  
Transparency,  
and Ethics





## VALUE STATEMENTS

## METRICS

Address critical global challenges than cannot be solved with a single discipline.

Number, quality and nature of the collaboration for research and education.

Foster a culture and climate of novel CREATIVITY, discovery, and professional growth, constantly searching for better solutions to advance human progress through our teaching, service and research endeavors.

- Number of broad-based graduate courses offered that benefit students across multiple degree programs.
- Number of healthy and viable student organizations and the percentage of students involved in student organizations.
- Build on skills learned in the early stage of the curriculum (i.e. MATLAB, AutoCAD) and how those skills are used throughout the undergraduate experience.

Ours is a society-centered school which is well positioned, because of the DIVERSITY of its people, ideas, academic programs, industrial partners and expertise, to help solve many of the world's grand challenges while making lives better, safer and healthier for people everywhere.

Ensure our research programs have a diverse portfolio of research funding sources and expertise while being adaptable to new research areas and different funding sources.

Value ADAPTABLE and flexible curricula that match the rapidly evolving world around us while meeting the needs of students, employers, and society.

- Employment of our students. Time to employment, starting salaries, number and diversity of our employers.
- Number of on-line courses, flipped or hybrid classrooms, virtual labs and virtual course learning opportunities where appropriate.

We believe that INTEGRITY, honesty and ethical practices are essential to all activities that comprise the Mission of a land grant, sea grant university (these being teaching, research and service).

- Percentage of students who pass the FE exam
- Percentage of faculty who participate in national, international professional organizations and faculty enrichment programs.

# ENGINEERING COLLEGE STAFF



## PURPOSE/MISSION STATEMENT

The staff of the University of Georgia College of Engineering supports the teaching, research, and service activities of the college through the clear and widespread communication of opportunities and achievements, the connecting of people and ideas, and the facilitation of people, processes, and problem-solving for the students, faculty, staff, administration, alumni, and public in which they serve. Additionally, the college staff secures the necessary resources and maintains the required knowledge of university policy and guidelines to support the college and its stakeholders across campus and beyond.

## CUSTOMER SERVICE

A primary function of the College of Engineering staff is to provide exemplary customer service to the groups and individuals they support. This service includes the timely delivery of information, the generation of ideas, the independent execution of tasks and assignments, and the connecting of people to appropriate resources

## COMMUNITY/CULTURE

A core value of the staff is to institute, cultivate, and promote a strong connection of community and teamwork within the college and the broader community.

## ADAPTABILITY

The staff must continually adapt and improve in order to support the college's mission through unprecedented

growth in student enrollment, faculty hiring, and overall demands placed on the college and university.

## PROFESSIONALISM

Above all else, the staff must exhibit professionalism through trustworthiness and dependability with the timely completion and consistency of quality tasks, projects, processes, and activities that support the overall mission of the college.

## INCLUSIVENESS

The staff works to ensure the college remains an environment of inclusiveness in regards to people and ideas, both internally among its faculty, staff, and students and externally through its alumni and public outreach activities.



## OUR COMMITMENT

*Our commitment is to provide the College of Engineering and its stakeholders with a high level of service, reliability, and integrity that is professional, well-informed, collegial, and courteous. We do this through a culture of collaboration with mutual respect and understanding. We strive to foster a diverse and flexible infrastructure, workforce, and culture that supports the College mission.*





# ACADEMIC ADVISORS

## COLLABORATION

We will foster a culture that promotes collaboration across the college and university. We will continue to collaborate as advisors and support staff across Schools, increase collaboration with academic support team and faculty across the college, and actively engage in communication with academic partners.

## KNOWLEDGE AND EXPERTISE

We will foster a culture and climate of professional growth, constantly searching for better solutions to advance student achievement through our service. In order to promote a culture and climate of professional growth we will strive to become members of appropriate professional organizations (i.e. NACADA) and when possible attend professional conferences; enhance our personal skills by participating in training and development courses including appropriate training leading to completion of UGA's certificate programs; serve on Academic Advisement Coordinating Council Sub-Committees; schedule periodic meetings with campus partners to discuss advising techniques; enhance onboarding by establishing a formal training program for all new advisors.

## ACCESSIBILITY, DIVERSITY AND INCLUSION

We value a culture of ideas and individuals regardless of their background and believe firmly that inclusion treasures diversity and builds community. To promote further accessibility, diversity and inclusion we will configure the plans for the new student success center to be accessible and welcoming for all students irrespective of their disabilities, special needs, backgrounds and/or beliefs; communicate with students' opportunities to

engage in college and campus wide activities involving verbal communication during advising appointments supported by print and visual references; and work to continue professional development activities to provide the proper environment of diversity, accessibility and inclusion.

## AGILITY, ADAPTABILITY, AND RESILIENCY

The Advisor Group values agility, adaptability and resiliency. Adapting to change is a life skill and imperative to professional success. Not only must this group be flexible and adaptable but must also be able to steer change and respond to change. In order to meet the needs of our clientele we will periodically send out a student services survey to determine what if any new services should be provided by this group; cross-train advisors in all curriculums within the college such that all advisors can properly provide answers to questions about each curriculum, potential career paths, and courses to students who wish to change majors.

## INTEGRITY, TRANSPARENCY, AND ETHICS

The Advisor Group believes that integrity, transparency and ethics are essential to all activities that comprise the mission of our service. As a staff, we will work to be honest, transparent and ethical in our interactions with all students, faculty and other staff members. In order to promote a culture of integrity, transparency and ethics we will be mindful of FERPA regulations and policies and enhance our personal skills by participating in training and development courses and certificate programs associated with ethics.

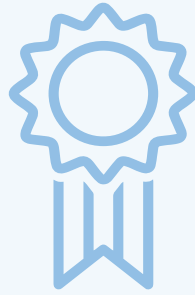


# ENGINEERING BY THE NUMBERS



**2,200**

Students



**1** RECIPIENT

of the Presidential Early Career Award for Scientists and Engineers, the nation's highest honor for outstanding scientists and engineers in the early stages of their independent research careers.



**8** RECIPIENTS

of the National Science Foundation CAREER Award



**75**

Faculty Members



**94%**

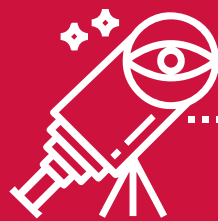
career placement rate for the Class of 2017



**\$60K**

average starting salary for 2017 graduates

HIGHEST OF ANY SCHOOL OR COLLEGE AT UGA



**300%**

increase in research funding in the past five years

2017-2018 RESEARCH FUNDING REACHED NEARLY \$12 MILLION









**College of Engineering**  
**UNIVERSITY OF GEORGIA**

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