

Engineer Your World

Samuel Ginn College of Engineering





Engineering at Auburn

Some students grow up knowing that when they go to college, it will be at Auburn. Others spend months evaluating their options to find that perfect school. Whatever road you've traveled to get here, we think you'll like what Auburn Engineering has to offer — a dynamic academic environment that engages, challenges and prepares you to engineer the future.

Auburn engineers have been shaping the world around them for almost 150 years. Today, as one of the nation's top public engineering institutions, Auburn is setting the standard for excellence in the classroom, the laboratory and public service.

Our alumni recall a friendly and safe campus with a sense of family, caring professors, academic variety and challenge, and extracurricular activities that helped them develop both professionally and personally.

Engineering represents a challenging and rigorous course of study — but many have gone before you and succeeded in creating deeply satisfying careers. As an Auburn engineering graduate, I count myself among them and invite you to join us on this exciting and fulfilling road.

I believe it is a choice you will never regret.

A handwritten signature in black ink that reads "Larry Benefield". The signature is written in a cursive, flowing style.

Dean Larry Benefield



... at a glance

Student enrollment fall '09

Total: 4,352

Undergraduate: 3,598

Graduate: 754

Average high school GPA: 3.74

Average entrance exam scores: 27.8 ACT/1236 SAT

Tenure-track faculty: 162

Undergraduate degrees offered: 13

Minors offered: 4

So you want to be an engineer?

What do engineers do?

Almost 1.4 million engineers are employed in the United States today. From defense and infrastructure to telecommunications and consumer electronics, engineers make the world a better place. An engineering degree can also open doors to careers in business, law and medicine.

With a bachelor's degree, you can move directly into a lucrative engineering position in the private or public sector. Graduate study can lead to a career in research and the academic world. The options are limited only by your imagination.

You might be an engineer if ...

- You're curious and want to know how things work
- You enjoy puzzles, like to solve problems and are good at it
- You enjoy academic challenge and have the discipline to manage your time
- You want a career that's interesting and varied
- You like to work with other creative, smart individuals
- You enjoy science and math
- You want to make a difference in the world

Graduate starting salary range:
\$40,000s to \$70,000s

Some potential employers:

AT&T

Boeing Company

ChevronTexaco

Dow Jones & Company, Inc.

Dynetics, Inc.

E*Trade

ExxonMobil

Frito-Lay, Inc.

General Electric

Georgia Pacific

Honda

International Paper

Jet Propulsion Laboratory

John Deere

Lockheed Martin

Milliken & Company

NASA

Northrup Grumman

Radiance Technologies

Raytheon Company

Shell Chemicals

Southern Company

State Departments of Transportation

Tennessee Valley Authority

U.S. Space and Missile Defense Command

USDA Forest Service

Westinghouse



Engineering Academic Programs



- **Aerospace**

Aerospace engineers apply their knowledge of aerodynamics, astrodynamics, propulsion, structures, controls and performance in the design, development, testing and analysis of aerospace vehicles and systems used for national defense, communications, earth observation, space exploration and the transport of people and goods.

Bachelor of Aerospace Engineering
www.eng.auburn.edu/ae

- **Biosystems**

Biosystems engineers combine biology with engineering to meet challenges presented by living organisms and the natural environment to ensure a safe and plentiful supply of food and fiber, clean water, renewable fuel and energy sources, and a safe and healthy environment.

Bachelor of Biosystems Engineering
www.eng.auburn.edu/bio

- **Chemical**

Chemical engineers use chemistry, physics, biology and engineering to improve our quality of life through biotechnology and bio-resource processes, advanced energy resources and systems, molecularly- and chemically-engineered materials, as well as sustainable engineering and green chemistry.

Bachelor of Chemical Engineering
www.eng.auburn.edu/che

- **Civil**

Civil engineers conceive, plan, design, construct, operate and maintain facilities and systems that serve the basic needs of our society, from buildings, bridges and transportation systems to power and water systems, while also protecting the environment.

Bachelor of Civil Engineering, Bachelor of Environmental Science
www.eng.auburn.edu/ce

- **Computer Science and Software**

Computer scientists and software engineers design, analyze and develop software for the computer systems and networks that drive today's world, from personal computing and entertainment systems to critical applications such as medical, flight and space systems.

Bachelor of Computer Science, Bachelor of Software Engineering
www.eng.auburn.edu/csse

- **Electrical and Computer**

Electrical and computer engineers design the complex systems and electronic circuits that power today's world and improve communications, from wireless systems and computers to energy management systems and national defense.

Bachelor of Electrical Engineering, Bachelor of Computer Engineering
www.eng.auburn.edu/ece



• Industrial and Systems

Industrial and systems engineers look at the big picture of what makes organizations work best: the right combination of human and natural resources, technology and equipment, as well as information and finance to design and refine processes that improve quality, safety, profitability and productivity.

Bachelor of Industrial and System Engineering

www.eng.auburn.edu/ise

• Materials

Materials engineers address the science and technology of producing materials — including metals, ceramics, plastics, semiconductors and composites — that have properties for expanding capabilities and improving performance in a wide range of applications including aerospace, transportation, electronics, energy conversion and biomedical systems.

Bachelor of Materials Engineering

www.eng.auburn.edu/matl

• Mechanical

Mechanical engineers are involved in the conceptualization, design, manufacture, testing, marketing and maintenance of the systems that make our lives easier including construction, transportation, energy, water, waste and computers.

Bachelor of Mechanical Engineering

www.eng.auburn.edu/me

• Polymer and Fiber

Polymer and fiber engineers use scientific and engineering principles to design, develop, fabricate and evaluate advanced materials that rely on structural polymers and other fibrous structures used in industries such as aerospace, automotive, biomedical, chemical, construction, electronics, marine, safety and transportation.

Bachelor of Polymer and Fiber Engineering

www.eng.auburn.edu/pfe

• Wireless

Wireless engineers design and build wireless communication systems with embedded radio frequency circuits and network hardware and software for use in consumer products such as cell phones, computers and smart phones, as well as medical, emergency, military and security systems.

Bachelor of Wireless Software Engineering, Bachelor of Wireless Hardware Engineering

www.eng.auburn.edu/wireless

Name: Hayley Cole

Hometown: Naples, Fla.

Year: Senior

Major: Civil Engineering

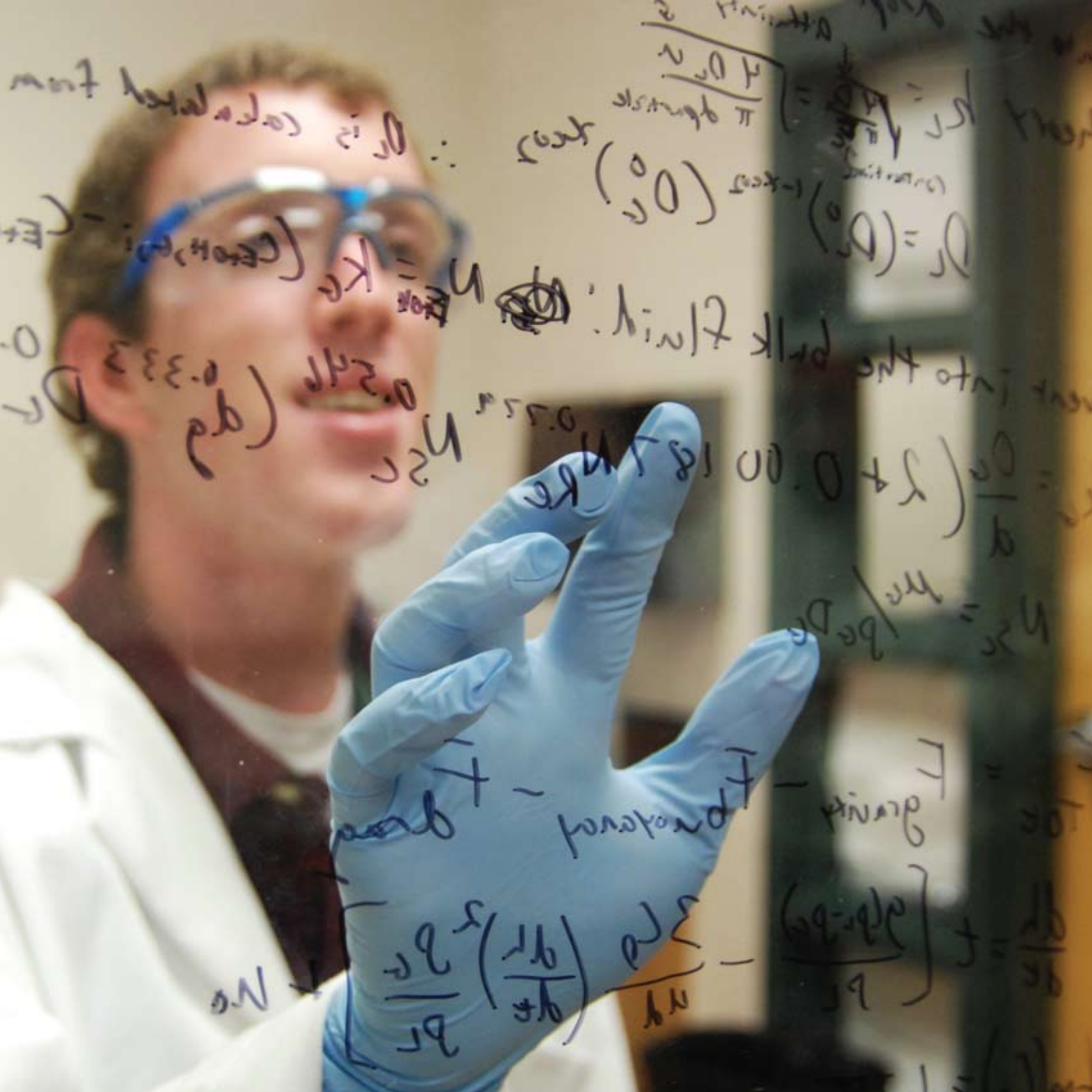
Activities: Institute for Transportation Engineers student chapter, Chi Epsilon



Everything about Auburn is perfect to me. The traditions, campus, people, seasons, town and academic excellence all convinced me to attend.

During my co-op semesters with Brasfield & Gorrie, I was able to apply basic engineering principles to real-world situations. When I returned to school after learning about the construction process from a project manager and assistant project manager's standpoint, I excelled in my transportation and construction engineering classes thanks to my co-op.





$$D_r = (D_r) \begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$$

... is calculated from

$$K_g = \frac{h_{2c}}{0.25} = 0.333$$

D_r

0.55 h_{2c}

$$\frac{D_r}{h_{2c}} = \frac{D_r}{0.25} = 0.333$$

... removed

$$\frac{D_r}{h_{2c}} = \frac{D_r}{0.25} = 0.333$$

Minors

Automotive Engineering: Prepares students for jobs in the automotive industry

Business-Engineering-Technology: Provides skills to bridge the communication gap that often exists in the workplace between engineers and business managers

Computer Science: Provides students with fundamental programming and theory for further study in the field of computing

Information Technology: Prepares students for computer-based applications that do not require a rigorous mathematics background

What to Expect

Freshman

During your first year, you will learn about the different engineering disciplines offered at Auburn and will take the first of the science and math courses that form the foundation of an engineering education. You will also take courses covering basic engineering principles, computer programming and computer-aided design, as well as classes that make up the university's core curriculum.

Sample first semester schedule

Classes	Semester hours
Engineering orientation	0
Calculus 1	4
Physics 1	4
Computer science	2
English composition	3
One core class	3
<hr/>	
Total hours	16

Sophomore

During your second year, you will complete your foundation math and science classes and begin courses in engineering design. You'll also take additional core classes and broaden your horizons through electives.

Junior

As you complete the basics, you will begin applying the principles you have learned. Discipline-specific design courses teach you the process of devising a system, component or process to meet a desired outcome. You will also take additional electives and complete the required university core classes.

Senior

The foundation is laid and you're ready to delve into the hands-on world of engineering. Course work designed to integrate what you've learned culminates with a senior project, working with a team to solve real-world problems.

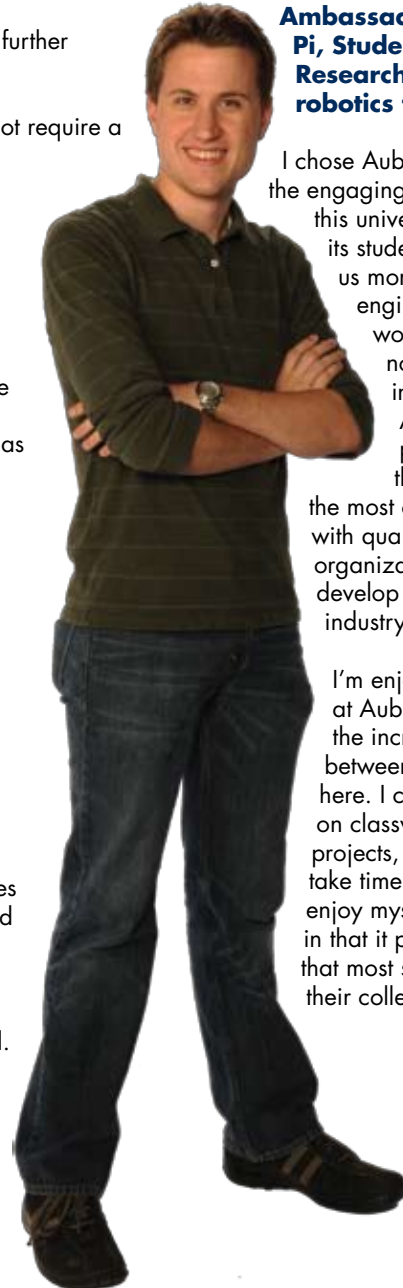
Name: Zach Lamb

Hometown: Decatur, Ala.

Year: Senior

Major: Mechanical Engineering
Materials Engineering

Activities: Cupola Engineering
Ambassadors, Tau Beta
Pi, Student Projects and
Research Committee
robotics team



I chose Auburn because of the engaging atmosphere that this university provides for its students. Classes keep us more than busy in engineering, but the hard work that we put in now definitely pays off in the long run. The Auburn engineering program provides us the opportunity to get the most out of our education, with quality programs and organizations that help develop future leaders of industry.

I'm enjoying my time at Auburn because of the incredible balance between work and play here. I can put in long hours on classwork and student projects, but still be able to take time off to relax and enjoy myself. Auburn is rare in that it provides the balance that most students desire out of their college years.





Beyond the Classroom

Auburn offers numerous opportunities — on both sides of the classroom door — to make you a well-rounded, competitive engineer.

Global Initiative

It's a global economy and Auburn Engineering offers a wide range of opportunities to study, intern and work abroad.

eng.auburn.edu/gei

Cooperative Education and Internships

Enrich your résumé and establish contacts while putting money in your pocket. Many students alternate one semester in the workplace with one in the classroom. Summer internships are another excellent option.

auburn.edu/co-op

AT&T Minority Engineering Program

Auburn's minority engineering program works to increase recruitment and enhance retention of minority engineering students at Auburn University.

eng.auburn.edu/at&tmeop

Academic Tutoring

Free tutoring services are available for all engineering students through the Office of Engineering Student Services.

eng.auburn.edu/ess

Auburn University Women's Center

The program provides Auburn's female students, staff and faculty with a variety of opportunities for leadership and professional growth.

auburn.edu/academic/provost/odma/womens-programs

Student Organizations

Student organizations offer a wide variety of fun and educational opportunities — from student chapters of professional organizations and honor societies to student competition teams and campus-wide organizations such as band, choir, sports and student government.

eng.auburn.edu/orgs

Research

Opportunities abound to gain experience in the laboratory through part-time jobs and co-op programs. Students in some departments can also take advantage of the National Science Foundation's undergraduate research programs.

eng.auburn.edu/stud-resch



Admissions

First-Year Students

Applications to the university must be made through the Office of Admissions. You must apply online. For minimum requirements, visit auburn.edu/admissions

Engineering is a challenging curriculum, so it's best to have a solid set of math and science skills in place before beginning your freshman year. If you don't have the recommended math and science classes, consider taking a few classes at your local community college prior to enrolling at Auburn.

Transfer Students

Close to a third of our graduating students transfer from junior colleges or other universities. For detailed information on transferring to Auburn check out eng.auburn.edu/transfer

International Students

Our engineering student body includes students from almost 100 countries, bringing with them contributions to the institution's diversity of academic thought, languages and cultures. Visit auburn.edu/international

Advanced Placement and Credit Programs

The College of Engineering recognizes advanced standing and credit for university courses through advanced placement, international baccalaureate and other credit programs. Visit eng.auburn.edu/advanced-placement

Honors College

Students who demonstrate the potential for academic excellence are eligible for admission to the university's Honors College. Invitations are sent to all admitted freshmen who meet the minimum requirements — 3.5 high school GPA, 29 ACT/1280 SAT. Visit auburn.edu/honors

Living-Learning Communities

This pre-planned schedule of courses and an on-campus living arrangement pairs you up with other students with similar interests, helping you get connected and setting your education on the right track. Visit eng.auburn.edu/learning-communities

Computers

Although you are not required to own a personal computer, it is strongly recommended. Computers are available for lease through the university or students can use our 24-hour student computer labs. For minimum recommendations, visit eng.auburn.edu/fcn

Name: Udarius Blair

Hometown: Highland Home, Ala.

Year: Junior

Major: Electrical Engineering

Activities: Sol of Auburn solar car team, AT&T Minority Engineering Program, National Society of Black Engineers, Cupola Engineering Ambassadors, AU Honors College



Auburn's breathtaking campus is the first thing that grabbed me, but it was ultimately Auburn's internationally renowned engineering program, rich history, conquering spirit and the 25,000 friendliest people in the world that kept me here.

I have found that there is a place for everyone. An engineering student can be a free-runner who minors in philosophy and volunteers for the humane society. Who we choose to be is never an issue. The only thing that matters is how the spirit of Auburn compels us all to help and accept each other.



Financing Your Education

Scholarships

Students seeking scholarships should apply by Dec. 1.

Your application to Auburn University automatically puts you into a pool for scholarship eligibility for university and college scholarships, as well as some departmental scholarships. Other departmental scholarships require individual applications.

eng.auburn.edu/scholarships

Financial Aid

Grants, loans and work-study opportunities are also available.

auburn.edu/finaid

Name: Siobhan O'Reilly
Hometown: Madison, Ala.

Year: Senior

Major: Industrial and Systems Engineering

Activities: Institute of Industrial Engineers student chapter, Delta Gamma, Cupola Engineering Ambassadors, Alpha Lambda Delta honor society, Phi Eta Sigma honor society

Designing and improving systems to run more efficiently while paying attention to quality is a challenge that I enjoy.

Auburn Engineering creates a comfortable working environment by having the feel of a small college while still offering challenging learning experiences. The professors are approachable and interested in helping students learn.

Visit Auburn Engineering

Join us for E-Day

You can view departmental displays, talk with representatives from each engineering department, take tours of our facilities and gain an overall look at life on the Auburn campus. E-Day is always the last Friday in February — mark your calendar.

Personal Tours

We also offer personal tours of the engineering complex throughout the year, with the exception of holidays and weekends. The best time to schedule your visit is during the academic calendar year when students are on campus. Contact the Office of Engineering Student Services at 334.844.4310 or ess@eng.auburn.edu.

Student to Student

Our students can tell you about life on and off campus and about the warm, supportive environment that comes with joining the Auburn family.

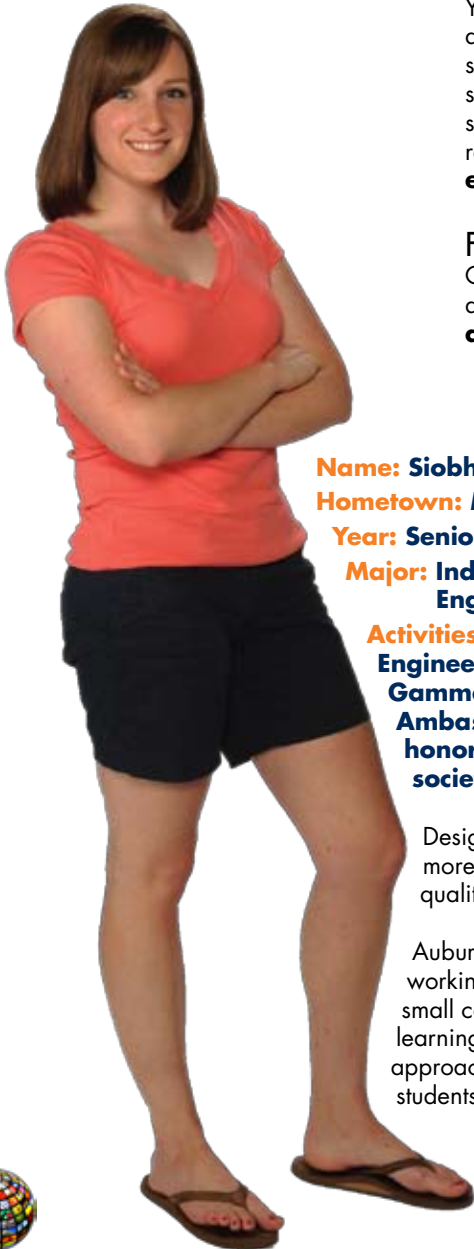
Become a fan of the Auburn University College of Engineering on Facebook.

eng.auburn.edu/facebook



Explore the City

Warm, friendly and green, the campus is located at the center of a lively downtown with a variety of restaurants and numerous entertainment, arts and recreational opportunities. And if you need an infusion of big city or beach, we are an easy drive to Atlanta, Montgomery, Birmingham and the Gulf Coast.





The Auburn Creed

I believe that this is a practical world
and that I can count only on what I earn.
Therefore, I believe in work, hard work.

I believe in education,
which gives me the knowledge to work wisely
and trains my mind and my hands to work skillfully.

I believe in honesty and truthfulness,
without which I cannot win the respect
and confidence of my fellow men.

I believe in a sound mind,
in a sound body and a spirit that is not afraid,
and in clean sports to develop these qualities.

I believe in obedience to law
because it protects the rights of all.

I believe in the human touch,
which cultivates sympathy with my fellow men
and mutual helpfulness and brings happiness for all.

I believe in my Country,
because it is a land of freedom and because it is my own home,
and that I can best serve that country by "doing justly, loving mercy,
and walking humbly with my God."

And because Auburn men and women believe in these things,
I believe in Auburn and love it.

— George Petrie



AUBURN UNIVERSITY

SAMUEL GINN
COLLEGE OF ENGINEERING

ENB0910C01

Auburn University is an equal opportunity educational institution/employer.