



An
Engineer's
Guide to
Graduate
School



Engineers who want to pursue more education to further their career are faced with the option of earning an advanced engineering degree. Ultimately, the choice depends on the individual and their career aspirations.

From the start, an engineer's academic background and technical skills allow them to easily understand product design and build, enabling them to speak with customers, consult clients, and lead teams in a business setting.

But many engineers are faced with an important question: Should I get an advanced degree to move my career forward? Today, nearly a third of employers across the U.S. are bumping up education requirements for new hires, according to [CareerBuilder](#). Companies are looking for candidates with a master's degree or higher to be innovative leaders with an eye towards strategy.

So, what's important when considering an advanced engineering degree?



Today, nearly **1/3** of employers are **bumping up education requirements** for new hires.

GAIN A COMPETITIVE ADVANTAGE



Adding another degree to your education can offer you a competitive edge. An advanced engineering degree differentiates you from the rest of the workforce. Many research and development positions today require a master's degree or Ph.D. to even apply for the job. A thesis or dissertation experience also gives you technical writing abilities, a critical skill set in the engineering industry.

“Everyone applying to the research and development jobs I’m interested in has a master’s, at least,” said Matthew Orr, Ph.D. candidate at Georgia Tech. “I needed the advanced degree to stay competitive with my peers. The research and writing aspect of my degree enhances my communication skills as well and makes me a well-rounded candidate.”



Another Tech engineer, Annie Blissit, knew that more knowledge in her field would give her an edge at her job. She works in waste water treatment and needed the extra knowledge required to grow in her role.



“WITH A JOB IN WASTE WATER,
YOU HAVE TO HAVE EXPERT
KNOWLEDGE IN A LOT OF AREAS.
**TECH WAS THE ONLY MASTER’S
PROGRAM I EVEN CONSIDERED
BECAUSE I KNEW I WOULD
GET THE BEST RETURN ON
MY INVESTMENT.** I WAS ABLE
TO COMPLETE MY MASTER’S
WHILE STILL WORKING. NOT
TO MENTION, TECH IS VERY
AFFORDABLE AND ACCESSIBLE.”

Annie Blissit
M.S. Environmental Engineering, 2017
Gresham, Smith and Partners



Annie Blissit

M.S. Environmental Engineering, 2017

Engineer, Gresham, Smith and Partners



KEY TAKEAWAY

Ultimately, having more education on your resume sets you apart from the competition, giving you a more marketable skill set. An advanced engineering degree provides the tools necessary for product development and research.

ADVANCE YOUR CAREER



With an advanced engineering degree, you can earn up to 30 percent more versus only having a bachelor's, according to the U.S. Census Bureau. Pursuing a master's degree opens doors to advance your career, and a Georgia Tech degree in particular holds a lot of weight in the engineering world.

Understanding the technical side of any business helps improve your job performance. You can relate to other employees, while leading teams based on the expert knowledge you gained from your degree.

“The problem-solving methodologies you develop when you get a master's or Ph.D. predispose you to look at problems with originality



With an advanced degree, you can earn up to a 30% higher salary.

U.S. Census Bureau



and an eye to completion,” said Mike Houlihan (M.S., Civil Engineering, 1987), principal, Geosyntec Consultants. “You can apply a practical eye even though it’s an uncommon problem. That makes you a viable consultant, increasing the value of your firm and opening up career opportunities.”

Jyuthika Sen, a recent biomedical engineering master’s graduate, chose Georgia Tech because of its academic reputation and overall ranking. But she also knew that the degree would give her a better start in her career.



“THE MASTER’S IN BIOMEDICAL INNOVATION AND DEVELOPMENT REALLY STOOD OUT BECAUSE OF ITS FOCUS ON INDUSTRY. I KNEW I WOULD BE ABLE TO GET MY MASTER’S IN ONE YEAR, WHICH WOULD HELP JUMPSTART MY CAREER IN INDUSTRY. DURING MY TIME AT TECH, I WAS ABLE TO FIGURE OUT MY LIKES AND DISLIKES TO HELP ME PLAN FOR MY FUTURE.”

Jyuthika Sen
Associate Engineer II
Design Science Consulting, Inc.



KEY TAKEAWAY

An advanced engineering degree can get you farther in your field along with career advancement, positioning you as an expert and company standout.

FOLLOW YOUR PASSION



When deciding whether or not to pursue a degree, it's critical to consider what you're passionate about. An advanced engineering degree requires time and money. Working before going back to school can help you determine the best career path. For some, it's about rising to the C-suite of corporate; for others, it's about starting their own company. The degree you pursue depends on your focus.

“If you're going to get an advanced degree, recognize that it's a huge time commitment,” said Phil Varney (Ph.D. Mechanical Engineering, 2016), senior structures engineer, Pratt & Whitney. “Pick a topic you love — something you have a passion for. Also, completing a master's thesis enables you to gain skills you wouldn't have just from course work.”





Baratunde Cola

Associate Professor & Entrepreneur

Georgia Tech College of Engineering

Entrepreneur Craig Green, CTO at startup Carbice, leverages his master's and Ph.D. in engineering to create commercially viable products to help prevent electronic devices from overheating.

“With my engineering degrees from Tech, I’m not limited in what I can accomplish,” said Green. “Grad school was essential for me to be doing what I do now at Carbice.”

Craig Green

Ph.D. Mechanical Engineering

CTO, Carbice



KEY TAKEAWAY

Regardless of the degree, pursue your passion. When you commit to what you're passionate about through an advanced engineering degree program, you pursue a path to achieve your career goals.

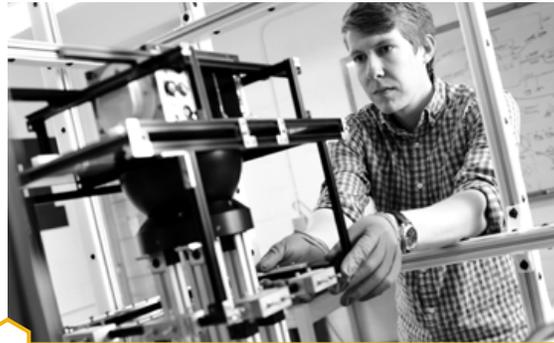
If you love engineering and being on the technical side of things, then an advanced engineering degree puts you at the top of your field. Regardless, an engineering degree from Georgia Tech provides problem-solving skills and critical thinking methodology that serve you well in any career.

GEORGIA TECH COLLEGE OF ENGINEERING MASTER'S AND PH.D. PROGRAMS

The Georgia Tech College of Engineering is comprised of eight schools, each of which has its graduate programs ranked in the top 10 in the 2020 U.S. News and World Report engineering program rankings.

With cutting edge research facilities and annual research expenditures of more than \$200 million, the College of Engineering attracts students and faculty from across the nation and around the world. As the largest and most diverse engineering college in the country, our graduate programs offer unparalleled breadth and depth, with tremendous opportunities for interdisciplinary collaboration.

For more details on all of the College's graduate programs and to apply, please visit coe.gatech.edu/masters



AEROSPACE ENGINEERING

Rank: #4

The Guggenheim School of Aerospace Engineering boasts one of the oldest and largest aerospace programs in the country. Every year, the aerospace engineering research teams work with industry, military, and academic partners on a broad range of problems. With a faculty of more than 40 tenure-track professors, the School brings both breadth and depth to its research, scholarship, and instruction that few institutions can match.

For more information on degree programs, visit ae.gatech.edu



BIOMEDICAL ENGINEERING

Rank: #3

The Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory is training the next generation of research leaders. The department is a unique public-private partnership between Georgia Tech's College of Engineering and Emory University's School of Medicine. Programs offer students a variety of academic options in biotechnology and bioengineering, depending on how that student wants to participate in this global community.

For more information on degree programs, visit bme.gatech.edu

GEORGIA TECH COLLEGE OF ENGINEERING MASTER'S AND PH.D. PROGRAMS



CHEMICAL & BIOMOLECULAR ENGINEERING

Rank: #7

With faculty members who are leaders in their fields, state-of-the-art research facilities and numerous opportunities for interdisciplinary collaboration, the ChBE graduate programs position its students at the leading-edge of innovation. Current projects in the school address some of the largest global challenges of the 21st century, including developing new therapeutics for diseases, designing sustainable systems for improving the environment and creating more efficient methods for producing new and better technologies.

For more information on degree programs, visit chbe.gatech.edu



CIVIL & ENVIRONMENTAL ENGINEERING

Ranks: Civil #3 // Environmental #4

Through cross-disciplinary research, service-based learning and innovative course content and delivery, students in CEE become leaders. Graduates leverage systems-level thinking and technological innovation to solve complex problems at the interface of built, natural, and social systems, and engage in service to the State of Georgia, the nation and the world.

For more information on degree programs, visit ce.gatech.edu



ELECTRICAL & COMPUTER ENGINEERING

Ranks: Electrical #6 // Computer #5

With over 110 faculty members, ECE covers a broad range of research topics and offers over 100 graduate-level ECE courses. The school is home to 11 areas of specialization, 19 research centers and numerous laboratories. The breadth and depth of quality graduate programs build upon a firm ground of the basics and advance your cutting-edge technical knowledge.

For more information on degree programs, visit ece.gatech.edu

GEORGIA TECH COLLEGE OF ENGINEERING MASTER'S AND PH.D. PROGRAMS



INDUSTRIAL & SYSTEMS ENGINEERING

Rank: #1

The master's degree programs offered by the H. Milton Stewart School of Industrial and Systems Engineering provide rigorous graduate education in the core methodologies of industrial engineering, operations research, statistics and data science and in applied engineering and analytics disciplines. Nine different degree options are available, tailored to students' educational and career objectives.

For more information on degree programs, visit isye.gatech.edu



MATERIALS SCIENCE & ENGINEERING

Rank: #7

The MSE graduate program is broadly focused in materials research, primarily at the Ph.D. level. However, a limited number of admissions are also granted to students wishing to pursue M.S. degrees. The graduate program is rapidly establishing itself as one of the leading research and education programs in materials science and engineering.

For more information on degree programs, visit mse.gatech.edu



MECHANICAL ENGINEERING

Ranks: Mechanical #5 Nuclear & Radiological #9

The mechanical engineering program at Georgia Tech is the largest and one of the most highly rated ME programs in the country, consistently ranked in the top five nationally. Georgia Tech's program is noteworthy in that it combines engineering fundamentals with hands-on design opportunities. Known for interdisciplinary research, the Woodruff School of Mechanical Engineering's researchers work closely with their counterparts in many other disciplines across the College.

For more information on degree programs, visit me.gatech.edu

ATLANTA: AN AFFORDABLE CITY



- ✓ Affordable housing
- ✓ Business and startup opportunities
- ✓ International airport
- ✓ Home to Fortune 500 companies

| CITY | COST OF LIVING INDEX (100=AVERAGE) |
|-------------------|------------------------------------|
| Atlanta, GA | 102 |
| Philadelphia, PA | 113.5 |
| Baltimore, MD | 117.1 |
| Los Angeles, CA | 148.4 |
| Boston, MA | 150.2 |
| Seattle, WA | 155 |
| San Francisco, CA | 196.7 |
| New York, NY | 249 |
| Palo Alto, CA | 613.5* |

Source: Council for Community and Economic Research (C2ER) Cost of Living Index. 4th quarter 2018.
*Cost of living information from bestplaces.net



ONLINE MASTER'S DEGREES

In an increasingly digital age, it has become easier to learn complicated topics without sitting in a lecture hall. Most classes can be taught remotely, online. Georgia Tech strives to bring knowledge to individuals all over the world and has created a variety of online master's programs to do so.

The College of Engineering offers more than 10 master's degrees ranging from analytics to mechanical engineering to manufacturing leadership. Massive Open Online Courses (MOOCs) are taught by many of our best-in-class faculty and are offered for anyone, for free, which can serve as a good entry way into your master's studies.

More information can be found at

coe.gatech.edu/academics/online-education



Georgia Tech  **College of Engineering**