What can I do with a degree in...

# ENGINEERING TECHNOLOGY?

## Why study **ENGINEERING TECHNOLOGY?**

The B.S. in Engineering Technology with a focus on Applied Systems Technology is designed for innovative students who are applications-oriented. The program builds on a background in applied science and mathematics. There is a strong emphasis on integrating theory and applications for mechanical systems, computer-aided modeling, manufacturing and production processes, rapid prototyping, automation, quality assurance and development of automated/robotics systems.

Additionally, the B.S. in Engineering Technology with a focus in Technical Operations (ETO) is a part-time program which enables individuals employed in business, industry and state-related occupations to pursue a four-year degree through a combination of part-time evening study and online courses.

The program's mission is to prepare graduates with the technical and managerial skills necessary to enter careers in process and systems design, technical sales, manufacturing operations and maintenance functions of a manufacturing enterprise.

## What is the **DEGREE OPTION?**

**Bachelor of Science (B.S.) in Engineering Technology**
*NOTE: There is also an option to earn the Master of Science in Engineering Technology degree.*

## What is the **UNDERGRADUATE ADMISSION PROCESS?**

Any currently enrolled student at WCU may declare Engineering Technology as an undergraduate major. Please make an appointment with your advisor via your MyWCU student portal.


## What **JOBS ARE AVAILABLE?**

Depending on the area of focus and other qualifications, students with this degree often become productions managers, facilities managers, safety engineers, electrical technicians, electro-mechanical technicians, environmental technicians, machine and tool designers, technical illustrators, project managers, product designers, engineering and technical sales people, and more.
*NOTE: Advanced degrees may be required for some of the above careers. Please speak with an advisor or career counselor for more information.*

## Who employs **ENGINEERING TECHNOLOGY** graduates?

Our graduates work for a variety of employers including national businesses such as Caterpillar, General Electric, and Borg Warner; regional and local engineering firms; construction subcontractors; and federal and state government contractors.

# MAJOR MAP

**How to use this map:** Review the four categories and suggestions of activities and when you should consider engaging in them. Remember, these are just suggestions! There is a fillable space for you to add in any other ideas you have to set yourself up for success in life after college.

| | 1st YEAR | 2nd YEAR |
|---|---|---|
| **EXCEL IN ACADEMICS** | Coursework your first year will focus on foundational classes in math, physics, introductory Engineering topics, and liberal studies requirements. Check out the **8-semester plan** and make an appointment with your advisor. | The second year continues with more advanced math and physics courses, foundational Engineering classes, and liberal studies requirements. Check out the **8-semester plan** and make an appointment with your advisor. |
| **GET HANDS-ON EXPERIENCE** | Check out **WCU's DegreePlus program** and choose which events in any of the four categories you want to attend. Categories include: Professionalism, Teamwork, Leadership, or Cultural Responsiveness.<br><br>See what on-campus employment opportunities are available by logging in to JobCat via your MyWCU. | Consider joining clubs or organizations related to your major such as FEM in STEM or the student branch of the Institute of Electrical and Electronics Engineers (IEEE).<br><br>If you are thinking about attending a graduate school, start engaging in hands-on experiences required in graduate school admissions.<br><br>Engage deeper with **DegreePlus;** choose an additional competency to complete |
| **BE PART OF THE COMMUNITY** | Connect with the **Center for Community Engagement and Service Learning** and ask about the **Lily Award,** a program aimed to encourage and recognize students who are connected with their community. | Develop deeper relationships with the organizations for which you volunteer. Ask for special projects or responsibilities that you can highlight on a resume.<br><br>If you want to **study abroad,** this is a good year to have that experience. The Study Abroad Office has excellent suggestions on places to go to study your major specifically. |
| **PREPARE FOR LIFE AFTER COLLEGE** | Further explore your career options or career interests using the **Center for Career and Professional Development's** online resources, **Focus 2,** and **Onet Online.**<br><br>Connect with a career counselor early on to explore opportunities and experiences you can do while in college to further develop your professional resume. | Check out **CCPD's list of career-building activities** and participate in an activity this year, such as attending Career Fair Plus.<br><br>Start a spreadsheet of graduate schools you wish to apply to in a few years; label your spreadsheet with each school's admission requirements and application materials so that you are aware of the expectations. |

## Looking for a minor? Consider these options:

Accounting
Business Administration and Law
Management
Marketing
Mathematics
Physics

| 3rd YEAR | 4th YEAR |
| --- | --- |
| Courses in your third year will focus heavily on upper-level ET courses and finishing liberal studies. Check out the **8-semester plan** and make an appointment with your advisor. | Courses in your final year will focus on upper-level Engineering and ET courses. Check out the **8-semester plan,** make an appointment with your advisor. and complete your degree audit, and **apply for graduation!** |
| Complete an internship that will give you practical hands-on experience in your field. Contact the CCPD for help in your internship search.<br><br>Consider networking with professionals in your field. **IEEE** and the **Society of Manufacturing Engineers** has numerous networking events listed. | Investigate requirements for full-time jobs or graduate school admissions. Assess what skills or experiences you're lacking and invest time in seeking additional opportunities such as certification programs, classes, or professional development workshops during your last year to fill that gap. Connect with your faculty advisor or career counselor. |
| Volunteer with nonprofits that focus on your ideal career path.<br><br>Connect with alumni in your field through **LinkedIn.** | Join professional organizations such as the **National Association of Professional Engineers.**<br><br>Network with employers and non-profits at the annual Career Fair Plus event, held each October and February. |
| Visit the CCPD to hone your professional resume and cover letter (Make an appointment through MyWCU).<br><br>Utilize the **Writing and Learning Commons** for GRE, and other professional exam preparation sessions. Take the GRE, etc. Use **Big Interview** to learn more about professional interviews.<br><br>Schedule a visit to tour graduate schools of your choice, if applicable. | Apply to graduate schools, if applicable.<br><br>Look for and apply for jobs between 4 and 6 months before graduation.<br><br>Polish your resume, cover letter, and interview skills by vising the **CCPD.** |

**DID YOU KNOW?** Internships are still the number-one educational experience employers look for in a recent college graduate resume. (Chronicle of Higher Education's study on 50,000 employers)

# MORE INFORMATION

## **INTERNSHIP** Information

At Western Carolina University there are numerous internship opportunities for students. In some cases internships are established through a faculty member in the student's major. Oftentimes students find part-time jobs in an area related to their field of study. When this happens, students should discuss with their academic advisor the possibility of receiving college credit. Generally, three hours of general elective credit can be earned for a minimum of 200 hours of experience. Upon completion of this course, students will have gained experience in project-based work in the construction industry and will have learned how to:

- Apply engineering concepts to engineering projects
- Work in a project-team environment
- Meet deadlines and work under pressure
- Interface with the various different members of the engineering industry

## **SKILLS LEARNED** in the classroom

The core competencies will center on developing skills, knowledge, and attitudes such as:

- safety protocols
- quality control
- information handling and oganization
- critical thinking skills
- problem solving
- teamwork
- leadership

## **KNOWLEDGE** Base

This program will prepare students to:

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- communicate effectively with a range of audiences
- recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- acquire and apply new knowledge as needed, using appropriate learning strategies.

## Professional **RESOURCES**

- American Society of Mechanical Engineers: asme.org
- Institute of Electrical and Electronics Engineers: ieee.org
- National Society of Professional Engineers: nspe.org
- Society of Manufacturing Engineers: sme.org

## **QUESTIONS?**

For questions, please call the Construction Management program at 828-227-2775 or visit et.wcu.edu.

To schedule an appointment with a career counselor, contact the Center for Career and Professional Development, 828-227-7133 or careerservices@wcu.edu.

Western Carolina University