Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

Since 1885, we have offered educational excellence in beautiful Upper Michigan. Our students create the future in arts, humanities, and social sciences; business and management; computer engineering; forestry and environmental science; natural and physical sciences; and technology.

ELECTRICAL & COMPUTER ENGINEERING

Michigan Technological University
Department of Electrical & Computer Engineering
121 Electrical Energy Resources Center
1400 Townsend Drive
Houghton, MI 49931-1295
T: 906-487-2550
F: 906-487-2949
E: jmdonahu@mtu.edu
www.ece.mtu.edu

CREATE THE FUTURE

Launch yourself into our high-tech world. With ECE you can energize the planet, advance communication, and create technology to help others in meaningful ways.

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WHY CHOOSE MICHIGAN TECH?

Explore Many Possibilities

You can focus on a wide variety of challenges with ECE—everything from creating green energy solutions to discovering new galaxies. Opportunities for innovation abound. A few examples include:

- Robotic systems and lasers for medical surgeries
- Voice-activated control systems for computers, cars, and more
- Modern, high-speed rail transportation
- Nanotechnology in semiconductors, transistors, and microchips
- Smart grids for next-generation energy systems

There are many excellent reasons to choose ECE at Michigan Tech. Here are just a few…

Friendly Learning Environment

We offer all the advantages of a large engineering program in a small college atmosphere. Faculty and staff are on the lookout for students and enjoy mentoring students.

Excellent Faculty

Courses in our department are taught by faculty who are nationally recognized for their contributions to engineering education, research, and practice.

State-of-the-Art Facilities

Our multimillion-dollar labs provide a hands-on learning experience. You’ll enjoy cutting-edge equipment and facilities, and access to professional and cutting-edge computer systems.

Unique Lab Curriculum

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Industry Experience

Participate in Senior Design, Enterprise, internships, and co-ops—our excellent programs give you a chance to work directly with industry while you’re still a student.

Sustainable Future

Our students contribute to the advancement of green, renewable, and alternative energy, including solar and wind power, hydroelectric power, and more.

Global Opportunities

Our students have interned in Turkey, Austria, Denmark, Italy, Poland, Romania, and China, and our students have studied in Norway, Australia, Germany, Italy, Finland, Denmark, England, Russia, Scotland, Korea, and the developing world.

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DISCOVER. DESIGN. DELIVER.

Electrical engineers and computer engineers use electrical and optical energy to manipulate, store, and transmit information and to deliver energy to the entire world. Both data centers and lightning, as before your eyes and around you, are high-speed links that carry through the working world of high-tech.

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**Michigan Tech**
To keep pace with the explosive growth in computing technology, engineers are working on everything from designing nanotechnology for bionic implants to inventing smart materials that can sense damage and change shape...
Senior Design
During your senior year, you’ll have the chance to work with a small team of fellow students on a senior design project. You will connect with an industry sponsor through an open-ended design project that will provide you with the kind of experience that can launch a successful career.

D80 Center
Many challenges confront our planet’s inhabitants, particularly the 80 percent not typically considered by those creating infrastructure, goods and services. Everyone must play a role in elevating the quality of life for all while ensuring future generations can thrive. This starts with the courage to serve others, and the ability to envision new solutions.

Michigan Tech’s D80 Center provides education, service and research opportunities for students interested in gaining valuable professional experience while making a difference in the lives of others. For more information on all the D80 programs check out the D80 Center online at www.d80.mtu.edu.

Lots of options
As a BSE student, you will have approximately nineteen elective credits. This will provide you with a great deal of flexibility to pursue studies that reflect your own interests.

Elective credits must be used to complete a senior design or study, or to complete a minor or certificate. Michigan Tech offers more than fifty different minors and eighteen different certificate programs. Earning a minor or certificate requires taking a prescribed set of courses in a discipline or sub-discipline.

Enterprise
Join an Enterprise team and get the extra edge that will make you stand out. Build real-world engineering, design, and communication skills. Teams are open to students from all majors, and operate like companies to the extent possible. You work on an enterprise team, but you can choose your own team.

Come See Us
There is no substitute for seeing Michigan Tech for yourself. Our campus and our college are fun and unique. Call 888-688-1885 to set things up.

Our academic advising events feature academic advisors and campus development staff so you can get to know us. We look forward to hearing from you.

www.bse.mtu.edu
Computer Engineering

It takes teamwork to bring creative ideas to life. Throughout your four years, you can work with a small team of fellow students, for example, to develop a bus system that interfaces with other systems or to design a secure website that’s “like a boss.” A “first job” can be an “end-to-end” design—engineers design the systems from scratch.

Your Computer Engineering projects will range from designing computer networks, to creating special technology for bionic implants to inventing computer-aided design for civil engineering disciplines—for example, designing parts in a bridge or with mechanical engineering. You’ll learn new software to test the stress points in a design. You may also find yourself working with other engineers to develop sensors to detect improvised explosive devices. You’ll learn what computer engineers do best: end-to-end design and integration of complete systems—exactly what computer engineers do best: end-to-end design and integration of complete systems.

Here at Michigan Tech, you’ll gain hands-on training and real-world experience working with others to bring creative ideas to life. You’ll gain valuable experience working on many real-world projects happening right here in southeastern Colorado.

To keep pace with the explosive growth in computing technology, you must learn new tools and techniques for outer space. You must learn new tools and techniques for outer space.

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Electronic Engineering

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Software Design

For others, teamwork is in bringing creative ideas to life. Throughout your career, you can look back on solving problems, creating software applications, like “Lotus 1-2-3,” a software tool for spreadsheets. You might work in a startup, where software can bring a new product to market.

For software engineers, teamwork is critical because you are often involved in the requirements specification, design, implementation, testing, and deployment of software solutions.

Computer networks, robotics, or VLSI design might be your passion. You could design components that go into a smart power grid, create a hybrid vehicle that gets 1,000-plus miles per gallon, or devise ways to take electrical power to us all.

Make A World Of Difference

Many of our students get involved with meaningful projects. Some work on campus, including a satellite launched by students in our Master of Science in Nanotechnology program, called the Mi-NOSE (Michigan Nanomedical Satelite Observation Satellite). Other students travel to Ghana with Michigan Tech’s Pavlis Institute, to design and build an integrated navigation system for electric vehicles.

很多的学生参与到有意义的项目中。一些学生在校园内工作，包括由学生在我们硕士工程学学位 nanotechnology program，称为 Mi-NOSE （密歇根纳米医疗卫星观察卫星）。其他国家的学生与 Michigan Tech’s Pavlis Institute，设计和建立一个集成导航系统，为电动汽车。

Working as a computer engineer, you will enable you to conceive entire solutions from scratch. You could design components that go into a smart power grid, create a hybrid vehicle that gets 1,000-plus miles per gallon, or devise ways to take electrical power to us all.

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