What are you up to this summer?

Summer is a time to recharge. It’s a time to explore, meet new people, and get ready for what comes next. We want to be part of your summer, but we aren’t your ordinary summer camp.

Summer Youth Programs at Michigan Technological University has been around since 1972. From those first camps to now, we share the college experience and the excitement of science, technology, engineering, and math (STEM). As we go into our 45th year, our program has evolved right along with the participants we serve.

One aspect of SYP remains constant: our students are smart. Crazy smart. They’re looking for an opportunity like this—a chance to discover the college that’s right for them, and to find out if a degree in STEM is what they really want to do.

We come back year after year, too, because as it turns out, we love this opportunity just as much as our students do. It’s so much more than a camp or a class—it’s an experience. And for many, it’s life-changing. Just ask the more than 650 Huskies on campus today who are also SYP alumni. Ask them about the friends they made. The things they built. And the instructors who became mentors.

SYP participants take their summer memories with them—wherever they go.

We can’t wait to see you this summer. Let your adventure begin!

— Summer Youth Programs Staff
An Epic Summer Awaits—Just Look Inside:

Charter Bus Service ................................................ p 4
Scholarship Programs ............................................. p 5
Engineering Programs .......................................... p 8
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Business, Humanities, & Social Sciences Programs ...... p 15
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NEED A RIDE? WE CAN HELP!

Summer Youth Programs offers chaperoned charter bus service to Houghton, Michigan, for hundreds of students from nine select locations in the Midwest. Students are picked up on Saturday evening and arrive at campus Sunday morning. Space is limited and available on a first-come, first-served basis.

2018 CHARTER BUS ROUTES*

<table>
<thead>
<tr>
<th>WEST</th>
<th>EAST</th>
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<tr>
<td>Chicago</td>
<td>Bay City</td>
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<td>Gaylord*</td>
<td>Lansing</td>
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<td>Grand Rapids</td>
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<td>Kalamazoo</td>
<td>Rochester</td>
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<td>St. Ignace*</td>
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$275 round trip | $175 one way

* Due in full within 10 days of purchase; cost includes a nonrefundable $25 processing fee.

Call 906-487-2219 to reserve your spot, or visit syp.mtu.edu to view route schedules and learn more.

* Saint Ignace and Gaylord pricing: $225 round trip and $125 one way
COMPETITIVE SCHOLARSHIP PROGRAMS

Students are selected for scholarship programs on a competitive basis. To apply for a scholarship program, visit syp.mtu.edu and complete the application form for the program you’re interested in. Submit your application along with a teacher recommendation, your unofficial high school transcript, and your responses to short essay questions. Applications will be reviewed by our selection committee in April and you will be notified of our decision in mid-May. Programs have varying deadlines; please verify application due dates listed beneath each program title. Please visit syp.mtu.edu for more information.

Engineering Scholars Program (ESP)

Capacity 150
51477 • Grades 9-11 • July 22–28, 2018
Application deadline is April 10, 2018, at 5 PM
For early acceptance, please submit application by March 1, 2018.
Cost: A nonrefundable registration fee of $295 is due within 10 days of acceptance.

The Engineering Scholars Program (ESP) provides an opportunity for academically talented students to explore 10 fields of engineering through projects, investigations, and trips throughout the Keweenaw Peninsula. Construct a building that can withstand an earthquake. Create your own message encryptor. Learn about the college application process and succeeding in university engineering programs.

Junior Women in Engineering (JWIE)

Capacity 20
51807 • Grades 6-8 • July 15–21, 2018
Application deadline is April 10, 2018, at 5 PM
Cost: A nonrefundable registration fee of $295 is due within 10 days of acceptance.

Junior Women in Engineering (JWIE) provides an opportunity for academically talented young women to explore mechanical, electrical, chemical, civil, and environmental engineering. Discover whether metal has memory. Design and build bridges, gliders, and prosthetic legs. Learn how to purify water. And take trips throughout the Keweenaw Peninsula!

“Engineering Scholars Program is a life-changing experience. It left a stamp on my journey of life!” —2017 ESP Participant
National Summer Transportation Institute (NSTI)*
Capacity 30
51288 • Grades 9–11 • July 15–28, 2018
Application deadline is May 1, 2018, at 5 PM

The National Summer Transportation Institute (NSTI) is a two-week exploration of modern transportation, including air, rail, road, and water. Michigan Tech is the state’s only residential host site of this live-in program!

Tour the Mackinac Bridge Authority and get behind-the-scenes information about the Mighty Mac. Travel to Sault Ste. Marie and learn firsthand about the Soo Locks shipping canal. Plus, enjoy recreational activities and time outdoors in the Keweenaw Peninsula.

Rail and Intermodal Transportation*
Capacity 20
51293 • Grades 9–11 • July 8–14, 2018
Application deadline is May 1, 2018, at 5 PM

Cost: A nonrefundable $100 registration fee is due within 10 days of acceptance. The remaining balance will be due before June 1.

Why are trains called the green transportation alternative? How fast can high-speed passenger trains travel? How do containers find their way from China to the US? What’s the latest on alternative fuels and train control systems? Find out the answers to these questions as you experience technical and hands-on tours of rail and intermodal facilities in Ishpeming/Marquette and Duluth/Superior.

Women in Automotive Engineering (WIAE)
Capacity 24
51808 • Grades 9–11 • July 15-21, 2018
Application deadline is April 10, 2018, at 5 PM

Cost: A nonrefundable registration fee of $295 is due within 10 days of acceptance.

Women in Automotive Engineering (WIAE) provides an opportunity for academically talented young women to explore the fields of mechanical and electrical engineering within the automotive industry. Learn how vehicles operate, and how engineers approach designing one. Take trips throughout the Keweenaw Peninsula. Plus, get a look at the vehicles our crazy smart students take to competitions across the country!

NSTI and RIT are both live-in only; these explorations will travel to various locations throughout the week.
Women in Computer Science (WICS)  
Capacity  20  
51544 • Grades 9-11 • July 22–28, 2018  
Application deadline is April 10, 2018, at 5 PM  
Cost: A nonrefundable registration fee of $100 is due within 10 days of acceptance.  
Women in Computer Science (WICS) is a discovery of computing. Experience different areas of computing, including programming, artificial intelligence, robotics, virtual reality, visualization, networks, and security. You’ll also get a chance to meet with industry role models to hear about real-life experiences and challenges in the field.

Women in Engineering (WIE)  
Capacity  150  
51281 • Grades 9-11 • July 29–August 4, 2018  
Application deadline is April 10, 2018, at 5 PM  
For early acceptance, please submit application by March 1, 2018.  
Cost: A nonrefundable registration fee of $295 is due within 10 days of acceptance.  
Women in Engineering (WIE) provides an opportunity for academically talented young women to explore 10 fields of engineering through projects and classroom investigations. Construct a building that can withstand an earthquake. Create your own message encryptor. Learn about the college application process and succeeding in university engineering programs.

Our Competitive Scholarship Programs maintain an intense schedule, but offer a unique opportunity to explore careers and experience college life—stay in a residence hall, explore campus, and meet other young students with similar backgrounds and interests. Scholarship amounts vary, and are valued up to $1,000 to cover tuition, room and board, and supplies. Please see individual scholarship applications for details on each program.
**ENGINEERING PROGRAMS**

<table>
<thead>
<tr>
<th>Program</th>
<th>Capacity</th>
<th>Start/End</th>
<th>Grades</th>
<th>Cost: Resident</th>
<th>Commuter</th>
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<tr>
<td><strong>Chemical Engineering</strong>*</td>
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<td>52262 • Grades 9–11 • June 24–30, 2018</td>
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<td>51259 • Grades 9–11 • July 8–14, 2018</td>
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<td>The greatest challenge for chemical engineers is making products our society demands in a safe and environmentally friendly way. Learn about chemical engineering and explore alternative energy, chemical reactions, and separation processes through lab activities.</td>
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<td><strong>Civil Engineering</strong>*</td>
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<td>51804 • Grades 9–11 • July 8–14, 2018</td>
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<td>51609 • Grades 6–8 • July 15–21, 2018</td>
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<td>Design bridges strong enough to hold the weight of traffic. Provide clean drinking water to our homes. Create roadways and infrastructure for transportation. Make sure waste doesn’t harm us or the environment. Help communities in third-world countries. How do civil engineers do it? Discover the answers by making and breaking concrete, creating models, and visiting structures designed by civil engineers.</td>
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<td><strong>Electrical and Computer Engineering</strong></td>
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<td>51260 • Grades 9–11 • June 17–23, 2018</td>
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<td>Imagine the future of smart electronics and learn how engineers create them. Explore computer and electrical engineering through simple circuits and digital logic. Perform experiments—including designing and constructing your own printed circuit board—that demonstrate principles of computer and electrical engineering.</td>
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<td><strong>Engineering 101</strong></td>
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<td>51261 • Grades 6–8 • June 24–30, 2018</td>
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<td>Cost: Resident $920/Commuter $520</td>
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<td>Not sure which type of engineering is for you? Explore mechanical, electrical, chemical, civil, and environmental engineering—and more! Learn how to purify water, program a robot, design and build bridges, gliders, and/or prosthetic legs. Then test what you build to see how it performs! You’ll work in teams to approach engineering challenges from a new perspective.</td>
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<tr>
<td><strong>Geological Engineering</strong>*</td>
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<td>52263 • Grades 6–8 • June 17–23, 2018</td>
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<td>51478 • Grades 9–11 • July 8–14, 2018</td>
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<td>Journey through the Keweenaw’s geology—from the formation of an ancient volcanic rift and its enormous loads of native copper, to the miners who powered the local copper mining industry. Discover how rocks and minerals are formed, and learn to use specialized tools and the scientific method to identify them. Map ancient lava flows, explore underground mines, collect samples—and sharpen your skills as a geologist!</td>
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</table>

*Students must wear long pants and sturdy, closed-toe shoes or boots. Be prepared to get dirty.*
# Materials Science and Engineering*

**Capacity**
- 51263 • Grades 6–8 • July 8–14, 2018: 15
- 51541 • Grades 9–11 • July 15–21, 2018: 15

Cost: Resident $920/Commuter $520

What are materials? How do we create them? And how do we measure their behaviors so we can compare them? Discover the answers to these questions as you create your own metals, ceramic composites, and polymers, compete for the strongest and bounciest polymer, and learn the ancient art of blacksmithing. Plus, discover how atoms are assembled and how they behave.

# Mechanical Engineering—Automotive Engineering*

**Capacity**
- 51264 • Grades 9–11 • July 8–14, 2018: 20

Cost: Resident $945/Commuter $545

Learn the basics of engines and vehicle technology while discovering the world of automotive engineering. See the vehicles Michigan Tech student-teams take to competitions like the Clean Snowmobile Challenge, Formula SAE, Baja SAE, Hybrid Electric Vehicle, and Supermileage—and tour facilities where students research, design, test, and build.

# Mechanical Engineering—Design the Future*

**Capacity**
- 52264 • Grades 6–8 • June 17–23, 2018: 20
- 51601 • Grades 9–11 • June 24–30, 2018: 20

Cost: Resident $945/Commuter $545

Explore mechanical and machine design, manufacturing, and energy systems and how these areas apply to industries. Plus, visit labs and discover opportunities in mechanical engineering. Activities may include projects, tours, field trips, demonstrations, and/or experimental testing. Research and undergraduate curriculum from Michigan Tech’s own mechanical engineering—engineering mechanics department will be highlighted.

# Mobile Robotics

**Capacity**
- 51542 • Grades 6–8 • June 24–30, 2018: 15
- 51294 • Grades 9–11 • July 15–21, 2018: 20

Cost: Resident $920/Commuter $520

Jump into the world of autonomous mobile robotics. From concept to construction to computation, this exploration involves building and programming your own robot. Students solder, build, and program their way through mini competitions.

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“**This program will forever impact my view on what it means to be an engineer and what engineers can do.**”

—2017 SYP Participant
**SCIENCE & TECHNOLOGY PROGRAMS**

**Aquatic Ecology**
51276 • Grades 6-8 • July 15-21, 2018  
Cost: Resident $895/Commuter $495

Who’s eating who in the Great Lakes and what makes species invasive? What’s lurking in your backyard stream? Find out the answers to these questions as you learn all about lakes and streams. You’ll start with different types of plant life and work your way up the food chain to invertebrates and fish. Build your own model ecosystems and participate in science labs (inside and outside!).

**Note:** Be prepared for variable weather. Hiking and other gear is required; a packing list will be sent with your Welcome Packet.

**Aquatic Ecology: Field Study at Gratiot Lake**
51277 • Grades 9-11 • June 24-30, 2018  
Cost: Resident $895

 Spend a week living in a rustic log cabin on Gratiot Lake, in the heart of the Keweenaw Peninsula. Live the life of an ecologist as you collect and analyze aquatic invertebrates, compare water chemistry data, and learn how much fun ecology can be—no matter the weather. You’ll learn tracking and casting techniques, explore the ecology of Lake Superior, and discover how to identify invertebrates.

**Note:** Live-in only. Some camping gear is required; a packing list will be sent with your Welcome Packet. Visit the Gratiot Lake Conservancy at [gratiotlakeconservancy.org](http://gratiotlakeconservancy.org) for information about where you’ll spend your week—electricity and running water will not be available during our trip to the Conservancy. If you are a student from the Keweenaw Peninsula, you may be eligible to apply for the Sandretto Scholarship. Visit [syp.mtu.edu](http://syp.mtu.edu) for details.

**Biotechnology**
52265 • Grades 6-8 • June 24-30, 2018  
51270 • Grades 9-11 • July 8-14, 2018  
Cost: Resident $945/Commuter $545

Technology based on biology is used to improve your life and the world all around you. Learn techniques in microbiology, genetics, and molecular biology to understand how microorganisms can be used to solve problems. Explore a world unseen by the naked eye through microscopes, and be introduced to microorganisms. You’ll get to insert foreign DNA from jellyfish into bacteria, making it glow in the dark!

**Note:** Students should wear long pants and closed-toe shoes.

**Environmental Invaders**
52269 • Grades 9-11 • June 17-23, 2018  
Cost: Resident $895/Commuter $495

Find out how invasive species join and change ecosystems. Throughout the week you’ll explore plant and animal species that are thriving in the Keweenaw Peninsula. Be ready to get out in the field, hike, explore, and help with invasive species studies and removal projects.

**Note:** Be prepared for days spent outdoors, hiking, and walking. Bring sturdy hiking shoes, rain gear, insect repellent, sunscreen, a water bottle, and a day pack to carry your gear.

“This experience really sparked my interest in the field and inspired me to do great things after the camp.”  
—2017 SYP Participant
Forensic Science and CSI*

52266 • Grades 6–8 • June 17–23, 2018
51269 • Grades 6–8 • June 24–30, 2018
51267 • Grades 9–11 • July 8–14, 2018
51268 • Grades 9–11 • July 15–21, 2018
Cost: Resident $920/Commuter $520

How can you track down a criminal? Learn how biology helps forensic scientists solve crimes through DNA and blood analysis. Reconstruct a real human skeleton. Dust for fingerprints. Perform your own autopsy through class dissections. Examine hair and fibers under the microscope. Then apply everything you learned to solve a mock crime.

Medical Laboratory Science*

51266 • Grades 9–11 • July 8–14, 2018
52267 • Grades 9–11 • July 15–21, 2018
Cost: Resident $920/Commuter $520

Fact: more than two-thirds of decisions made regarding patient diagnosis and treatment are based on lab results. Medical laboratory scientists analyze blood, tissues, and other body fluids to detect diseases. Perform lab procedures in clinical chemistry, immunology, parasitology, microbiology, hematology, urinalysis, and more. Tour labs in local hospitals as you explore this in-demand profession.

Medical Physiology*

51479 • Grades 6–8 • June 24–30, 2018
51271 • Grades 9–11 • July 8–14, 2018
Cost: Resident $920/Commuter $520

How do body systems work together? Discover how a healthy body functions, and explore the structure and physiology of muscles, lungs, the heart, blood, and the nervous system. Record and interpret an electrocardiogram, perform vision tests, and measure your reflex time under various conditions.

Rocketry and Space Science

51603 • Grades 6–8 • June 17–23, 2018
51604 • Grades 9–11 • June 24–30, 2018
Cost: Resident $945/Commuter $545

You’ll learn about aerodynamics and propulsion while designing and building your own rocket. During the week, you’ll refine your plan, use software to improve your design, and launch your rocket up to 1,500 feet.

For explorations that take place in laboratories, students are required to wear long pants and closed-toe shoes. Bare-midriff tops and open shoes (sandals or flip-flops) are not permitted.
Wild World of Chemistry*
51272 • Grades 6–8 • June 17–23, 2018
51273 • Grades 9–11 • June 24–30, 2018
Cost: Resident $920/Commuter $520

Prepare slime and other cool materials. Discover the weird-and-wild properties that set them apart from everyday materials. Explore how the structure of matter affects light emission, light absorption, and many other unique characteristics of different types of matter. Demonstrations, experiments, videos, simulations, and tours of research facilities will be used to clarify concepts and show how scientists think and work.

Note: Bring a calculator and a lab coat or oversized t-shirt. Goggles are provided.

Wildlife Ecology
51278 • Grades 6–8 • July 8–14, 2018
Cost: Resident $920/Commuter $520

Get a close look at protecting and conserving our natural resources for the plants and animals that rely on them. Search for animal tracks, signs, scents, sounds, and other indicators of quality habitats. Track animals using telemetry with a map and compass. Identify and make plaster castings of animal tracks and learn how to set noninvasive hidden camera and hair traps.

Note: Participants should be in good physical condition. Bring sturdy hiking boots, rain gear, insect repellent, sunscreen, and a daypack to carry your gear.

For explorations that take place in laboratories, students are required to wear long pants and closed-toe shoes. Bare-midriff tops and open shoes (sandals or flip-flops) are not permitted.
COMPUTING PROGRAMS

3-D Models and Virtual Reality
51418 • Grades 9–11 • June 17–23, 2018
Cost: Resident $895/Commuter $495

Computer games and animated movies simulate virtual worlds using 3-D models. Create your own 3-D model using Google SketchUp and view your creation in a head-mounted display system in Michigan Tech’s Virtual Reality Lab. You’ll also learn about virtual-reality technologies, 3-D photographs, and basic computer programming.

App and Web Development: Designing for Humans
51501 • Grades 9–11 • July 8–14, 2018
Cost: Resident $895/Commuter $495

Humans interact with software through mobile devices and websites every day. So how do we make software people want to use? In this exploration, we’ll examine apps and websites to learn how to recognize elements of interface design including spatial ordering, color scheme, navigation, and interaction. Then, apply these principles to develop your own website and apps.

Coding for the Internet of Things
51909 • Grades 9–11 • June 17–23, 2018
52268 • Grades 9–11 • July 8–14, 2018
Cost: Resident $895/Commuter $495

More and more everyday objects have network connectivity, allowing them to send and receive data or be programmed and controlled over the internet. We call this the Internet of Things (IoT). Students learn the fundamentals of programming while interacting with online devices. You will learn to monitor, control, and program the Internet of Things!

Introductory Video Game Programming
51275 • Grades 6–8 • June 24–30, 2018
Cost: Resident $895/Commuter $495

Budding game developer? This course covers the fundamentals of game design through mini games illustrating concepts like collision, animation, basic AI techniques, and state-machines. In addition to lectures and guided work sessions, you will be given time to create and experiment. Introductory material will make use of the Processing (processing.org) environment and work up to coding with the Java programming language.

Note: This course assumes no previous experience with computer programming.
Stop the Hackers!
51274 • Grades 9–11 • July 15–21, 2018
Cost: Resident $895/Commuter $495

Wonder how computer hackers infiltrate a system and steal information? Want to learn how to keep your system safe? Come and explore the world of computer security! Discover the kinds of attacks hackers launch, including key loggers, viruses, Trojan horses, and phishing. Plus, explore ways to keep your information safe using cryptography, access control, and virus detection.

Video Game Programming
51676 • Grades 9–11 • July 15–21, 2018
Cost: Resident $895/Commuter $495

This is a faster-paced crash course in programming. You’ll cover the fundamentals of game design through a series of increasingly complex mini games that illustrate concepts like collision, animation, basic AI techniques, and state-machines. In addition to lectures and guided work sessions, you’ll be given time to create and experiment. Introductory material will make use of the Processing (processing.org) environment and work up to coding with the Java programming language.

“The campers and staff create a great sense of community.”
–2017 SYP Participant
BUSINESS, HUMANITIES, & SOCIAL SCIENCES PROGRAMS

Be Your Own Boss
Capacity: 20
51295 • Grades 9-11 • June 17-23, 2018
Cost: Resident $895/Commuter $495
Learn what it takes to start your own business. Develop a business plan and launch your product or service right here on campus. Each day of the week you’ll learn skills through faculty-led activities. Subject areas cover everything from accounting to marketing and everything in between! At the end of the week, you’ll get to sell your products and services to other participants—and you can consider yourself an SYP entrepreneur!

Psychology in the Real World
Capacity: 15
51605 • Grades 9-11 • June 24-30, 2018
Cost: Resident $895/Commuter $495
Find out how psychology impacts everyday life. You will explore basic psychology issues in learning, sensation and perception, decision-making, and research in behavioral sciences. To highlight these principles, you will experience demonstrations on topics like behavior modification, visual illusions, and social experiments.

Note: Bring business-casual clothing to wear during field trips.

Blacksmithing
Capacity: 10
51279 • Grades 9-11 • July 8-14, 2018
Cost: Resident $945/Commuter $545
Explore the art of blacksmithing. Learn how to draw out your metal, punch holes, upset the end of a bar, and split steel with a chisel. You’ll also have the opportunity to bend, rivet, and twist bars, as well as make scrolls. Build your own forge and anvil to begin smithing on your own.

Note: Bring old jeans, a long-sleeved shirt, and leather shoes (no open-toe shoes). Do not wear flammable materials.

Digital Photography
Capacity: 20
51546 • Grades 9-11 • June 17-23, 2018
51280 • Grades 6-8 • June 24-30, 2018
Cost: Resident $895/Commuter $495
Digital photography combines art, technology, and the great outdoors. While on explorations throughout the Keweenaw Peninsula, you’ll capture images of beautiful shorelines, waterfalls, and abandoned mine structures. Learn about exposure, composition, and visualization. Explore creative possibilities as you refine your images with software like Adobe Photoshop.

Note: A DSLR is strongly recommended for this course. Additional information on what to bring is available online.

The World of Design
Capacity: 20
51911 • Grades 9-11 • July 15-21, 2018
Cost: Resident $895/Commuter $495
Want to make the next big social media platform like Snapchat? Create a spaceship that travels to Mars? Design a handheld water filter? Design-thinking principles are all around you. You’ll explore complex problem-solving, collaboration, and human-centered design through hands-on activities.

“Everyone should experience something like this before college.”
—2017 SYP Participant
SUMMER YOUTH PROGRAMS

OUTDOOR ADVENTURES

Offered in partnership with Michigan Tech's Outdoor Adventure Program (OAP)

oap.mtu.edu

Students should have the ability to carry an internal-frame backpack (loaded with 30-50 pounds of equipment, food, and supplies) for three to five miles per day. You will need comfortable, broken-in hiking boots, a compact sleeping bag, and a well-fitting backpack (3,000 cubic inches or more). Some previous hiking or backpacking experience is helpful, but not required. Previous experience in the wilderness is also helpful, but not required.

Note: Outdoor Adventures require camping, hiking, and other outdoor gear. A detailed list of additional equipment needs will be provided in your Welcome Packet, and participants will have an opportunity to rent outdoor gear from the Outdoor Adventure Program (oap.mtu.edu) for a reduced rate.

Island Explorations on Isle Royale*
51975 • Grades 9-11 • July 8-14, 2018
51540 • Grades 9-11 • July 22–28, 2018
Cost: Resident $1,000

Head to Isle Royale National Park for a hiking and camping adventure! Prior to leaving the mainland, we will cover Leave No Trace ethics, review health and dietary needs, and finalize packing. Group gear (tents, cooking equipment, stoves, and water filters) will be distributed Sunday evening. While on the island, we will explore Rock Harbor, Three Mile, and Daisy Farm, hike to the top of Mt. Ojibway and Mt. Franklin, and swim in Lake Superior.

Note: Live-in only. This exploration returns to campus after the charter bus has departed. Make overnight accommodations and travel arrangements accordingly.

Outdoor Skills and Leadership on the North Country Trail*
51913 • Grades 9-11 • June 24–30, 2018
51606 • Grades 9-11 • July 15–21, 2018
Cost: Resident $895

Have a blast while developing skills, confidence, and trust! Participants will spend Monday morning planning out details for the final trip. Then we will head to the North Country Trail to begin our multi-day backpacking exploration. Learn skills like water-filtration methods, proper packing, cooking in the outdoors, and food safety and care in the wilderness.

Note: Live-in only.

Keweenaw Outdoor Adventure 101
51805 • Grades 6-8 • July 15–21, 2018
Cost: Resident $895/Commuter $495

Participants spend Sunday evening reviewing the North Country Trail hiking trip plan. Beginning Monday morning we will be self-sufficient for the next five days, carrying what we need on our backs and practicing Leave No Trace ethics. Work as a group to cook, clean, set up camp, and filter water. Hike past bluffs, creeks, rivers, swamps, wildlife, and camp under clear skies.

* Offered in partnership with Michigan Tech's Outdoor Adventure Program (OAP)

oap.mtu.edu
Where is Michigan Tech?
Michigan Tech is located in Houghton, Michigan, near the shores of Lake Superior in the beautiful Upper Peninsula.

Who can attend Michigan Tech Summer Youth Programs?
Any students completing grades 6–11 are eligible to attend Michigan Tech’s Summer Youth Programs. Both middle school and high school programs offer exciting, hands-on explorations on a wide variety of topics. Middle school explorations are open to students completing grades 6–8 and focus on providing an engaging introduction to the subject. High school explorations, open to those completing grades 9–11, encourage students to explore a field of study they are interested in pursuing in college. Academically high-achieving students completing grades 9-11 can also apply for our Competitive Scholarship Programs, which focus on specific areas of study.

How many participants are in each exploration?
Most explorations are limited to 20 or fewer students so instructors can give one-on-one instruction. Some explorations—like backpacking and ecology courses—are smaller for safety reasons. We train and employ more than 150 instructors, activity counselors, residence counselors, and staff. We intentionally keep our student-to-staff ratio low, at about 10:1.

What will I be doing in the evenings?
Everything! Our full-time counselors plan and lead so many evening and weekend activities, you won’t have a minute to be bored. A few activities, like going for ice cream or to the movies, have a small fee, but most are free. Examples of activities include:

- Bowling
- Movies
- Board games
- Basketball, volleyball, soccer, and tennis
- A variety show
- 4-square/ladder ball
- Arts and crafts
- Touring the Keweenaw Peninsula
- Swimming (at the pool or a local beach)
- Capture the Flag
- Dancing
- Hiking and jogging along the waterfront
- Shopping at the Campus Bookstore and local stores
- Fast-food runs
- Hanging out with friends
- Relaxing in the Michigan Tech Library
- Exploring a state park

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**FREQUENTLY ASKED QUESTIONS**

**SYP Schedule**

**SUNDAY**
- Bus Arrives 9 AM
- Breakfast 7–9 AM
- Same schedule until 4:30 PM

**WEEKDAYS**
- Brunch 11 AM–1 PM
- Exploration 9 AM–Noon
- Wrap-Up 4:30–5 PM
- Lunch Noon–1 PM
- Dinner 5–6 PM
- Recreation 6–10 PM

**FRIDAY**
- Dinner 4–6 PM
- Exploration 1:15–4:30 PM
- Recreation 6–10 PM
- Dinner 4:30–6 PM
- Bus Leaves 10 PM

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**Note**: Each Competitive Scholarship Program schedule may differ.
Where will I stay?
Our live-in participants enjoy campus living in Wadsworth Hall, Michigan Tech’s largest residence hall. Staff and participants are housed in self-contained, secure areas. Participants have access to residence hall laundry facilities (minimal fee), recreation areas, and lounges. We have full-time, live-in counselors who provide supervision, interact with participants, and help keep students safe.

Who will I room with?
Our residence halls are divided by gender, and we take great care to match each participant with a roommate who is close in age, but from a different location. We encourage participants to broaden their horizons and room with someone new. However, some students prefer rooming with someone they already know, like a sibling or friend. These requests are honored whenever possible. Both friends must request each other on the appropriate form in their Confirmation Packets. If you request to room with a friend, but your friend does not request you, you will not be placed together; it will not be possible to switch rooms when you arrive.

If I stay for more than one exploration, do I have to leave campus during the weekend?
For participants who come for two or more consecutive weeks of Summer Youth Programs, we offer weekend activities in the area. Stay-over fees are $125 per weekend and include meals, lodging, and supervised excursions. Weekend activities can include beach barbecues, copper mine tours, a trip to historic Fort Wilkins State Park, hiking, kayaking, and boat tours.

Where can my family stay?
Many people make a family vacation out of their trip to Michigan Tech. The area is known for its beaches and waterfalls, shopping, historical downtowns, and tourist attractions. Cottages, hotels, bed and breakfasts, and camping facilities are available. Visit keweenaw.info for more information.

What are my options for traveling to Michigan Tech?
You can choose to travel to Michigan Tech by Summer Youth Programs charter bus, car, or plane. Make your transportation arrangements early to help ensure smooth travels.

Summer Youth Programs charter bus: Michigan Tech offers a chaperoned charter bus service from select locations in the Midwest—tentatively Bay City, Chicago, Gaylord, Grand Rapids, Kalamazoo, Lansing, Novi, St. Ignace, and Rochester. Space is available on a first-come, first-served basis, with preference given to round-trip riders. Students are picked up on Saturday evening, travel through the night, and arrive on campus Sunday morning. This is the most popular way for students to travel; you will have the opportunity to meet staff and fellow students before arriving at Michigan Tech.

- Round-trip fee of $275—Includes a $25 nonrefundable deposit. (Gaylord and St. Ignace—$225 round-trip). You may choose to be picked up and dropped off at different locations and still qualify for the round-trip rate. No refunds after June 1.
- One-way fee of $175—Includes a $25 nonrefundable deposit. (Gaylord and St. Ignace—$125 one way). No refunds after June 1.
Charter bus payments must be paid in full within 10 days of purchase. Charter transportation requests are not guaranteed until you receive confirmation from SYP. If you request a seat after we have reached capacity, you will receive a refund of any transportation fees paid (including the $25 deposit).

**Car:** Often, students choose to travel to campus with family. The local area offers beautiful scenery, attractions, and lodging options for families choosing to stay for the duration of the program. Directions and lodging information can be found at mtu.edu/admissions/visit/lodging.

Live-in students are not permitted to drive during our programs, so those arriving alone by car will need to purchase a $15 parking pass, be assigned a parking area, and their keys will be stored in the SYP safe.

**Air:** Houghton County Memorial Airport (CMX) is only a 15-minute drive from campus and is serviced by United Airlines. Students who fly to Houghton will be met and transported to Michigan Tech by SYP staff members wearing official shirts and name tags. Visit united.com for more information on flights. Please be sure to review their unaccompanied minor policy.

**Can I commute?**
Commuters often reside with parents at home, family friends, or relatives. Explorations are available at a reduced fee for commuter students who do not wish to live in the residence hall. Lunch is included, and commuters are strongly encouraged to attend evening recreational activities. Summer Youth Programs will verify where the student is residing, and the participant must agree to follow live-in student rules while on campus.

**Note:** Several explorations involve travel or late-evening activities and are not available to commuters. See descriptions for details.

**How much do Summer Youth Programs cost?**
We remain one of the most affordable programs in the country, and we work to keep our costs low so our programs are accessible to as many people as possible.

Fees may vary; please see exploration descriptions for specific costs:

**Middle school and pre-college explorations—live-in SYP weeks 1–4 (June 17–July 21): $895 per exploration**
A nonrefundable $100 deposit per exploration is required to guarantee your enrollment; please pay your fee online, by phone, or by mail within 10 days of submitting your online or paper application.

**Middle school and pre-college explorations—commuter SYP weeks 1–4 (June 17–July 21): $495 per exploration**
A nonrefundable $100 deposit per exploration is required to guarantee your enrollment; please pay your fee online, by phone, or by mail within 10 days of submitting your online or paper application.

**Competitive Scholarship Programs—High School**
Available to students completing grades 9-11 only. Women in Engineering and the Engineering Scholars Program have a $295 nonrefundable registration fee (due upon acceptance). Women in Computer Science has a $100 nonrefundable registration fee (due upon acceptance). Rail and Intermodal Transportation is a program with a partial scholarship and is awarded on a first-come, first-served basis. Women in Automotive Engineering has a $295 nonrefundable registration fee (due upon acceptance). Please do not send payment with your application. To complete your enrollment, your registration fee will be due within 10 days of being accepted into the program. You will be notified about acceptance in mid-May.

**Competitive Scholarship Programs—Middle School**
Available to students completing grades 6–8 only. Junior Women in Engineering has a $295 nonrefundable registration fee (due upon acceptance). Do not send payment with your application. To complete your enrollment, your registration fee will be due within 10 days of being accepted into the program. You will be notified about acceptance in mid-May.

**Stay-over fee: $125 per weekend**
Stay-overs are available to students registered for two or more consecutive weeks who wish to remain on campus during the weekend. This fee includes room and board, activities, and supervised excursions to local attractions. No stay-overs the weekend of June 30–July 1.

**Early arrival/late departure: $75 per day**
This fee includes room and board, supervision, and activities. Students must obtain prior approval from the SYP office. No late departures on June 30 or August 4.
Do you offer financial awards or discounts?
Yes!

Multiple-week discount
Students attending more than one week of Summer Youth Programs will receive one $50 award (per child) each summer. Please note the discount on your Payment Form.

Michigan Tech alumni/staff award
Children and grandchildren of Michigan Tech alumni and staff are eligible for one $50 award (per child) each summer. The discount is applied after confirmation is received from Human Resources or Alumni Engagement.

Note: Discounts and awards cannot be combined and are not applicable to the Competitive Scholarship Program fees.

Can I cancel my enrollment?
If you cancel your exploration before June 1, 2018, you are eligible for a refund of enrollment fees minus the $100 nonrefundable deposit for each exploration. There are no refunds after June 1.

What happens if my exploration is canceled?
In the unlikely event that your exploration is canceled, we will assist you in selecting another exploration or refund your entire payment, at your discretion.

What if my program is full?
We are always happy to help you find another exploration that fits your interests. Or, if you prefer, we can place your name on a waiting list and notify you if space becomes available. If you haven’t been transferred from a waiting list to an exploration by the start of the program, your entire payment (including the deposit) will be refunded.

Is there recognition for my participation?
Upon completion of your program, you will be awarded a certificate. We recommend you put it in your high school portfolio. You may wish to refer to it when applying for jobs, colleges, or honors programs.

Additionally, following graduation from high school, past participants who enroll at Michigan Tech are eligible to apply for the Summer Youth Scholars Award, exclusively available to SYP alumni who are new incoming first-year undergraduate students.

Visit: mtu.edu/finaid/students/prospective/summer-youth-scholars for details.

After I apply, what’s next?
You will receive a personalized Confirmation Packet once we receive your application and deposit. In it, you’ll find important forms that must be completed and returned. Closer to the start of your program, you’ll receive a Welcome Packet with information about registration, campus life, and what to bring. Keep this packet for your reference as summer approaches.

How can I contact Summer Youth Programs?
Summer Youth Programs
1400 Townsend Drive
Houghton, MI 49931-1295
syp.mtu.edu
Email: syp@mtu.edu
Telephone: 906-487-2219
Fax: 906-487-1136
Toll-free: 1-888-773-2655

Visit syp.mtu.edu for extended course descriptions and more information.
Can’t decide which program to choose? Attend more than one!

SYP camps and explorations are so much fun, it’s common for students to stay for two or three weeks—some even spend the whole summer here! To help you decide when to attend, we’ve created a calendar listing of all programs.

Weekend stay-overs between programs are available for a fee—meals, lodging, and trips throughout the local area are provided. Start planning now, and get ready to have an epic summer!

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### Engineering

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### Outdoor Adventures

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#### Outdoor Adventures

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### July 29-August 4

#### Competitive Scholarship

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<td>Women in Engineering (WIE)</td>
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Nestled along the shores of beautiful Lake Superior, Michigan Tech offers a unique experience for kids and teens from all around the world. I attended Summer Youth Programs for four consecutive summers—a total of eight weeks on campus. Through SYP, I made incredible memories, learned in top-notch classes, and most importantly, met lifelong friends. Only YOU have the potential to take this opportunity and turn it into the experience of a lifetime!

- Anna, SYP Photo Contest Participant
Will You?

At the end of each summer, SYP participants are given the opportunity to enter our photo contest. It’s a chance to share their experience with others, and a chance to win cool prizes.

What can you learn at SYP?
Join us and find out!

syp.mtu.edu
### SUMMER YOUTH PROGRAMS

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<td><strong>JUNE 19</strong></td>
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<td>9 AM Charter bus arrives at Michigan Tech</td>
<td>6 PM McLain State Park</td>
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<td>10 AM-2 PM Registration</td>
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<td><strong>SYP CLOSED 4TH</strong></td>
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<td>4 PM Tech Expo</td>
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<td><strong>JULY 31</strong></td>
<td><strong>AUGUST</strong></td>
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</table>
7 PM Variety show | 4:30 PM Program wrap-up | 9 AM-Noon Checkout<br>Night–Charter bus pick-ups for SYP 2 |
| **JUNE 28** | **JUNE 29** | **JUNE 30** | 
7 PM Variety show | 4:30 PM Program wrap-up | 9 AM-Noon Checkout<br>No late checkouts or stay-overs |
| **JULY 5** | **JULY 6** | **JULY 7** | 
**OF JULY HOLIDAY** | 
**JULY 12** | **JULY 13** | **JULY 14** | 
7 PM Variety show | 4:30 PM Program wrap-up | 9 AM-Noon Checkout<br>Night–Charter bus pick-ups for SYP 3 |
| **JULY 19** | **JULY 20** | **JULY 21** | 
7 PM Variety show | 4:30 PM Program wrap-up | 9 AM-Noon Checkout<br>Night–Charter bus pick-ups for ESP and WICS |
| **JULY 26** | **JULY 26** | **JULY 28** | 
7 PM Variety show | 3:30 PM Program wrap-up | 9 AM-Noon Checkout<br>Night–Charter bus pick-ups for WIE |
| **AUGUST 2** | **AUGUST 3** | **AUGUST 4** | 
7 PM Variety show | 3:30 PM Program wrap-up | 9 AM-Noon Checkout<br>No late checkouts or stay-overs |
DON’T BE ORDINARY.

#BEAWESOME