

# CEGE

CIVIL, ENVIRONMENTAL,  
AND GEOSPATIAL  
ENGINEERING



## *Meet Aden*

→ PAGE 35

2024-2025

## Undergraduate Academic Advising





## Charlie Gotta, CE '21, MSCE '22

### **GRADUATE STRUCTURAL DESIGNER II IMEG**

Charlie completes structural design of gravity and lateral systems, extensive detailing, and construction administration for high end custom residences and home remodels. Through his role, he has been able to visit sites of some of the most desired new properties and remodels in the Vail Valley.

**FUN FACT:** He works part-time with the Ski and Snowboard Club as an alpine coach. He enjoys sharing his passion for ski racing and mentoring some of the best young athletes in the country.

# Congratulations on making a crazy smart decision that will positively impact the rest of your life.

You have chosen to pursue a degree in civil/environmental/geospatial engineering or construction management in the Department of Civil, Environmental, and Geospatial Engineering, at a top engineering school—Michigan Technological University.

No matter what you do after graduation, your degree will get you there.

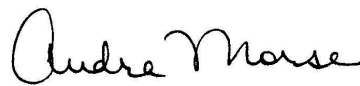
Graduates from our Bachelor of Science programs work for Fortune 500 Companies, Engineering News Record Top 500 Engineering Companies, as well as go on to graduate school or pursue other advanced degrees.

The faculty and staff of the Civil, Environmental, and Geospatial Engineering Department value our students and want to see you succeed. So please, visit the faculty during their office hours, ask them questions, and let them know you value your education as much as they do.

Julie Ross, your academic advisor, is the best advisor on the Michigan Tech campus. Work with her to optimize your academic plan to achieve your degree.

Last but not least, please know that my door is open for you to share your achievements and the challenges you overcome in the pursuit of your academic degree.

Again, congratulations on starting a new chapter in your academic career. We are glad you chose the Civil, Environmental, and Geospatial Engineering Department at Michigan Tech as your new home.



Best wishes,  
Audra Morse, PhD, PE, BCEE, F.ASCE  
Professor and Department Chair

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# Advising Syllabus

**MISSION:** Advisors and students working together to develop an individualized academic plan for accomplishing student goals.

**ADVISING DEFINED:** Academic Advising is a relationship and a process that results in benefits for student, advisor, and university as a whole. The advisor and student collaborate to develop, follow, and complete an academic plan. A productive advising relationship will help students envision, foster, and realize their goals here at Michigan Tech and for a lifetime.

## **STUDENT LEARNING OUTCOMES**

- Knowledge of university student learning goals and degree requirements
- A thorough understanding of your academic plan
- Ability to find and use advising resources
- Increased and improved self-awareness and decision-making skills

## **STUDENT RESPONSIBILITIES (What you should do)**

- Take responsibility for academic planning
- Understand learning goals and degree requirements
- Follow academic procedures and policies
- Communicate with your advisor: read all advising correspondence
- Attend advising meetings prepared
- Apply advising recommendations in order to achieve your academic plan
- Seek assistance from instructors, learning centers, and other university services
- Contact your advisor promptly when you have questions or concerns. When faced with a difficult question or challenging situation, your academic advisor is a good place to begin
- Problem-solve to revise and achieve your academic plan

## **ACTIVITIES (How advisors and students realize outcomes and goals)**

- Identify a degree program that aligns with your academic interests and abilities
- Create an educational plan that fulfills the academic plan
- Select appropriate classes to satisfy your evolving goals
- Learn the benefits of internships, co-ops, and study abroad
- Explore academic options: Enterprise program, undergraduate research, Pavlis Honors College, dual majors, secondary degrees, minors, and graduate study
- Locate and use resources and services
- Interpret university requirements, policies, regulations, and procedures
- Develop decision-making skills, self-awareness, and self-direction
- Clarify and evaluate progress toward academic and life goals

### **ADVISORS ADVOCATE FOR STUDENTS, PROTECT AND ENSURE THEIR PRIVACY AND THEIR RIGHTS AS ADVISEES IN COMPLIANCE WITH UNIVERSITY POLICIES:**

- [mtu.edu/deanofstudents/disability](http://mtu.edu/deanofstudents/disability)
- [mtu.edu/registrar/faculty-staff/ferpa](http://mtu.edu/registrar/faculty-staff/ferpa)
- [mtu.edu/registrar/students/advising](http://mtu.edu/registrar/students/advising)



# Student Academic Advising Checklist

<p><b>ORIENTATION WEEK</b></p> <p>Preparing for your first semester</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Login to Banweb and review your transcript</b> <ul style="list-style-type: none"> <li>• Are AP credit and transfer credits correct? - <a href="http://www.banweb.mtu.edu">www.banweb.mtu.edu</a></li> </ul> </li> <li><input type="checkbox"/> <b>Meet academic advisor</b></li> <li><input type="checkbox"/> <b>Complete class registration and print class schedule</b></li> <li><input type="checkbox"/> <b>Explore Campus Resources and visit these websites</b> <ul style="list-style-type: none"> <li>• Your department and advisor</li> <li>• Undergraduate Catalog - <a href="http://www.mtu.edu/catalog">www.mtu.edu/catalog</a></li> <li>• Dean of Students - <a href="http://www.mtu.edu/deanofstudents">www.mtu.edu/deanofstudents</a></li> <li>• Registrar - <a href="http://www.mtu.edu/registrar">www.mtu.edu/registrar</a></li> <li>• Advising - <a href="http://www.mtu.edu/registrar/students/advising">www.mtu.edu/registrar/students/advising</a></li> <li>• Library - <a href="http://www.mtu.edu/library">www.mtu.edu/library</a> - take a library tour</li> <li>• Wellness and Counseling - <a href="http://www.mtu.edu/well-being">www.mtu.edu/well-being</a></li> </ul> </li> </ul>
<p><b>YEAR 1</b></p> <p>Transitioning and adjusting to college life</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Attend first year advising meeting with your major advisor</b> <ul style="list-style-type: none"> <li>• Unsure about your major? Meet with:           <ul style="list-style-type: none"> <li>• General sciences/arts undeclared advisor: <a href="http://www.mtu.edu/sciences-arts/undergraduate/gsa">www.mtu.edu/sciences-arts/undergraduate/gsa</a> OR</li> <li>• General/undecided engineering advisor: <a href="http://www.mtu.edu/ef/degree/advising">www.mtu.edu/ef/degree/advising</a></li> </ul> </li> </ul> </li> <li><input type="checkbox"/> <b>Review major requirements</b> <ul style="list-style-type: none"> <li>• Run interactive audit each semester after registration - <a href="http://www.banweb.mtu.edu">www.banweb.mtu.edu</a></li> </ul> </li> <li><input type="checkbox"/> <b>Review Academic Policies and Academic Integrity</b> - <a href="http://www.mtu.edu/deanofstudents">www.mtu.edu/deanofstudents</a></li> <li><input type="checkbox"/> <b>Review University Student Learning Goals and your major's goals</b> - <a href="http://www.mtu.edu/learning-goals">www.mtu.edu/learning-goals</a></li> <li><input type="checkbox"/> <b>Visit Career Services</b> - <a href="http://www.mtu.edu/career">www.mtu.edu/career</a></li> <li><input type="checkbox"/> <b>Create a resume and attend career fairs</b> - <a href="http://mtu.joinhandshake.com/login">mtu.joinhandshake.com/login</a></li> <li><input type="checkbox"/> <b>Begin to explore Pavlis Honors College, internship, co-op, research, study abroad, minors</b></li> <li><input type="checkbox"/> <b>Learn about campus activities and student organizations</b> - <a href="http://www.involvement.mtu.edu/organizations">www.involvement.mtu.edu/organizations</a></li> </ul>
<p><b>YEAR 2</b></p> <p>Academic and career exploration, and personal development</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Meet with advisor, bring your academic plan</b> <ul style="list-style-type: none"> <li>• Run interactive audit each semester after registration - <a href="http://www.banweb.mtu.edu">www.banweb.mtu.edu</a></li> </ul> </li> <li><input type="checkbox"/> <b>Explore interests, strengths, and careers</b> <ul style="list-style-type: none"> <li>• Within your department and network with faculty in your major</li> <li>• Career Services - <a href="http://www.mtu.edu/career">www.mtu.edu/career</a></li> </ul> </li> <li><input type="checkbox"/> <b>Update your resume and attend career fairs</b></li> <li><input type="checkbox"/> <b>Explore/participate Pavlis Honors College, internship, co-op, research, study abroad, minors</b></li> <li><input type="checkbox"/> <b>Consider joining an Enterprise</b> - <a href="http://www.mtu.edu/enterprise">www.mtu.edu/enterprise</a></li> </ul>
<p><b>YEAR 3</b></p> <p>Academic enhancement and career goal setting</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Run interactive audit each semester after registration</b> - <a href="http://www.banweb.mtu.edu">www.banweb.mtu.edu</a></li> <li><input type="checkbox"/> <b>Meet with advisor to prepare for graduation</b></li> <li><input type="checkbox"/> <b>Network with faculty in your major</b></li> <li><input type="checkbox"/> <b>Attend Career Services and Graduate School workshops for career planning</b> <ul style="list-style-type: none"> <li>• Consider Accelerated Masters - <a href="http://www.mtu.edu/accelerated">www.mtu.edu/accelerated</a></li> <li>• Consider Senior Rule Classes - <a href="http://www.mtu.edu/registrar/students/registration/policies/senior-rule">www.mtu.edu/registrar/students/registration/policies/senior-rule</a></li> </ul> </li> <li><input type="checkbox"/> <b>Develop career goals</b></li> <li><input type="checkbox"/> <b>Explore/participate Pavlis Honors College, internship, co-op, research, study abroad, minors</b></li> <li><input type="checkbox"/> <b>Update resume and attend career fairs</b></li> </ul>
<p><b>FINAL YEAR</b></p> <p>Transitioning out of college into career or graduate school</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Apply for graduation by 10<sup>th</sup> week of the semester prior to graduation</b> <ul style="list-style-type: none"> <li>• Must have earned 90 credits or more</li> <li>• <a href="http://www.mtu.edu/registrar/students/graduation/degree">www.mtu.edu/registrar/students/graduation/degree</a></li> </ul> </li> <li><input type="checkbox"/> <b>Meet with advisor for final degree audit one semester before graduation</b> <ul style="list-style-type: none"> <li>• Run interactive audit each semester after registration - <a href="http://www.banweb.mtu.edu">www.banweb.mtu.edu</a></li> </ul> </li> <li><input type="checkbox"/> <b>Network with faculty in your major</b></li> <li><input type="checkbox"/> <b>Finalize career/graduate school plans</b> <ul style="list-style-type: none"> <li>• Complete the First Destination survey - <a href="https://mtu.joinhandshake.com/login">https://mtu.joinhandshake.com/login</a></li> <li>• Complete Loan Exit Counseling for Financial Aid, if needed - (906) 487-2662</li> </ul> </li> <li><input type="checkbox"/> <b>Graduation</b> <ul style="list-style-type: none"> <li>• Check for your name on the Graduation Candidate List - <a href="http://www.mtu.edu/commencement">www.mtu.edu/commencement</a></li> <li>• Order cap and gown, honor cords - optional - <a href="http://www.mtu.edu/commencement">www.mtu.edu/commencement</a></li> <li>• Participate in commencement ceremony - optional</li> </ul> </li> </ul>

Tough question or scenario? Ask your academic advisor!

## Brock Petrak, EEN '22

### **ENGINEER AND PROJECT MANAGER EDGEWATER GROUP**

Life on the waterfront is what Brock enjoys most about his role at Edgewater Group, a waterfront-specialty engineering firm. Focused on property development from concept planning through construction administration and completion, he enjoys meeting with clients to present engineering reports and drawings and coordinating with teams of engineers, architects, and designers. With project destinations from Mexico to the Bahamas and the eastern seaboard, Brock enjoys conducting bathymetric and photogrammetric surveys to assist in the property development process. Almost every project the firm takes on is on waterfront, meaning he gets to spend his time on a boat or at a beach for most of the projects.

Brock has been able to take on other roles in the process from grant writing to financial procurement, economic projections to marketing.

**FUN FACT:** His team developed new dry stack marinas that allow for upland boat storage without the needs for diesel-fueled forklifts. They have integrated cranes, automation, and solar power elements at a high-rise dry stack building that stores boats like a vending machine in the middle of downtown Fort Lauderdale!





# Tips for Academic Success



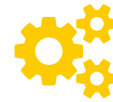
## **GO TO CLASS... AND BE PRESENT**

The decisions you make today directly impact your future...so go to class, turn off your phone, and get ready to learn!



## **READ AND COMPLY WITH THE SYLLABUS**

Each class comes with a "roadmap to success" (aka syllabus). Read it, follow it, and save it for future reference.



## **JOIN A CLUB AND GET INVOLVED**

Joining a group is a great way to make friends—and if it is engineering related—you'll get a jump-start on building your resume and network.



## **NEED HELP? JUST ASK!**

Visit your professors during office hours and check out the learning centers and CEGE Bernson Student Success Center. Online resources such as Coursera and Kahn Academy are great too! Check out these academic support resources: [mtu.edu/success/academic/support](https://mtu.edu/success/academic/support)



## **BALANCE SCHOOL AND LIFE ACTIVITIES**

Your new friends invited you to go exploring, but you have a pile work to do... Learn to make the most of your time between classes and get homework done or study for exams. This will help free up time at the end of each day, so you can relax or hang with friends.



## **REMEMBER, YOU MAY NOT GET ALL A'S**

You didn't choose Michigan Tech because you thought it would be a walk in the park. If you have a rough semester, don't let it get you down! Our courses are designed to be challenging, so you are prepared to hit the ground running the moment the diploma hits your hand.

## **Stressed or anxious? Not sure how to cope?**

If you feel the stress is too much, or you are concerned about a friend or classmate, don't hesitate to reach out to Counseling Services or explore My Student Support Program (My SSP):

906-487-2538 • [counseling@mtu.edu](mailto:counseling@mtu.edu) • [mtu.edu/well-being](https://mtu.edu/well-being)

# What can you do *now* to be successful in the *future*? Make the grade.

Freshmen Chemistry:  
CH 1150 & CH 1160

Math: MA 1160, MA 2160,  
MA 3160, MA 2321 & MA 3521

Physics:  
PH 2100 & PH 2200

Engineering:  
ENG 1101 & ENG 1102

*Earn a C, B,  
or even better,  
an A...*



*and hello—  
less stress and better  
career opportunities.*  
**Boom.**

*if*

If you receive an F in any required course, you have to retake it before moving on to the next class in the sequence. We strongly encourage you to retake any required courses if you receive a CD or D. Civils are required to receive a C or better in MA2160 (Calc II) before moving on.

## WHAT ARE THE RULES FOR REPEATING CLASSES?

1. You must retake any required class in which you receive an F; however, you can choose to repeat any course.
2. The most recent grade always replaces the previous grade. Retaking a class and receiving a better grade will improve both your semester and overall GPAs. However, you can retake a class and get a lower grade. For example if you have a D (a passing grade) and retake a course and receive an F (a failing grade), you now have a failing grade in the course and will have to retake the class a third time.
3. You may only take a class three times. You must receive permission from the Dean of Student's Office and your academic advisor to register for a class the third time. If the class that you are retaking is a required class for your program, and you do not pass the class during the third attempt then you may no longer continue in the program.

Review the Registrar's Office policy on retaking classes:

[mtu.edu/registrar/students/registration/policies/repeat-course](https://mtu.edu/registrar/students/registration/policies/repeat-course)





## Kyle Hiltunen

### **LAND SURVEYOR UP ENGINEERS AND ARCHITECTS**

For Kyle, surveying is about the history that is encountered in everyday work and in the surveying profession as a whole, where he experiences something new daily. In his current role, he performs land surveys on everything from small lots to large tract boundaries, while also collecting spatial data for engineering applications.

**FUN FACT:** He worked in Alaska on a summer internship, where he assisted in original government subdivision surveys.



# Calling all creative, curious, analytical, and detail-oriented individuals: tackle growing infrastructure challenges as a **civil engineer.**

At Michigan Tech you will have unparalleled undergraduate opportunities:

- **State-of-the-art facilities:** Study asphalt and ultra-high-performance concrete and experiment in the pilot-scale environmental simulation lab
- **Hands-on learning:** From Senior Capstone and internships to having one of the highest co-op rates on campus, our students are in high demand
- **Go global:** Check out Engineers Without Borders and International Senior Design programs, or participate in the Study Abroad Program
- **Be rail-ly innovative:** The innovative Rail Transportation Program is one of the first in the nation. Its mission? To advance rail education and research across disciplines

## Course Descriptions

Civil Engineering course descriptions can be found here:  
[MTU.EDU/CATALOG/COURSES](http://MTU.EDU/CATALOG/COURSES)

## Academic Advising



**Julie Ross**  
**ACADEMIC ADVISOR**

(906) 487-3410  
[jzross@mtu.edu](mailto:jzross@mtu.edu)  
Dillman 103





## Erik Pyslala, CE '22, MBA '23

### **STAFF GEOTECHNICAL ENGINEER, CROUCH ENGINEERING**

In his role as a staff geotechnical engineer, Erik has been involved in field investigations, design, drafting, and coordinating drilling plans, as well as writing geotechnical reports. He is responsible for designing retaining walls for a railroad consulting agency. Currently based in Nashville, TN, he will review the site ahead of the project, design the retaining wall system, and then oversee the construction.

**FUN FACT:** Since graduation, his job has taken him to various locations across the United States, typically for one month at a time.





## TECHNICAL ELECTIVES (12 CREDITS)

- Any 2000 or higher level course in Construction Management (CMG)
- Any 2000 or higher level course in Geospatial Engineering (SU)
- Any 3000 or higher level course in Civil and Environmental Engineering (CEE)
- GE3850 (Geohydrology)
- GE4800 (Groundwater Engineering)

## PROFESSIONAL ELECTIVES (6 CREDITS)

- Any 1000 or higher level course in Computer Science, Fine Arts or Forestry. (CS, ART, FW, MUS, SND, THEA)
- Any 2000 or higher level course in Biological Sciences, Chemistry, Construction Management, Geology, Physics or Geospatial Engineering. (BL, CH, CMG, GE, PH, SU)
- Any 2000 or higher level course in Business or Economics (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM).
- Any 3000 or higher level course in Mathematics, Humanities, Psychology, Social Sciences or University Wide (MA, HU, PSY, SS, UN).
- Any 3000 or higher level course in Civil and Environmental Engineering (CEE) or any other Engineering Dept.

NOTE: OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL, ENVIRONMENTAL, AND GEOSPATIAL ENGINEERING ACADEMIC ADVISOR.

## ENGINEERING SCIENCE ELECTIVE

BE2700	BIOMEDICAL SIGNALS & SYSTEMS
CM2110	MATERIAL AND ENERGY BALANCES
CM2200	INTRO TO MINERALS & MATERIALS
EE3010	CIRCUITS AND INSTRUMENTATION
MSE2100	INTRO TO MATERIALS SCI & ENGRG
MHEM2201	INTRODUCTORY THERMODYNAMICS
MHEM2700	DYNAMICS

## SENIOR DESIGN PREREQS

(complete 7 of the following)

CEE3101, CEE3331, CEE3332, CEE3202,  
CEE3401, CEE3503, CEE3620, CEE3810,  
CEE DESIGN COURSE

## GENERAL EDUCATION REQUIREMENTS

### A. CORE COURSES (12 CREDITS)

1. UN1015 (COMPOSITION)
2. UN1025 (GLOBAL ISSUES) or 3000+ level Modern Language Course

### 3. CRITICAL AND CREATIVE THINKING

ART1000, ART2195, HU2130, HU2324, HU2501, HU2503, HU2538, HU2700, HU2701, HU2820, HU2910, MUS1000, MUS1140, SND1000, SS1500, SS2300, THEA1000

### 4. SOCIAL RESP. & ETHICAL REASONING

EC2001, PSY2000, SS2100, SS2200, SS2400, SS2500, SS2501, SS2502, SS2503, SS2504, SS2505, SS2600, SS2610, SS2700

### B. HASS COURSES (12 CREDITS)

(General Ed Website, below)

1. COMM/COMP: \_\_\_\_\_
2. HUMANITIES & FINE ARTS: \_\_\_\_\_
3. SOCIAL & BEHAVIORAL SCIENCES: \_\_\_\_\_
4. ANY HASS OR HASS RESTRICTED COURSE: \_\_\_\_\_

- 6 credits must be upper division 3000-4000 level courses
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

### C. CO-CURRICULAR ACTIVITIES (3 UNITS)

(General Ed Website, left)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

## UNDERGRADUATE CATALOG (COURSE DESCRIPTIONS):

[www.mtu.edu/catalog/courses/](http://www.mtu.edu/catalog/courses/)

## GENERAL EDUCATION (CO-CURRICULAR & HASS LIST):

[www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/](http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/)

# Civil Engineering Interests

## COURSE SUGGESTIONS

INTERESTS	CEE CORE ELECTIVE	CEE DESIGN ELECTIVE	TECHNICAL ELECTIVE					PROFESSIONAL ELECTIVE	
GENERAL	CEE3202 Structural Analysis	Pick any CEE Design Course	CEE3503 Environmental Engineering	CEE3401 Transportation Engineering	CEE4020 OR CEE4030	Choose a Technical Elective	Open Professional Elective	Open Professional Elective	Open Professional Elective
CONSTRUCTION WITH CMG MINOR	CEE3202 Structural Analysis	CEE4213, CEE4223, CEE4620, or CEE4665	CEE4333 Estimating	CEE4344 Construction Scheduling	CEE4020 OR CEE4030	CMG4200 Construction Contracts	CMG4210 Construction Project Management	CMG4300 Const. Finance OR CMG4400 Const. Safety	Open Professional Elective
TRANSPORTATION	CEE3401 Transportation Engineering	CEE4401 OR CEE4407	CEE4020 Digital Project Delivery	Choose a Transportation Engineering Elective	Choose a Transportation Engineering Elective	Choose a Transportation Engineering Elective	Open Professional Elective	Open Professional Elective	Open Professional Elective
STRUCTURES	CEE3202 Structural Analysis	CEE4213 Concrete Design	CEE4201 Matrix Struct. Analysis	CEE4223 Steel Design	CEE4030 Building Info. Modeling	Choose a Structural Engineering Elective	Open Professional Elective	Open Professional Elective	Open Professional Elective
WATER RESOURCES	CEE3503 Environmental Engineering	CEE4620 OR CEE4665	CEE4020 Digital Project Delivery	Choose a Water Resources Elective	Choose a Water Resources Elective	Choose a Water Resources Elective	Open Professional Elective	Open Professional Elective	Open Professional Elective



## CEE DESIGN ELECTIVES

### STRUCTURAL DESIGN

CEE4213 - Structural Concrete Design (Sp) 4 cr.  
CEE4223 - Steel Design I (Fall) 4 cr.

### TRANSPORTATION DESIGN

CEE4401 - Pavement Design (Fall) 3 cr.  
CEE4407 - Transportation Design (Sp) 3 cr.

### WATER RESOURCES DESIGN

CEE4620 - River & Floodplain Hydraulics (Fall) 3 cr.  
CEE4665 - Stream Restoration (Sp) 3 cr.

### GEOTECH DESIGN

CEE4820 - Foundation Engineering

## PROFESSIONAL ELECTIVES

**ANY 1000 OR HIGHER LEVEL COURSE** in Computer Science, Fine Arts or Forestry. (CS, ART, FW, MUS, SND, THEA)

**ANY 2000 OR HIGHER LEVEL COURSE** in Biological Sciences, Chemistry, Construction Management, Geology, Physics or Geospatial Engineering. (BL, CH, CMG, GE, PH, SU)

**ANY 2000 OR HIGHER LEVEL COURSE** in Business or Economics (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM).

**ANY 3000 OR HIGHER LEVEL COURSE** in Mathematics, Humanities, Psychology, Social Sciences or University Wide (MA, HU, PSY, SS, UN).

**ANY 3000 OR HIGHER LEVEL COURSE** in Civil and Environmental Engineering (CEE) or any other Engineering Dept.

## TECHNICAL ELECTIVES

### DEPARTMENT-WIDE

CEE4020 - Digital Project Delivery (Fall) 3 cr.  
CEE4030 - Building Information Modeling (Fall) 3 cr.  
CEE4760 - Optimization Methods (Sp) 3 cr.  
CEE4993 - Engr with Developing Communities (Fall) 3 cr.

### MATERIALS

CEE4101 - Bituminous Materials (Fall) 3 cr.

### STRUCTURES

CEE4201 - Matrix Structural Analysis (Fall) 3 cr.  
CEE4213 - Structural Concrete Design (Sp) 4 cr.  
CEE4223 - Steel Design I (Fall) 4 cr.  
CEE4233 - Structural Timber Design (Sp) 3 cr.  
CEE4244 - Loads for Civil Structures (Sp) 3 cr.  
CEE5212 - Prestressed Concrete Design (Fall) 3 cr.  
CEE5213 - Concrete/Masonry Building Sys. (Fall) 3 cr.

### TRANSPORTATION

CEE4401 - Pavement Design (Fall) 3 cr.  
CEE4402 - Traffic Engineering (Fall) 3 cr.  
CEE4404 - Railroad Engineering (Fall) 3 cr.  
CEE4406 - Airport Planning (Sp) 3 cr.  
CEE4407 - Transportation Design (Sp) 3 cr.  
CEE4410 - Transportation Planning (Fall) 3 cr.  
CEE5402 - Traffic Flow Theory (Sp) 3 cr.

### CONSTRUCTION

CEE4333 - Estimating, Planning, Construction (Fall) 3 cr.  
CEE4344 - Construction Scheduling (Sp) 3 cr.

### ENVIRONMENTAL

CEE4502 - Waste Treatment (Fall) 3 cr.  
CEE4503 - Water Treatments (Sp) 3 cr.  
CEE4504 - Air Quality (Fall) 3 cr.  
CEE4505 - Surface Water Quality (Fall) 3 cr.  
CEE4506 - Sustainable Engineering (Sp) 3 cr.  
CEE4507 - Water Distribution & Collection (Sp) 3 cr.  
CEE4511 - Solid & Haz. Waste Eng. (Sp) 3 cr. (Odd years, i.e)  
CEE4521 - Bioremediation Eng. (Sp) 3 cr. (Even years, i.e. 23-24)

### WATER RESOURCES

CEE4610 - Water Resource Stream Modeling (Sp) 3 cr.  
CEE4620 - River & Floodplain Hydraulics (Fall) 3 cr.  
CEE4640 - Stormwater Mgt & LID (Su) 3 cr.  
CEE4650 - Hydraulic Structures (Variable) 3 cr.  
CEE4665 - Stream Restoration (Sp) 3 cr.  
CEE5620 - Stochastic Hydrology (Sp) 3 cr.  
CEE5666 - Water Res. Planning & Mgt (Variable) 3 cr.  
GE3850 - Geohydrology (Sp) 3 cr.  
GE4800 - Groundwater Engineering (Sp) 3 cr.

### GEOTECH

CEE4820 - Foundation Engineering (Fall) 3 cr.  
CEE4830 - Geosynthetics (Sp) 3 cr.  
CEE4850 - Rock Engineering (Sp) 3 cr.

Safe drinking water.  
Air quality.  
Waste management.  
Turn your passion into a career  
as an **environmental engineer.**

What can you do as an EEN at Michigan Tech? **Here's the short answer:**

- Participate in Engineers without Borders and International Senior Design, which provide education, research, and service opportunities
- Design water systems in rural Panama
- Use state-of-the-art equipment for labs, assignments, research, and projects such as our pilot-scale environmental simulation lab
- Get involved with the Green Campus Enterprise and design and implement projects to improve the sustainability of the Tech campus

## Course Descriptions

Environmental Engineering course descriptions can be found here:  
[MTU.EDU/CATALOG/COURSES](https://mtu.edu/catalog/courses)

## Academic Advising



**Julie Ross**  
**ACADEMIC ADVISOR**

(906) 487-3410  
[jzross@mtu.edu](mailto:jzross@mtu.edu)  
Dillman 103



## Autumn Sanford, EEN '22

### **EFFLUENT APPLICATIONS ENGINEER VOITH MERI ENVIRONMENTAL SOLUTIONS, INC.**

As an effluent applications engineer, Autumn works across a solution driven sales and technology services team to collaborate with other engineer teams and managers to complete projects related to industrial effluent treatment plants (ETP). Her sales role has her creating ETP design layouts, process flow diagrams, environmental benefits lists, project proposals, and machine sizing and pricing with suppliers.

**FUN FACT:** She took an international trip to Munich, Germany, where she partnered with German and Chinese colleagues to exchange ETP knowledge and best practices.



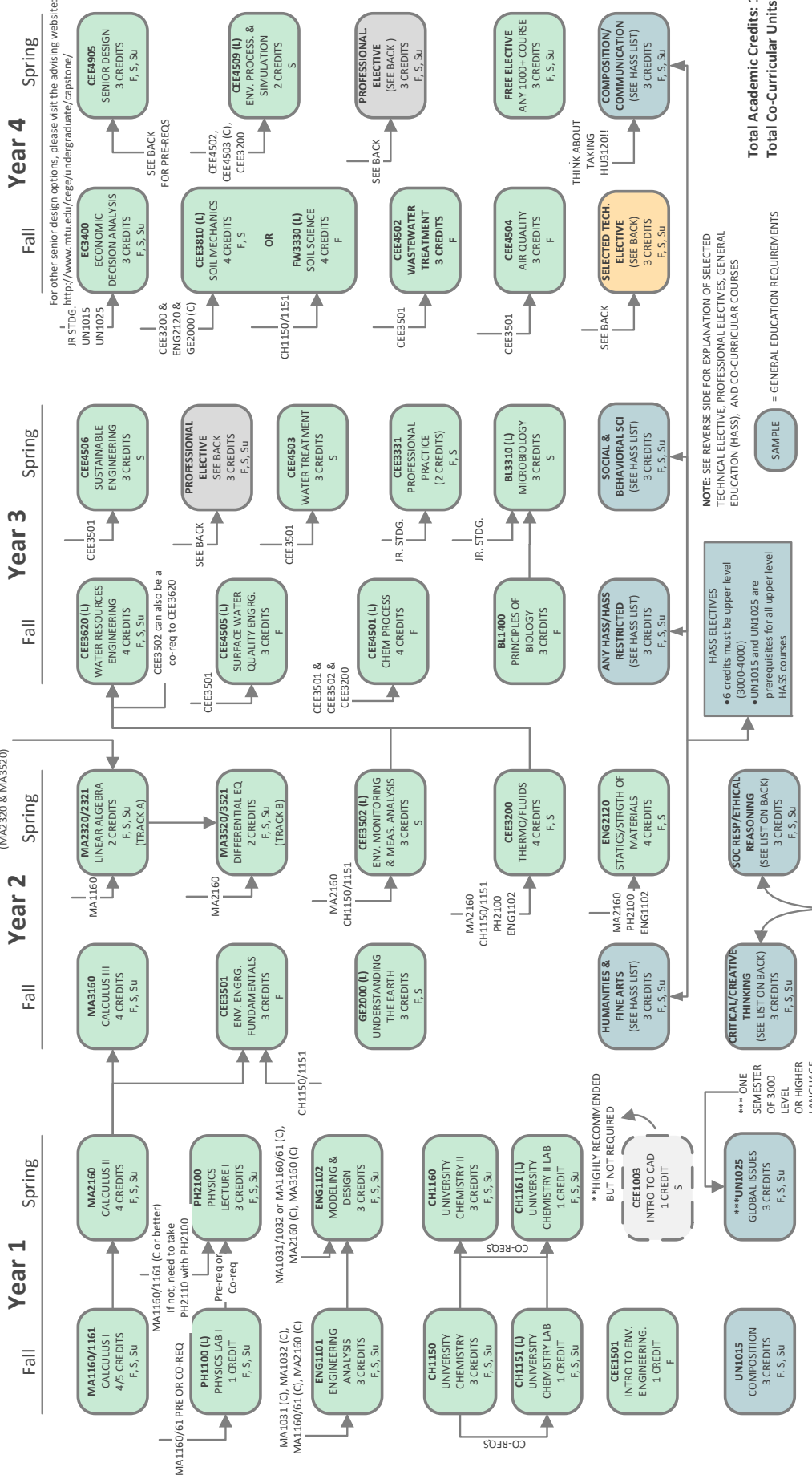


# ENVIRONMENTAL ENGINEERING FLOWCHART

## Academic Year 2024-25

This is not an official list of degree requirements. Adjustments may be required due to curriculum changes.

Updated: 5.31.2024



**KEY:**  
**F:** INDICATES COURSE IS OFFERED FALL SEMESTER  
**S:** INDICATES COURSE IS OFFERED SPRING SEMESTER  
**Su:** INDICATES COURSE IS OFFERED SUMMER SEMESTER

**(L):** INDICATES A COURSE WHICH INCLUDES A LAB MUST BE SCHEDULED IN ADDITION TO THE LECTURE  
**(C):** INDICATES THE COURSE CAN EITHER BE TAKEN AT THE SAME TIME (CO-REQ) OR TAKEN PRIOR TO THE COURSE (PRE-REQ)

**MA1160/61 PRE OR CO-REQ:** If not, need to take PH2110 with PH2100  
**PH2100:** Pre-req or Co-req  
**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

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**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

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**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

**MA1031 (C), MA1032 (C), MA1160/61 (C), MA2160 (C):** CH1150/1151

**NOTE:** SEE REVERSE SIDE FOR EXPLANATION OF SELECTED TECHNICAL ELECTIVE, PROFESSIONAL ELECTIVES, GENERAL EDUCATION (HASS), AND CO-CURRICULAR COURSES

**HASS ELECTIVES**  
 • 6 credits must be upper level (3000-4000)  
 • UN1015 and UN1025 are prerequisites for all upper level HASS courses

**SOC RESP/ETHICAL REASONING**  
 (SEE LIST ON BACK)  
 3 CREDITS F, S, Su

**CRITICAL/CREATIVE THINKING**  
 (SEE LIST ON BACK)  
 3 CREDITS F, S, Su

**\*\*\*UN1025 GLOBAL ISSUES**  
 3 CREDITS F, S, Su

**\*\*\*ONE SEMESTER OF 3000 LEVEL OR HIGHER LANGUAGE CAN REPLACE UN1025**

**CO-CUR 0.5 UNIT F, S, Su**

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**CO-CUR 0.5 UNIT F, S, Su**

**Total Academic Credits: 131**  
**Total Co-Curricular Units: 3**

For other senior design options, please visit the advising website: <http://www.mtu.edu/cege/undergraduate/capstone/>

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### PROFESSIONAL ELECTIVES (6 cr)

- ANY 1000 OR HIGHER LEVEL COURSE IN BIOLOGY, CHEMISTRY, COMPUTER SCIENCE, CONSTRUCTION MANAGEMENT, GEOLOGY, FORESTRY, OR PHYSICS (BL, CH, CS, CMG, GE, FW, PH)
- ANY 2000 OR HIGHER LEVEL COURSE IN BUSINESS OR ECONOMICS. (ACC, BUS, EC, FIN, MGT, MIS, MKT, OSM)
- ANY 2000 OR HIGHER LEVEL COURSE IN GEOSPATIAL ENGINEERING (SU)
- ANY 3000 OR HIGHER LEVEL COURSE IN CIVIL AND ENVIRONMENTAL ENGINEERING OR IN ANY OTHER ENGINEERING DEPARTMENT
- ANY 3000 OR HIGHER LEVEL COURSE IN HUMANITIES, SOCIAL SCIENCES, OR UNIVERSITY WIDE. (HU, SS, UN)
- ANY 4000 OR HIGHER LEVEL COURSE IN MATHEMATICS (MA)

### INTERESTS?

- **REMEDICATION** – think about taking GE 3850 (Geohydrology) and CEE 4511 (Solid & Hazardous Waste Engineering)
- **NATURAL SYSTEMS** – think about taking CEE 4518 (Aquatic Biogeochemistry), CEE 4665 (Stream Restoration), and FW 4220 (Wetlands)
- **MUNICIPAL ENGINEERING** – think about taking CEE 4507 (Water Distribution and Wastewater Collection), CEE 4511 (Solid & Hazardous Waste Engineering), and SU 2000 (Surveying and GIS Fundamentals)\* (only 2 credits)
- **ATMOSPHERIC PROCESSES & AIR POLLUTION** – think about taking MEEEM 4240 (Combustion & Air Pollution) and CH 4515 (Atmospheric Chemistry)
- **WATER RESOURCES** – think about taking CEE 4620 (River and Floodplain Hydraulics), CEE 4640 (Stormwater Management and Low Impact Development), and CEE 4665 (Stream Restoration)

### NOTES:

AN OVERALL GPA OF 3.00 IS REQUIRED TO TAKE GRADUATE LEVEL COURSES (5000 LEVEL). A MAXIMUM OF TWO (2) GRADUATE LEVEL COURSES MAY BE USED TOWARD YOUR BS ENVE DEGREE.

OTHER COURSES MAY BE USED TO SATISFY THE PROFESSIONAL ELECTIVES REQUIREMENT IF APPROVED BY THE DEPARTMENT OF CIVIL, ENVIRONMENTAL, AND GEOSPATIAL ENGINEERING ACADEMIC ADVISOR.

### SELECTED TECHNICAL ELECTIVES (3 cr)

GE3850 Geohydrology (Spring)  
CEE4507 Water Distribution and Wastewater Collection (Spring)  
CEE4511 Solid and Hazardous Waste Engineering (Spring)  
CEE4518 Aquatic Biogeochemistry (Fall – Alt Years beg 2014-2015)  
CEE4521 Bioremediation Engineering (Spring)  
CEE4528 Global Biogeochemistry (Fall – Alt Years beg 2015-2016)  
CEE4620 River & Floodplain Hydraulics (Fall)  
CEE4640 Stormwater Management and LID (Summer)  
CEE4665 Stream Restoration (Spring)  
CEE4993 Engineering with Developing Communities (Fall)  
CH4515 Atmospheric Chemistry (Spring)  
MEEEM4240 Combustion & Air Pollution (Fall/Spring)

### SENIOR DESIGN PREREQUISITES

Complete 7 of the following courses: CEE3620, CEE3810/FW3330, CEE4501, CEE4502, CEE4503, CEE4504, CEE4505, CEE4506, CEE4509

### UNDERGRADUATE CATALOG (COURSE DESCRIPTIONS):

[www.mtu.edu/catalog/courses/](http://www.mtu.edu/catalog/courses/)

### GENERAL EDUCATION (CO-CURRICULAR & HASS LIST):

[www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/](http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/)

### GENERAL EDUCATION REQUIREMENTS

#### A. CORE COURSES (12 CREDITS)

1. UN1015 (COMPOSITION)
2. UN1025 (GLOBAL ISSUES) or 3000+ level Modern Language Course
3. CRITICAL AND CREATIVE THINKING  
ART1000, ART2195, HU2130, HU2324, HU2501, HU2503, HU2538, HU2700, HU2701, HU2820, HU2910, MUS1000, MUS1140, SND1000, SS1500, SS2300, THEA1000
4. SOCIAL RESP. & ETHICAL REASONING  
EC2001, PSY2000, SS2100, SS2200, SS2400, SS2500, SS2501, SS2502, SS2503, SS2504, SS2505, SS2600, SS2610, SS2700

#### B. HASS COURSES (12 CREDITS)

(General Ed Website, left)

1. COMM/COMP: \_\_\_\_\_
2. HUMANITIES & FINE ARTS: \_\_\_\_\_
3. SOCIAL & BEHAVIORAL SCIENCES: \_\_\_\_\_
4. ANY HASS OR HASS RESTRICTED COURSE: \_\_\_\_\_

- 6 credits must be upper division 3000-4000 level courses
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

#### C. CO-CURRICULAR ACTIVITIES (3 UNITS)

(General Ed Website, left)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

If you like math, computing,  
and the outdoors, you may  
have what it takes to be a  
**geospatial engineer.**

The Geospatial Engineering degree prepares students to:

- **Become state-licensed Professional Surveyors.** Applications include accurate location of real property boundaries, data capture of the natural/man-made objects on the earth's surface, and digital mapping for use in design or planning.
- **Manage large volumes of digital geoinformation** that can be stored, manipulated, visualized, analyzed, and shared. Courses focus on applications of managing geoinformation using Geographic Information Science (GIS) tools, remote sensing, big data acquisition, and cloud computing.

## Course Descriptions

Geospatial Engineering course descriptions can be found here:  
[MTU.EDU/CATALOG/COURSES](https://www.mtu.edu/catalog/courses)

## Academic Advising



**Julie Ross**  
**ACADEMIC ADVISOR**

(906) 487-3410  
[jzross@mtu.edu](mailto:jzross@mtu.edu)  
Dillman 103





## Matthew Kunkel SU '18

**SURVEY TECHNICIAN: WOLVERINE ENGINEERS & SURVEYORS**  
**ADJUNCT FACULTY: LANSING COMMUNITY COLLEGE**

Matthew stays up-to-date with all the latest surveying technology, processing and extracting topographic features from LiDAR operations, as well as conducting research and utilizing CAD for route, boundary, and ALTA surveys.

**FUN FACT:** He put his hands-on classroom experience to the test through a co-op with the Michigan Department of Transportation, where he was able to conduct surveys in Eagle Harbor.





### ENGINEERING ELECTIVES (3 credits)

CEE3101	Civil Engineering Materials (F, S)	3 cr
CEE3200	Thermo/Fluids (F, S, Su)	4 cr
CEE3332	Fundamentals of Construction (F, S) (3 cr)	3 cr
CEE3401	Transportation Engineering (F, S)(3 cr)	3 cr
CEE3810	Soil Mechanics (F, S)	4 cr
ENTXXXX	Enterprise (Except 3960/4950) (F, S)	var
UN3002	Co-op (F, S, Su)	var

### SCIENCE ELECTIVES (3 credits)

BL2001	Valuing the Great Lakes (F, Su)	3 cr
BL2160	Botany (S)	4 cr
CH1153	Chemistry Recitation I (F, S, Su)	1 cr
FW2010	Vegetation of North America (F)	4 cr
PH1200/2200	Physics II (F, S, Su)	3 cr + 1 cr
PH1600/1610	Introductory Astronomy & Lab (F, S, Su)	2 cr + 1 cr
GE3850	Geohydrology (S)	3 cr

### SURVEYING ELECTIVES (3 credits)

SU4010	Geospatial Concepts, Technologies, and Data	3 cr
SU4011	Cadastre and Land Information Systems	3 cr
SU4012	Geospatial Data Mining and Crowdsourcing	3 cr
SU4013	Hydrographic Mapping & Surveying	3 cr
SU4300	Geospatial Monitoring	3 cr
SU4996	Special Topics in Geospatial Technologies	var
SU4997	Independent Study in Geospatial Technologies	var
SU4998	Undergrad Research in Geospatial Technologies	var

### UNDERGRADUATE CATALOG (COURSE DESCRIPTIONS):

[www.mtu.edu/catalog/courses/](http://www.mtu.edu/catalog/courses/)

### GENERAL EDUCATION (CO-CURRICULAR & HASS LIST):

[www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/](http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/)

### GENERAL EDUCATION REQUIREMENTS

#### A. CORE COURSES (12 CREDITS)

1. UN1015 (COMPOSITION)
2. UN1025 (GLOBAL ISSUES) or 3000+ level Modern Language Course
3. CRITICAL AND CREATIVE THINKING

ART1000, ART2195, HU2130, HU2324, HU2501, HU2503, HU2538, HU2700, HU2701, HU2820, HU2910, MUS1000, MUS1140, SND1000, SS1500, SS2300, THEA1000

#### 4. SOCIAL RESP. & ETHICAL REASONING

EC2001, PSY2000, SS2100, SS2200, SS2400, SS2500, SS2501, SS2502, SS2503, SS2504, SS2505, SS2600, SS2610, SS2700

#### B. HASS COURSES (12 CREDITS)

(General Ed Website, left)

1. COMM/COMP: \_\_\_\_\_
2. HUMANITIES & FINE ARTS: \_\_\_\_\_
3. SOCIAL & BEHAVIORAL SCIENCES: \_\_\_\_\_
4. ANY HASS OR HASS RESTRICTED COURSE: \_\_\_\_\_

- 6 credits must be upper division 3000-4000 level courses
- No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
- Each course can satisfy only one requirement.

#### C. CO-CURRICULAR ACTIVITIES (3 UNITS)

(General Ed Website, left)

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_
4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_

A degree in **construction management** prepares you to take charge of building projects—from structures and roads to homes and hospitals.

Our accredited program includes a background in accounting, scheduling, and business practices—setting us apart and allowing our students to enjoy **100% job placement**.

- Our faculty have decades of real-world construction and construction administration experience
- Our classes are small—providing individual attention and mentoring
- Our construction management program is accredited by the American Council for Construction Education

## Course Descriptions

Construction Management course descriptions can be found here:  
[MTU.EDU/CATALOG/COURSES](https://www.mtu.edu/catalog/courses)

## Academic Advising



**Jodie Filpus-Paakola**  
**COORDINATOR OF**  
**ACADEMIC SERVICES**

(906) 487-3597  
[jrfilpus@mtu.edu](mailto:jrfilpus@mtu.edu)  
Academic Office Building 108





## Matthew Wray CMG '19

### **SOLUTIONS/SALES ENGINEER PROCORE TECHNOLOGIES**

Matthew demonstrates the value of Procore construction management software to prospective clients and assists with measuring the feasibility of use within their operations. He now resides in Denver and is able to work from home through the industry experiences he gained in his role and in internships.

**FUN FACT:** He traveled the US during the first three years of his career, working on some of the biggest projects in the country, including the largest solar farm east of the Mississippi River and the largest LNG facility in the world in Cameron, Louisiana.





### BUSINESS ELECTIVES (6 credits)

MGT 2000	Team Dynamics and Decision Making (F, S)	3 cr
MGT 3000	Organizational Behavior (F, S)	3 cr.
MGT 3800	Innovation & Entrepreneurship (F, S)	3 cr.
OSM 3000	Operations & Supply Chain Management (F, S, Su)	3 cr.
OSM 3150	Intro to Supply Chain Management (F)	3 cr.
OSM 3600	Procurement and Supply Management (F)	3 cr.

### TECHNICAL ELECTIVES (3 credits)

BUS 2300	Quantitative Problem Solving (F, S)	3 cr.
CEE 3331	Professional Practice (F, S)	2 cr.
CEE 3401	Transportation Engineering (F, S)	3 cr.
CEE 3490	Intro to Rail Transportation (F)	1 cr.
CEE 4101	Bituminous Materials (F)	3 cr.
CEE 4233	Structural Timber Design (S)	3 cr.
CEE 4333	Estimating and Planning of Construction Proj. (S)	3 cr
CMG 4000	Design-Build Project Delivery (On Demand)	3 cr.
CMG 4100	Construction Equipment Management (On Demand)	3 cr.
CMG 4996	Spec. Topics in CMG (On Demand)	var.
CMG 4997	Ind. Study in CMG (On Demand)	var.
CMG 4998	UG Research in CMG (On Demand)	var.
ENT 3959	Fundamentals of Six Sigma (F)	1 cr.
ENT 3967	Design of Six Sigma (S)	1 cr.
ENT 3984	Lean Six Sigma Principles (F)	1 cr.
MGT 3000	Organizational Behavior (F, S)	3 cr.
MGT 4600	Management of Technology and Innovation	3 cr.
MKT 3000	Principles of Marketing (F, S, Su)	3 cr.
OSM 3000	Operations & Supply Chain Management (F, S, Su)	3 cr.
OSM 3150	Intro to Supply Chain Management (F)	3 cr.
OSM 3600	Procurement and Supply Management (F)	3 cr.
OSM 4650	Six Sigma Fundamentals (F, S)	3 cr.
SU 2050	Plane Surveying (F)	4 cr.
SU 2220	Route/Engineering Surveying (S)	3 cr.
UN 3002	Undergrad Cooperative Education I (F, S, Su)	var.

### UNDERGRADUATE CATALOG (COURSE DESCRIPTIONS):

[www.mtu.edu/catalog/courses/](http://www.mtu.edu/catalog/courses/)

### GENERAL EDUCATION (CO-CURRICULAR & HASS LIST):

[www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/](http://www.mtu.edu/registrar/faculty-staff/advisors/gen-ed/)

### GENERAL EDUCATION REQUIREMENTS

#### A. CORE COURSES (12 CREDITS)

1. UN1015 (COMPOSITION)
2. UN1025 (GLOBAL ISSUES) or 3000+ level Modern Language Course
3. CRITICAL AND CREATIVE THINKING

ART1000, ART2195, HU2130, HU2324, HU2501, HU2503, HU2538, HU2700, HU2701, HU2820, HU2910, MUS1000, MUS1140, SND1000, SS1500, SS2300, THEA1000

#### 4. SOCIAL RESP. & ETHICAL REASONING

EC2001, PSY2000, SS2100, SS2200, SS2400, SS2500, SS2501, SS2502, SS2503, SS2504, SS2505, SS2600, SS2610, SS2700

#### B. HASS COURSES (12 CREDITS)

(General Ed Website, left)


1. COMM/COMP: \_\_\_\_\_
2. HUMANITIES & FINE ARTS: \_\_\_\_\_
3. SOCIAL & BEHAVIORAL SCIENCES: \_\_\_\_\_
4. ANY HASS OR HASS RESTRICTED COURSE: \_\_\_\_\_
  - 6 credits must be upper division 3000-4000 level courses
  - No more than 3 credits from the HASS Restricted list can be used to satisfy HASS requirements.
  - Each course can satisfy only one requirement.

#### C. CO-CURRICULAR ACTIVITIES (3 UNITS)

(General Ed Website, left)

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_





**The Civil, Environmental, and Geospatial Engineering Department is home to several minors that can broaden your experience and lead you to specialization.**

### **MUNICIPAL ENGINEERING**

Plan for a career with a city or municipality and broaden your skillset. Build a working knowledge of the planning, design, building, and municipality's facilities.

**Courses include:**

- Transportation engineering
- Traffic engineering
- Water and wastewater treatment
- Water distribution and wastewater collection system design
- Hydraulic structures

### **RAIL TRANSPORTATION**

Participate in innovative courses and develop skills to become a specialist and leader in the railroad industry. Pick your path with a focus on civil, mechanical, or electrical, while learning the logistics, management, and communication skills to meet the demands of rail industry careers.

**Courses include:**

- Railroad engineering
- Logistics and transportation management
- Public transit
- Transportation engineering
- Vehicle dynamics
- Control systems

### **SURVEYING**

Enhance your degree with a minor in surveying, where you will learn how to utilize the latest technology in remote sensing and transits to verify and establish boundaries. Build sustainable development practices for the design and layout of infrastructure.

**Courses include:**

- Surveying computations and adjustments
- Geodesy
- Route and construction surveying
- Boundary surveying principles
- Photogrammetry
- Land subdivision design

**Complete list of minors:** [mtu.edu/catalog/degrees/minors](https://mtu.edu/catalog/degrees/minors)

## **HUMANITARIAN ENGINEERING**

Make a difference by helping design and implement practices in disaster relief and in rural development of under-served communities. Learn how these practices provide access to clean water, enhance air quality, and build systems for water and wastewater management.

### **Courses include:**

- Engineering with developing communities
- International field experience
- World resources and development
- Communicating across cultures
- Anthropology of international development

## **CONSTRUCTION MANAGEMENT**

Gain valuable industry-specific skills for the construction industry, including estimating, safety, scheduling, contracts, project management, and project controls. Students are introduced to industry-standard technologies and up-to-date methods that will prepare them for success.

### **Courses include:**

- Construction contracts
- Construction project management
- Construction planning and scheduling
- Construction cost estimating
- Construction finance and accounting
- Construction safety management

## **ECOLOGICAL ENGINEERING**

Broaden expertise in engineering disciplines relating to earth sciences to understand natural system through outdoor lab to create sustainable systems in natural, urban, and agricultural settings.

### **Courses include:**

- Principles of Biology
- Wetlands
- Water resource engineering
- Introduction to sustainability and resilience
- River and floodplain hydraulics
- Engineering with developing communities

## **WATER RESOURCE RECOVERY TECHNOLOGY**

Secure hands-on experience through an internship with a water resource recovery facility to be ready to enter the workforce as a municipal wastewater treatment plant operator.

### **Courses include:**

- Wastewater treatment principles and design
- Water distribution and wastewater collection design
- Stormwater management
- Environment and society
- Introduction to public policy
- Undergraduate co-op

# Accelerated Masters and Graduate Certificates

Our Department offers two Accelerated Master's degrees as well as many Graduate Certificates. These programs enable students to double count approved undergraduate credits toward their advanced degree. Certificates can be stacked to allow students to work toward a Master's degree.

[mtu.edu/cege/graduate/accelerated](http://mtu.edu/cege/graduate/accelerated)



# Faculty



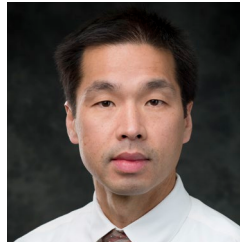
**Andrea Andres, PE**  
Professor of Practice  
Civil, Environmental, and  
Geospatial Engineering  
(906) 487-1580  
[adandres@mtu.edu](mailto:adandres@mtu.edu)  
Dillman 201B



**Dr. Yousef Darestani**  
Assistant Professor  
Structural Engineering  
(906) 487-1579  
[ydaresta@mtu.edu](mailto:ydaresta@mtu.edu)  
Dow 809



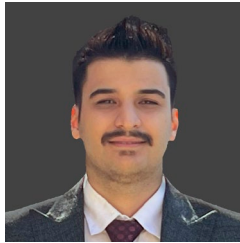
**Dr. Brian Barkdoll, PE,  
D.WRE., F. ASCE**  
Professor  
Water Resources  
(906) 487-1981  
[barkdoll@mtu.edu](mailto:barkdoll@mtu.edu)  
Dow 807



**Dr. Daniel Dowden, PE, SE**  
Assistant Professor  
Structural Engineering  
(906) 487-2737  
[dmdowden@mtu.edu](mailto:dmdowden@mtu.edu)  
Dow 808



**John Bean**  
Associate Teaching Professor  
Geospatial Engineering  
(906) 487-2898  
[johnbean@mtu.edu](mailto:johnbean@mtu.edu)  
Dow 815



**Dr. Abdolmajid (Mazi) Erfani**  
Assistant Professor  
Construction Engineering  
& Construction Management  
[aerfani@mtu.edu](mailto:aerfani@mtu.edu)  
Dillman 301I



**Dr. Jennifer Becker**  
Associate Professor  
Environmental Engineering  
(906) 487-2942  
[jgbecker@mtu.edu](mailto:jgbecker@mtu.edu)  
Dow 864



**Zach Fredin**  
Associate Teaching Professor  
Transportation Engineering  
906-487-1734  
[zdfredin@mtu.edu](mailto:zdfredin@mtu.edu)  
Dillman 301C



**Sai Sandeep Chitta**  
Assistant Professor  
Geotechnical Engineering  
(906) 487-2553  
[sschitta@mtu.edu](mailto:sschitta@mtu.edu)  
Dillman 201F



**Dr. Jiehong Guo**  
Assistant Professor  
Environmental Engineering  
(906) 487-3533  
[jiehongg@mtu.edu](mailto:jiehongg@mtu.edu)  
Dow 861



**Dr. Qingli Dai**  
Professor  
Transportation Materials  
(906) 487-2620  
[qingdai@mtu.edu](mailto:qingdai@mtu.edu)  
Dow 805



**Jeffery Hollingsworth, PS**  
Professor of Practice  
Geospatial Engineering  
(906) 487-2445  
[jphollin@mtu.edu](mailto:jphollin@mtu.edu)  
Dow 802





**Dr. Ishi Keenum**  
 Assistant Professor  
 Environmental Engineering  
 (906) 487-2208  
[imkeenum@mtu.edu](mailto:imkeenum@mtu.edu)  
 Dow 862



**Dr. Audra Morse,  
 PE, BCEE, F.ASCE**  
 Department Chair  
 (906) 487-3240  
[anmorse@mtu.edu](mailto:anmorse@mtu.edu)  
 Dow 871



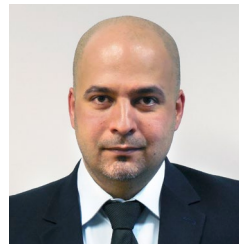
**Dr. Jae Sung Kim**  
 Assistant Professor  
 Geospatial Engineering  
 (906) 487-3419  
[jaesungk@mtu.edu](mailto:jaesungk@mtu.edu)  
 Dillman 812



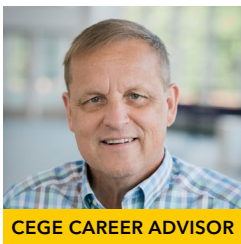
**Dr. Judith Perlinger**  
 Professor  
 Environmental Engineering  
 (906) 487-3641  
[jperl@mtu.edu](mailto:jperl@mtu.edu)  
 Dow 863



**Dr. Pasi Lautala, PE**  
 Associate Dean for Research  
 Transportation Engineering  
 (906) 487-3547  
[ptlautal@mtu.edu](mailto:ptlautal@mtu.edu)  
 Dillman 318 and M&M 707



**Dr. Mohammadhossein  
 Sadeghiamirshahidi**  
 Assistant Professor  
 Geotechnical Engineering  
 (906) 487-3420  
[msadeghi@mtu.edu](mailto:msadeghi@mtu.edu)  
 Dillman 201G



**Dr. Kris Mattila, PE**  
 Associate Professor  
 Construction Engineering  
 (906) 487-2523  
[mattila@mtu.edu](mailto:mattila@mtu.edu)  
 Dillman 201H



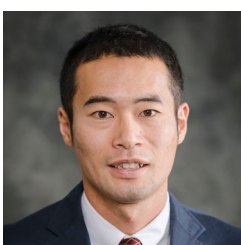
**Dr. Eric Seagren, PE**  
 Professor  
 Environmental Engineering  
 (906) 487-2614  
[eseagren@mtu.edu](mailto:eseagren@mtu.edu)  
 Dow 859



**Jennifer Miller**  
 Professor of Practice  
 Construction Engineering  
 & Construction Management  
 (989) 615-4682  
[millerj@mtu.edu](mailto:millerj@mtu.edu)  
 Dillman 201E



**Kerri Sleeman**  
 Professor of Practice  
 Construction Engineering  
 & Construction Management  
 (906) 487-3531  
[kasleema@mtu.edu](mailto:kasleema@mtu.edu)  
 Dillman 201J



**Dr. Daisuke Minakata**  
 Associate Professor  
 Environmental Engineering  
 (906) 487-1830  
[dminakat@mtu.edu](mailto:dminakat@mtu.edu)  
 Dow 801



**Dr. R. Andrew Swartz, PE**  
 Associate Professor  
 Structural Engineering  
 (906) 487-2439  
[raswartz@mtu.edu](mailto:raswartz@mtu.edu)  
 Dillman 2011

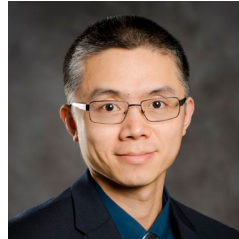
# Faculty (cont.)



**Dr. Bo Xiao**  
Assistant Professor  
Construction Engineering  
& Construction Management  
(906) 487-2804  
[boxiao@mtu.edu](mailto:boxiao@mtu.edu)  
Dillman 301G



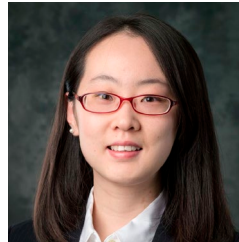
**Dr. Quang Tran**  
Assistant Professor  
Transportation Engineering  
(906) 487-3053  
[quangt@mtu.edu](mailto:quangt@mtu.edu)  
Dillman 301H



**Dr. Pengfei Xue**  
Associate Professor  
Environmental Engineering  
(906) 487-1837  
[pexue@mtu.edu](mailto:pexue@mtu.edu)  
GLRC 208



**Dr. Noel Urban**  
Professor  
Environmental Engineering  
(906) 487-3640  
[nurban@mtu.edu](mailto:nurban@mtu.edu)  
GLRC 306



**Dr. Xinyu Ye**  
Research Assistant Professor  
Water Resources Engineering  
(906) 487-3138  
[xinyuy@mtu.edu](mailto:xinyuy@mtu.edu)  
GLRC 116



**Dr. David Watkins, PE**  
Distinguished Professor  
Water Resources Engineering  
(906) 487-1640  
[dwatkins@mtu.edu](mailto:dwatkins@mtu.edu)  
Dow 806



**Dr. Zhanping You, PE**  
Distinguished Professor  
Transportation Materials  
(906) 487-1059  
[zyou@mtu.edu](mailto:zyou@mtu.edu)  
Dillman 301A

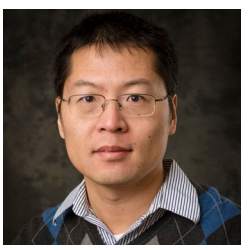


CEGE CAREER ADVISOR

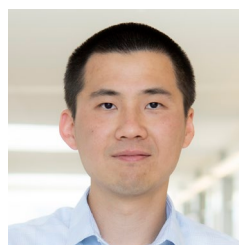
**Dr. Veronica Webster, PE**  
Associate Professor  
Water Resources Engineering  
(906) 487-1079  
[vlweb@mtu.edu](mailto:vlweb@mtu.edu)  
Dillman 201D



**Dr. Kuilin Zhang, PE**  
Associate Professor  
Transportation Engineering  
(906) 487-1828  
[klzhang@mtu.edu](mailto:klzhang@mtu.edu)  
Dillman 301i



**Dr. Shiliang Wu**  
Professor  
Environmental Engineering  
(906) 487-2590  
[slwu@mtu.edu](mailto:slwu@mtu.edu)  
Dow 429



**Yi Zhu**  
Assistant Professor  
Structural Engineering  
(906) 487-2486  
[yzhu2@mtu.edu](mailto:yzhu2@mtu.edu)  
Dow 813





## Jemel Thompson, EEN '22

### **CIVIL/WATER RESOURCE ENGINEER, FISHBECK**

As a civil and water resource engineer, Jemel's work centers around hydraulic modeling and design for projects related to stream restoration, green infrastructure, and stormwater planning for municipal clients across the Midwest.

Through his position, he has had the opportunity to model, design, and build different hydraulic infrastructure, worked on a major groundwater remediation project in Michigan, and been able to practice environmental sampling techniques for different constituents.

**FUN FACT:** Outside of work, Jemel spends his time volunteering with multiple organizations and a local Environmental Justice community group. He also plays in the symphony orchestra at a local community college and has a magnet collection of every state he's visited.



# General Education

## General Education: Core & Humanities, Arts and Social Sciences (HASS) 24 credits required: 12 credits from Core & 12 credits from HASS 2024-2025

### Core Courses: 12 credits required

UN1015 Composition: 3 credits	UN1025 Global Issues: 3 credits or 3000-level or higher Modern Language course: 3 credits
<b>Critical and Creative Thinking: 3 credits</b> <ul style="list-style-type: none"> <li>Select one course</li> </ul> ART1000 Art Appreciation ART2195 Art and Flora HU2130 Introduction to Rhetoric HU2324 Introduction to Film HU2501 American Experience in Literature HU2503 Introduction to Literature HU2538 British Experience in Literature HU2700 Introduction to Philosophy HU2701 Logical and Critical Thinking HU2820 Communication and Culture HU2910 Language and Mind MUS1000 Music Appreciation MUS1140 Popular Songwriting SND1000 Sound in Art and Science SS1500 Introduction to History SS2300 Environment and Society THEA1000 Theatre Appreciation TA2XX4 Critical & Creative Thinking Core <i>(Transfer Agreement credit only)</i>	<b>Social Responsibility &amp; Ethical Reasoning: 3 credits</b> <ul style="list-style-type: none"> <li>Select one course</li> </ul> EC2001 Principles of Economics PSY2000 Introduction to Psychology SS2100 Introduction to Cultural Anthropology SS2200 Introduction to Archaeology SS2400 Introduction to Human Geography SS2500 United States History to 1877 SS2501 US History Since 1877 SS2502 European History to 1650 SS2503 European History Since 1650 SS2504 World History to 1500 SS2505 World History Since 1500 SS2600 American Government and Politics SS2610 Introduction to Law and Society SS2700 Introduction to Sociology TA2XX8 Social Responsibility & Ethical Reasoning Core <i>(Transfer Agreement credit only)</i>

### Humanities, Arts, and Social Sciences (HASS): 12 credits require

Students must take a minimum of 12 credits in HASS following these requirements:

- 6 credits must be upper level (3000-4999) courses
  - UN1015 **AND** (UN1025 **or** Modern Language – 3000 level or higher) are prerequisites to all upper level **non-language** HASS courses
  - Prerequisites for upper level language courses are appropriate placement score **OR** required lower level language course
- 3 credits are required from each of the following lists:
  - Communication and Composition
  - Humanities and Fine Arts (HU/FA)
  - Social and Behavioral Sciences (EC/PSY/SS)
- No more than 3 credits from the Restricted HASS list may be counted toward the HASS requirement
- Some courses are on more than one HASS list, on a HASS list and a Core list, or on the HASS list and the STEM list, but each course can satisfy only one requirement

#### Communication and Composition

- Minimum of 3 credits required

HU2500	Ways of Reading	3
HU2810	Research & Writing in Communication	3
HU2830	Public Speaking & Multimedia	3
HU2840	Interpersonal Communication and Technology	3
HU3015	Advanced Composition	3
HU3105	Writing About Numbers	3
HU3120	Technical and Professional Communication	3
HU3130	Rhetoric of Science and Technology	3
HU3151	The Rhetoric of Everyday Texts	3
HU3160	Rhetoric and Culture of Games	3
HU3517	Literary Theory and Criticism	3
HU3606	Editing	3
HU3621	Introduction to Journalism	3
HU3693	Science Writing	3
HU3694	Grant Writing	3
HU3800	Media and Society	3
HU3832	Advanced Digital Presentation	3
HU3840	Organizational Communication	3
HU3845	Human Machine Communication	3
HU3852	Surveillance, Media, and Film	3
HU3871	Media Theory	3

**Communication and Composition cont.**

HU4625	Risk Communication	3
SS4040	Civic Communications	3
TA1XX5	Communication Elective ( <i>Transfer Agreement credit only</i> )	var
TA3XX5	Communication Elective ( <i>Transfer Agreement credit only</i> )	var

**Humanities and Fine Arts (HU/ART/MUS/SND/THEA)**

- Minimum of 3 credits required

ART1000	Art Appreciation	3
ART1100	Drawing I	3
ART1110	Art + Design Studio	3
ART2100	Drawing II	3
ART2110	Outdoor Sculpture	3
ART2130	Creative Drawing Processes	3
ART2140	Ceramics I	3
ART2145	Beginning Wheel Throwing	3
ART2160	Art of Mindful Daily Wonder	3
ART2170	Fiber Arts	3
ART2190	Art and Nature Spaces	3
ART2195	Art and Flora	3
ART2201	Art History I	3
ART2202	Art History II	3
ART2950	Creative Campus: Local Arts Immersion	3
ART3140	Creative Ceramics	3
ART3180	Color and Creativity: Exploring the Power of Color Through Paint, Composition, and Design	3
ART3410	Contemporary Sculpture Studio	3
ART3420	Traditional Sculpture Studio	3
ART3850	Special Topics: Art	var
ART3900	Study Away: U.S. Arts Immersion	var
ART3950	International Arts Immersion	var
ART4450	Advanced Creative Drawing and Painting	3
HU2130	Introduction to Rhetoric	3
HU2200	Introduction to World Cultures	3
HU2241	Level I-A Less Commonly Taught Languages ( <i>transfer or study abroad credit only</i> )	var
HU2242	Level I-B Less Commonly Taught Languages ( <i>transfer or study abroad credit only</i> )	var
HU2271	Level I-A French Language & Culture	3
HU2272	Level I-B French Language & Culture	3
HU2273	Transitional Level I French Language & Culture	3
HU2281	Level I-A German Language & Culture	3
HU2282	Level I-B German Language & Culture	3
HU2291	Level I-A Spanish Language & Culture	3
HU2292	Level I-B Spanish Language & Culture	3
HU2293	Transitional Level I Spanish Language & Culture	3
HU2324	Introduction to Film	3
HU2500	Ways of Reading	3
HU2501	American Experience in Literature	3
HU2503	Introduction to Literature	3
HU2505	Humanities, Science, and Technology	3
HU2510	Intro to Creative Writing	3
HU2538	British Experience in Literature	3
HU2548	Young Adult Literature	3
HU2633	Fundamentals of Digital Imaging	3
HU2645	Graphic and Information Design	3
HU2700	Introduction to Philosophy	3
HU2701	Logic and Critical Thinking	3
HU2702	Ethical Theory and Moral Problems	3

**Humanities and Fine Arts (HU/ART/MUS/SND/THEA)**

HU2810	Research & Writing in Communication
HU2820	Communication and Culture
HU2830	Public Speaking & Multimedia
HU2840	Interpersonal Communication
HU2910	Language and Mind
HU2920	Language and Society
HU3015	Advanced Composition
HU3105	Writing About Numbers
HU3120	Technical and Professional Communication
HU3130	Rhetoric of Science and Technology
HU3150	Topics in Literacy Studies
HU3151	The Rhetoric of Everyday Texts
HU3160	Rhetoric and Culture of Games
HU3241	Level II-A Less Commonly Taught Languages ( <i>transfer or study abroad credit only</i> )
HU3242	Level II-B Less Commonly Taught Languages ( <i>transfer or study abroad credit only</i> )
HU3261	Communicating Across Cultures
HU3262	Topics in Francophone Cultures
HU3263	Topics in German-Speaking Culture
HU3264	Topics in Spanish-Speaking Culture
HU3271	Level II-A French Language & Culture
HU3272	Level II-B French Language & Culture
HU3274	Level III French Literature & Culture
HU3275	French for Special Purposes
HU3280	Level I-C German Language and Culture
HU3281	Level II-A German Language & Culture
HU3282	Level II-B German Language & Culture
HU3283	Level II German for Special Purposes
HU3284	Level III German Literature & Culture
HU3285	Level III German Film & Media
HU3291	Level II-A Spanish Language & Culture
HU3292	Level II-B Spanish Language & Culture
HU3293	Level II-C Spanish Composition & Conversation
HU3294	Hispanic Literatures and Culture
HU3295	Level III Advanced Spanish for Literacies
HU3296	Introduction to Hispanic Literatures and Cultures
HU3326	Topics in World Cinema
HU3327	Film Style and Genre
HU3400	Topics in Diversity Studies
HU3401	Gender and Culture
HU3410	Introduction to Diversity Studies
HU3502	Mythology
HU3503	Special Topics in Literature and Culture
HU3504	Studies in the Novel
HU3505	Literary Forms, Genres, and Modes
HU3506	Major Authors
HU3507	Cultural Traditions in Literature
HU3508	Literature and the Environment
HU3509	Studies in Drama
HU3513	Shakespeare
HU3514	Workshop Creative Nonfiction
HU3515	Workshop in Poetry
HU3516	Workshop in Fiction
HU3517	Literary Theory and Criticism
HU3518	Workshop in Sci Fi Writing
HU3519	Workshop in Nature Writing
HU3545	Literature across Borders
HU3554	Science Fiction
HU3557	Literature and Science
HU3606	Editing

**Humanities and Fine Arts (HU/ART/MUS/SND/THEA) cont**

HU3621	Introduction to Journalism	3
HU3693	Science Writing	3
HU3694	Grant Writing	3
HU3700	Philosophy of Science	3
HU3701	Philosophy of Technology	3
HU3702	Philosophy of Religion	3
HU3703	Environmental Philosophy	3
HU3710	Engineering Ethics	3
HU3711	Biomedical Ethics	3
HU3800	Media and Society	3
HU3802	Media and Globalization	3
HU3810	Technology and Culture	3
HU3825	Environmental Communication	3
HU3830	Creativity, Culture, & Change	3
HU3832	Advanced Digital Presentation	3
HU3840	Organizational Communication	3
HU3845	Human-Machine Communication	3
HU3850	Cultural Studies	3
HU3852	Surveillance, Media, and Film	3
HU3855	Power, Activism, and Technology	3
HU3860	Popular Culture	3
HU3871	Media Theory	3
HU3872	Color, Visuality, and Culture	3
HU3882	Media Industries	3
HU3890	Documentary	3
HU3910	Language and Globalization	3
HU3940	Language and Identity	3
HU4271	Modern Language Seminar I-French	3
HU4272	Modern Language Seminar II-French	3
HU4273	Modern Language Seminar III-French	3
HU4281	Modern Language Seminar I-German	3
HU4282	Modern Language Seminar II-German	3
HU4283	Modern Language Seminar III-German	3
HU4291	Modern Language Seminar I-Spanish	3
HU4292	Modern Language Seminar II-Spanish	3
HU4293	Modern Language Seminar III-Spanish	3
HU4625	Risk Communication	3
HU4701	Political Philosophy	3
HU4725	Existentialism and Phenomenology	3
HU4890	Topics in Communication	3
MUS1000	Music Appreciation	3
MUS1140	Popular Songwriting	3
MUS2000	History of Classical Music	3
MUS2001	Film Music	3
MUS2020	History of Rock	3
MUS2030	History of Jazz	3
MUS2040	Music and Tradition	3
MUS3020	Beatles and Beach Boys	3
MUS3200	Contemporary Music	3
SND1000	Sound in Art and Science	3
SND3850	Special Topics: Sound	3
THEA1000	Theatre Appreciation	3
THEA1400	Acting I	3
THEA3201	Theatre History I	3
THEA3230	Costume History	3
THEA3330	Costume Design	3
THEA3400	Acting II	3
THEA3850	Special Topics: Theatre	var
THEA4402	Musical Theatre Performance	3
IS2001	International Studies in situ-Humanities/Fine Arts (study abroad credit only)	var

**Humanities and Fine Arts (HU/ART/MUS/SND/THEA) cont**

IS3001	International Studies in situ-Humanities/Fine Arts (study abroad credit only)	var
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**Social and Behavioral Sciences EC/PSY/SS)**

- Minimum of 3 credits required

EC2001	Principles of Economics	3
EC3002	Microeconomic Theory	3
EC3003	Macroeconomic Theory	3
EC3100	International Economics	3
EC3300	Industrial Organization	3
EC3400	Economic Decision Analysis	3
EC4050	Game Theory/Strategic Behavior	3
EC4400	Banking and Financial Institutions	3
EC4500	Public Sector Economics	3
EC4620	Energy Economics	3
EC4630	Mineral Industry Economics	3
EC4640	Natural Resource Economics	3
EC4650	Environmental Economics	3
EC4710	Labor/Human Resource Economics	3
FW3313	Sustainable Science	3
FW3760	Human Dimensions of Natural Resources	3
GE4630	Mineral Industry Economics	3
HF2000	Introduction to Engineering Psychology	3
HF3850	Human Factors	3
HF4015	Cognitive Task Analysis	3
IS2002	International Studies in situ-Social & Behavioral Sci (study abroad credit only)	var
IS3002	International Studies in situ-Social & Behavioral Sci (study abroad credit only)	var
MGT3650	Intellectual Property Management	3
PSY2000	Introduction to Psychology	3
PSY2080	Special Topics in Psychology	3
PSY2110	Educational Psychology	3
PSY2300	Developmental Psychology	3
PSY2400	Health Psychology	3
PSY2600	Death and Dying	3
PSY2900	An Introduction to Restorative Practices	3
PSY3010	Theories of Personality	3
PSY3030	Abnormal Psychology	3
PSY3070	Cross-Cultural Psychology	3
PSY3340	Psychology of Race	3
PSY3720	Social Psychology	3
PSY3800	Environmental Psychology	3
PSY3880	Psychology of Social Media	3
PSY4080	Topics in Psychology	3
PSY4340	Culture and Cognition	3
SS1500	Introduction to History	3
SS2100	Introduction to Cultural Anthropology	3
SS2200	Introduction to Archaeology	3
SS2210	Community Development and Planning	3
SS2300	Environment and Society	3
SS2400	Introduction to Human Geography	3
SS2450	Introduction to Sustainable Tourism	3
SS2500	United States History to 1877	3
SS2501	United States History since 1877	3
SS2502	European History to 1650	3
SS2503	European History since 1650	3
SS2504	World History to 1500	3
SS2505	World History since 1500	3
SS2510	Gender and the Past	3



**Social and Behavioral Sciences (EC/PSY/SS) cont.**

SS2600	American Government & Politics	3
SS2610	Introduction to Law and Society	3
SS2625	Introduction to American Foreign Policy	3
SS2635	Comparative Politics	3
SS2700	Introduction to Sociology	3
SS2750	Racial Inequality	3
SS3105	Native American and Indigenous Communities	3
SS3110	Food Systems and Sustainability	3
SS3200	Archaeology of the Modern World	3
SS3210	Field Archaeology	var
SS3225	Capitalism and the Modern World	3
SS3230	Archaeology of Industry	3
SS3240	Reading the Landscape	3
SS3250	Biological Anthropology	3
SS3260	Latin American Cultural History	3
SS3315	Population and Environment	3
SS3400	Contemporary Europe	3
SS3420	Imaginary Worlds: Geographies of Science Fiction and Fantasy	3
SS3505	Military History of the U.S.	3
SS3510	History of American Technology	3
SS3511	History of Science in America	3
SS3513	History of Making Things: Craft and Industry in America	3
SS3515	History of American Architecture	3
SS3520	U.S. Environmental History	3
SS3530	The Automobile in America	3
SS3535	History of Privacy	3
SS3540	History of Michigan	3
SS3541	The Copper Country	3
SS3542	History of Detroit	3
SS3552	Renaissance & Reformation	3
SS3553	Empires in World History	3
SS3560	History of England I	3
SS3561	History of England II	3
SS3580	Technology + Society in History	3
SS3581	History of Science	3
SS3612	International Relations	3
SS3621	Non-Profit Management	3
SS3630	Environmental Policy & Politics	3
SS3640	Selected Topics in Cyber-Law	3
SS3650	Intellectual Property Management	3
SS3660	Constitutional Law	3
SS3661	Civil Rights & Civil Liberties	3
SS3665	Crime, Incarceration, and Policy	3
SS3755	Sustainability and the Private Sector	3
SS3760	Human Dimensions/NR Stewardship	3
SS3800	Energy Policy and Technology	3
SS3801	Science, Technology, & Society	3
SS3805	Environmental Justice	3
SS3811	Energy Security and Justice	3
SS3815	Energy and Society	3
SS3910	Histories and Cultures	3
SS3920	Topics in Anthropology/Archaeology	3
SS3950	Topics in American History	3
SS3951	Topics in European History	3
SS3952	Topics in World History	3
SS3960	Cultural Immersion	var
SS3961	Preparing for Cross-Cultural Immersion Experiences	3
SS3990	Topics in the Social Science	3

**Social and Behavioral Sciences (EC/PSY/SS) cont.**

SS4001	Social Thought	3
SS4120	Sustainable Development	3
SS4200	Environmental Anthropology	3
SS4390	Seminar in Sustainability	3
SS4040	Civic Communications	3
SS4450	Sustainable Tourism and Planning	3
SS4530	Deindustrialization and the Urban Environment	3
SS4700	Communities and Research	3
SS4710	Geographies of Migrant and National Communities	3
SS4921	Washington Experience Seminar	var

**Restricted HASS**

- No more than 3 credits

AF3001	Leading People and Effective Communication I	3
BL2001	Valuing the Great Lakes	3
BL3970	Current Health Issues	3
ENG2060	Facilitating Group Learning	1
ENG3060	Developing Mentoring Skills	1
ENG4060	Leadership in Group Environments	1
ENT2961	Teaming in the Enterprise	2
ENT2962	Communication Contexts	1
FIN2400	Financial Literacy	3
FW2081	Introduction to Circular Economy	3
FW3116	Ethnobotany	3
FW4111	Indigenous Natural Resources Management	3
GE2100	Environmental Geology	3
HON2150	Pavlis Seminar I	1
HON3150	Pavlis Seminar II	1
HON3410	Culture, Language, and Project Development	3
HON4150	Pavlis Seminar III	1
KIP2600	Introduction to Public Health	3
MA4945	History of Mathematics	3

**Aden Clark, EEN '22****ENVIRONMENTAL ENGINEER,  
TETRA TECH**

In her role as an environmental engineer, Aden assists with landfill design and permitting. She further monitors environmental elements, including groundwater, soil, and gas well tuning and oversees various construction quality assurance jobs.

**FUN FACT:** She has stayed connected with her friends from Michigan Tech and recently took a two week vacation to Italy with them!

# Co-Curricular Courses

Three co-curricular units are required for graduation. A unit involves the same time commitment as an academic semester credit.

Co-curricular units:

- Count toward full-time status for financial aid
- Are not included in GPA calculation
- Are not included in the total credits required for a degree
- Will appear on the transcript with a Pass/Fail grade
- Will count toward satisfactory progress for financial aid purposes
- Will not count toward the 12 credits of gradable courses required for recognition on the dean's list or other university honors.

Repeatability for general education:

- .5 co-curricular unit courses may be repeated once for general education co-curricular credit.
- 1 co-curricular unit courses may not be repeated for general education co-curricular credit.

## Co-curricular Courses

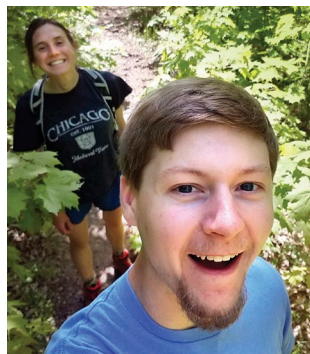
AF0120	Physical Conditioning	.5
AF0230	Precision Drill Team	.5
AF0340	Field Training	1
AR0340	Internship in Advanced Military Leadership	3
AR2068	Fall Military Physical Conditioning	1
AR2069	Spring Military Physical Conditioning	1
AR3068	Physical Training Leadership I	1
AR3069	Physical Training Leadership II	1
MUS1510	Huskies Pep Band	1
MUS1511	Campus Concert Band	1
MUS1570	Private Music Instruction	1
PE0101	Flag Football	.5
PE0103	Bait and Fly Casting	.5
PE0104	Ultimate Frisbee	.5
PE0105	Beginning Bowling I	.5
PE0106	Beginning Golf	.5
PE0107	Floor Hockey	.5
PE0108	Broomball	.5
PE0109	Beginning Aikido	.5
PE0113	Disc Golf	.5
PE0115	Beginning Swimming	.5
PE0116	Beginning Basketball	.5
PE0117	Beginning Hockey	.5
PE0118	Beginning Weight Training	.5
PE0119	Beginning Fitness Training	.5
PE0120	Beginning Alpine Skiing (Downhill)	.5
PE0121	Beginning Snowboarding	.5
PE0122	Softball	.5
PE0123	Telemark Skiing	.5
PE0125	Sand Volleyball	.5
PE0126	Beginning Volleyball	.5
PE0130	Water Aerobics	.5
PE0132	Beginning Soccer	.5
PE0135	Beginning Cross Country Skiing	.5
PE0137	Table Tennis	.5
PE0138	Beginning Racquetball/Squash	.5
PE0139	Beginning Badminton	.5
PE0140	Beginning Tennis	.5
PE0142	Introduction to Brazilian Jiu Jitsu	.5
PE0145	Fundamentals of Rifle Safety	.5
PE0146	Beginning Billiards	.5
PE0148	Beginning Skating	.5
PE0150	Outdoor Lifetime Activities	.5
PE0151	Indoor Lifetime Activities	.5
PE0152	Social Dance I	.5
PE0153	Aerobics I	.5

## Co-curricular Courses cont.

PE0155	Beginning Road Biking	.5
PE0156	Beginning Mountain Biking	.5
PE0165	Introduction to Rowing	.5
PE0166	Moving for Fitness	.5
PE0167	Beginning Yoga	.5
PE0169	Indoor Cycling	.5
PE0170	TaeKwonDo and Hapkido I	.5
PE0175	Hiking	.5
PE0177	Fundamentals of Laser Tag	.5
PE0205	Bowling II	.5
PE0206	Intermediate Golf	.5
PE0209	Intermediate Aikido	.5
PE0210	Special Topics in Physical Education	.5
PE0215	Intermediate Swimming	.5
PE0216	Intermediate Basketball	.5
PE0217	Intermediate Hockey	.5
PE0218	Intermediate Weight Training	.5
PE0219	Intermediate Fitness Training	.5
PE0220	Intermediate Alpine Ski (Downhill)	.5
PE0221	Intermediate Snowboarding	.5
PE0226	Intermediate Volleyball	.5
PE0230	Water Polo	.5
PE0232	Intermediate Soccer	.5
PE0235	Intermediate Cross Country Ski	.5
PE0237	Intermediate Table Tennis	.5
PE0238	Intermediate Racquetball/Squash	.5
PE0239	Intermediate Badminton	.5
PE0240	Intermediate Tennis	.5
PE0242	Brazilian Jiu Jitsu II	.5
PE0245	Basic Rifle Marksmanship	.5
PE0246	Intermediate Billiards	.5
PE0248	Intermediate Skating	.5
PE0250	Paintball	.5
PE0252	Social Dance II	.5
PE0253	Aerobics II	.5
PE0256	Intermediate Mountain Biking	.5
PE0266	Running for Fitness	.5
PE0267	Intermediate Yoga	.5
PE0270	Cardio TaeKwonDo	.5
PE0277	Strategies of Laser Tag	.5
PE0315	Fitness Swimming	.5
PE0320	Advanced Skiing	.5
PE0321	Advanced Snowboarding	.5
PE0330	Club Sports	.5
PE0342	Intro to Kickboxing	.5
PE0367	Mindful Yoga	.5
PE0420	Ski Instructor Training	.5
PE0421	Snowboard Instructor Training	.5
PE0425	Intramurals	.5
PE0430	Club Sports Leadership	.5
PE0442	Kickboxing II	.5
PE0451	Mountain/Road Bike Fusion	.5
PE0520	Alpine Skiing Fusion	.5
PE0521	Snowboard Fusion	.5
PE1000	Fitness Foundations	1
PE1010	Active Michigan Tech	1
PE1028	Ski Patrol (Hill)	1
PE1101	Team Sports	1
PE1105	Bowling	1
PE1106	Golf	1
PE1109	Aikido	1
PE1113	Disc Sports	1
PE1118	Weight/Fitness Training	1
PE1119	Conditioning	1
PE1138	Racquet Sports	1
PE1140	Tennis	1
PE1145	Rifle Marksmanship	1

### Co-curricular Courses cont.

PE1153	Zumba	1
PE1169	Indoor Cycling	1
PE1170	TaeKwonDo	1
PE1210	Special Topics	1
PE1215	Introduction to Backcountry Travel	1
PE1220	Introduction to Canoeing	1
PE1225	Indoor Rock Climbing	1
PE1230	Introduction to Kayaking	1
PE1235	Introduction to Log Rolling	1
PE1240	Snowshoeing	1
PE1245	Wilderness First Responder	1
PE1435	Self-Defense for Women	1
PE1436	Self-Defense for Men	1
PE1450	Physical Education Fusion – Full	1
PE1470	Lifeguard Swimming	1
PE2010	Varsity Football	1
PE2020	Varsity Basketball	1
PE2030	Varsity Hockey	1
PE2040	Varsity Nordic Skiing	1
PE2050	Varsity Soccer	1
PE2080	Varsity Track	1
PE2090	Varsity Tennis	1
PE2130	Varsity Volleyball	1
PE2140	Varsity Cross Country	1
PE2150	Cross Training	1
PE2160	Varsity Esports	1
PSY1100	Skills for Health and Resilience	1
PE0XXX	Co-Curricular Activities ( <i>transfer credit only</i> )	.5
PE1XXX	Co-Curricular Activities ( <i>transfer credit only</i> )	1



**Tyler  
LeMahieu,  
BS EEN '22,  
MS EEN '23  
HYDRAULIC  
STRUCTURES  
ENGINEER, US  
FOREST SERVICE**

As a hydraulic structures engineer, Tyler conducts bridge inspections, manages bridge programs, and handles bridge and culvert design reviews. He stepped in as the primary designer of aquatic organism passage culverts in the Chequamegon-Nicolet National Forest and has produced about 25 designs this year! Through his role, he is able to teach and train others in Civil3D, GIS, & HEC-HMS and work with Trout Unlimited, local tribes, and on old dams and remote trail bridges.

**FUN FACT:** Before beginning his role, he did a lap of Lake Michigan where he spent time surfing, seeing friends, and camping—pastimes he has been able to continue with his wife while honeymooning in Hawaii.

# Approved Transfer Courses

## APPROVED TRANSFER COURSES

The following courses are available **ONLY** by transfer.

### Communication and Composition

HU1XX5	Approved Transfer HASS Communication/Comp	3
HU2XX5	Approved Transfer HASS Communication/Comp	3
HU3XX5	Approved Transfer HASS Communication/Comp	3
HU4XX5	Approved Transfer HASS Communication/Comp	3

### Humanities and Fine Arts (HU/FA)

ART1XXX	Approved Transfer HASS Elective	3
ART2XXX	Approved Transfer HASS Elective	3
ART3XXX	Approved Transfer HASS Elective	3
ART4XXX	Approved Transfer HASS Elective	3
HU1XXX	Approved Transfer HASS Elective	3
HU2XXX	Approved Transfer HASS Elective	3
HU3XXX	Approved Transfer HASS Elective	3
HU4XXX	Approved Transfer HASS Elective	3
HU1XX5	Approved Transfer HASS Communication/Comp	3
HU2XX5	Approved Transfer HASS Communication/Comp	3
HU3XX5	Approved Transfer HASS Communication/Comp	3
HU4XX5	Approved Transfer HASS Communication/Comp	3
MUS1XXX	Approved Transfer HASS Elective	3
MUS2XXX	Approved Transfer HASS Elective	3
MUS3XXX	Approved Transfer HASS Elective	3
MUS4XXX	Approved Transfer HASS Elective	3
SND1XXX	Approved Transfer HASS Elective	3
SND2XXX	Approved Transfer HASS Elective	3
SND3XXX	Approved Transfer HASS Elective	3
SND4XXX	Approved Transfer HASS Elective	3
THEA1XXX	Approved Transfer HASS Elective	3
THEA2XXX	Approved Transfer HASS Elective	3
THEA3XXX	Approved Transfer HASS Elective	3
THEA4XXX	Approved Transfer HASS Elective	3

### Social and Behavioral Sciences (EC/PSY/SS)

EC1XXX	Approved Transfer HASS Elective	3
EC2XXX	Approved Transfer HASS Elective	3
EC3XXX	Approved Transfer HASS Elective	3
EC4XXX	Approved Transfer HASS Elective	3
PSY1XXX	Approved Transfer HASS Elective	3
PSY2XXX	Approved Transfer HASS Elective	3
PSY3XXX	Approved Transfer HASS Elective	3
PSY4XXX	Approved Transfer HASS Elective	3
SS1XXX	Approved Transfer HASS Elective	3
SS2XXX	Approved Transfer HASS Elective	3
SS3XXX	Approved Transfer HASS Elective	3
SS4XXX	Approved Transfer HASS Elective	3





# Schedule - Year 1

<b>FALL</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
8AM					
9AM					
10AM					
11AM					
12PM					
1PM					
2PM					
3PM					
4PM					
5PM					

<b>SPRING</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
8AM					
9AM					
10AM					
11AM					
12PM					
1PM					
2PM					
3PM					
4PM					
5PM					

# Schedule - Year 2

<b>FALL</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
8AM					
9AM					
10AM					
11AM					
12PM					
1PM					
2PM					
3PM					
4PM					
5PM					

<b>SPRING</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
8AM					
9AM					
10AM					
11AM					
12PM					
1PM					
2PM					
3PM					
4PM					
5PM					



# ABET Accredited

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- ✓ Supports your entry to a technical profession through licensure, registration, and certification—all of which often require graduation from an ABET-accredited program as a minimum qualification.
- ✓ Establishes your eligibility for many federal student loans, grants, and/or scholarships.
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Michigan Technological University  
Civil, Environmental, and  
Geospatial Engineering

# Meet Tyler

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**Julie Ross**

ACADEMIC ADVISOR

(906) 487-3410

[jzross@mtu.edu](mailto:jzross@mtu.edu)

Dillman 103



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