

Lectures, Labs, & Field Camps

Maintaining the Momentum of Quality Forestry Education during a Pandemic

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Michigan Technological University

**College of Forest Resources
and Environmental Science**

Search Google Maps



North Pacific Ocean

North Atlantic Ocean

Canada

United States

Mexico

Puerto Rico

Cuba

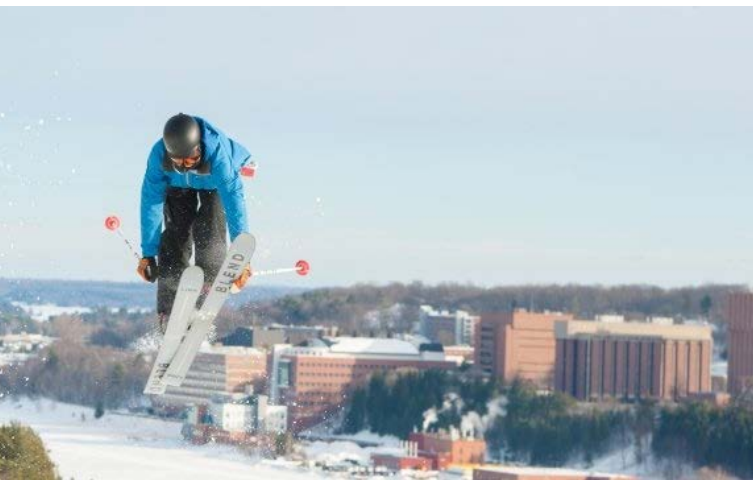
Guyana

Venezuela

Brazil

Nicaragua







Michigan Technological University

- Residential Campus Founded in 1885
- Over 7000 students from 60 countries
- 140 Undergraduate and Graduate Degree Programs
- External research funding over \$90 million/year
- 472 Faculty, 1108 Staff in 2022





Michigan Technological University

College of Forest Resources and Environmental Science

- One of 80 major forestry programs in the US
- Part of National Association of University Forest Resources Programs (NAUFRP)
- Among top 10 nationally rated programs in the US in natural resources and conservation
- 62 faculty and staff
- 330 students



Atrium space with flags from the home countries of our students and faculty, and countries where our students have studied

Our forests





Residential Campus

- Prior to 2020, <10% courses offered online
- Now 2023, <5% are online courses



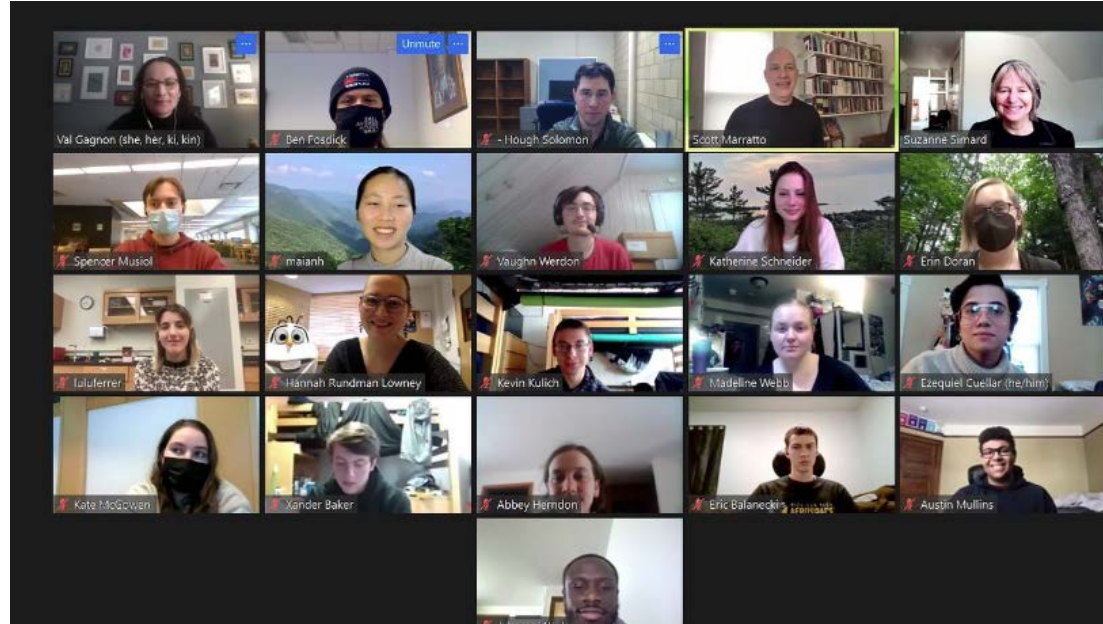
March 2020

- Students informed they would not return to campus after spring break
- All classes would be offered remotely
- Faculty had to pivot!
- Online instruction new to many



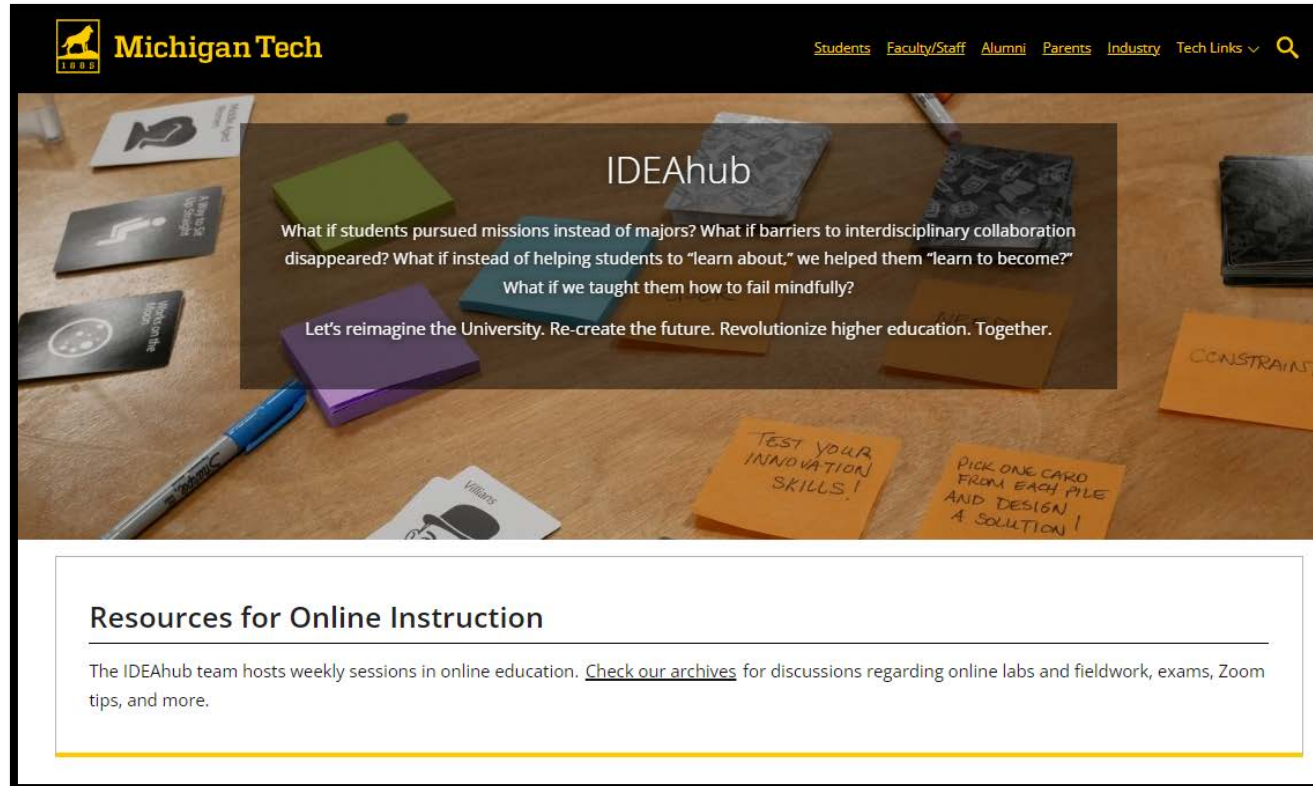
Remote Instruction = New Skills Training

- Formal training required for online course development and delivery
- Not possible in spring 2020, but multiple options offered
- By Fall 2020, most all faculty had completed online training




Professional Development Opportunities

- IDEAhub Q&A
- Online Education sessions, i.e.
 - Finding balance
 - Engagement strategies
 - Managing online labs
- Zoom faculty meetings sharing practices



Michigan Tech 1888

Students Faculty/Staff Alumni Parents Industry Tech Links 

IDEAhub

What if students pursued missions instead of majors? What if barriers to interdisciplinary collaboration disappeared? What if instead of helping students to “learn about,” we helped them “learn to become?”
What if we taught them how to fail mindfully?

Let's reimagine the University. Re-create the future. Revolutionize higher education. Together.

TEST YOUR INNOVATION SKILLS!

PICK ONE CARD FROM EACH PILE AND DESIGN A SOLUTION!

Resources for Online Instruction

The IDEAhub team hosts weekly sessions in online education. [Check our archives](#) for discussions regarding online labs and fieldwork, exams, Zoom tips, and more.

Forestry Program presents unique challenge

- Michigan Tech is the only forestry program in United States that requires a full semester (more than 10 weeks), residential field camp experience
 - Summer Camp
 - Fall Camp



Summer Camp 2020

- Delivered entirely remotely
- Students at remote locations
- Identified forested setting near them
- Tools and equipment mailed
 - Hands-on skills development and practice
 - broad array of forest types being represented during student reports



Fall 2020

- Return to Campus
- Courses Modified for social distancing
- Sanitation in between classes
- Outdoor delivery when possible- new spaces

- University Task Force overseeing adaptations
- Student & Parent Town Halls



Social distancing in atrium.



Outdoor space around building



Fall Camp 2020

- Return to field camp
- Option to be screened for COVID-19
- Isolation space provided
- Maintained social distancing
- Lived and worked in pods
- Faculty instruction hybrid
 - Remote and in-person
 - Teaching outdoors maximized
 - Recording content whenever possible



Other ways of learning-as-we-go- Response Teams

- MTU Covid Response team - daily
 - Numbers, testing, policies, etc
- MTU Deans and Provost - daily
 - Building maps/routes, backup plans for teaching, etc
- CFRES Faculty - weekly
 - Field behaviors, student attendance rules, classroom practices, resources available, etc



Regional Partners - NAUFRP

- National Association of Forest Resource Programs (NAUFRP)
 - Weekly admin meetings
 - Sharing best practices and experiences
 - Sharing detailed logistic examples
 - handling bussing students, rules for seating, cleaning schedules for outdoor gear, outdoor rules for safe distancing, etc.

NAUFRP North Central Region

- Michigan Technological University
- Iowa State University
- Kansas State University
- Michigan State University
- Missouri State University
- Ohio State University
- Purdue University
- South Dakota State University
- Southern Illinois University
- University of Illinois
- University of Nebraska-Lincoln
- University of Michigan
- University of Minnesota
- University of Wisconsin- Madison



NAUFRP partner story – Forestry Camp Summer 2020

- Location changed from field station to being on campus
- Two sessions run concurrently
 - No interaction between students
 - Different floors of building
 - No crossing of field sites or transportation methods between the 2 sections



NAUFRP partner story – Forestry on campus Fall 2020

- College required all courses to have asynchronous, online format available to any other in person or hybrid format offered
- Courses mailed tools for students
- Added course sections to reduce students per lab
- Some courses requiring specific Forestry field work:
 - Tours with outside people cancelled
 - Tours restricted to campus
 - Flipped classroom – lectures online, more prep for lab outdoors to shorten time
 - No change



NAUFRP partner story – Forestry Fall 2020

- Field trips with vehicles at lower passenger capacity
- More independent labs for students, more online content
- Goal was some in-person contact in key field courses

- 3-week travel camp program replaced with day trips
 - Less experience, but not zero
 - Maintained meeting with industry/agency stakeholders

NAUFRP partner story – Forestry Summer/Fall 2020

- Field labs largely replaced with online instruction
- Remote guidance from instructors
- Students assigned equipment they keep with them
 - Carrying out field work on their own



Since 2020...

- Courses increasingly returned to pre-pandemic status, in-person
- Faculty skills developed in remote teaching enables increased access to course materials
- All faculty now trained in online instruction

- Graduated students appear to have similar career success to those who graduated prior to pandemic
 - detailed measures of this are yet to come



Celebrating Milestones

- Students still graduate
- Outdoor events continue
- CFRES Deans Instagram



www.instagram.com/fresdean/



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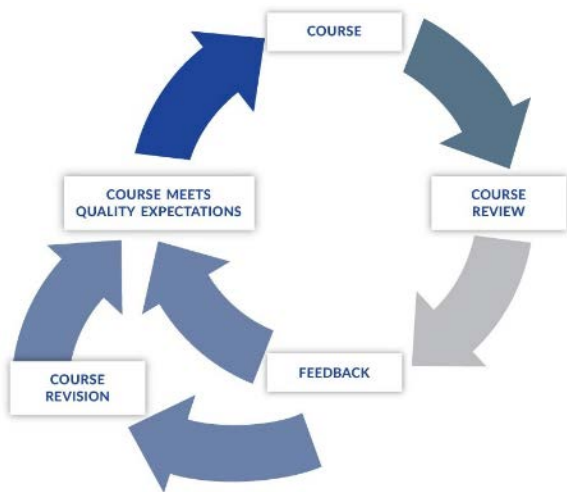
Thank you to
NAUFRP
North Central
Members for
sharing their
stories.

<http://www.naufrp.org/>



Quality Matters

- QM Higher Education Rubric



Specific Review Standards from the QM Higher Education Rubric, Seventh Edition

General Standards	Specific Review Standards	Points
Course Overview and Introduction	1.1: Instructions make clear how to get started and where to find various course components.	3
	1.2: Learners are introduced to the purpose and structure of the course.	3
	1.3: Communication guidelines for the course are clearly stated.	2
	1.4: Course and institutional policies with which the learner is expected to comply are clearly stated within the course, or a link to current policies is provided.	2
	1.5: Minimum technology requirements for the course are clearly stated, and information on how to obtain the technologies is provided.	2
	1.6: Technical skills and digital information literacy skills expected of the learner are clearly stated.	1
	1.7: Required prior knowledge in the discipline and/or any specific competencies are clearly stated in the course site.	1
	1.8: The self-introduction by the instructor is welcoming and is available in the course site.	1
	1.9: Learners have the opportunity to introduce themselves.	1
Learning Objectives (Competencies)	2.1: The course-level learning objectives describe outcomes that are measurable.	3
	2.2: The module/unit-level learning objectives describe outcomes that are measurable and consistent with the course-level objectives.	3
	2.3: Learning objectives are clearly stated, are learner-centered, and are prominently located in the course.	3
	2.4: The relationship between learning objectives, learning activities, and assessments is made clear.	3
	2.5: The learning objectives are suited to and reflect the level of the course.	3
Assessment and Measurement	3.1: The assessments measure the achievement of the stated learning objectives.	3
	3.2: The course grading policy is stated clearly, available at the beginning of the course, and consistent throughout the course site.	3
	3.3: Specific and descriptive criteria are provided for the evaluation of learners' work, and their connection to the course grading policy is clearly explained.	3
	3.4: The course includes multiple types of assessments that are sequenced and suited to the level of the course.	2
	3.5: The types and timing of assessments provide learners with multiple opportunities to track their learning progress with timely feedback.	2
	3.6: The assessments provide guidance to the learner about how to uphold academic integrity.	1
Instructional Materials	4.1: The instructional materials contribute to the achievement of the stated learning objectives.	3
	4.2: The relationship between the use of instructional materials in the course and completion of learning activities and assessments is clearly explained.	3
	4.3: The course models the academic integrity expected of learners by providing both source references and permissions for use of instructional materials.	2
	4.4: The instructional materials represent up-to-date theory and practice in the discipline.	2

