

# MICHIGAN TECH RAIL TRANSPORTATION PROGRAM

The Rail Transportation Program (RTP) attracts students from a wide range of degree programs. The RTP will prepare you for future employment through supportive programming and by giving you innovative course work and unique opportunities necessary to learn about the rail transportation industry. RTP will also help you develop critical professional skills.

## WHY CONSIDER RAIL?

- "Green" Transportation
- Job Opportunities
- Scholarships
- Field Trips & Conference Visits
- Industry Networking & Involvement
- Internships & Co-ops
- Railroad Engineering and Activities Club
- Industry Sponsored Enterprise and Senior Design Projects



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**Rail Transportation Program**  
Michigan Tech Transportation Institute • Michigan Technological University

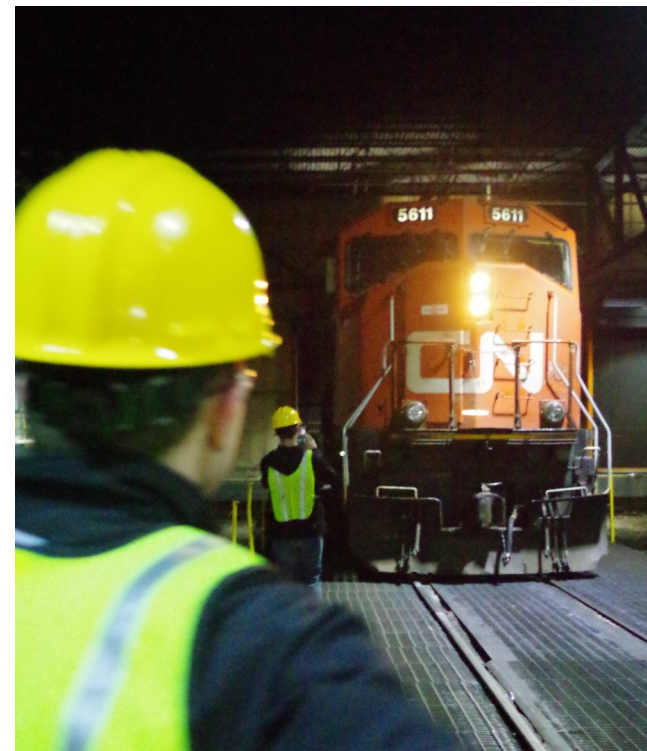


**Michigan Technological University**  
**Transportation Institute**

**RTP VISION**—Develop leaders and technologies for the 21st century rail transportation

**MISSION**—To Participate in the development of rail transportation and related engineering skills for the 21st century through an interdisciplinary and collaborative program that aligns Michigan Tech faculty and students with the demands of the industry

**CONTACT INFORMATION**  
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## RAIL TRANSPORTATION PROGRAM

**GET ON TRACK:  
RAIL MINOR**



**Rail Transportation Program**

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# LEARNING GOALS

Students will :

## Rail Industry Knowledge Base

- Be familiar with rail system components
- Understand industry terminology
- Understand engineering and operational practices of the rail transportation industry

## Professional Development

- Gain disciplinary knowledge of rail transportation industry topics
- Apply practical concepts and technologies to industry issues
- Work with design and data analysis of various system components

## Leadership

- Learn management fundamentals
- Develop problem solving & effective communication skills
- Experience industry mentoring

## Communication

- Demonstrate effective communication in multiple formats
- Experiences opportunities to meet industry leaders and hear from guest speakers

## Industry Safety Culture

- Understand fundamental processes that are put in place by the rail industry to achieve optimum safety
- Research of new procedures and technologies to further increase industry safety

## Rail Transportation Minor (Min. 19 Credits)

### Required Courses (7 Credits)

CEE 3490—Intro To Rail Transportation  
CEE 4404/5404—Railroad Engineering  
OSM 4700—Logistics and Transportation Management

### Leadership Electives (3 Credits)

MGT 3000—Organizational Behavior	AF 3010—Leadership Studies I
MGT 3100—Leadership Development	AF 3020—Leadership Studies II
HU 3120—Technical and Professional Communication	OSM 3200—Project Management

### Railroad Focus Technical Electives (9 Credits)

#### Civil Track

CEE 3401—Transportation Engineering  
CEE 4333—Estimating and Planning of Construction Projects  
CEE 4407—Transportation Design  
CEE 4905—Senior Design (Railroad Theme)\*  
CEE 4990—Independent Study in Rail Topics\*  
CEE 5408—Public Transit  
XX-XXXX A course in rail topics from another University\*

#### Mechanical Track

MEEM 3900—Engineering Design Process  
MEEM 4220—Internal Combustion Engines I  
MEEM 4450—Vehicle Dynamics  
MEEM 4901/4902—Senior Capstone Design (Railroad Theme)\*  
MEEM 4990—Independent Study in Rail Topics\*  
XX-XXXX A course in rail topics from another University\*

#### Electrical Track

EE 3120—Electric Energy Systems  
EE 4219/4220—Intro to Electric Machinery and Drives with lab  
EE 4227/4228—Power Electronics with lab  
EE 3160—Signal Systems  
EE 3171—Microcontroller Applications  
EE3261—Control Systems  
EE4252—Digital Signal Processing and Applications  
EE 4253—Real Time Signal Processing  
EE 4800—Special Topics with Railroad Focus  
EE 4901/4910—EE Design Project with Railroad focus  
XX-XXXX A course in rail topics from another University\*

\* An independent study, project, or a senior or enterprise design course with a railroad focus in the student's major discipline, or a course in rail topics from another university may be substituted for one of the Railroad Focus courses with prior written approval by the Director, Rail Transportation Program.

**EMAIL US FOR MORE INFORMATION  
REGARDING THE MINOR**

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