

Michigan Engineering Competencies

Communication: Ability to listen, reflect, and convey information effectively in a variety of media (oral, written, digital, graphical) to diverse audiences with different needs and perspectives across a variety of settings and contexts.

Creativity: Ability to create ideas, processes, products that are both novel (unique, original, atypical, cutting-edge) and appropriate (relevant, practical, useful, applicable, fitting, effective).

Empathy: Ability to take the perspective of someone else by reasoning from their premises, assumptions, or ideas in order to facilitate effective communication.

Entrepreneurial Mindset: Ability and intent to engage proactive, innovative strategies in various contexts to solve ambiguous problems.

Ethics: Fully engage stakeholders to recognize that actions have consequences, and that one must act with integrity and trustworthiness to promote the common good.

Global/Cultural Awareness: Ability to understand, practice, and articulate one's own cultural identity to better adapt to and interact with other individuals and cultures. (cultural, technical, religious, etc.)

Grit/Resilience/Persistence: Ability to persevere and maintain passion for achievement of long-term goals.

Leadership: Seeking opportunities to cultivate an environment that collectively develops a shared purpose and inspires others to work toward it.

Lifelong Learning: Ongoing desire and fundamental ability to recognize personal skills/knowledge deficits; seek out and acquire needed skills and knowledge; and explore and develop new interests, talents, and passions.

Risk Management: Ability to critically assess available information, take action despite uncertainty, manage outcomes, and learn from failure as well as from success.

Systems Thinking (Authentic Problem Solving): Ability to understand the complex structures embedded in a system while maintaining a view of the big picture problem to be solved.

Teamwork: Working to achieve a shared goal by leveraging individuals with different perspectives, roles, responsibilities, and aptitudes to overcome conflict and create community.

Proficiency Scale

Exploring	Engaging	Explaining
Few prior experiences, skills or knowledge in this area	Substantial prior experiences, skills or knowledge in this area	A wide array of prior experiences, strong skills or knowledge in this area
ex. I've taken ENTR 407 or another entrepreneurial course, but I still think I've just started learning about what constitutes an "entrepreneurial mindset"	ex. I've expanded my breadth on intercultural intelligence by taking three classes on different cultures, and studying abroad, but I don't know much about many other cultures in-depth	ex. participating in MECC over the past three years has strengthened my collaboration skills to an exemplary level. I can talk about my experience with some level of expertise in a meaningful way

Michigan Engineering Competency	My Current Level of Proficiency (place an "X" in the box you select)			Why did I select this proficiency level?	What will I do to further develop in this area?
	Developing	Proficient	Exemplary		
Communication		X		As VT Seva's National Volunteer Relations Coordinator, I run orientation sessions, resolve volunteer issues, and organize events like the Career Compass webinar series, effectively communicating with diverse audiences.	Continue refining my public speaking skills by attending workshops and seeking feedback after leading major events.
Creativity		X		I've built projects like my F1 statistics dashboard and sentiment tracker, which combine technical skill with creative design for visual presentation and user	Experiment with new design frameworks and UX principles to improve my projects' visual appeal and functionality.

				experience.	
Empathy		X		Volunteering with VT Seva has helped me connect with students and families facing challenges, requiring empathy to understand and address their unique needs.	Continue engaging directly with volunteers and students to better understand their experiences and tailor support efforts.
Entrepreneurial Mindset	X			My experience founding College Connect involved identifying a gap in mentorship and developing a platform to fill that need. However, I'm still learning to apply entrepreneurial thinking in technical projects.	Take an entrepreneurship-focused course or participate in a startup accelerator to expand my skills in this area.
Ethics		X		In my DevOps internship at Northrop Grumman, I ensured customer support tickets were handled transparently and prioritized fair outcomes when resolving issues.	Continue learning about ethical AI development practices as I build projects like my conversation analyzer and sentiment tracker.
Global/Cultural Awareness	X			As a volunteer with VT Seva, I've worked with diverse communities, developing a strong appreciation for cultural differences. However, I have room to deepen my understanding.	Attend cultural events on campus and connect with international student groups to expand my cultural knowledge.
Grit/Resilience/Persistence			X	Balancing multiple projects, internships, and leadership roles while navigating setbacks has required determination and resilience.	Maintain consistent focus on my long-term goals while seeking feedback to improve my approach.
Leadership			X	As National Volunteer Relations Coordinator for VT Seva, I manage volunteers, host events,	Mentor new VT Seva youth board leaders to help them build confidence and leadership skills.

				and lead teams to achieve shared goals.	
Lifelong Learning			X	My diverse experiences in web development, data science, and AI reflect my drive to continuously expand my technical knowledge.	Continue exploring emerging technologies through independent projects and online courses.
Risk Management	X			During my Northrop Grumman internship, I made decisions about project direction with limited information, balancing risks with potential benefits.	Actively participate in hackathons or competitive coding challenges to strengthen my ability to make calculated decisions under pressure.
Systems Thinking		X		My research on geodesic flows and my experience designing scalable software architectures demonstrate my ability to break down complex problems.	Explore cloud infrastructure concepts like AWS architecture to improve my understanding of large-scale system design.
Teamwork			X	Leading cross-functional teams during my Northrop Grumman internship and VT Seva events has strengthened my teamwork skills.	Take on more team-based coding projects and participate in group learning initiatives to further enhance collaboration.