



Michigan Alliance for Greater Mobility Advancement

## APPROVED COURSE CATALOG



### MAGMA'S ROLE

The MAGMA Governing Board, led by industry partners General Motors, Ford Motor Company, Fiat-Chrysler Automobiles, Robert Bosch, LLC, BorgWarner, MAHLE Industries, and GKN Driveline, are collaborating to provide rapid skill growth in emerging technologies for advanced mobility.

MAGMA industry partners have identified short course training programs as a key industry need. Short courses help further develop individuals and teams, equipping them with multi-disciplinary skills necessary for developing next generation connected vehicles and related technologies.

### INTERESTED IN BECOMING A MEMBER?

Become a MAGMA partner by contacting David Palmer at [david.palmer@win-semich.org](mailto:david.palmer@win-semich.org) to receive an application.

### GOVERNING BOARD MEMBERS

- BorgWarner (Co-Chair)
- Fiat Chrysler Automobiles
- Ford Motor Company
- General Motors
- GKN Driveline
- MAHLE
- Robert Bosch, LLC (Co-Chair)
- Macomb Community College
- Michigan Technological University
- University of Detroit Mercy
- University of Michigan
- Wayne State University
- Center for Automotive Research (CAR)
- SAE International
- State of MI – Talent Investment Agency (TIA)
- Southeast Michigan Community Alliance
- Workforce Intelligence Network (Convener)

### LEARN MORE ABOUT MAGMA APPROVED SHORT COURSES

If your organization is interested in the content of these MAGMA approved courses and would like to view content for each course, please visit our website at [www.miautomobility.com/approved-courses/](http://www.miautomobility.com/approved-courses/)

## SYSTEMS ENGINEERING CONCEPTS

- Introduction to System Engineering
- Connected Vehicles: V2X Communications
- In-Vehicle Networks
- Introduction to Autonomous Vehicles
- Introduction to Systems Engineering
- Cybersecurity: An Introduction for the Automotive Sector
- Finance for Project Managers and Engineers

## EMBEDDED CONTROLS

- Practical Functional Safety for CAV Systems Development
- Functional Safety
- Networking
- Autonomous Vehicle Positioning Systems
- Embedded Systems & Networking: PIC Microcontrollers and Data Communication Networks

## PROJECT/PROGRAM MANAGEMENT

- Tools, Tips, and Strategies to Make Project & Program Management Work for You
- Project Management Skills for Non-Project Managers
- Critical Thinking and Problem Solving
- Engineering Project Management

## PLASTIC INJECTION MOLDING

- Injection Molding
- Plastic Injection Molding

## VEHICLE PERFORMANCE: CASE STUDIES

- Advanced Vehicle Dynamics for Passenger Cars and Light Trucks
- Introduction to Noise, Vibration, and Harshness Aspects of Hybrid and Electric Vehicles
- Vehicle Dynamics for Passenger Cars and Light Trucks
- Vibration Analysis Using Finite Element Analysis
- Vehicle Performance: case studies

## SOFT SKILLS

- Root Cause Analysis/Problem Solving Session
- Structured Problem Resolution
- Leadership Development Academy
  - » *Building High Performing Teams*
  - » *Business Reality 101*
  - » *Coaching Skills for Leaders*
  - » *Essential Skills for Leaders*
  - » *Managers to Leaders*
  - » *Resilient Leadership*
  - » *Socio-Emotional Intelligence*
- Management Skills & Leadership Responsibilities: A Refresh of Soft Skills for Supervisors, Engineers, and Technicians

## COURSE PROVIDERS

