Curriculum Map of the Graduate Programs in the Mechanical Engineering Department at Wayne State University

### Areas of Concentration
- Noise and Vibration Control
- Advanced Materials and Manufacturing
- Advanced Propulsion & Energy Systems
- Cross Listed Courses with Biomedical

### Special Courses on New Topics
- ME 5995: Special Topics in Mechanical Engineering I, Cr. 1-4 (Max. 4)
- ME 7995: Directed Study, Cr. 1-4 (Max. 4)
- ME 7997: Graduate Seminar, Graduate Standing

### Directed Studies
- ME 5900: Prereq: Graduate Standing
- ME 5990: Prereq: Graduate Standing & Consent of ME GPO
- ME 5996: Internship in Industry
- ME 6991: Core Course

### MSME Thesis
- ME 8999: 8 credits, Consent of Student's Advisor

### Ph.D. Program
- ME 9990: 1 - 8 credits, Consent of ME GPO & Graduate School
- ME 9991: 75 credits, Ph.D. Candidate Status I, Consent of GPO & Graduate School
- ME 9992: 75 credits, Ph.D. Candidate Status II, Consent of GPO & Graduate School
- ME 9993: 75 credits, Ph.D. Candidate Status III, Consent of GPO & Graduate School
- ME 9994: 75 credits, Ph.D. Candidate Status IV, Consent of GPO & Graduate School
- ME 9995: 0 credits, Ph.D. Candidate Maintenance Status, Consent of GPO & Graduate School

### Internship in Industry
- ME 9991: 1 - 4 credits, Consent of Student's Advisor and ME GPO
- ME 9991: Restricted to International Graduate Students & Consent of ME GPO
Advanced Materials and Manufacturing

Finite Element Method & Computer Aided Design

- ME 5040: Finite Element Methods I. Cr. 4 (Prereq: MAT 2150 & ME 4150 or Graduate Standing)
- ME 5580: Advanced Engineering Design. Cr. 4 (Prereq: ME 4150 & Senior or Graduate Standing)
- ME 5550: Fundamentals of Mechanics. Cr. 4 Core course for Ph.D. students majoring in this thrust area

- ME 5700: Introduction to Elasticity (Prereq: Senior or Graduate Standing)
- ME 5995: Additive Manufacturing-Principles and Applications (Prereq: Senior or Graduate Standing)
- ME 5995: Multi-Disciplinary Design Optimization (Prereq: Senior or Graduate Standing)
- ME 5995: Lean Product Development (Prereq: Senior or Graduate Standing)

Theory of Elasticity

- ME 5720: Mechanics of Composite Materials. Cr. 4 (Prereq: ME 4150 or Graduate Standing)
- ME 5730: Tribology and Lubrication Technology. Cr. 4
- ME 7451: Advanced Manufacturing II: Material Forming. Cr. 4
- ME 7610: Theory of Elasticity. Cr. 4

Materials & Manufacturing

- ME 7720: Manufacturing Processes. Cr. 4
- ME 7820: Engineering Non-Destructive Evaluation (NDE) Methods and Industrial Applications. Cr. 4
- ME 8030: Crashworthiness and Occupant Protection in Transportation Systems I. Cr. 4

Special Topics

- ME 8020: Crashworthiness and Occupant Protection in Transportation Systems II. Cr. 4