

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

5000 Engineering Analysis I. Cr. 4 (Core Course)
 5900 National Design Competition Projects. Cr. 1-4 (Max. 4)
 5990 Directed Study. Cr. 1-4 (Max. 4)
 5995 Special Topics in Mechanical Engineering I. Cr. 1-4 (Max. 4)
 6991 Internship in Industry. Cr. 1-4 (Max. 4)
 7990 Directed Study. Cr. 1-4 (Max. 4)
 7995 Special Topics in Mechanical Engineering II. Cr. 1-4
 7996 Research. Cr. 1-4 (Max. 4)
 7997 Mechanical Engineering Graduate Seminar. Cr. 0
 8999 Master's Thesis Research and Direction. Cr. 1-8 (8 req.)
 9990 Pre-Doctoral Candidacy Research. Cr. 1-8 (Max. 12)
 9991 Doctoral Candidate Status I: Dissertation Research and Direction. Cr. 7.5
 9992 Doctoral Candidate Status II: Dissertation Research and Direction. Cr. 7.5
 9993 Doctoral Candidate Status III: Dissertation Research and Direction. Cr. 7.5
 9994 Doctoral Candidate Status IV: Dissertation Research and Direction. Cr. 7.5
 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction. Cr. 0

Special Courses on New Topics

ME 5995

Prereq: Senior or
Graduate Standing

ME 7995

Prereq: Graduate
standing

ME 7997

0 credit
Graduate Seminar
Graduate Standing

Directed Studies

ME 5900

Prereq: Consent of
Graduate Student's
Advisor

ME 5990

Prereq: Graduate
Standing & Consent
of ME GPO

ME 7990

Prereq: Consent of
Student's Advisor

ME 7996

1 - 4 credits
Consents of
Student's Advisor
and ME GPO

Internship in Industry

ME 6991

1 - 4 credits
Restricted to International Graduate
Students & Consent of ME GPO

Core Course

ME 5000

Prereq: Consent of
Graduate Student's
Advisor1

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

7.5 credits
Ph.D. Candidate Status I
Consent of GPO &
Graduate School

ME 9992

7.5 credits
Ph.D. Candidate Status II
Consent of GPO &
Graduate School

ME 9993

7.5 credits
Ph.D. Candidate Status III
Consent of GPO &
Graduate School

ME 9994

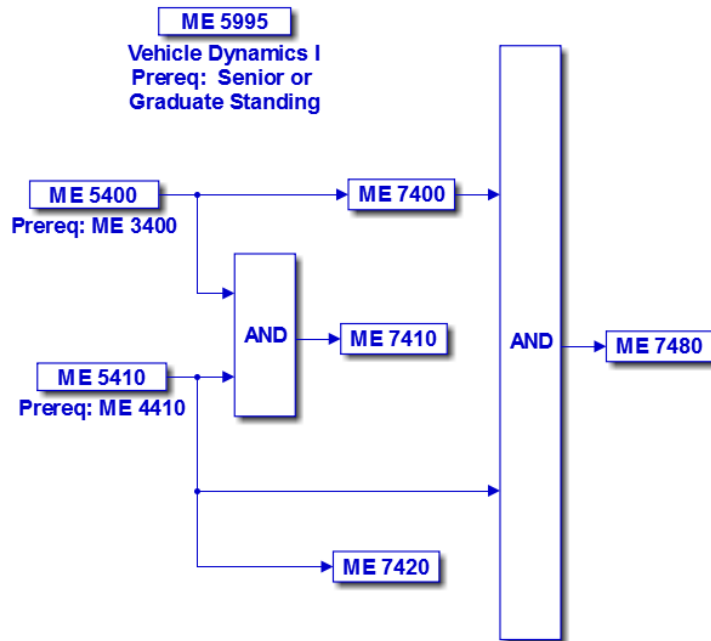
7.5 credits
Ph.D. Candidate Status IV
Consent of GPO &
Graduate School

ME 9995

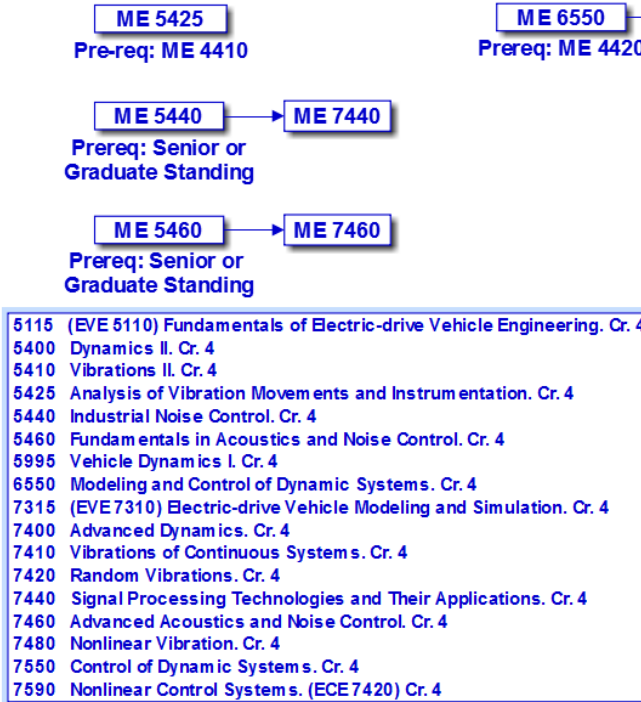
0 credits
Ph.D. Candidate
Maintenance Status
Consent of GPO &
Graduate School

Noise and Vibration Control

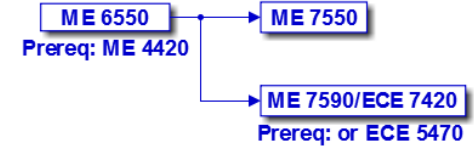
Dynamics & Vibration



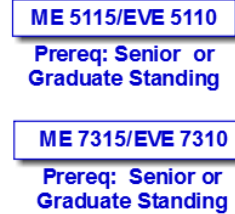
Signal Processing, Acoustics & Noise Control



Controls

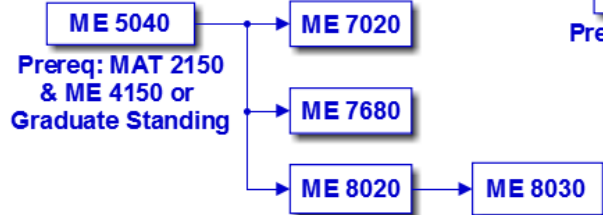


Electric Vehicle Engineering



Advanced Materials and Manufacturing

Finite Element Method & Computer Aided Design



ME 5580
Prereq: ME 4150 & Senior or Graduate Standing

ME 5620
Prereq: ME 4150 & Senior or Graduate Standing

ME 5500
Restricted to Undergraduate Students in the A-Grade Program only

ME 5700
Prereq: Graduate Standing

Theory of Elasticity

ME 5995
Introduction to Elasticity
Prereq: Senior or Graduate Standing

ME 7610
Prereq: Graduate Standing

Materials & Manufacturing

ME 5720 → **ME 7720**
Prereq: Senior or Graduate Standing

ME 5453
Prereq: ME 4150 or Graduate Standing

ME 5730
Prereq: Senior or Graduate Standing

ME 7451
Prereq: Graduate Standing

ME 7820
Prereq: Graduate Standing

5040	Finite Element Methods I. Cr. 4
5453	Automotive Manufacturing System and Processes. Cr. 4
5500	(ME4500) Advanced Engineering Design. Cr. 4
5580	Computer-Aided Mechanical Design. Cr. 4
5620	Fracture Mechanics in Engineering Design. Cr. 4
5700	Fundamentals of Mechanics. Cr. 4 Core course for Ph.D. students majoring in this thrust area
5720	Mechanics of Composite Materials. Cr. 4
5730	Tribology and Lubrication Technology. Cr. 4
7020	Finite Element Methods II. Cr. 4
7451	Advanced Manufacturing II: Material Forming. Cr. 4
7610	Theory of Elasticity. Cr. 4
7680	Manufacturing Processing Mechanics. Cr. 4
7720	Advanced Mechanics of Composite Materials. Cr. 4
7820	Engineering Non-Destructive Evaluation (NDE) Methods and Industrial Applications. Cr. 4
8020	Crashworthiness and Occupant Protection in Transportation Systems I. Cr. 4
8030	Crashworthiness and Occupant Protection in Transportation Systems II. Cr. 4

Special Topics

ME 5995

Additive Manufacturing- Principles and Applications
Prereq: Senior or Graduate Standing

ME 5995

Nanomaterials for Engineering Applications
Prereq: Senior or Graduate Standing

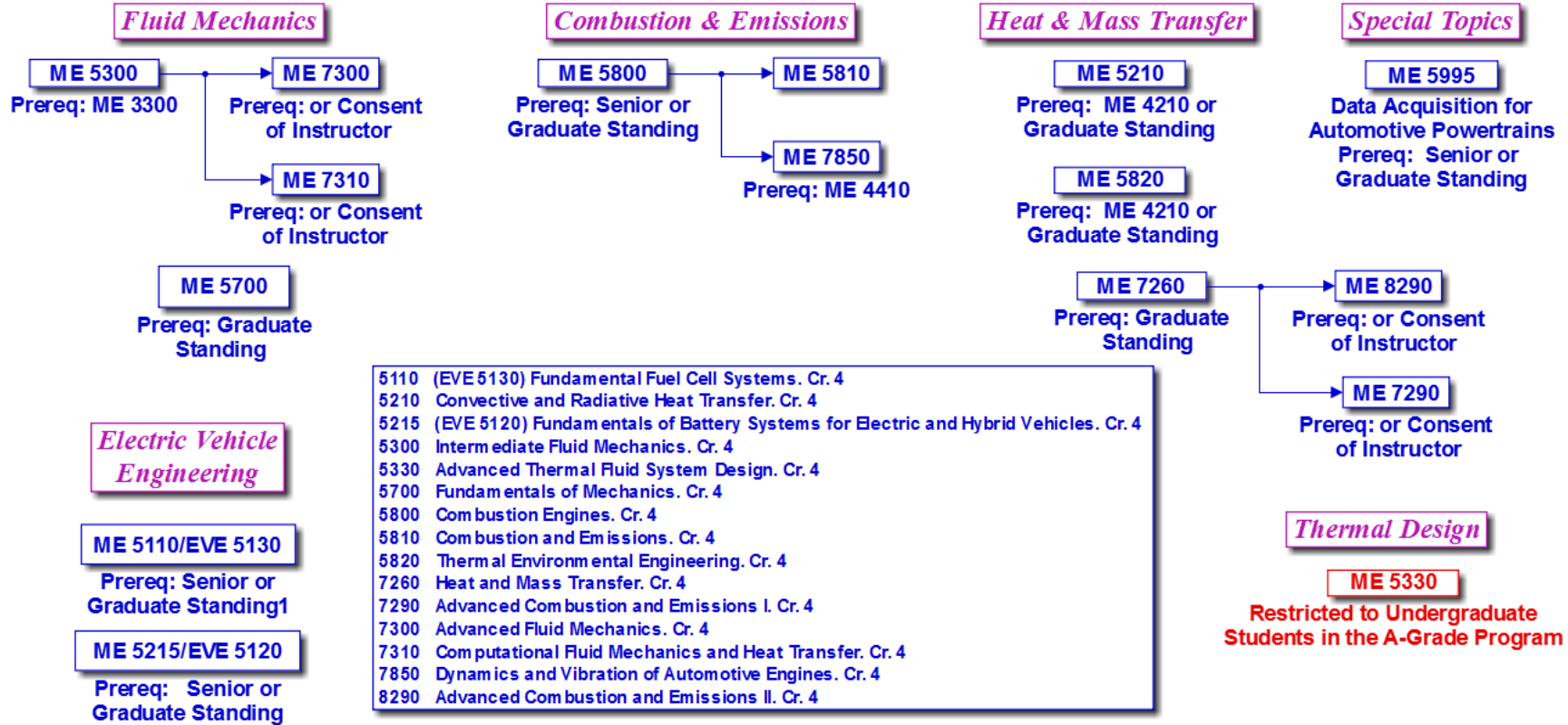
ME 5995

Multi-Disciplinary Design Optimization
Prereq: Senior or Graduate Standing

ME 5995

Lean Product Development
Prereq: Senior or Graduate Standing

Advanced Propulsion & Energy Systems



Concentration in Biomedical Engineering

