

Automotive Engineering Concentration

Woodruff School of Mechanical Engineering, Georgia Institute of Technology

Introduction

- Concentrations are optional, not required.
- Concentrations are 15 hours and the classes satisfy the Design Elective, the ME Elective and 9 hours of free electives.
- Concentrations are different than minors because they allow students to specialize in a particular area within ME.
- Classes used for a concentration may not also be used towards a minor or an additional concentration.
- This concentration is only available to ME majors who are following the 2017-2018 Catalog Year or later.

Concentration Requirements - To satisfy a concentration, students must do each of the following:

- If necessary, change your curriculum to the correct Catalog Year. This is done by [filling out a change of major form](#).
- Declare your concentration in OSCAR. http://www.degreeworks.gatech.edu/images/training/concentration_mgt.pdf
- Complete all of the required classes and the correct number of elective classes in the table listed below. The classes required for the concentration will satisfy the Design Elective, an ME Elective and 9 hours free electives.

Course Number and Name	Credit Hours	Lab ³	Pre-Requisites	ME Elective	Projected Offering (Fall, Spring or Summer) ¹		
					Fa	Sp	Su
Required Design Elective Class (Choose 1)							
ME 3180 Machine Design	3		ME 2110, COE 3001	Design	X	X	X
ME 4315 Energy Systems Analysis & Design	3		ME 2110, ME 3345	Design	X	X	X
Required Class							
ME 4823 Introduction to Automotive Engineering	3		ME 2202, ME 3322, ECE 3710	X		X ²	
Elective Classes (Choose 3)							
ME 4011 Internal Combustion Engines	3		ME 3322, ME 3345 (co-req)	X	X	X	
ME 4013 Hybrid Vehicle Powertrains	3		ECE 3710	X	X ²		
ME 4189 Structural Vibrations	3		ME 2202, MATH 2552	X	X	X	
ME 4215 Manufacturing Process Analysis ⁴	3		COE 3001, ME 3210, ME 3345 (co-req)	X		X ²	
ME 4325 Introduction to Fuel Cells ⁴	3		ME 3322	X	X ²		
ME 4405 Fundamentals of Mechatronics	3	X	ME 3057 (co-req)	X	X	X	
ME 4452 Control of Dynamic Systems	3		ME 3017	X	X		
ME/CHBE 4759 Electrochemical Energy Storage & Conversion ⁵	3		MSE 2001, Senior Standing	X	X ²	X ²	
ME/AE 4760 Engineering Acoustics & Noise Control	3		MATH 2552	X	X		
AE 3030 Aerodynamics	3		AE 2010 or (ME 3322 and AE 2802)		X	X	
VIP Vertically Integrated Projects ^{6,7,8}	1-3				X	X	
ME 4699 Undergraduate Research ^{6,7}	1-3				X	X	X
ME 4903 Special Problems ^{6,7}	1-3				X	X	X

Notes

1. This chart is a projected schedule of class offerings and may change at any time. Students should check OSCAR for exact class offerings during each semester. This table should only be used as a guide.
2. This class is sometimes offered during this semester.
3. This indicates that the course contains a lab component.
4. These classes are not offered on a regular basis. Students need to check OSCAR to see when the classes will be offered.
5. In fall 2016 this course was taught as ME/CHBE 4803, Electrochemical Energy Storage & Conversion. Students can only receive credit for ME/CHBE 4803 or ME/CHBE 4759, not both.
6. These classes must be automotive-related and approved by the Automotive Concentration lead faculty member.
7. Only 3 credit hours total of VIP, research and special problems can count towards the Concentration.
8. VIP coursework includes the following courses: ECE 2811, ECE 2812, ECE 3811, ECE 3812, ECE 4811 and ECE 4812.