

Mechanics of Materials 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, an additional concentration, or a second degree.
- This concentration is only available to ME majors who are following the 2013-2014 Catalog Year or later.

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

- If necessary, change your curriculum to the latest 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.
- Students may use a maximum of 3 hours of approved 4699 hours towards the concentration. The research MUST relate to the concentration and be approved by the concentration area faculty advisor.

Course Number and Name	Credit Hours	Lab ³	Pre-Requisites and Co-Requisites*	ME Elective	Projected Offering (Fall, Spring or Summer) ¹		
					Fall	Spr	Sum
Required Classes							
ME 3180 Machine Design	3		ME 2110, COE 3001	Design	X	X	X
ME 4214 Mechanical Behavior of Materials	3		COE 3001	X		X ²	
Elective Classes (Choose 3)							
ME/MSE 4790 Material Selection and Design	3		COE 3001	X	X ²		
ME 4041 Computer Graphics and CAD	3	X	ME 3180, ME 3345	X	X	X	
ME 4699 Undergraduate Research	3		Professor Dependent		X	X	X
ME 4791 Mechanical Behavior of Composites ⁶	3		COE 3001	X	X ²		
ME 4758 Biosolid Mechanics ⁵	3		COE 3001	X	X		
ME/MSE 4777 Intro to Polymer Science & Engineering	3		MSE 2001, CHEM 2311	X		X	
MSE 4325 Thin Film Materials Science ⁴	3		MSE 2001			X ²	
MSE 4010 Environmental Degradation	3		MSE 2001			X	
BMED/MSE 4751 Introduction to Biomaterials	3		MSE 2001		X		
CEE 3020 Civil Engineering Materials	3	X	COE 3001		X	X	X
CEE 3055 Structural Analysis	3		COE 3001		X	X	X
CEE 4550 Structural Analysis II	3		CEE 3055		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. This class is cross-listed with AE, ME, BMED and CHBE.
6. This class is cross-listed with AE, CEE, CHBE, ME and MSE.

Pre-Requisite Information for Non- ME Classes

- **ME/MSE 4777 Pre-Req Chain:** CHEM 1211K -> CHEM 1212K -> CHEM 2311