

## Design 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 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 appropriate 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](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 <sup>3</sup>	Pre-Requisites and Co-Requisites*	ME Elective	Projected Offering (Fall, Spring or Summer) <sup>1</sup>		
					Fall	Spr	Sum
<b>Required Design Elective Class (Choose 1)</b>							
ME 3180 Machine Design	3		ME 2110, COE 3001	Design	X	X	X
ME 4315 Energy Systems Analysis & Design	3		ME 2110, ME3345	Design	X	X	
<b>Elective Classes (Choose 12 hours)</b>							
ME 4041 Interactive Computer Graphics and CAD	3	X	ME 3180, ME 3345	X	X	X	X <sup>2</sup>
ME 4171 Environmental Conscious Design & Manufact. <sup>4</sup>	3		Senior Standing	X			
ME 4193 Tribological Design	3		COE 3001, ME 3340	X	X		
ME 4315 Energy Systems Analysis and Design <sup>5</sup>	3		ME 2110, ME 3345	X	X	X	
ME 3180 Machine Design <sup>5</sup>	3		ME 2110, COE 3001	X	X	X	X
ME 4699 Undergraduate Research (in Design)	1-3 <sup>6</sup>		Professor Dependent		X	X	X
VIP Vertically Integrated Projects <sup>7</sup> (1-6 hours of VIP, summing to 6 hours total with any ME 4699 hours)	1-6 <sup>6</sup>				X	X	
ME/BIO/BMED/MSE/ISYE 4740 Bio-inspired Design	3		Senior Standing, PHYS 2211	X	X <sup>2</sup>		
ME/MSE 4790 Material Selection and Design	3		COE 3001	X	X <sup>2</sup>	X <sup>2</sup>	
ME 4803 Capstone Design II <sup>4</sup>	3		ME 4182	X			
ME/ISYE 4803 Model Based Systems Engineering <sup>4</sup>	3		ME 2016, MATH 2552	X			
ME/NRE 4803 Probabilistic Risk Assessment	3		MATH 3670	X	X <sup>2</sup>		
ME 4803 Design Across Disciplines <sup>4</sup>	3		Junior or Senior Standing	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. Students are required to take one of the design elective course, ME 3180 or ME 4315, as part of the Mechanical Engineering curriculum. Both courses can be included in the Design Concentration; one is required and the other will be an elective.
6. Up to 6 credit-hours of ME 4699 and VIP coursework *combined can* be counted toward the Design Concentration. Only 3 hours maximum of ME 4699 can be applied to the Concentration.
7. VIP coursework includes the following course numbers: ECE 2811, ECE 2812, ECE 3811, ECE 3812, ECE 4811 and ECE 4812.