

BE 4336
Biocompatibility & Surface Modification of Materials
Fall 2016

Instructor:

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Office hours: Thursday 10:30-12:00 or by appointment

Credit hours: 3 (Monday, Wednesday, Friday 9:30-10:30)

Course Description: This course is designed to establish fundamentals in biocompatibility (both immunocompatibility and functionality). We will cover basic principles of cellular biology to understand the interactions of cells with biomaterials employed for prostheses, tissue engineering, in addition to other medical therapies. *Prerequisite* BIOL 1201 and 1202

Course Objectives:

1. Understand concepts of biocompatibility:
 - a. immune response
 - b. physiological function

79.5-80.4 B-
 78-79.4 C+
 70.5-77.9 C
 69.5-70.4 C-
 68-69.4 D+
 60.5-67.9 D
 59.5-60.4 D-
 Below 59.5 F

Date		Topic	Assignment
August	22	Introduction	
	24	Cellular biology review of key concepts	
	26	Host response: immune system	
	29	Acute and chronic response to biomaterials	
	31	Tissue/Biomaterial immune crosstalk	
September	2	Journal Review: <i>Immune response</i>	
	5	Labor Day holiday-No class	
	7	Sterilization and immune induced biomaterial failure	

16	Clinical trials and regulation
18	Journal Review: Clinical