

Spring 2007

BMEN 489/689: Polymeric Biomaterials

3 credits

Instructor: Prof. Melissa Grunlan

4:10 – 5:25 pm: Mon, Wed
Zachry 105A

The objective of this course is to provide students with an in-depth understanding of the preparation, properties, and biomedical applications of polymers. Specific topics include: polymerization, structure-property relationships, molecular weight and measurement, morphology, thermal transitions, network formation, mechanical behavior, surface modification, polymer biocompatibility, bioadhesion, biodegradable polymers, stimuli-responsive polymers, and polymeric hydrogels. Polymers used in orthopedics, ophthalmology, tissue engineering, drug delivery, and dentistry will also be described. Key advances from the recent literature will be reviewed to supplement specific lecture topics.