BMEN 6342 Biomaterials and Medical Devices

BMEN 6342 Biomaterials and Medical Devices (3 semester credit hours) Covers advanced topics in the field of biomaterials which are used in the engineering design and testing of medical devices which are used to augment/replace soft and hard tissues. Overview of current challenges and successes with implantable devices, biomaterials properties, clinical requirements, clinical applications and cases, and in-vivo behavior of different classes of natural and synthetic materials. Advanced engineering analysis of biological response and biocompatibility, degradation and failure processes of implantable biomaterials/devices. Students will become familiar with several classes of biomaterials, their current clinical engineering applications, and state-of-the-art research in the field. (3-0) Y