ITDE - INTERDISCIPLINARY ENGR.

ITDE 610 Introduction to Engineering Innovation in Medicine
Credits 4. 4 Lecture Hours.
An overview of concepts and topics at the intersection of engineering, medicine, and design for innovation including the design of medical technologies, rapid prototyping tools and techniques; discussion of intellectual property protection, and commercialization strategies, engineering design processes, design in a regulated environment (FDA Quality System Regulation), ideation and concept development methods, prototype development technologies, problem-based learning, and entrepreneurship; includes weekly expert panel sessions, skills development workshops, and field trips.
Prerequisites: Admission to the EnMed program; approval of instructor.

ITDE 611 Engineering Foundations in Medicine I
Credits 3. 3 Lecture Hours.
Exploration of the intersection of engineering, medicine and design which reinforces and practices the first portion of the biodesign curriculum "Identify," which involves finding and exploring important unmet health needs; exposure to problems and opportunities from clinicians, faculty and professionals, as well as cutting edge research, and a wide breadth of past, present and future medical technologies related to College of Medicine coursework.
Prerequisite: ITDE 610 or approval of instructor.

ITDE 612 Engineering Foundations in Medicine II
Credits 3. 3 Lecture Hours.
Exploration of the intersection of engineering, medicine, and design which reinforces and practices the second portion of the biodesign curriculum "Invent," which involves brainstorming potential solutions, as well as organization and comparison against key criteria for satisfying identified needs; exposure to problems and opportunities from clinicians, faculty and professionals, as well as cutting edge research, and a wide breadth of past, present, and future medical technologies related to their College of Medicine coursework.
Prerequisite: ITDE 611 or approval of instructor.

ITDE 613 Engineering Foundations in Medicine III
Credits 3. 3 Lecture Hours.
Exploration of the intersection of engineering, medicine and design which reinforces and practices the third and final portion of the biodesign curriculum "implement," which involves taking the next steps in commercializing a new technology; exposure to problems and opportunities from clinicians, faculty and professionals, as well as cutting edge research, and a wide breadth of past, present and future medical technologies related to their College of Medicine coursework.
Prerequisite: ITDE 612 or approval of instructor.

ITDE 614 Journal Club for Engineering Innovation in Medicine
Credit 1. 1 Lecture Hour.
Exploration of contemporary medical and engineering literature; identifying needs and opportunities for innovation in the standard and quality of patient care; includes weekly seminars.
Prerequisites: ITDE 610 or approval of instructor.

ITDE 684 Professional Internship
Credits 1 to 10. 1 to 10 Other Hours.
Supervised work in an area closely related to the student’s specialized field of study. May be repeated for credit. Must be taken on a satisfactory/unsatisfactory basis.
Prerequisites: Graduate classification in interdisciplinary engineering; approval of instructor.

ITDE 685 Directed Studies
Credits 1 to 12. 1 to 12 Other Hours.
Research problems of limited scope designed primarily to develop research technique.

ITDE 689 Special Topics In...
Credits 1 to 4. 1 to 4 Lecture Hours.
Selected topics in an identified area of interdisciplinary engineering. May be repeated for credit.
Prerequisites: Approval of instructor.

ITDE 691 Research
Credits 1 to 23. 1 to 23 Other Hours.
Research for thesis or dissertation.