

# Bio-Medical Equipment Laboratory

Biomedical equipment laboratory is offered to the students of biomedical design. This course provides a hands-on experience to the students on the use of the equipment as well as its design details. This course is a continuation to the theory courses on Design of surgical and implantable devices as well as Design of Monitoring and diagnostic devices.

This lab. course examines the way in which products and machines work, their physical operation, the manner in which they are constructed, and the design and societal considerations that determine the difference between success and failure in the marketplace.

The Course has the following objectives:

- To Learn Product Design through Dissection.
- To give students an understanding of mechanical / electro-mechanical functioning of biomedical devices through hands-on dissection experiences and exposure to the vocabulary of medical systems.
- To understand product architecture.
- To understand differences in consumer products and medical devices.
- To develop design repository for new product development.
- To develop an awareness of Design Process through hands-on design exercises/assignments that highlight the importance of functional specifications in design and how they map into specific functions, and the non-unique mapping between functional specifications and the final design solution (*i.e.*, multiple solutions)
- To make students aware of the power of clear, concise communications (oral, written and graphical) by having them present descriptions of mechanical/electrical/biomedical artifacts and critique each other's work.

## Available Equipment:

- Stethoscope, BP Apparatus, Pulse Oximeter
- Blood Mixer
- Needle Destroyer
- Dialysis Machine
- Infusion Pump
- Nebulizer
- Audiometer
- Heart Lung Machine
- Student Microscope
- Syringe pump
- ECG Machine
- Patient Monitor
- Ventilator
- Anesthesia machine
- Defibrillator
- Interferential Therapy
- Ultrasound
- Short Wave Diathermy
- Surgical Diathermy

