

**A List of Potential Term Projects for BME 687
Spring 2008**

- I. An Opto-Coupler Isolation Stage for Biological Signals
2. Measurement of Respiratory Chest Movements Using a Saline Filled Displacement Transducer.
3. Microphone Amplifier for Amplification of Heart Sounds
4. Moving Averager for EMG signals (Rectifier followed by integrator).
5. Notch Filter for Suppression of 60 Hz Contamination.
6. Measurement of skin impedance under various states
7. Optical Measurement of the Heart Rate from the earlobes
8. Waveform Peak Detector (e.g. for QRS detection in EKG)
9. Light/Dark Sensing Circuit using a Light Sensitive Resistor (LDR)
- I0. Capacitive proximity detector
- II. Magnetic proximity detector
- I2. Humidity detector
- I3. ECG Amplifier
- I4. EMG Amplifier
- I5. Single channel EEG amplifier for detection of alpha and beta waves
- I6. Any other project with instructor's consent

Group size depends on the project size. Maximum group size is three students.