Sample topics for the semester projects

Signal Processing

1. Speech
   a. Speech Recognition
   b. Speech Synthesis
   c. Speaker Identification
   d. Speech compression

2. Audio
   a. Feedback eliminator
   b. Music to score program
   c. Audio Effects
   d. Dolby Pro-Logic Decoder
   e. Musical Instrument Synthesis with physical modeling
   f. Audio Compression
   g. Servo Feedback Woofer
   h. 3-D Audio over headphones
   i. Room Acoustics
   j. Watermarking
   k. inverse-convolution for room acoustic removal

3. Acoustics
   a. Active noise cancellation
   b. Acoustic Beamforming

4. Signal Analysis
   a. Power Quality Analysis
   b. Heart Rate monitor

Communication

1. Digital Modulation
2. Analog modulation
3. Encryption