

EE 3940 – Global Seminar: Engineering and Research in Taiwan and Hong Kong
Prof. Jerry Sobelman – May Intersession 2008

Goals and Objectives of the Course

The purpose of this class is to obtain an understanding of a broad range of research and engineering activities taking place within Taiwan and Hong Kong. The specific technologies to be studied include semiconductor chip design and fabrication, computer design and manufacturing, wireless communications, nanotechnology, biomedical technology and transportation systems. Students will gain an appreciation of the current state-of-the-art in these areas and learn how engineering activities and advances take place in today's global technology environment. Site visits will be made to universities, government-sponsored research and development laboratories and high-technology companies.

Course Requirements

- Maintain a daily journal. Record your thoughts, reactions and impressions of each of the places that we visit. At the technical sites, be sure to record details about the technologies, designs, research directions, key people involved, etc.
- Participate: Listen carefully and ask relevant and thoughtful questions. Compare what you are hearing and seeing with what you have already learned in your previous courses and/or past work experience. Share your thoughts and ideas with the group.
- Write a Final Report: The written report is due by **4:00 PM, Friday, June 27**. Note that clarity, grammar, spelling, etc. are important so be sure to carefully proof-read your report. Use the following organization:
 - o Summary of Technologies: Based on what we have learned, select the 3 technologies which are of most interest to you. (Examples would be chip design, chip fabrication, wireless communications, biomedical devices, nanotechnology, etc.) Explain how each of these were being researched and/or developed into products at one or more of the sites that we visited. If appropriate, explain the different approaches taken by universities, companies and research labs. This section should be 6 double-spaced pages in length.
 - o Detailed Technical Analysis: Select one of the technologies in the previous section for further analysis. Explain the engineering, scientific and/or mathematical basis for the technology. If appropriate, state and explain the fundamental equations which govern the field. What are the key parameters that should be optimized? What fundamental or practical constraints limit the current state of progress in the area? What will the state of this technology be like 5 years from now? Apply concepts and knowledge gained from your previous technical courses to provide additional insights and explanations. This section should be 4 double-spaced pages in length.

Grading System

Journal 20%, Participation 30%, Final Written Report 50%