

Engineering Students' Forum
Sponsored by the IEEE student chapter
27 November, 2006 – Noon to 1 pm in ET 115

Present: *Dr. Gerard Voland* – Dean of the School of Engineering, Technology, and Computer Science
Dr. Carlos Pomalaza-Ráez – Chair of the Department of Engineering
Around 10 engineering students

Summary

Introduction

Dr. Ráez thanked the IEEE student chapter and in particular Mr. Ken Ramsey for making the arrangements for this forum and for bringing pizza and drinks. Dr. Ráez also thanked all the students for their participation in past forums. Dr. Ráez could not provide feedback regarding students' concerns with the Co-op office. These concerns were raised by students during the last forum. The Co-op office was asked to provide a response but so far they have not provided any feedback.

The following issues were brought forward by the students:

- **Why is there so much emphasis on hardware being designed and built in the senior design projects as compared to having projects with more software content?**

Dr. Ráez explained that the main objective of the capstone senior design project is to expose students to the complete cycle of engineering design. At the same time it is expected that students draw as much as possible on what they have learned in the various courses they have taken. It is natural to expect that for projects in the area of mechanical or electrical engineering, that a physical unit be delivered. However he agrees that in other types of projects, such as in computer engineering or more software oriented projects in electrical engineering, the percentage of the project devoted to building a physical unit could be much less and instead the project could be more at the system level, not component level, e.g. using off the shelf hardware with the design focused on software engineering and system design. As the variety of the senior design projects increases there will be a more flexible approach as to what is expected of the final products of the projects.

- **What are the plans for a program in Bioengineering?**

Dr. Ráez mentioned that a degree in Bioengineering is not in the near- or mid-future plans but that a concentration area in Bioengineering is in the works. There is currently a departmental committee working on a proposal to have this concentration area. One of the objectives of this area is to provide students with the proper background to continue their studies at a medical school or to pursue a graduate degree in Bioengineering. More specific details about this concentration area will be available before the end of the academic year.

- **When will more space be available for senior design projects, especially now that there is a civil engineering program?**

Currently there are serious discussions about using the space that will become available once IPFW Physical Plant moves to another location. The space being considered will be able to support senior design projects in the areas of civil engineering and mechanical engineering.

- **The availability of courses only once a year makes it difficult to progress towards graduation in a timely manner**

All sophomore level courses are being offered every semester; they are almost never canceled due to low enrollment. More and more junior level courses are being offered every semester as well. It is expected that as enrollments increase in the coming years all required junior level courses will also be offered every semester, as well. Starting next academic year senior design courses will be offered every semester, which will eliminate the current problem that if a student misses the first senior design course in the fall semester then he/she has to wait until the next fall semester to start the senior design course sequence.

Currently students are asked, actually they are required, to meet their academic advisors and discuss their one year course plans every semester. This process is in place to help them progress towards graduation avoiding scheduling mistakes. Finally, any course can be offered at any time, even during summer, if there is a way to guarantee that the enrollment will be ten or more students.

- **Why is there no cooperation between the Computer Science Department and the Department of Engineering, in particular in what seems to be similar courses such as Data Structures?**

Preliminary meetings between faculty from both departments have recently taken place to increase the level of coordination and cooperation. One of the main reasons why engineering students cannot take relevant CS courses such as Data Structures, Operating Systems, and Software Engineering, is that these CS courses currently require that students complete two courses in Java as prerequisites. The engineering curriculum is based on C and C++ and thus this requirement cannot be met by engineering students. Hopefully an agreement can be reached with the CS department since, in principle, Java has nothing to do with the outcomes of these courses and thus it should not be a requirement to begin with.

- **Will there be enough civil engineering electives in the next two years?**

The civil engineering program just started this semester (fall 2006) so that many courses are not currently being offered at the sophomore level and above. As the current students progress in their course plans, required and elective courses will be scheduled and offered. It is very important not to delay the graduation of any civil engineering student, since in order to bring up the program for accreditation, it is necessary that at least one student be graduated. The plan is to have the accreditation review visit in the fall of 2009, since the projection is that in the spring of 2009 there will be at least one graduating civil engineering student.