

Computer Engineering Program  
Industrial Advisory Board Meeting  
Meeting Notes  
May 26, 2006

**Present:** Chris Kettering, Chris Meyer, Dan Malone, Dave Atkinson, Ed Wild, Jim Medeiros, Joel Mellema, Joseph Fielding, Kathleen Marzahl, Kelly McClure, Leigh Torgerson, Mark Smith, Mike Flynn, Peter Boileau, Rina Raman, Rob Burgoon

**Faculty Present:** Al Liddicoat, Len Myers, Lynne Slivovsky

**Guests:** Dean Noori

**Welcome and Announcements**

The meeting was called to order at 8:30 am. Len welcomed participants and provided an overview of the day's agenda. Roundtable introductions were made. Len reviewed an outline of the new Dean's perspective and his perspective of how advisory boards might evolve.

**Membership**

Len informed the board that Chuck Wardrop has been replaced by Chris Kettering from Boeing Company. Rob Burgoon is substituting for our new member Janet Yun from Agilent. Other new members include Joseph Fielding from Chevron and Chris Meyer from Lockheed Martin.

**RFID Tour**

During the morning session, all participants went on a tour of the RFID lab, led by Al and Lynne. There were project demonstrations by some of the Capstone student team members.

**CPE Census**

Len discussed the complexities of the admitting policies.

Jim wondered about the teaching load for adding new courses. Al indicated there would be a net decrease in WTUs. Jim's concern is that EE or CSC faculty might have some concerns about taking on additional CPE-only courses. Len indicated the feeling is that the courses will be offered in such a way as to be a precedent for the entire college. Departments may want to follow suit.

Len shared CPE status highlights such as Roborodentia (won by CPE Blair Baker), and new robotics course. Civil Engineering is the only major that receives more SWE and College Awards than CPE. CPE students working towards MS and PhDs have increased. CPE has the highest retention rate of any major in the college. New faculty recruitment is excellent. There is a new excitement about hardware courses and these are influencing

the senior projects to be more hardware oriented. Discussed need to decrease certain course requirements.

Jim asked what staff recruitment challenges remain. Len indicated it is going as well as can be expected. Len is interested in having CPE as joint appointments who don't necessarily have PhD's in the home department major. He discussed two new excellent appointments and the process of how these recruitments came about. Len mentioned budget difficulties. Al mentioned the issue of additional resources needed with regard to the CPE senior projects.

### **CENG Dean Presentation**

Dean Noori presented his vision for the CPE Program, "Planning for a Global Future." Members requested a copy of his slides.

Al led a discussion regarding the senior project rubric.

Rina led a discussion regarding the objectives to think about. Joel mentioned that under the current structure, the board has been able to get into CPE specific awareness – the curriculum, identity, etc. Whatever future involvement with other boards, he does not want to lose this degree of depth. He doesn't want to become more superficial in order to become broader. Dave concurred. The danger as they see it would be the dilution and the inability to have an intense CPE-specific conversation. Dave does not want to dilute the current dynamic or lose continuity. Jim said the Fall meeting would be the general plenary of boards and the second day would be more like our current meetings. Members concurred. Kathleen mentioned that the dean's advisory board is like this already. She suggested that the inclusion would be a cross pollination of other boards to that board. It would be a group of all the members having a day together and having sessions that would address the entire college.

Dan thought the capstone was great. He thinks maybe IAB members could come up with project ideas that could be helpful. Dan is sure there would be ideas that could extend the RFID project or other things and even provide funding towards the capstone projects. Al mentioned that most ME senior design projects are sponsored projects. Mike noted that the capstone appears a success; he does not see the need for a continuing senior project. Chris Meyer suggested it would be better to do two of these capstone courses. Joel said the other side is that they are already taking so many courses. Dave said we don't want to lose the individual aspect. Al indicated that currently students submit individual reports within the capstone as well as group reports. Mike said the capstone is the kind of course we all applaud.

Kathleen said if she was interviewing she would spend a lot of time probing the capstone project more than anything else, because it hits on so many interdisciplinary experiences and human interaction.

Al indicated there is no lecture component to the capstone class. Al suggested that if the senior project is eliminated, it could be a three course series. Dave indicated other

universities, such as Georgia Tech, are going to a year long capstone project and have eliminated the senior project. Jim said coming out of school he agrees with Kathleen that the capstone is the much more interesting. Rina indicated it's much more indicative in how they would perform in a work situation than the senior project.

Dave asked whether students might perform better on other classes if there wasn't a senior project. Mike said he imagines it could go to the senior year, but it's canonically set in the junior year. Rina likes the fact that the Capstone is not during their final quarter. She said it's good for them to have it a little before. She like the fact that it provides an opportunity to even learn that sometimes projects are a failure.

The capstone is a fairly new idea on campus. The capstone is the first time in the CPE course of study that students are introduced into project management. Chris Kettering suggested that the naming of "capstone" might project different meanings to different lay people who might be interviewing. He suggested a hierarchy of a project-based learning series. He suggests "Senior Project" might evoke a more clear meaning the "Capstone." Dave said some of the projects could have been developed further. He sees the next phase where they downsize the number of teams to ultimately the best team. Rina suggested even having teams critique each other's projects and perhaps work together to refine the best projects.

Dan said some students have the opportunity to hide. Jim said the Capstone is bringing together everything you need to be successful in most engineering problems. Kelly noted another element of difference. From what he saw of their gant charts and project management, it is a great learning experience and really valuable. Within the Capstone there is a pragmatic focus on getting the work done. Kelly sees senior project as a place where students can develop ideas to a more refined level, and produce novel items. Mark asked why such development can't be done in the capstone. Jim mentioned you wouldn't do solo projects in industry. Kathleen suggested that within teams, the competition stimulates refinement.

Rina brought the conversation back to the Fall objectives topic. Rina reviewed the CPE IAB history and how objectives that were agreed on in the first six months have been realized. Mark indicated he is very happy that things are becoming a reality. Mike reminded about past discussions regarding the move towards CPE being a department. He asked for clarification. Al gave a brief history of the progress and the current status of CPE's independence.

Dan Malone recommends an email list. Dave recommends a common online workspace. Mark wonders how the independence affects the IAB role. Jim suggested processes for putting a little more time into the process. Dan said the chat room idea or online meeting area would be good. Kelly suggested an area online where they could enter ideas for projects, etc.

Al indicated the college is forming a website and that St Jude Medical and other companies are providing a list of funded senior project suggestions, many of which are

tied to internships. He suggested possibly having a descriptive list of the senior project students are working on and see if there are ties to industry.

Chris Meyer shared that his organization finds that information assurance is an area where they are having difficulty finding people for DISSP. He suggested Cal Poly might want to offer a course in it. University of Maryland is one school offering it. He is not aware of a West coast school offering it. Lockheed has a need for several hundred students with DISSP skills. Board members agreed that putting together a list of employment gaps where they're having trouble filling positions is a good idea.

Al mentioned that some of the new faculty have had little industry experience. He suggested seeing if there is support or ideas from the board for faculty development. Jim mentioned that his company is using two faculty resources and it is a positive experience.

A message from Steve Williams was read to the board expressing his ideas for the IAB Chair and his willingness to serve another term. Rina indicated the need to finalize plans for the next meeting. Mike nominated Rina Raman as a Chair candidate. Joseph called for a vote. All were in favor. Chris Kettering suggested having the Chair and Vice Chair delineate what they perceive the position is. Al indicated that their responsibilities include helping with the formation of the CPE IAB agenda and chairing member-only sessions of IAB meetings. Rina agreed. Jim indicated a willingness to be Vice Chair. Board members agreed to officially note Steve William's tenure as CPE IAB Chair and to thank him for his excellent service.

The meeting was adjourned at 4:19 pm.

Respectfully submitted,

Rhonda Walker  
CPE IAB Secretary