

## **RUNNING FOR ECE DEPARTMENT CHAIR - WINTER 2007**

I didn't win when I ran for Department Chair. Actually I came in last in a field of six. But I think my ideas are worthwhile and so here are a number of them taken from my presentation, from my responses to questions and from some additional thoughts.

### **CHALLENGES TO OUR DEPARTMENT**

Our Department has always had challenges. There have been times when we've been inundated with students. There have been times when our enrollment has dropped precipitously. We've always had faculty unhappy about one thing or another. And we've always had the challenge, especially now, of keeping our curriculum up to date and coherent.

I would argue that our Department has done as well as it has over the years for two main reasons:

- (1) First is the fact that over the years there have been so many faculty who have worked so hard keeping up to date, teaching their classes, developing curriculum, developing labs, doing administrative work and so on.
- (2) And second is all our meetings and all our voting. I know that many on campus think our doing everything as a committee as a whole is much too cumbersome but I consider it one of our greatest strengths. I know that sometimes our results are convoluted but I think it's of overriding importance that everybody have their say and have their vote.

### **MAIN RESPONSIBILITIES OF THE CHAIR**

I consider the following to be particularly important responsibilities of the chair.

1. Keep the faculty informed. I cannot emphasize this enough. There is too much going on that the faculty are simply not aware of.
2. Facilitate faculty discussions on issues facing the Department, including policies for the distribution of resources.
3. Have strong working relationships with the Dean, the other Departments in the College and the rest of the University. I know this sounds like boilerplate but it really is important. We are much more effective if we're working together.
4. Actively pursue and be receptive to student input.

### **PROPOSALS AND OPINIONS**

Here are a number of things I think the Department should be talking about and doing something about.

## **CURRICULUM**

1. I think we should begin a review of our curriculum by establishing an ad hoc fact finding committee of no more than five faculty to report to the Department what they think is working, what they think isn't working, what they think our options are and what they think the tradeoffs are. As part of this process the ad hoc committee should not only be talking with us but also
  - (1) Look at what other schools are doing. In particular find out what other schools are learning from their assessments and what they're doing about them.
  - (2) Talk with industry and former students to see what they're up to, what directions they're heading, what skills they think our graduating students should have.

## **LABS**

Labs are clearly our strength. They distinguish us from most other schools. But they really need our serious attention. We really need a more organized program for getting new equipment.

1. I think we should visit labs in engineering schools from San Diego to the Bay Area to find out what equipment they have, how they got it and how they're using it.
2. I think we should make use of what we learn from other schools together with our own ideas to put together a proposal for a yearly flow of money for new lab equipment that we can count on from a source like the lottery fund. I think we should include as many other engineering and science departments in this proposal as we can.
3. I think we should put our labs on the web. To do this well will take a great deal of effort. But not only will the faculty who participate learn a great deal but I think our curriculum will greatly benefit. Note that I'm not proposing that all the faculty need to agree on one set of labs. There can be multiple labs for any given class. And of course faculty can always write their own labs.
4. I think we should make it a Department goal for our students to be able to write top notch lab reports by the time they graduate. Perhaps someone should write a pamphlet entitled "What Everyone Should Know About Writing Lab Reports Without Having To Be Told".
5. I think ECE 464 should become a 2 unit junior level prerequisite to senior project with an emphasis on project design that includes the writing of specs, testing, simulation, layout and so on. The students should write a mock senior project report. The senior project coordinator should be the class coordinator for this class.

## **GENERAL EDUCATION**

I think general education is important for its own sake and for helping to prepare engineers to serve in the public sector. I heard a talk by Robert Lucky several years ago at a conference where he was lamenting the fact that not enough engineers were involved in the making of public policy and in particular that no engineers were on the FCC. What I think we need to focus on is improving general education. Even if that means working to change CSU guidelines.

1. First of all I think we should talk to the faculty who are teaching general education to our students. At the very least we should know in detail what's in these classes. I am very much encouraged that the math department created a new differential equations class Math 224 for engineers. We now need to follow through to see if it's really doing what we'd like it to do. I would also very much like to see if topics like net neutrality, sustainability, disaster preparedness and so forth are covered - and in how many classes. The more classes that talk

about this kind of material in everything from history to political science to ethics the better.

## **ENROLLMENT/STAFFING**

1. We need to do a serious analysis of what our enrollment is, where it's heading and why.
2. We should set a goal of limiting our 100 and 200 level classes to 24 students so that all the students in the same lecture can be in the same lab that is either taught by the instructor or where the instructor is responsible for coordinating with the part-timer teaching it. This would require that the circuit analysis and electronic labs be taught concurrently with the lectures.
3. We should work with other departments to come up with a proposal for closing a department's enrollment when it's no longer possible for
  - (1) Beginning Freshmen to graduate in three and one-half years after starting ECE 207
  - (2) Transfer students who have completed the math, chemistry and physics requirements to graduate in three years

## **DEPARTMENT POLICIES**

1. I favor a strong graduate program. But not at the expense of the undergraduate program. I consider the undergraduate program to be the bread and butter of our Department. I don't think we should be offering graduate classes if it causes a delay in the graduation of our undergraduates.
2. We should make use of Peoplesoft's ability to assign students to one advisor for the whole time they're in our Department with the provision that a student can change advisors if the new advisor agrees.
3. When Bill Wootton first set up our system for scheduling classes he argued that once an instructor taught a course two times then any other instructor should be able to teach that class. I think that once an instructor teaches a class three times then any other tenured or tenure track instructor should be able to teach that class.
4. Once I FERP I plan to go to department and committee meetings and hopefully be listened to but I won't vote. I think department decisions should be made by the current tenured and tenure track faculty. I also don't think part-timers should vote.
5. I think a department meeting should be set aside every May for the faculty to discuss the performance of the chair.
6. I think that all exams should be in class - even those for online classes. It's too easy for students to cheat in online classes.

## **STUDENT FEEDBACK**

I think we need to come up with better ways of getting feedback from the students.

1. I think the chair together with interested faculty should attend at least two joint meetings a year of the IEEE/ISA to hear their concerns and answer their questions in areas including the curriculum, advising, scheduling, class registration and so on. We already know that the students have complained about the coordination between the math they're doing in their math

classes and the math we're using in our engineering classes. I also suspect that the students don't consider our courses to be as coherently connected as we consider them to be.

2. Once or twice a year faculty should make presentations to joint meetings of the IEEE/ISA on the similarities and differences among Electrical Engineering, Computer Engineering and Computer Science majors.

## **MONEY**

1. The Department budget of around \$25,000 is available to everyone on Peoplesoft. How this money is spent should be open for discussion.
2. The money we have in foundation accounts should be open for discussion.
3. I think Cal Poly Pomona should fully disclose all expenditures like is done at CSU Long Beach. Since the administration is reluctant to do this I think we should take the lead and publish all our salaries, expenditures and foundation accounts and then challenge everybody else to do the same. My salary is \$87,000 a year.
4. I think the CSU pay schedule is broken. I think that things like "hard to hire" increases for selected areas, "merit pay" and "super steps" took a system that worked reasonably well and made it bad. I think we should go to a system of faculty pay that ranges from \$50,000 to \$90,000 with five 4% steps for assistants, five 4% steps for associates and five 4% steps for full professors that eliminates overlapping between the ranks and eliminates "super steps". Present faculty will get 4% step increases until they reach the top step of their rank. If an assistant or associate professor is presently making more than the top step of their rank they will not get step increases until they get promoted. I know some faculty argue that they should get extra pay because of their "market value". My response to them is that they should get their extra money by consulting one day a week and/or by working in industry during the Summer.

## **WEBCASTING**

1. I think that we should get together with other engineering and science departments to put together webcasts targeted at high school math and science teachers as well as teacher training programs on what we would like our incoming students to be able to do in math and science. This will take a great deal of effort to do well but I think it would be worth it. I think it's a real opportunity.

## **SEARCHING FOR THE NEXT DEAN**

1. I think the Department Chairs should take the lead in proposing the kinds of questions the faculty should be asking in the next Dean search. They should, in particular, be coming up with questions for prospective candidates like what was their best idea in the last year, what are they most proud of accomplishing in the face of initial opposition, how have they made information about resources transparent, how have they divided resources, how proactive have they been in soliciting the ideas from others and so on.

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