

Summary of Discussion at All-College Meeting 16 September 2005

Following Dean Peercy's presentation at the all-college meeting on 16 September 2005, the COE 2010 Task Force asked the attendees to discuss and respond to 3 questions:

1. What are the most important drivers for change you see in engineering?
2. How will these drivers change the environment for the UW-Madison College of Engineering in 2010 and beyond?
3. How do you expect this changing environment to affect your own work and experience in the CoE?

Some attendees responded to these questions, but many answered some variation on these questions or raised related issues. Some attendees also shared comments via email after the meeting. The summary that follows is therefore intended to capture the spirit of the discussion rather than to provide a detailed or quantitative analysis of the responses.

Attendees seemed agreed that drivers for change do exist and will require a response. Attendees' comments can be grouped into four areas of concern plus a handful of suggestions for moving forward. The concerns are:

1. Who will be in our classrooms?
2. What will our disciplinary boundaries look like (to us and to our students)?
3. Will we be able to compete successfully (for funding, students, jobs, etc.)?
4. Where will our funding come from?

The respondents seem to agree that we have it in our power to shape the answers to each of these questions, but must come to agreement as a college on what we would like the answers to be. Several respondents offered general advice for approaching the issues, including:

1. We need to address these changes actively;
2. We must engage all members of the college community – including students, classified and academic staff, as well as faculty – as we explore how best to move toward 2010;
3. We should keep an eye on our peers, who are facing the same issues, to see how they respond, and yet;
4. We must be willing to rethink our boundary conditions/assumptions.

Additional details on comments during and after the all-college meeting are on the following page.

Excerpts from Discussion at All-College Meeting 16 September 2005

The excerpts that follow are drawn primarily from notes taken by Sarah Pfatteicher during the all-college meeting. In addition, several comments listed here appeared on the whiteboards in the lobby following the meeting, and in emails received by Task Force members in the days after the meeting. The comments have been arranged according to the four concerns listed above and may have been edited for length.

1. Who will be in our classrooms?

Expectations of new students

Better motivations for students (and ourselves)

Declining student population – can/should univ create outreach programs aimed at elite students being recruited by east coast schools? Or reach more “middle section” of students?

Increasing class sizes/changing student-faculty ratio

Cost of high-quality eng’g educ is out-of-reach for many – can tech make it more accessible?

Diversity as traditionally viewed has changed

Half population of world not fully participating in engineering (women); can learn from medical profession and others how to make progress in this area.

Pipeline problem – getting students here depends on starting to engage them in elementary school.

2. What will our disciplinary boundaries look like (to us and to our students)?

Boundaries are blurring (across time zones, cultures, disciplines, etc.) and has implications for our environment

More connections among disciplines

Broader education

Importance of interdisciplinary education and linking across departments (e.g. communication component in design course)

Courses tend to get too isolated; students need to be reminded of connections across their courses.

More interdisciplinary programs such as MSP (e.g., in energy?)

Offer a degree in innovation – what would that student have to master?

3. Will we be able to compete successfully (for funding, students, jobs, etc.)?

Engineering off-shoring

Changing center of influence from US/Europe to Asian subcontinent (i.e., China, India, etc.)

Culture changes related to tech, but also international/global population

Need to give our students skills that can’t be put on the Internet and shipped elsewhere overnight.

Need to move outside of Wisconsin and engage changes in India, China, Africa, etc. – engineering is the productivity/wealth generator for this to occur with humanities.

Beyond K-12, society’s value of education is not adequate.

Engineers of the future have to have: A global perspective with an exposure to the multicultural environment in which they will have to work . . . global perspective and cultural exposure . . . Good education and training . . . in the global business culture. . . . Also general purpose operational ability in addition to their specialist expertise.

Faculty . . . should have a global perspective, an exposure to cultures of other countries, and knowledge of the global business culture. There may be the need for faculty development efforts in this regard.

The need for learner- centered education is all the more now as education becomes global reaching learners of varying learning styles, learning strategies, and learning needs.

Distance education will be a prominent mode of education of the future. Distance ed may benefit from collaboration and partnerships with other universities, and will certainly require a supportive organizational structure and environment.

4. Where will our funding come from?

Shrinking budget for CoE research via feds/industry & shrinking budget for CoE from state.

Increased pressure from 2nd/3rd tier institutions for funding from agencies

Decreasing money from state.

Frustration/resignation with relations with legislature – does this relationship have to be as it is or can we affect it? Can't guarantee payoff, but if we don't try, we know results won't help us.

Can the state afford the # of campuses it currently supports?

What alternative sources of (research) support are available? (changing arrangements with start-up companies? "privatizing" a state university?)

Work with legislature to improve relationship (and thus funding future).