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### Memorandum

To: CBE Faculty  
From: TWR - Assessment Chair  
Re: 2005 EBI Survey Results Summary

Results from the EBI exit survey of graduating seniors for the last academic year have been compiled and evaluated. The current analysis provides conclusions in several areas: overall trends, updates on areas of earlier concern, and new areas to monitor.

#### **Survey Administration and Analysis**

This year the survey contains results from the December, May and August graduates. Results are compared with the entire EBI participation group, with the Carnegie Class 1 (Research) university cohort, and with the Select 6 peer group (MIT, Stanford, CMU, Northwestern, U of Southern California, and UT-Austin, this year). The peer group changed again slightly this year, both because of changes in schools participating in the EBI survey and also to increase comparisons available for some of the smaller and less common degree programs here at UW. This group is the same as "Set 1" used in 2003.

Coverage of graduating ChE seniors returned to normal levels again this year. We received 68 forms from the 86 graduating seniors, for a return rate of 79%. The observed rate of 60% in the 2004 academic year, was below our historic levels of 90% and slightly below the college average of 76%, but right at the 59% average for participating research universities. Our return to logging individual forms in was successful in returning closer to our usual high recovery.

#### **Overall Trends**

On average, the senior ratings are back into a normal range. In general, our scores are improving in the specific areas identified earlier for monitoring. The faculty will consider these and other factors in a discussion.

#### **Follow-up on Areas of Previous Concern**

Four areas are currently being monitored: 1) physics courses, 2) multidisciplinary teams, 3) oral reports, and 4) "understanding the impact of engineering solutions in a societal/global context."

The physics score has increased slightly, to 4.10, but we still rank 6<sup>th</sup> in our Select 6 group. This remains a college-wide problem, and will be a continuing concern for the APCRC working group. We also note that satisfaction with differential equations has declined slightly for the second year, to 4.20, and we now rank 6<sup>th</sup> in the peer group and are 1.74 points below the

mean. This issue has also begun receiving attention from the APCRC. Our score in Chemistry also decreased, but the 5.54 still places us in the middle (4<sup>th</sup>) of the Select 6 group.

Team-related feedback has dropped slightly, after last year's improvement. A range of questions relate to different aspects of this:

Question	2004 score	2005 score	$\Delta$	Select 6 average	Select 6 ranking
15 – Satisfaction with value derived from team experiences	5.51	5.34	-0.17	5.38	4
16 – Satisfaction with value of engineering program student organization activities	5.13	5.05	0.08	4.75	3
17 – Satisfaction with leadership opportunities in Engineering program's extracurricular activities	5.15	5.23	0.08	4.76	2
29 – Satisfaction with fellow students' ability to work in teams	5.71	5.62	-0.09	5.53	3
40 – Skill Development – Degree that engineering education enhanced ability to function on multidisciplinary teams	5.55	5.42	-0.13	5.38	4
Overall rating (15, 16, 17)	5.52	5.26	-0.26	4.97	2

As before, the feedback on their peers (Q29) is more favorable than their satisfaction with their own abilities and improvement in team-related work (Q 15 and 40), but scores are adequate compared to the Select 6 peer group. Additional attention to team opportunities in our courses could be planned to improve this.

Oral communication skills have dropped, and our students now rate themselves below their peers elsewhere. However, last year's score on this was the best seen in the 5 years of the survey. This area appears to need ongoing efforts.

Question	2004 score	2005 score	$\Delta$	Select 6 average	Select 6 ranking
45 – Skill Development - Degree that engineering education enhanced ability to communicate using oral progress reports	5.30	4.99	-0.31	5.49	6

Written communication ratings (Q 46) appear to be satisfactory and stable. Our scores are above the peer group and place us 2<sup>nd</sup> in the Select 6.

Many of the ratings of broader impacts beyond the technical field are of continuing concern, in addition to the earlier “global/societal impact” topic. We still lag our peer institution self-ratings. We will investigate to see which activities may be producing this increase, and continue these efforts. Generally, many of the “design experience” issues (Q 59-66) have scores 0.5 – 1.5 below the peer group mean, and rank 6<sup>th</sup> or 7<sup>th</sup> in the comparison. It is clear that our

students do not understand the connection between the technical material covered in courses and the larger context within which they will be employing their skills in the outside world. We need to identify several ways to correct this problem.

### **Advising**

Advising scores are doing well, with scores by faculty advising at the average, and advising by non-faculty settling in 1/3 point higher and ranking 2<sup>nd</sup> in the peer group. Our new undergraduate secretary is providing useful information to the students. Faculty advising scores vary widely between schools and also show a relatively large standard deviation, so one conclusion is that advising continues to be uneven between the many advisors. We will watch to see if current information and training activities improve the level and the variation. Faculty advising remains an area for improvement.

### **Trouble Areas from Last Year**

The “Satisfaction with amount of work required of in major courses” (Q11), which had decreased to 3.98 and ranked 7<sup>th</sup> in the peer group. This year the score rose 0.20 points and placed 5<sup>th</sup> in the peer group. This may not be a lasting problem, but will continue to be monitored.

### **New Areas to Watch**

One new area noticed is the generally high scores for the placement office with the exception of making contacts through alumni in job searches. It may be useful to work with the student chapter of AIChE to see if a new effort in this area would be useful to graduating seniors.

We will discuss the other items highlighted in the “top-15” and “bottom-15” lists, looking at both the longitudinal 2000-2004 comparison and the Select-6 comparison. We should be selective in identifying groups of related topics that may be addressed now, or added to our list of areas to watch for confirming data of new trends.

### **Action Items**

- continue to get a higher yield on EBI exit surveys, by monitoring returns
- consider increased opportunities for team project training and practice
- improve faculty advising
- improve awareness of applications, connections, and impact on outside world