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Memorandum

To: CBE Faculty
From: Assessment Subcommittee (DJK, RMM, TWR, RES)
Re: 2004 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 (CMU, Northwestern, UT-Austin, U of Southern California, Columbia, and Rice Universities, 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.

Coverage of graduating ChE seniors returned to normal levels again this year. In the 2004 academic year, we recorded 51 surveys for the graduating class of 85, for a rate of 60%. This is below our historic levels of 90% and slightly below the college average of 76%, but right at the 59% average for participating research universities. Instead of logging forms in as in earlier years, we distributed them through senior classes as usual but relied on the students to return their completed forms to the department office. This may have resulted in inputs from a less completely representative subset of finishing students, and we plan to return to logging individual forms in again.

Overall Trends

On average, the senior ratings are back into a normal range. Last year we saw a general decrease in scores averaging 0.5 points across the board. It was suggested that this was due to small returns and selection of extremely opinionated students among those returning forms, and that if so the half-point dip would be transient. Such appears to be the case. As a result of last year's dip, our longitudinal comparisons with 2003 scores are very favorable. Still, by comparing our scores with the peer institutions and with longer-term longitudinal averages, useful conclusions may be made. 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 decreased again, to 3.31 from 4.05 last year. We still rank 7th in our Select 6 group (1.00 below the average of 4.31). 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, to 4.50, and we now rank 7th in the peer group and are 0.74 points below the mean. This issue has also begun receiving attention from the APCRC.

Team-related feedback has improved slightly, but components are still rated low. A range of questions relate to different aspects of this:

Question	2003 score	2004 score	Δ	Select 6 average	Select 6 ranking
15 – Satisfaction with value derived from team experiences	5.41	5.51	0.10	5.52	5
16 – Satisfaction with value of engineering program student organization activities	4.92	5.13	0.11	4.86	2
17 – Satisfaction with leadership opportunities in Engineering program's extracurricular activities	4.85	5.15	0.30	4.95	4
29 – Satisfaction with fellow students' ability to work in teams	5.93	5.71	-0.22	5.60	3
40 – Skill Development – Degree that engineering education enhanced ability to function on multidisciplinary teams	5.05	5.55	0.50	5.50	4
Overall rating (16, 17, 18)	5.03	5.52	0.49	5.12	3

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 headed in the right direction. Additional attention to team opportunities in our courses could be planned to improve this.

Oral communication skills have recovered strongly from last year's decrease, and our students now rate themselves comparably to their peers elsewhere. Scores are the best seen in the 5 years of the survey. This area appears to be responding well to ongoing efforts.

Question	2003 score	2004 score	Δ	Select 6 average	Select 6 ranking
45 – Skill Development - Degree that engineering education enhanced ability to communicate using oral progress reports	4.44	5.30	0.86	5.22	4

Written communication ratings (Q 46) appear to be satisfactory and stable.

Many of the ratings of broader impacts beyond the technical field are of continuing concern, in addition to the earlier "global/societal impact" topic. Several scores in this area increased this year, although 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 6th or 7th 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 up slightly from last year, and advising by non-faculty remaining a full point higher and ranking 1st in the peer group. Clearly, our new undergraduate secretary is doing well even as she continues to learn the position. 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.

New Areas to Watch

We will discuss the items highlighted in the "top-15" and "bottom-15" lists, looking at both the longitudinal 2003-2004 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

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