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Introduction
This report presents findings of the department’s 2008-2009 academic year student outcomes assessment activities. The data, on which this report is based, including a breakdown by each dimension of the rubrics used, is available on the shared CSADMIN directory. A few administrative notes on the data collection: Due to scheduling issues two assessment activities (outcomes Gen 3b and IT-1a) were postponed from spring 2009 to fall 2009 to get a larger sample size. Also the postponed CS1 outcome evaluation in CSCI 4227 Operating Systems was done this academic year.

Summary
The overall report is a positive one with all assessments of the outcomes showing student performance at or above expectations. There were, however, three issues found in the analysis of the data that may bear further investigation by the Curriculum Committee:

1. While scores on our analysis of written work have always been satisfactory four rubrics: Gen 3a, IT1-b, IT2 and IT3 showed low scores on dimension dealing with documentation. This may indicate a need to take action, as a faculty, to emphasize the need for explanations. The data from prior years has also indicated this as one of our weaker points.
2. The exit interview indicated the students were dissatisfied with the hands on skills they received in the area of networking
3. The exit interview indicates that one third of the students did not feel they received the skills in management and accounting that are listed in the IS program’s outcomes. However there were only three responses, so this may not be significant.
General Outcomes Assessed

Gen 1c in CSCI 3350 Software Engineering 2
1) Each graduate will be able to perform well as part of an organization. (ABET d, f)
   c) Each graduate will be able to perform as an integral part of a team. (ABET d)

Data for this outcome was collected in the spring of 2009 using the college’s teamwork rubric. The overall results were good with 92% of the students meeting or exceeding expectations.

With no individual dimension having less than 70% of the students meeting or exceeding expectations no curricular actions are suggested.
Gen 2a Ethics In CSCI 3250 Software Engineering 1

2) Each graduate will be able to perform well as a part of society. (ABET e, g, h)
   Each graduate will be able to recognize, discuss and answer questions about a broad range
   of social, ethical, legal, global and professional issues in the computing field.

Data for this outcome was collected in fall of 2008 using the departmental rubric. The overall
results were good with 86% of the students meeting or exceeding expectations.

With no individual dimension having less than 70% of the students meeting or exceeding
expectations no curricular actions are suggested.
Gen 3a in CSCI 2020 Database Fundamentals

3) Each graduate will possess core knowledge of computer fundamentals. (ABET i)
   a) Each graduate will understand and apply database management systems. (ABET i)

Data for this outcome was collected in fall of 2008 using the departmental rubric. The overall results were good with 84% of the students meeting or exceeding expectations.

A few of the dimensions do identify areas for improvement or further investigation. The first is the perennial problems of commenting code. The low score here may be due to the use of labs from early in the term for the sample, before students became familiar with the expectations, or due to the fact taking measures in timed labs instead of homework. A repeat of this measure using later labs or a homework would be illuminating. It does however bear out the low score on the justification of decision metric on the rubric for IT-2 (see below)
The second area is the handling of exceptional cases, in this case nulls. The samples, however, were taken from the work that immediately the topic’s introduction and performance did improve on later assignments. Still, this data suggests a need to put more emphasis on this topic in the Database Fundamentals lectures.
Gen 3b in CSCI 3400 Network Fundamentals

3) Each graduate will possess core knowledge of computer fundamentals. (ABET i)
   b) Each graduate will understand computer networks and networking. (ABET i)

Data collection was postponed to Fall 2009 to obtain a larger sample size
Concentration Specific Outcomes Assessed

CS-1 In CSCI 4727 Operating Systems
CS-1 Each graduate of the Computer Science Concentration will apply his or her knowledge of the theoretical basis of computation, computer architecture and systems software in the design of systems and applications.

Data for this outcome was collected in the fall of 2008 using the departmental rubric. This measurement was moved from spring 2008 due to a misunderstanding over responsibility for data collection. The overall results were good with 84% of the students meeting or exceeding expectations.
Only one dimension raises any issues, and that was the use of a binary semaphore in which only 65% of the students met and none exceeded expectations. Since 80% of the students met expectations on the use of the more complex counting semaphore this may not be an issue. Alternatively this area may need more coverage in Operating Systems, or in the courses leading up to it in the curriculum.
IT-1a in CSCI2910 Client and Server Side Programming

IT-1 Each graduate of the Information Technology Concentration will be able to plan and implement web applications that conform to industrial standards using current tools and technologies. (ABET IT-j, IT-k, IT-m)

   a. Each graduate will be able to design, implement and manage a secure server side web application with broad user interface capabilities. (ABET IT-j, IT-k, IT-m)

Postponed to Fall 2009 for a larger sample size
IT-1b in CSCI2910 Client and Server Side Programming

IT-1 Each graduate of the Information Technology Concentration will be able to plan and implement web applications that conform to industrial standards using current tools and technologies. (ABET IT-j, IT-k, IT-m)

b. Each graduate will be able to plan and create successful web applications congruent with the needs of the target audience and the objectives of the client. (ABET IT-j, IT-k, IT-m)

Data for this outcome was collected in the spring of 2009 using the departmental rubric. The overall results were good with 96% of the students meeting or exceeding expectations.
Only one dimension raises any issues, and that was the inclusion of comments in which only 67% of the students met or exceeded expectations. This mirrors issues from two of the other data collections.
IT-2 in CSCI4417 Systems Administration

IT-2 Each graduate of the Information Technology Concentration will be able to design, implement, and administer heterogeneous networks, clients and servers using current tools, utilities and scripting languages that conform to industrial protocols and security standards. (ABET IT-I)

Data for this outcome was collected in the fall of 2008 using the departmental rubric. This measurement was moved from spring 2008 due to a misunderstanding over responsibility for data collection. The overall results were good with 82% of the students meeting or exceeding expectations.

Only one dimension raises any issues, and that was the documentation of rationale for the design decision in which only 57% of the students met and none exceeded expectations. This as with the issue in outcome 3a above is the perennial issue of documentation.
Includes justification for the products that will be used for implementation

- Does Not Meet Expectations: 43%
- Meets Expectations: 28%
- Exceeds Expectations: 29%
**IT-3 in CSCI4927 Human Computer Interaction**

IT-3 Each graduate of the Information Technology Concentration will be able to integrate human computer interaction (HCI) techniques to applications with a solid understanding of HCI’s critical role in software engineering. (ABET IT-k)

Data for this outcome was collected in the fall of 2008 using the departmental rubric. The overall results were good with 82% of the students meeting or exceeding expectations.

The only the dimension not meeting the 70% meets or exceeds criteria was the ability to write effective tasks for testing procedures. However the score of 65% is probably not low enough to really register concern unless it recurs in the next cycle.
Does Not Meet Expectations 35%

Meets Expectations 65%

Exceeds Expectations 0%

Writes appropriate tasks
Exit Interview
The results from the exit interview were overall good with nineteen of the twenty items assessed having student satisfaction at or above seventy percent. The lone exception was the measure of students’ perceived ability in the analysis of networks where 26% were neutral and 5% negative.

This was supported up by an item in the IT specific area of the survey where half the students responded with neutral.
Another issue in the IT area was that of managing secure web services. This may be a real issue, or it may have been influenced by our inability to offer the systems administration course that spring, due to budgetary constraints.

I can design, implement, and manage a secure server-side web application with broad user interface capabilities

- Agree 50%
- Neutral 25%
- Disagree 17%
- Strongly Agree 8%
- Strongly Disagree 0%
In the IS specific questions both questions were evaluated 1/3 disagree, 2/3 agree. Since the N was only 3 so the results may not be significant, but this might indicate the plans to rework the IS curriculum are justified.

**I have the skills to work in either accountancy or management**

- Strongly Agree: 0%
- Agree: 67%
- Neutral: 0%
- Disagree: 33%

**I can select, customize, and integrate software needed to support accounting or management infrastructure**

- Strongly Agree: 0%
- Agree: 67%
- Neutral: 0%
- Disagree: 33%
Objectives Assessed

Advisory Board Review
The objectives were not directly assessed this year by the advisory board
Senior Survey
The results of the college survey will be available for next year’s evaluation.