

MSU Departmental Assessment Report Fall 2014

Department: Computer Science

Department Head: John Paxton

Assessment Coordinator: John Paxton

Date: August 16, 2014

Degrees/Majors/Options Offered by Department

- B.S.
 - Professional Option
 - Interdisciplinary Option
- M.S.
- Ph.D.

Computer Science Assessment Report – What happened in AY 2014

During the past year, the department collected the following information:

1. Course evaluation summaries for Fall Semester 2013 and Spring Semester 2014 courses.
2. A graduating senior survey summary, constructed by Carolyn Plumb, conducted in April 2014.
3. A custom designed, graduating senior exam that graduating seniors took at the end of Fall 2013 and Spring 2014. The exam is designed to measure how well our graduating seniors are meeting our expected program outcomes.
4. Portfolios from students taking the professional option capstone (CSCI 468, Compilers) and interdisciplinary option capstone (CSCI 483, Interdisciplinary Project). These portfolios provide evidence about how well students are meeting our expected program outcomes.
5. Information that shows how faculty incorporated change recommendations from a year ago into AY 2013-2014 courses.

This information was distributed to all CS faculty and staff in advance of our annual retreat on August 15, 2014. Recommendations were formulated at a retreat.

Changes Based on Custom Exam Performance in AY 2014:

The desired performance level on the following questions was not achieved by our Fall 2013 and Spring 2014 graduating seniors:

- Question 1 (mergesort) – This was also a weakness each year 2010 - 2013.
- Question 7 (volunteering) – This was not a weakness, but had borderline performance in 2013.

Therefore, we identify Question 1 and Question 7 as having deficient performance. At our departmental retreat on August 15, 2014, the faculty discussed these questions and decided to proceed with the following recommendations.

- • Recurrence relations will have graded assignments in CSCI 232 and CSCI 246 during the upcoming year.
- All instructors are aware that recurrence relations are difficult for our students and will incorporate them when relevant in undergraduate courses.
- Students in CSCI 481 will be provided with a study sheet that lists the types of potential topics that might occur and includes practice questions.
- Volunteer opportunities will be promoted to students in courses, through e-mails and through postings on the departmental website.

At the end of the academic year, relevant instructors will be solicited to provide specific examples of how these items were addressed.

Changes Based on Portfolio Performance in AY 2014:

The desired performance level on the following indicators was not achieved by our Spring 2014 seniors:

- Indicator 3, Design Pattern (Professional Option Students)
- Indicator 7, Life Cycle Model (Professional Option Students)

At our departmental retreat on August 15th, the faculty as a whole discussed these results and made the following recommendations:

- Design Pattern. Clem Izurieta, our software engineer expert, will provide Rocky Ross, our compilers instructor, with information that Rocky can use to show students in the compiler course an explicit example of a design pattern that is utilized in the construction of a compiler. Rocky will incorporate this information into next Spring's offering.
- Life Cycle Model. Clem will learn from Rocky how the compiler project is constructed and identify the life cycle model that is being used. Rocky will incorporate this information into next Spring's offering.

Notes: Our interdisciplinary option students showed no weaknesses in their portfolios this year. The weaknesses for our professional option students were new ones – the actions we took during the past year corrected the previous year's weaknesses.

Other Significant Changes:

- With partial Performance Funding support, we will remodel EPS 259 into a desirable, collaborative 24/7 student success center that complements how we remodeled EPS 254 last year. GTAs, Sonderegger recipients, upper division students and members of our AWC and ACM clubs will collectively provide 40-50 hours per week of tutoring.
- With Performance Funding, we are able to offer four key lower division courses during both fall and spring semesters this year: CSCI 107, CSCI 112, CSCI 232 and CSCI 246.
- We are monitoring DFW rates in our courses and sharing ideas with one another to help more of our students succeed. With Performance Funding, our demand generation coordinator will identify and provide better advising to students at risk. With Performance Funding, we will create materials that help us invert CSCI 132 and enable more students to succeed in that course.
- We are considering making M 221 a math elective as opposed to a math required course.
- We are considering incorporating the Python programming language into CSCI 111.