Assessment Report

We chose **Assessment Option 3** for the MS in Computer Science graduate program. Below is our original mission statement, PLOs, and assessment plan, followed by our assessment results.

Starting June 2016, Professor David Galles is the graduate director of the MSCS program. This report was produced by the previous director, Professor Sophie Engle.

Mission Statement

The mission of the MS in Computer Science graduate program is:

> To provide students a strong theoretical background in computer science and deep technical programming skills by focusing on one-on-one student interaction and fostering the unique capabilities of each student.

Our mission statement coincides with the university mission to give students the knowledge and skills needed to succeed as professionals, and we are sensitive to the needs of our extremely diverse student population.

Program Learning Outcomes

Students who graduate with a MS in Computer Science will be able to:

1. Demonstrate advanced knowledge in a breadth of topics in computer science, including theory, systems, and development.

2. Demonstrate mastery in at least one area of specialization in computer science.

3. Demonstrate ability to independently solve advanced problems in academia or industry.

4. Demonstrate ability to learn, use, and adapt emerging developments in the state-of-the-art in computer science.

Assessment Plan

Below is our original assessment plan. We chose **Assessment Option 3** which is to evaluate one question this Spring.

What is ONE important question you have about your curriculum right now?

> How well have our core courses prepared students for large-scale projects?

How will you address this question in Spring 2016?

> **Direct Methods:** We will use direct methods *j*, *k*, and *o* (capstone projects, poster presentations, group projects). Specifically, we will look at performance on related assignments/milestones in the CS 690 Master's Project course.
>
> **Indirect Methods:** None

Which of your Program Learning Outcomes (if any) are linked to this question?

> This is linked to outcomes 3 and 4.

Assessment Results

We examined specific assignments in **CS 690 Master's Project** to determine whether students are prepared for large-scale projects. This required course is taken the first semester of the last year, after students have completed all of the core courses for the degree. Students work on a capstone group project throughout the semester in this course.

Direct Methods

Description	Type	Method	E	A	U
Poster Presentation	Direct	k. Poster Presentations	–	18	0
Final Presentation	Direct	c. Class Presentations	10	8	0
Final Report	Direct	e. Research Projects Reports	18	0	0
Final Project Grade	Direct	j/o. Capstone/Group Projects	15	3	0

Key: E: Exemplary (A-Level) • A: Acceptable (B-Level) • U: Unacceptable (C or Lower)

The assignments evaluated above are:

- The **Poster Presentation** involves preparing and presenting a poster on the final project at the end of the semester during CS Night to current students, alumni, sponsors, and other friends of the CS department. It is a pass/fail assignment.

- The **Final Presentation** is a graded presentation given in-class and the end of the semester to students, faculty, and the project sponsor.

- The **Final Report** is a graded assignment where students must write up a final report on the project for both the instructor and the project sponsor.

- The **Final Project Grade** is a grade provided to encompass the entire project, including all reports and status reviews provided for the project throughout the semester.

We did not choose to incorporate any indirect methods in our assessment.

Conclusions

We reworked our program requirements recently to better prepare students for our projects course. The performance of students using direct methods shows that our core courses and new requirements are adequately preparing students to work on large capstone group projects.

Due to our recent program changes and the success of students on their capstone projects, we have no immediate plans to adjust our curriculum further. We will continue to monitor the progress of students in this course.

Curriculum Map

Core Course	1 Breadth	2 Mastery	3 Problem Solving	4 State-of-Art
CS 601	Introductory	Introductory	Introductory	Introductory
CS 631	Introductory	Introductory	Introductory	Introductory
CS 652	Moderate	Introductory	Introductory	Introductory
CS 673	Moderate	Introductory	–	–
General Electives	**1 Breadth**	**2 Mastery**	**3 Problem Solving**	**4 State-of-Art**
CS 615	–	Comprehensive	–	–
CS 620	–	Comprehensive	–	–
CS 621	Moderate	Moderate	Moderate	Moderate
CS 625	Moderate	Moderate	–	–
CS 635	Moderate	Moderate	–	–
CS 636	Moderate	Moderate	Moderate	Moderate
CS 640	–	Comprehensive	–	–
CS 642	–	Comprehensive	–	–
CS 662	Moderate	Moderate	–	–
CS 675	Moderate	Moderate	–	–
CS 680	Moderate	Moderate	Moderate	Moderate
CS 681	–	Comprehensive	–	–
CS 682	Moderate	Moderate	Moderate	Moderate
CS 683	–	Comprehensive	–	–
CS 685	Moderate	Moderate	Moderate	Moderate
CS 686	–	Comprehensive	–	–
Required Project	**1 Breadth**	**2 Mastery**	**3 Problem Solving**	**4 State-of-Art**
CS 690	–	–	Comprehensive	Moderate
Special Electives	**1 Breadth**	**2 Mastery**	**3 Problem Solving**	**4 State-of-Art**
CS 695	–	–	Comprehensive	–
CS 698	–	–	Comprehensive	Moderate
CS 699	–	–	Comprehensive	Moderate

Table 1: *Maps which courses students will demonstrate introductory, moderate, and comprehensive knowledge of different learning outcomes. Courses with moderate or comprehensive coverage will be selected for assessment of those outcomes.*