Online Assessment Tracking Database

Sam Houston State University (SHSU)
2014 - 2015

Computing And Information Science MS

Goal

Technical Competence - To Develop And Demonstrate Knowledge Of Theoretical Materials, And Computational And Technical Skills 🔑

Graduates with a master degree in Computing and Informatoin Science will have a strong technical foundation, that is, to develop and demonstrate knowledge of theoretical materials, and computational and technical skills in the areas of Computing and Information Science.

Objective (L)

Understand The Body Of Knowledge Of Computer Science And Information Technologies 🔑

Students will develop and demonstrate knowledge of theoretical materials, technical skills and project management relevant to computer information systems.

Indicator

Written Comprehensive Examination 🔑

Each student is required to take and pass the written comprehensive examination (WCE) in the graduating semester. Passing grade is defined as scoring 70 or above out of 100, and high pass grade is defined as scoring 85 or above out of 100. Graduate faculty who teach the current 5 core courses of computing and information science are responsible to design exam questions. Each student is given one hour on each of the 5 subjects:

1. Database Systems
2. Programming Languages
3. Data Structures
4. Operating Systems
5. Software Engineering

Faculty who gave the exam questions are responsible to grade and report grades of these exams.

Criterion

Written Comprehensive Exams - Criterion 🔑

Graduate faculty who gave the exam questions are responsible for grading and reporting the grades to graduate advisor. Each exam score should be numeric number between 0 and 100, so that a fail (69 or below), pass (70-84), or high pass (85-100) can be determined.

Finding

Comprehensive Examinations 🔑

Based on last year's findings the following changes to the Comprehensive Examination system were implemented:

1. All thesis-option master students are exempt from comprehensive exams.

2. All project-option master students are exempt from the (comprehensive exams) subject tests if they have secured "A" in the corresponding core courses.

3. If a student failed in a certain subject, instead of being required to retake the written subject

exam in the next long semester, the student is required to take an oral subject exam where subject professor will focus examining student's weaknesses found in the failed subject exams.

The following results were obtained:

- In fall 2014 two students (out of 6) failed one or more content areas. Both students were successful in completing the newly established oral examination.
- In spring 2015 one student failed one content are. The student was successful in passing the oral examination.
- Students from prior semester who had failed one or more subjects successfully completed the comprehensive examination.

It appears that the changes introduced this year were successful in addressing prior problems with the comprehensive examinations. However more data is needed in order to demonstrate the long-term effectiveness of the changes.

Action	**Comprehensive Examinations** 🔎

Given the changes that were introduced this cycle, and the apparent positive result, the department does not intend to take further action at this point. The department takes the position that more data is necessary in order to more conclusively demonstrate that the new approach to comprehensive exams is consistent.

Objective (P)	**Apply Knowledge And Skills In Projects And Real Work Environments** 🔎

Students will practice and demonstrate their capabilities and skills relevant to computer information systems in projects similating real world tasks.

KPI Performance Indicator	**Final Capstone Project Assessment** 🔎

The final project in this degree program is a software engineering project that involves the students identifying a significant application development need for a selected client and the design and implementation of an appropriate software solution to that need.
Each student is assigned to a member of the graduate faculty in computer science as project advisor together with two additional graduate faculty forming the student's committee.
The department has established procedures for managing projects including
1. The presentation of project proposals within the first two weeks of the semester. The graduate faculty review and approve or disapprove each proposal.
2. Weekly progress meetings with the project advisor.
3. The evaluation by the complete graduate faculty of each student's progress at midterm.
4. The distribution of project activity to the remaining

members of each committee.
At the end of the project each student prepares and runs a formal presentation including a description of the project, detailed explanation of the solution used and a demonstration of the completed application.

Result   **Final Capstone Assessment** 🔑

Since the program implemented the individual proposals, instead of the previous group proposals, both students and faculty reported improved research focus and efficiency.

While most students did not encounter trouble finding and working on a proposed project, a couple of students struggled mainly because of lack of communications with professors.

Action   **Final Capstone Assessment** 🔑

The department has determined that the following actions should be implemented to improve the students' experience.

1. Students will be required to sign documents indicating that they have read and understand the requirements and timelines associated with the capstone project.
2. Project supervisors will document the attendance of students at the weekly progress meetings.
3. The department will introduce an early warning system, similar to 'First Alert' so that project committees and the Graduate Advisor are aware of performance problems at the earliest possible point.

Previous Cycle's "Plan for Continuous Improvement"

An intensive external program review and internal program evaluation and assessment was conducted in Spring 2014. See attachments for self-study report, and response to external review.

Please detail the elements of your previous "Plan for Continuous Improvement" that were implemented. If elements were not implemented please explain why, along with any contextual challenges you may have faced that prevented their implementation.

The department has conducted an analysis of the external review conducted in the 2013-14 cycle. The following were implemented as a result:

• Changes to the comprehensive examination procedures as outlined previously.

• Changes to the documentation and reporting requirements during the capstone project process.

Plan for Continuous Improvement - Please detail your plan for improvement that you have developed based on what you learned from your 2014 - 2015 Cycle Findings.

The department has only one year's worth of data reflecting the changes to the comprehensive examinations and the capstone project assessment. The department takes the position that multiple years of data are required to determine the effectiveness of the changes.