2022-2023

Computing and Data Science MS

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

Goal Description:

Graduates with a master degree in Computing and Data 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.

Providing Department: Computing and Data Science MS

Progress: Completed

RELATED ITEMS/ELEMENTS

RELATED ITEM LEVEL 1

Understand The Body Of Knowledge Of Computer Science And Information Technologies

Learning Objective Description:

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

RELATED ITEM LEVEL 2

Written Comprehensive Examination

Indicator Description:

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 Description:

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.

Findings Description:

Fall 2022: One non-thesis student took the exams and passed all. Two thesis students were waived for the exams.

Spring 2023: TBD

RELATED ITEM LEVEL 3

Written Comprehensive Examination

Action Description:

We aim for 100% success from the Comprehensive examinations along with "A"s or "B"s. Therefore, a comprehensive exam study guide will be shared with students who will need to take the exam, also courses will be geared more toward to research direction which will help students by reflecting the expectation from capstone projects.

RELATED ITEM LEVEL 1

Apply Knowledge And Skills In Projects And Real Work Environments

Performance Objective Description:

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

RELATED ITEM LEVEL 2

Comprehensive Examinations

KPI Description:

Students are required to take written compressive examinations in core content areas where they did not receive an A in a core course.

Target Description:

Each student taking an each exam must earn a passing grade (pass 70-84, or high pass 85-100). Should a student fail one or more examinations, a re-examination can be taken. A third examination may be permitted only with the approval of the appropriate academic dean and the department. Students failing all three trials are terminated from the program.

Results Description:

Fall 2022: One non-thesis student took the exams and passed all. Two thesis students were waived for the exams.

Spring 2023: TBD

RELATED ITEM LEVEL 3

Comprehensive Examinations

Action Description:

We aim for 100% success from the Comprehensive examinations along with "A"s or "B"s. Therefore, a comprehensive exam study guide will be shared with students who will need to take the exam, also courses will be geared more toward to research direction which will help students by reflecting the expectation from capstone projects.

RELATED ITEM LEVEL 2

Final Capstone Project Assessment

KPI Description:

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.

Target Description:

Every student must pass proposal presentation at their penultimate semester, continue and complete the project under the supervision of the faculty supervisor and a supervisory committe throughout the terminal semester. The student must provide a written result of a comprehensive implementation or analysis of a particular computer science problem encountered in the literature, and must present at their final project presentation (i.e., oral defense). The final defense must be passed by the committee members.

Results Description:

Fall 2022: Six students passed their proposal presentations. There was no student who had their final presentations.

Spring 2023: TBA

RELATED ITEM LEVEL 3

Final Capstone Projection Assessment

Action Description:

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.

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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.

Update to Previous Cycle's Plan for Continuous Improvement Item

Previous Cycle's Plan For Continuous Improvement (Do Not Modify):

Exit survey is conducted and results will be shared in graduate curriculum committee meeting in Fall 2022 and Spring 2023.

The GCC will conduct multiple meetings during the Fall 2022 and Spring 2023 semesters to find and apply necessary changes to the program.

Update of Progress to the Previous Cycle's PCI:

MS in CDS with a Professional Plan (course-based MS Degree) has been proposed.

Online Data Science Certificate program was proposed.

New Plan for Continuous Improvement Item

Closing Summary:

Succesfully launch MS in CDS with a Professional Plan (course-based MS Degree).

Succesffuly launch Online Data Science Certificate program was proposed.