

Digital and Cyber Forensic Science PHD

Communication

Goal Description:

The ability to communicate effectively with a range of audiences.

Providing Department: Digital and Cyber Forensic Science PHD

RELATED ITEMS/ELEMENTS

RELATED ITEM LEVEL 1

Communication

Learning Objective Description:

Students will demonstrate the ability to communicate at a professional level in written and oral form

RELATED ITEM LEVEL 2

Comprehensive Examinations

Indicator Description:

At the end of the second year of study, each student is required to take and pass the written comprehensive examination (WCE) in order to advance to candidacy. A passing grade is defined as scoring 70 or above out of 100, and a high pass grade is defined as scoring 85 or above out of 100. Doctoral faculty who teach the core courses in the doctoral program are responsible for designing exam questions. Each student is given a prescribed amount of time on each of the three core subjects.

Faculty who prepare the examination questions are responsible for grading and reporting.

The Doctoral Testing Committee in conjunction with the director of the program schedules the Written/Oral/Lab Demonstrative Comprehensive Examination. Content areas currently include 1. OS Forensics (DFSC 7350), 2. DF Tools and Techniques (DFSC 7340) and 3. Network Forensic Analysis (DFSC 7352). Each area has a recommended graduate course and occasionally exams may be offered in the Spring semester as well, as required. Students are given two opportunities to pass the exam based on the rubric: FAIL (0-69)/LOW PASS(70-84)/HIGH PASS (85+). Oral examinations are scheduled about four weeks after the written examination. Oral examinations are conducted for students with one or more content areas receiving a low pass or one failure. The committee can choose to conduct oral exams and demonstratives in lieu of written exams, as warranted by circumstances – detailed instructions for the exams will be provided to the students prior to the examination. Students failing two or more content areas must retake the written examination in the next full semester. The oral examination panel will have at least three faculty including those representing content areas of concern and the student’s dissertation chair, although all doctoral faculty in the department are invited to attend.

Criterion Description:

Doctoral faculty who prepare exam questions are responsible for grading and reporting the grades to the program 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:

Eight students took the comprehensive exams in April 2024. We are glad to note that all students passed their exams and have advanced to candidacy.

RELATED ITEM LEVEL 3

Comprehensive Examinations

Action Description:

Eight students took the comprehensive exams in April 2024. We are glad to note that all students passed their exams and have advanced to candidacy. The distribution of the grades ranged from 85 to 100. To this end, we are satisfied with our students' progress and our evaluation mechanisms.

RELATED ITEM LEVEL 2

Dissertation

Indicator Description:

Each student, once candidacy has been attained, will develop a research agenda leading to the identification, analysis, and solution of a significant problem in Digital and Cyber Forensic Science.

The resulting documentation (dissertation) will identify:

- The significance and need for the study
- A review of current literature supporting the basis for the study and explicating the need for the study
- A methodology to address the problem
- Description and analysis of the results of the research
- Identification of the implications of the results, and future areas of research resulting from the study.

Criterion Description:

This indicator is achieved by the student giving a proposal presentation to the committee and later their final defense.

Findings Description:

Eight of our twenty-three students are currently in the dissertation phase of their academic career. They are actively working on preparing their proposals, presenting their research, and progressing well in their studies. Only one student had to deliver their proposal presentation for a second time. This student has since presented and successfully defended their proposal and have advanced to developing their dissertation currently.

RELATED ITEM LEVEL 3

Dissertation

Action Description:

One student was behind in their development of their proposal and consequently their dissertation. The dissertation supervisor has since worked with this student and they have since successfully defended their proposal and advanced to the dissertation documentation phase of their academic journey.

RELATED ITEM LEVEL 2

Portfolio

Indicator Description:

As a student progresses through the first two years of mandatory coursework, a portfolio of achievements should be developed. This will include:

- term projects
- team projects
- research projects
- academic papers

- other materials (patents, artifacts, etc)
- teaching evaluations

the portfolio serves as a record of achievements indicating the student has been appropriately immersed in the research function, and has the ability to report the results of scholarly inquiry in a professional manner.

Criterion Description:

The students put together a portfolio using any number of online tools and/or a simple webpage that showcases their accomplishments as outlined in the indicator description for the committee to peruse.

Findings Description:

All students who have successfully defended their proposals have been productive in putting together a robust portfolio approved by their dissertation committee.

RELATED ITEM LEVEL 3

Portfolio

Action Description:

Students are required to document and present their portfolio as part of their dissertation proposal defense in an effort to successfully pass this stage of their study.

Problem Solving

Goal Description:

The ability to analyze problems, identify potential solutions and design and implement systems, tools and mechanisms to address those problems.

Providing Department: Digital and Cyber Forensic Science PHD

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Problem Solving

Learning Objective Description:

Students will demonstrate their capability in identifying and solving relevant problems in Digital and Cyber Forensic Science.

RELATED ITEM LEVEL 2

Comprehensive Examinations

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Technical Competence

Goal Description:

Graduates with a PhD in Digital and Cyber Forensic 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 digital forensics and cybersecurity sufficient to provide skilled leadership in both research and academic environments.

Providing Department: Digital and Cyber Forensic Science PHD

RELATED ITEMS/ELEMENTS -----

RELATED ITEM LEVEL 1

Technical Competence

Learning Objective Description:

Students will develop and demonstrate knowledge of theoretical materials, technical skills and project management relevant to Digital and Cyber Forensic Science.

RELATED ITEM LEVEL 2

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Update to Previous Cycle's Plan for Continuous Improvement Item

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

Closing Summary

We underwent a comprehensive external program review in Spring 2023 and received the feedback report from the reviewers in April 2023. The feedback included several suggestions including:

- Modifications to the comprehensive exam format and structure.
- Curriculum comments including the number of courses and prerequisites.
- Total credits required in the program.
- Transfer requirements and restrictions.

The committee plans to meet in Fall 2023 to discuss and address some of the feedback received.

Update of Progress to the Previous Cycle's PCI:

The committee has met and we have taken the following actions:

1. The curriculum has been updated and the number of credits required has been reduced from 85 to 74.
2. A few core courses have been moved to elective on advice of the external reviewers.
3. The committee has now agreed to accept transfer of up to 15 credits, an increase from the previous 9 credits.
4. Comprehensive exams are now implemented in the three core courses of the program.

New Plan for Continuous Improvement Item

Closing Summary:

1. We are working on a recruitment plan to enhance diversity in the program.
2. We are making changes in the curriculum and have sent out documentation to the THECB and to the appropriate curriculum committees and are expecting positive news.
3. A new dissertation course for 6 credits has been introduced into the curriculum and we are expecting approval of this inclusion in the curriculum.