

Program Name (no acronyms): Software Engineering

Department: Computer Science

Degree or Certificate Level: MS

College/School: School of Science and Engineering

Date (Month/Year): September 2023

Assessment Contact: Erin Chambers

In what year was the data upon which this report is based collected? AY 2022-2023

In what year was the program's assessment plan most recently reviewed/updated? 2018

Is this program accredited by an external program/disciplinary/specialized accrediting organization or subject to state/licensure requirements? No

If yes, please share how this affects the program's assessment process (e.g., number of learning outcomes assessed, mandated exams or other assessment methods, schedule or timing of assessment, etc.):

Which of the program's student learning outcomes were assessed in this annual assessment cycle? (Please provide the complete list of the program's learning outcome statements and the SLOs assessed in this cycle.)

This year, assessment was targeted at the following outcome:

PLO 5- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

Which artifacts of student learning were used to determine if students achieved the outcome(s)? Please describe the artifacts in detail, identify the course(s) in which they were collected, and if they are from program majors/graduates and/or other students. Clarify if any such courses were offered a) online, b) at the Madrid campus, or c) at any other off-campus location.

CSCI 5050: Students were asked to submit a final paper on a topic in ethically responsible computing. The paper was required to be 2000 to 2500 words long. The audience was graduate students, and the assessment was scaffolded by a 10-minute presentation and an individual meeting with the instructor. Students were assessed on the focus and the depth of their discussion as well as their ability to integrate ethical perspectives from their own research or course work. The rationale for the rubric criteria Topic Focus and Depth of Discussion is a direct result of LLMs like ChatGPT becoming widely available. LLMs are terrific at superficial and broad discussions but some non-proficient students do not prompt for depth or detail.

What process was used to evaluate the artifacts of student learning, and by whom? Please identify the tools(s) (e.g., a rubric) used in the process and (please do not just refer to the assessment plan).

The rubric used to assess the final paper is in Appendix A of this document. The first 3 criteria are particularly relevant for determining their ability to recognize professional responsibilities on the basis of legal and ethical principles, but overall student performance is shared since picking topics and sources is also relevant to their ability to make informed decisions regarding ethically controversial issues.

The multiple-choice exam (introduced in Spring 23) is designed to incentivize bare knowledge of the central issues in socially responsible technology design and implementation. Both historical and recent examples of problematic issues in technology are discussed in the book and integrated into the multiple-choice question bank. The book also introduces legal and professional issues that are germane to artificial intelligence in the professional world.

What were the results of the assessment of the learning outcome(s)? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

What is at least one change your program has implemented in recent years?

The prior round of assessment for this program involved software engineering, with overall positive scores. However, the rapid growth led faculty to be concerned about the introductory software engineering course. As a result, we have officially expanded foundational offerings to include CSCI 5020, which is under review, that will allow incoming MS students to remain stronger in this area, building up software engineering skills more gradually.

How has the change/have these changes identified in 7A been assessed?

N/A

What were the findings of the assessment?

N/A

How do you plan to (continue to) use this information moving forward?
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