Learning Goals and Outcomes

The following goals generally define the purpose of our program. The outcomes identified as a part of each goal demonstrate what students who complete our program will be able to do. The measurement tools describe how outcomes are assessed.

Learning Goal	Student Outcomes	Measurement Tools
1. The program will help students to develop problem-solving skills, especially those required to analyze, design and implement computer-based solutions.	**1.** Students will individually develop algorithms to solve problems that are new to them and then implement these algorithms.	• Graded Course Artifacts
	2. Students will apply a current software life cycle model to the development of software systems.	• Project Documentation
	3. Students will research a computer-based problem, formulate a hypothesis related to a proposed solution to this problem, and then design and carry-out experiments to test their hypothesis.	• Technical Reports
2. The program will challenge students to consider the ethical and social impacts related to their use of existing and creation of new computer-based software and hardware.	**1.** Students will apply the IEEE Software Engineer's Code of Ethics and Professional Practice to real-world case studies.	• Oral and Written Analysis of Case Studies
	2. Students will evaluate potential ethical dilemmas related to the use and creation of technology.	• Oral Presentations *[Oral Presentation Rubric]* • Debates *[Debate Rubric]*
3. Graduates will have an in-depth knowledge of a wide range of topics spanning the field of their computing major.	**1.** Students will demonstrate average or above proficiency in course outcomes as recommended by the ACM.	• Grade of C or better on student transcript.

4. The program will develop students' ability to use state-of-art programming language environments to code, debug, and test programming solutions in both individual and team settings.	**1.** Students will demonstrate proficiency in core programming skills while using current development languages and tools.	• Software Projects • Practical Programming Exam *[Programming Rubric]* • Code Reviews
5. The program will strengthen students' ability to communicate effectively, both orally and in written form.	**1.** Students will write effective technical reports and/or research papers according to the principles of computer science writing.	• Writing Rubric
	2. Students will give effective oral presentations related to a technical topic.	• Oral Presentation Rubric
6. The program will help students to learn strategies for staying current in a rapidly changing discipline.	**1.** Students will research and analyze technologies, unknown to the student, and incorporate those technologies into project work.	• Programming Rubric