

Program Student Learning Outcomes For Computer Science

Subject: Program Student Learning Outcomes for Computer Science

Last updated:

January 29, 2009 – New outcomes adopted and course assessment matrix mapped.

August 23, 2009 – Updated matrix map for CSC 130, 330, 342, 410, 462

General: There are 11 program student learning outcomes for Computer Science Majors. These have been taken from the ABET 09-10 Accreditation.

The CSC program enables students to achieve, by the time of graduation:

1. An ability to apply knowledge of computing and mathematics appropriate to the discipline.
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
3. An ability to design, implement, and evaluate a computer-based system, process, component or program to meet desired needs.
4. An ability to function effectively on teams to accomplish a common goal.
5. An ability to communicate effectively with a broad range of audiences.
6. An understanding of professional, ethical, legal, security and social issues and responsibilities.
7. An ability to analyze the local and global impact of computing on individuals, organizations and society.
8. Recognition of the need for and the ability to engage in continuing professional development.
9. An ability to use current techniques, skills, and tools necessary for computing practice.
10. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
11. An ability to apply design and development principles in the construction of software systems of varying complexity.

Program Student Learning Outcomes For Computer Science

Program Student Learning Outcomes Mapping to CSC Course Matrix

Table 1 lists along the top row the courses that contribute to meeting a core or elective requirement for a BA or BS in Computer Science. Column 1 lists the 11 program student learning outcomes. If a cell is not blank then that the course listed at the top of the column has learning outcomes that contribute to meeting the program student learning outcome for that row. A non blank cell will have either a date or an X. A date indicates the academic year that the course has been part of a formal program assessment against the associated program student learning outcome. An X indicates that the course has not yet been programmatically assessed against the program student learning outcome.

Courses taken for the BA or BS in Computer Science																		
	CSC130	CSC230	CSC330	CSC331	CSC335	CSC342	CSC442	CSC462	CSC410	CSC420	CSC430	CSC431	CSC499	MTH112	MTH121	MTH221	MTH206	MTH306
1	09-10	X	09-10	X	X	09-10	X	09-10	09-10	X	X	X	X					
2		09-10	X	09-10	X		09-10					X	X					
3	X	X	X	X	X	X	X	X	X	X	X	X	X					
4	X	X	X			X	X	X	X	X								
5							X	X	X	X	X		X					
6		X	X	X		X	X			X	X							
7	X								X	X		X						
8					X		X	X			X	X	X					
9	X	X	X	X	X	X	X	X	X	X	X	X	X					
10		X	X	X	X	X		X				X						
11		X	X	X	X	X	X	X	X	X	X	X	X					

Table 1: Course matrix mapping of each CSC course to the program student learning outcomes that it contributes to meeting.

Program Outcome Assessment Plan

Table 2 shows the program student learning outcome plan that was established in January 2009 to assess two or three learning outcomes per year until completion in AY 2013-2014. During AY 09-10, Program Learning Outcomes X and Y will be assessed.

Academic Year of Assessment	Program Learning Outcomes Assessed (at least 2 – cover all in 5 year period)
2009-2010	PO 1, PO 2
2010-2011	PO 3, PO 4
2011-2012	PO 5, PO 6
2012-2013	PO 7, PO 8
2013-2014	PO 9, 10, 11

Table 2: Program learning outcomes assessment plan

Assessment Format

The course coordinator of the courses selected to be assessed against a program student learning objective must provide the assessment plan in a pre-course assessment document submitted at a formal department assessment before the semester and in a post course assessment document submitted at the formal department assessment after the semester. All assessment documents are kept by the department chair on the department's internal web site.