

Computer Science Program Assessment Plan

Date Prepared: 09-Apr-2008

Participants:

Dr. Sarita Bassil
Prof. Joe Fuller
Dr. Venkat Gudivada
Jonathan Thompson

Required Courses:

CS 110: Computer Science I
CS 120: Computer Science II
CS 210: Algorithms Analysis and Design
CS 300: Programming Languages
CS 305: Software Engineering I
CS 310: Software Engineering II
CS 320: Internetworking
CS 330: Operating Systems
CS 340: Cyber Security
CS 350: Database Engineering
CS 490: Senior Project I
CS 491: Senior Project II
ENGR 204: Introduction to Digital Systems
ENG 354: Scientific and Technical Writing
MTH 220: Discrete Structures
MTH 229: Calculus with Analytic Geometry I
MTH 230: Calculus with Analytic Geometry II
MTH 329: Elementary Linear Algebra
MTH 345: Applied Probability and Statistics

Electives:

CS 315: Software Quality Assurance
CS 370: Computer Graphics
CS 420: Distributed Systems
CS 440: Image Processing
CS 455: Systems Engineering
CS 460: Multimedia Systems
CS 475: Internship

Computer Science Program Assessment Plan

Student Learning Outcomes (goals)

When students complete the program, they will be able to:

1. Have necessary background to complete advanced degrees or pursue career in industry
2. Demonstrate mastery of CS and have broad understanding of computing at all levels of abstraction and is prepared for life-long learning in CS (continued professional development)
3. Focus on a sub-field of CS
4. Design, analyze, and apply algorithms
5. Analyze and implement a large-scale/significant project as team member/individual contributor
6. Communicate effectively, both written and spoken
7. Function as ethically and socially responsible computer professionals, including membership in professional organizations

Student Learning Outcome Matrix

	1	2	3	4	5	6	7
CS110		I		I, A			I
CS120		I		R, A			
CS210		I		R, A		I	
CS300	I, R, A	R					
CS305	I, R, A	R			I	R	
CS310	I, R, A				R, A	R	
CS320	I, R, A	R	I				
CS330	I, R, A		I	R, A		R	
CS340	I, R, A	R	I	A			R
CS350	I, R, A	R	I				
CS491	R, A	R, A	R, A	R, A	R, A	R, A	R, A
CS492	R, A	R, A	R, A	R, A	R, A	R, A	R, A
CS Electives			I, R, A	R, A			
ENG354						I, R, A	

Computer Science Program Assessment Plan

Assessment Tools

Direct:

- A. Projects (individual and team)
- B. Exams
- C. Decorum, attendance
- D. Written reports and classroom presentations
- E. Lab assignments
- F. Annual ACM Programming Competition
- G. Comprehensive Evaluation (given in CS420)

Indirect:

- H. Student exit interviews
- I. Employer (industry career)/advisor (academia career) interviews
- J. Papers presented at symposia
- K. Student advising sessions

Student Learning Outcome Assessment

Objective	Assessment Tool											Benchmark(s)	
	A	B	C	D	E	F	G	H	I	J	K		
1. Have necessary background	✓	✓		✓	✓		✓			✓		✓	<ul style="list-style-type: none"> • Employers perceive person properly prepared • Feedback from internship mentors, employers, grad school advisors
2. Demonstrate mastery of CS ...	✓	✓		✓	✓	✓	✓			✓	✓	✓	<ul style="list-style-type: none"> • Feedback from internship mentors, employers, grad school advisors • Participation in internship and research projects
3. Focus on a sub-field...	✓	✓		✓								✓	<ul style="list-style-type: none"> • Students demonstrate in electives related to computer graphics, AI, image processing, etc. • Demonstrate mastery in senior project presentations
4. Design, analyze, and apply algorithms	✓	✓			✓	✓	✓					✓	<ul style="list-style-type: none"> • Successful senior project • Completed CS210
5. Analyze and implement large-scale project ...	✓			✓						✓	✓		<ul style="list-style-type: none"> • Student's work with industrial sponsor or faculty member to produce software products
6. Communicate effectively...	✓			✓	✓				✓	✓	✓		<ul style="list-style-type: none"> • Student presentations at showcase events, capstone project presentation and report, and ACM meetings
7. Function as ethically and socially responsible ...			✓		✓	✓				✓			<ul style="list-style-type: none"> • Participation in ACM or IEEE • Ascribe to the ACM/IEEE code of conduct
8. Have necessary background to complete advanced degrees or pursue career in industry	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	<ul style="list-style-type: none"> • Participation in internship and research projects • Number of graduates who go to or succeed in graduate school or are successfully employed