

UC San Diego - WASC Exhibit 7.1 Inventory of Educational Effectiveness Indicators

Academic Program	(2a) What are these learning outcomes? <u>Students graduating with a degree should be able to:</u>	(3) Other than GPA, what data/evidence are used to determine that graduates have achieved stated outcomes for the degree? (e.g., capstone course, portfolio review, licensure examination)?	(4) Who interprets the evidence? What is the process?	(5) How are the findings used?
<p>Department: CSE</p> <p>Major: BS in CS and BS in CE</p> <p>(1) Have formal learning outcomes been developed? Yes</p> <p>(6) Date of the last Academic Senate Review? [i.e. 2015-16 if the review takes place this academic year] 2017-18</p>	<p>Written Communication</p> <ul style="list-style-type: none"> - Write useful and appropriate documentation for computer systems - Communicate in writing about the impact of computing systems on people and society. - Justify and motivate design decisions in writing. - Communicate in writing about strengths and weaknesses of solutions 	<ul style="list-style-type: none"> • Feedback from employers, for example through contacts from the Jacobs School Corporate Affiliates Program. • Self-reports of students based on university CAPEs. • Assessments in particular courses aimed to assess particular learning outcomes 	<ul style="list-style-type: none"> • CSE Department's undergraduate committee, including Vice Chair for Education and Department Chair, review evidence and recommend improvements, as approved by full faculty. • External program review committee (every 7 years) • Individual instructors and small groups of instructors who share courses assess how well students are meeting the outcomes particular to their courses and make changes based on this assessment. 	<ul style="list-style-type: none"> • The department regularly reviews its degree requirements and makes changes to its requirements. • Individual instructors modify the content and work in their courses to better meet the learning outcomes, or to cover additional learning outcomes. • The department audits the learning outcomes to make sure they are adequately covered and assessed in the required courses.
	<p>Oral Communication</p> <ul style="list-style-type: none"> - Work in teams of varying sizes to develop programs and systems. - Communicate orally about the impact of computing systems on people and society. - Justify and motivate design decisions orally. - Communicate orally about strengths and weaknesses of solutions 			
	<p>Quantitative Reasoning:</p> <ul style="list-style-type: none"> - Mathematically specify desirable properties of programs and systems and prove these properties using appropriate mathematical techniques. - Express proofs using appropriate mathematical language. - Specify and justify properties of programs and systems - Pose and support claims empirically using data and statistics appropriately. - Write programs of varying complexities, in a variety of programming languages. - Solve computational problems using and developing appropriate algorithms and data structures - Explain how high level programs execute on physical systems. 			

November 2018	<p>Information Literacy</p> <ul style="list-style-type: none"> - Appropriately use, manage and interpret data, considering the social and ethical implications of these choices. - Apply knowledge from a variety of subfields in computing. 			
	<p>Critical Thinking</p> <ul style="list-style-type: none"> - Develop systems of varying complexity from start to finish: Identify the problem, choose the tools, create the design, implement the solution, maintain the system. - Manage, navigate and extend a large, unfamiliar code base in a language that may or may not be familiar. - Design and implement software that interacts with hardware and external devices (CE only) - Make ethical decisions involving computing. Identify when ethics comes into play, what are the ethical issues. - Identify security and impact considerations when building computing systems and working with data. Use practices to build secure systems. - Identify users' needs and make design decisions based on them. - Take action to increase the inclusivity of the computing community. - Design and implement electronic circuits that interact with computing devices - Design and implement computing devices from logical elements 			
	<p style="text-align: center;">(2b)</p> <p style="text-align: center;">Where are the learning outcomes published? Please provide your department/program website address.</p> <ul style="list-style-type: none"> • On the web at: www.cs.ucsd.edu/ (Specially http://cse.ucsd.edu/undergraduate/wasc-educational-learning) • Articulation agreements with California Community Colleges (Project IMPAC) 			