



# Central Washington University

## Degree Program Student Learning Outcome Assessment Plan

Department: Computer Science

Program: BS-Computer Science

Student Learning Outcome (performance, knowledge, attitudes)	Related CWU Strategic Outcome(s) <a href="http://www.cwu.edu/sstrategic-planning/">http://www.cwu.edu/sstrategic-planning/</a>	Method(s) of Assessment (What is the assessment?)*	Who Assessed (Students from what courses - population)**	When Assessed (term, dates)***	Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)
<p>1. Basic knowledge:</p> <p>Graduates will demonstrate an understanding of each of the subject areas that define the discipline as well as the interrelationships that exist among them.</p>	<p>1.1.1 Students will achieve programmatic learning outcomes.</p>	<p>MFT taken by graduating seniors</p> <p>Performance in the core courses of the major</p>	<p>Senior CS majors</p> <p>Majors at all levels</p>	<p>Spring term on a three-year cycle.</p> <p>Spring term on a three-year cycle.</p>	<p>&gt; 50<sup>th</sup> percentile overall and in content areas of the MFT</p> <p>All graduates have a GPA of better than 2.5 in core courses.</p>
<p>2. Critical Thinking Skills:</p> <p>Graduates will demonstrate the ability to utilize appropriate theoretical constructs for problem solving: definitions, and axioms, theorems, proofs, and interpretation of results.</p>	<p>1.1.1 Students will achieve programmatic learning outcomes.</p>	<p>MFT taken by graduating seniors</p> <p>Performance in the core courses of the major</p> <p>Performance in CS 427</p>	<p>Senior CS majors</p> <p>Majors at all levels</p> <p>Students in CS 427</p>	<p>Spring term on a three-year cycle.</p> <p>Fall term on a three-year cycle.</p>	<p>&gt; 50<sup>th</sup> percentile overall and in content areas of the MFT</p> <p>All graduates have a GPA of better than 2.5 in core courses.</p> <p>Students meet the student learning outcomes of CS 427</p>

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<p>3. Research Skills:</p> <p>Graduates will have the ability to apply basic research methods in computer science.</p>	<p>1.1.1 Students will achieve programmatic learning outcomes.</p> <p>3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key outcomes.</p>	<p>Performance in CS 489</p> <p>Student participation in SOURCE</p> <p>Student participation in research projects and groups.</p>	<p>Graduating seniors</p> <p>Students involved with SOURCE</p> <p>Students involved in undergraduate research</p>	<p>Spring term on a three-year cycle.</p> <p>Spring term on a three-year cycle.</p> <p>Fall term on a three-year cycle.</p>	<p>All graduates will produce a successful research paper.</p> <p>Range from a constant to an increasing number presenting at SOURCE</p> <p>An annual average of two students (per faculty) involved in undergraduate research. &gt; 3 external research presentations or publications annually with student participation.</p>
<p>4. Applied Design Skills:</p> <p>Graduates will have the ability to apply appropriate design constructs: requirements analysis and specification, design, implementation, and testing.</p>	<p>1.1.1 Students will achieve programmatic learning outcomes.</p>	<p>Performance in CS 480-481 the senior capstone courses.</p>	<p>Graduating seniors</p>	<p>Winter term on a three-year cycle.</p>	<p>&gt;75% of project groups produce successful projects.</p> <p>All teams produce minimally successfully documents as measured by the content rubrics.</p>
<p>5. Ethics and Society:</p> <p>Graduates will demonstrate knowledge of ethical codes and societal issues associated with the computing field.</p>	<p>1.1.1 Students will achieve programmatic learning outcomes.</p>	<p>Performance in CS 489</p>	<p>Graduating seniors</p>	<p>Spring term on a three-year cycle.</p>	<p>All graduates successfully produce a research paper studying a societal issue or develop a case study of an ethical situation.</p>
<p>6. Technical and Theoretical Background:</p> <p>Graduates will demonstrate knowledge of recent technological and</p>	<p>1.1.1 Students will achieve programmatic learning outcomes.</p> <p>3.1.2 Sustain the number of courses that include research,</p>	<p>Performance in CS 311 and 312.</p> <p>Performance in CS 480-481 the senior capstone courses.</p>	<p>Students in CS 311 and 312.</p> <p>Graduating seniors.</p>	<p>Spring term on a three-year cycle.</p> <p>Spring term on a three-year cycle.</p>	<p>Students meet the student learning outcomes of CS 311 and 312.</p> <p>All student groups will meet professional standards in generating course documents.</p>

Student Learning Outcome (performance, knowledge, attitudes)	Related CWU Strategic Outcome(s) <a href="http://www.cwu.edu/srategic-planning/">http://www.cwu.edu/srategic-planning/</a>	Method(s) of Assessment (What is the assessment?)*	Who Assessed (Students from what courses - population)**	When Assessed (term, dates)***	Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)
theoretical developments, general professional standards, and have an awareness of their own strengths and limitations as well as those of the discipline itself.	scholarship, and creative expression skills as key outcomes.				
7. History of Computing:  Graduates will be aware of the history of computing, including those major developments and trends - economic, scientific, legal, political, and cultural - that have combined to shape the discipline.	1.1.1 Students will achieve programmatic learning outcomes.	Performance in CS 112	Students in CS 112	Spring term on a three-year cycle.	Students meet the student learning outcomes of CS 112.
8. Graduate Preparation:  Graduates will have the necessary background for entry into graduate study.	1.1.1 Students will achieve programmatic learning outcomes.  3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key outcomes.	Performance in CS 427  Student participation in SOURCE  Student participation in research projects and groups.  Graduate school acceptance.	Students in CS 427.  Students involved with SOURCE  Students involved in undergraduate research  Survey of graduating seniors.	Winter term on a three-year cycle.  Spring term on a three-year cycle.  Fall term on a three-year cycle.  Spring term on a three-year cycle.	Students meet the student learning outcomes of CS 427.  Range from a constant to an increasing number presenting at SOURCE  An annual average of two students (per faculty) involved in undergraduate research. > 3 external research presentations or publications annually with student.  Range from a constant to an increasing number of students accepted to graduate school.

<b>Student Learning Outcome (performance, knowledge, attitudes)</b>	<b>Related CWU Strategic Outcome(s)</b> <a href="http://www.cwu.edu/strategic-planning/">http://www.cwu.edu/strategic-planning/</a>	<b>Method(s) of Assessment (What is the assessment?)*</b>	<b>Who Assessed (Students from what courses - population)**</b>	<b>When Assessed (term, dates)***</b>	<b>Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)</b>
9. Communication Skills: Graduates will have the ability to communicate effectively.	1.1.1 Students will achieve programmatic learning outcomes.  3.1.2 Sustain the number of courses that include research, scholarship, and creative expression skills as key outcomes.	Performance in CS 325.  Performance in CS 480-481.  Performance in CS 489.	Students in CS 325.  Graduating seniors	Spring term on a three-year cycle.  Spring term on a three-year cycle.	Students meet the student learning outcomes of CS 325.  All teams produce minimally successfully documents as measured by the writing rubrics. All students participate in three successful midterm and final presentations.  All graduates will produce a successful research paper.

\*Method(s) of assessment should include those that are both direct (tests, essays, presentations, projects) and indirect (surveys, interviews) in nature.  
 \*\*Data needs to be collected and differentiated by location (Ellensburg campus vs University Centers) and modality (e.g. online, face-to-face, hybrid)  
 \*\*\*Timing of assessment should ideally be at different transition points of program (i.e., admission, mid-point, end-of-program, post-program)

**Assessment Cycle**

Analysis and Interpretation: December  
 Improvement Actions: Completed by June  
 Dissemination: Completed by June

Year	15-16	16-17	17-18	18-19	19-20	20-21
SLOs						
1	X			X		
2		X			X	
3			X			X
4	X			X		
5		X			X	
6			X			X

7	X			X		
8		X			X	
9			X			X

**Assessment Oversight**

Name	Department Affiliation	Email Address	Phone Number
Razvan Andonie	Computer Science	andonie@cwu.edu	963-1430