Program Information and Mission Statements

Computer Science, BS

College or Unit	College of Business Administration
Department	Computer Science
Academic Year	2018 - 2019
Date Submitted	2019-09-06 13:41:40 by Dannelly, Robert Stephen
Program Coordinator	Dannelly, Robert Stephen
Dean or Unit Head	Saksena, P.N.
Unit Assessment Coordinator	
Program Mission Statement	The mission of the Bachelor of Science in Computer Science is to prepare students for careers in software design and implementation and for graduate study in Computer Science. The students in this program are provided with a background that allows them to progress toward leadership roles.
Department Mission Statement	
Unit Mission Statement	
University Mission Statement	Winthrop University provides personalized and challenging undergraduate, graduate, and continuing professional education programs of national caliber within a context dedicated to public service to the State of South Carolina…The values of service, excellence, diversity, community, and leadership provide the foundation of Winthrop's continuing development and shape Winthrop's continuing success…Winthrop

	students acquire and develop knowledge, skills, capabilities, and values that enrich their lives and prepare them to meet the needs and challenges of the contemporary world, including the ability to communicate effectively, appreciate diversity, work collaboratively, synthesize knowledge, solve complex problem, and adapt to change. [Full mission statement: https://www.winthrop.edu/president/default.aspx?id=1620]
Assessment Plan Comments	In August 2018, CAC/ABET issued two changes to accreditation that significantly impacted Winthrop's BS in CS degree. First, CAC/ABET required all Computer Science programs to adopt the same six Student Learning Outcomes. For three decades, Winthrop had its own set of SLOs. The new SLOs required an entirely new set of data to be gathered. Second, CAC/ABET changed its curriculum requirements to require more security and less theory, among other changes. Thus, in AY2018-2019 the CS faculty held five curriculum meetings to update the program core, create new courses, and to adjust content of several courses. Now that the core is revised to meet the new standards, in AY2019-2020 we can analyze how well the new program is meeting the new SLOs. Thus, curriculum improvements to the new core are not expected until Fall 2020.

Program Outcomes

Program Outcome 1	Graduates work in Software Design and Implementation
Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	

Alignment of outcome with the University Learning Competencies (ULCs), if applicable	
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	Percentage of CS graduates that have accepted full-time jobs in their field within one month of graduation.
Target	70% of recent graduate will report accepting full time positions
Assessment Results	In Spring 2019, 100% of CS graduates completing the Senior Exit Survey had accepted full-time employment. Average salary = $70K.
Discussion of Assessment Results	met expectations
Continuous Improvement Action Plan for next year	
Program Outcome 2	Graduate work in leadership positions.
Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's	

Strategic Plan, if applicable	
Alignment of outcome with the University Learning Competencies (ULCs), if applicable	
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	Five years after graduation, 70% of graduates will report having positions with leadership responsibilities.
Target	Five years after graduation, 70% of graduates will report having positions with leadership responsibilities.
Assessment Results	No graduate survey conducted in AY 2018-2019.
Discussion of Assessment Results	
Continuous Improvement Action Plan for next year	

Student Learning Outcomes

Student Learning Outcome 1	Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	
Alignment of outcome with the University Learning Competencies (ULCs), if applicable	• WU-ULC 1: Graduates think critically and solve problems.
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	CSCI 475 - eliciting requirements from a customer to create a Systems Requirement Specification
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	In Fall 2018 100% of CS majors scored 70 or higher.
Discussion of Assessment Results	met expectations
Assessment Method 2	CSCI 271 - implementing a variety of common algorithms; course programming average
Target	70% or more of CS majors will earn a grade of 70 or more

Assessment Results	In Spring 2019, 100% of CS majors met expectations
Discussion of Assessment Results	
Continuous Improvement Action Plan for next year	
Student Learning Outcome 2	Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	
Alignment of outcome with the University Learning Competencies (ULCs), if applicable	• WU-ULC 1: Graduates think critically and solve problems.
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	CSCI 475 - design documentation for a major project
Target	70% or more of CS majors will earn a grade of 70 or more

Assessment Results	In Fall 2019, 100% of students met expectations
Discussion of Assessment Results	met expectations
Assessment Method 2	CSCI 476 - implementation of a major project
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	While nearly half of students barely met expectations, 100% of students met expectations.
Discussion of Assessment Results	met expectations
Assessment Method 3	CSCI 476 - customer's evaluation of how well students' working product meets the customer's needs
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	71.4% of students met expectations
Discussion of Assessment Results	met expectations with concern
Continuous Improvement Action Plan for next year	
Student Learning Outcome 3	Communicate effectively in a variety of professional contexts.
Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	
Alignment of outcome with the University	• WU-ULC 4: Graduates communicate effectively.

Learning Competencies (ULCs), if applicable	
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	CSCI 327 - oral presentation of a computing-based research project
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	In Spring 2019, 100% of CSCI majors earned a grade of 70 or higher for their 15 minute research presentation.
Discussion of Assessment Results	met expectations
Assessment Method 2	CSCI 327 - written, computing-based, research paper
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	93.3% of CS majors earned a grade of 70 or higher on their research-based term paper
Discussion of Assessment Results	met expectations
Assessment Method 3	CSCI 476 - oral presentation of a final product to customer
Target	70% or more of CS majors will earn a grade of 70 or more

Assessment Results	In Spring 2019, the senior project presentations in CSCI 476 to customers were all outstanding, earning all As and Bs.
Discussion of Assessment Results	met expectations
Continuous Improvement Action Plan for next year	
Student Learning Outcome 4	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	
Alignment of outcome with the University Learning Competencies (ULCs), if applicable	• WU-ULC 2: Graduates are personally and socially responsible. • WU-ULC 3: Graduates understand the interconnected nature of the world and time which they live.
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	

Assessment Method 1	CSCI 327 - writing assignment requiring students to display a knowledge of a variety of moral theories.
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	100% of CS majosr in the spring 2019 CSCI 327 course earned a C or better on the first in-class writing assignment (ethical requirements of IT technicians)
Discussion of Assessment Results	met expectations
Assessment Method 2	CSCI 327 - ethics-based group debate
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	93% of CS majors earned a grade of C or better for their participation in group debates
Discussion of Assessment Results	met expectations
Assessment Method 3	CSCI 327 - knowledge of computing-related legal issues, selected exam questions
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	In Spring 2019, 100% of CS majors answered correctly at least 70% of exam questions related to legal issues, such as digital privacy and intellectual property
Discussion of Assessment Results	met expectations
Continuous Improvement Action Plan for next year	
Student Learning Outcome 5	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	
Alignment of outcome with the University Learning Competencies (ULCs), if applicable	
Summary Statement of Assessment-based Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	CSCI 476 - evaluation of each individual's teamwork skills, by peers
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	In Spring 2019, 86% of students in the senior projects course rated their teammates as performing at a level of 70 or higher.
Discussion of Assessment Results	met expectations
Assessment Method 2	CSCI 476 - evaluation of each individual's teamwork skills, by instructor

Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	In Spring 2019, the senior projects instructor rated 86% of CS majors' teamwork skills as 70 or higher
Discussion of Assessment Results	met expectations
Assessment Method 3	Graduate Exit Survey - evaluation of peer graduates' teamwork skills
Target	70% or more of graduating CS majors will rate their peers' teamwork skills as good or very good
Assessment Results	In spring 2019, all CS majors completing the Exit Survey rated their peers' teamwork as good or very good
Discussion of Assessment Results	met expectations
Continuous Improvement Action Plan for next year	
Student Learning Outcome 6	Apply computer science theory and software development fundamentals to produce computing-based solutions.
Alignment of outcome with the Winthrop Plan, if applicable	
Alignment of outcome with the College's Strategic Plan, if applicable	
Alignment of outcome with the University Learning Competencies (ULCs), if applicable	
Summary Statement of Assessment-based	

Accomplishments and Improvements (based on prior year's Continuous Improvement Action Plan)	
Activities (based on prior year's Continuous Improvement Action Plan)	
Assessment Method 1	CSCI 411 - substaintial programming project
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	no data
Discussion of Assessment Results	new metric, thus no data gathered in this course which is offered once a year
Assessment Method 2	CSCI 476 - knowledge of Software Engineering, comprehensive final exam
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	100% of CS majors earned a grade of 70 or higher
Discussion of Assessment Results	met expectations
Assessment Method 3	CSCI 432 - theory-based programming project
Target	70% or more of CS majors will earn a grade of 70 or more
Assessment Results	no data
Discussion of Assessment Results	This is a new course created to meet new ABET curriculum requirements. It will be offered for the first time in Fall 2019.
Continuous Improvement Action Plan for next year	

Documentation supporting every data claim is to be submitted with the Continuous Improvement Report. Supporting documentation should include all planning documents and materials that demonstrate progress toward achieving stated outcomes. These may include, for example, rubrics, rubric results, samples of student work, minutes of decision-making meetings, surveys, survey results, scores on subject area tests, licensure results, curricular revisions, or other appropriate information.

Supporting Documentation

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