

2017-2018 Assessment Cycle COS_Computer Science BS

Mission (due 12/4/17)

University Mission

The University of Louisiana at Lafayette offers an exceptional education informed by diverse worldviews grounded in tradition, heritage, and culture. We develop leaders and innovators who advance knowledge, cultivate aesthetic sensibility, and improve the human condition.

University Values

We strive to create a community of leaders and innovators in an environment that fosters a desire to advance and disseminate knowledge. We support the mission of the university by actualizing our core values of equity, integrity, intellectual curiosity, creativity, tradition, transparency, respect, collaboration, pluralism, and sustainability.

University Vision

We strive to be included in the top 25% of our peer institutions by 2020, improving our national and international status and recognition.

College / VP and Program / Department Mission

Mission of College or VP-area

Provide the mission for the College or VP-area in the space provided. If none is available, write "None Available in 2017-2018."

Our mission is to serve our students, the citizens of Louisiana, the nation, and the world, through innovative and stimulating educational experiences and compelling research initiatives that create knowledge, deepen our basic understanding of the world around us, further economic development, and enhance quality of life. In support of our mission, The College of Sciences seeks to:

Develop broad-thinking students into mature, ethical professionals, scientists, and researchers with the necessary creativity, critical thinking, and problem solving skills required to make significant contributions to industry, government, and the academic sector.

Recruit and support top-notch teaching and research faculty engaged in scientific endeavors that are recognized nationally for their relevance and impact.

Enrich scientific research and education through on-campus collaborations, multidisciplinary programs, large-scale multi-institution initiatives, as well as partnerships with government and industry.

Foster scientific literacy within the University, the citizens of Louisiana, and the nation by providing stimulating courses for our students and by partnering with educators at the K-12 and community college level.

Provide leadership in the translation and application of research into practical solutions that will benefit our local community, the state of Louisiana, our natural environment, industries of the Gulf Coast region, and society as a whole.

The Ray P. Authement College of Sciences will emerge as a preeminent college of sciences in the Southeast and Gulf Coast region of the United States. The College will be recognized nationally for its innovative education, scholarly research activities addressing our nation's grand challenges, and for its diverse student body with exemplary academic achievements, leadership abilities, and global perspectives.

Mission of Program / Department

Provide the program / department mission in the space provided. The mission statement should concisely define the purpose, functions, and key constituents. If none is available, write "None Available in 2017-2018."

The BS in Computer Science Program supports the College of Sciences at UL Lafayette's mission by providing quality education in computer science and by maintaining an ABET accredited program.

The Program Education Objectives (PEOs) for the Bachelor of Science in Computer Science are:

I. Our graduates will be able to apply theory, techniques, and methodologies to create computing systems that function effectively and reliably.

Outcomes: 1, 2, 3, 5 (these student learning outcomes support PEO I).

II. Our graduates will be able to work in teams, exhibit professionalism in their work, and grow professionally.

Outcomes: 4, 6, 7 (these student learning outcomes support PEO II).

III. Our graduates will be well prepared to enter a computer science graduate program or a career in computer science and have the communication and analytical skills necessary for career advancement.

Outcomes: 1,2,3,4,5,6,7 (these student learning outcomes support PEO III).

Consistency with the College's mission statement

The Program Educational Objectives directly support the College's mission statement cornerstone component "Develop broad-thinking students into mature, ethical professionals, scientists, and researchers with the necessary creativity, critical thinking, and problem solving skills required to make significant contributions to industry, government, and the academic sector."

Consistency with the University's mission statement

The Program Educational Objectives support the University's mission through provision of excellent undergraduate education in Computer Science. The Program is consistent with, and follows, all of the University's rules, regulations, and guidelines.

Attachment (optional)

Upload any documents which support the program / department assessment process.

Assessment Plan (due 12/4/17)

Assessment Plan (Goals / Objectives, Assessment Measures and Criteria for Success)

Assessment List

Goal/Objective	Outcome 1: Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software design, operating systems, and database.(Imported)	
Legends		
Standards/Outcomes	Identifier	Description
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Goal/Objective	Outcome 2: Have the ability to analyze, design, implement, and test computer systems or components.(Imported)																
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Direct - Writing Exam	Outcome 6 is measured through CMPS 430, 453, and 460. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 6 is to achieve an average rating of 2.8 or higher out of 4 on rubric.						

Goal/Objective	Outcome 7: Work effectively, both independently and in a team.(Imported)																
Legends	SLO - Student Learning Outcome/Objective (academic units);																
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	Assessment Measure	Criterion	Attachments
	Direct - Writing Exam	Outcome 7 is measured through CMPS 453, 455, and 460. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 7 is to achieve an average rating of 2.8 or higher out of 4 on its rubric.	

Program / Department Assessment Narrative

The primary purpose of assessment is to use data to inform decisions and improve programs (student learning) and departments (operations); this is an on-going process of defining goals and expectations, collecting results, analyzing data, comparing current and past results and initiatives, and making decisions based on these reflections. In the space below, describe the program's or department's overall plan for improving student learning and/or operations (the "assessment plan"). Consider the following:

- 1) What strategies exist to assess the outcomes?
- 2) What does the program/department expect to achieve with the goals and objectives identified above?
- 3) How might prior or current initiatives (improvements) influence the anticipated outcomes this year?
- 4) What is the plan for using data to improve student learning and/or operations?
- 5) How will data be shared within the Program/Department (and, where appropriate, the College/VP-area)?

Assessment Process

The computer science (CMPS) program uses direct assessment (tests and practical implementations or development of software projects) and indirect assessments (graduating senior surveys, alumni surveys, employer surveys) to assess outcomes. The program expects to achieve the goals and outcomes on a continual basis as much as possible. If an outcome is not achieved to expected level, then appropriate changes are made (such as in instruction or instruction material) in order to achieve better results. This is done on a continual basis, by following an assessment plan. CMPS's assessment plan includes and covers all core CMPS courses at 300 and 400 levels. The data, findings, and action plans are shared via email and in meetings with the faculty of CMPS as well as assessment committee in CMIX.

Results & Improvements (due 9/15/18)

Results and Improvement Narratives

Assessment List Findings for the Assessment Measure level for Outcome 1: Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software design, operating systems, and database.(Imported)

Goal/Objective	Outcome 1: Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software design, operating systems, and database.(Imported)	
Legends		
Standards/Outcomes		
	Identifier	Description

	ABET-CAC.CS.1	Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program's objectives.												
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Assessment List Findings for the Assessment Measure level for Outcome 2: Have the ability to analyze, design, implement, and test computer systems or components.(Imported)

Goal/Objective	Outcome 2: Have the ability to analyze, design, implement, and test computer systems or components.(Imported)				
Legends	SLO - Student Learning Outcome/Objective (academic units);				
Standards/Outcomes	Identifier		Description		
	ABET-CAC.CS.1		Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program??s objectives.		
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	Assessment Measures	Assessment Measure		Criterion	
Direct - Writing Exam		Outcome 2 is assessed through courses CMPS 430, 453, and 455. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 2 is to achieve an average rating of 2.8 or higher out of 4.			
Assessment Findings	Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
	Direct - Writing Exam	Has the criterion Outcome 2 is assessed through courses CMPS 430, 453, and 455. In	Note assessed this year per the		

		<p>addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 2 is to achieve an average rating of 2.8 or higher out of 4. been met yet? Met</p>	<p>plan of assessment.</p>		
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Assessment List Findings for the Assessment Measure level for Outcome 3: Be proficient in more than one programming language on more than one computing platform.(Imported)

<p>Goal/Objective</p>	<p>Outcome 3: Be proficient in more than one programming language on more than one computing platform.(Imported)</p>																				
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Assessment Findings					
	Assessment Measure	Criterion	Summary	Attachments of the Assessments	Improvement Narratives
	Direct - Writing Exam	Has the criterion Outcome 3 is measured through CMPS 351, CMPS 450, and CMPS 460. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 3 is to achieve an average rating of 2.8 or higher out of 4.0. been met yet? Met	This outcome was not assessed this year, per our assessment plan.		

Assessment List Findings for the Assessment Measure level for Outcome 4: Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.(Imported)

Goal/Objective	Outcome 4: Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.(Imported)	
Legends	SLO - Student Learning Outcome/Objective (academic units);	
Standards/Outcomes	Identifier	Description
	ABET-CAC.CS.1	Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program??s objectives.
	ABET-CAC.CS.1.1	> The program must have documented, measurable objectives.
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	ABET-CAC.CS.1.5	> The results of the program??s periodic assessments must be used to help identify opportunities for program improvement.
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Assessment Measure	Criterion													
Direct - Writing Exam	Outcome 4 is measured through CMPS 310 and CMPS 453. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 4 is to achieve an average rating of 2.8 or higher out of 4.													
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		<p>between 0 – 49 (Amateur) • 23.21% of students between 50 – 69 (Developing) • 35.71% of students between 70 – 84 (Developed) Clearly, approx. 75% students achieved Developed or Exemplary grade on the rubric, and 98% students received Developing, Developed, or Exemplary grade on the rubric. • 39.28% of students between 85 – 100 (Exemplary)</p>		
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Assessment List Findings for the Assessment Measure level for Outcome 5: Possess the ability to solve problems using efficient algorithms and data structures(Imported)

Goal/Objective	Outcome 5: Possess the ability to solve problems using efficient algorithms and data structures(Imported)
Legends	SLO - Student Learning Outcome/Objective (academic units);

Standards/Outcomes	<table border="1"> <thead> <tr> <th data-bbox="373 338 581 380">Identifier</th> <th colspan="4" data-bbox="581 338 1531 380">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="373 380 581 541">ABET-CAC.CS.1</td> <td colspan="4" data-bbox="581 380 1531 541">Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program's objectives.</td> </tr> <tr> <td data-bbox="373 541 581 615">ABET-CAC.CS.1.1</td> <td colspan="4" data-bbox="581 541 1531 615">> The program must have documented, measurable objectives.</td> </tr> <tr> <td data-bbox="373 615 581 688">ABET-CAC.CS.1.2</td> <td colspan="4" data-bbox="581 615 1531 688">> The program's objectives must include expected outcomes for graduating students.</td> </tr> <tr> <td data-bbox="373 688 581 762">ABET-CAC.CS.1.3</td> <td colspan="4" data-bbox="581 688 1531 762">> Data relative to the objectives must be routinely collected and documented, and used in program assessments.</td> </tr> <tr> <td data-bbox="373 762 581 835">ABET-CAC.CS.1.4</td> <td colspan="4" data-bbox="581 762 1531 835">> The extent to which each program objective is being met must be periodically assessed.</td> </tr> <tr> <td data-bbox="373 835 581 909">ABET-CAC.CS.1.5</td> <td colspan="4" data-bbox="581 835 1531 909">> The results of the program's periodic assessments must be used to help identify opportunities for program improvement.</td> </tr> <tr> <td data-bbox="373 909 581 982">ABET-CAC.CS.1.6</td> <td colspan="4" data-bbox="581 909 1531 982">> The results of the program's assessments and the actions taken based on the results must be documented.</td> </tr> </tbody> </table>					Identifier	Description				ABET-CAC.CS.1	Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program's objectives.				ABET-CAC.CS.1.1	> The program must have documented, measurable objectives.				ABET-CAC.CS.1.2	> The program's objectives must include expected outcomes for graduating students.				ABET-CAC.CS.1.3	> Data relative to the objectives must be routinely collected and documented, and used in program assessments.				ABET-CAC.CS.1.4	> The extent to which each program objective is being met must be periodically assessed.				ABET-CAC.CS.1.5	> The results of the program's periodic assessments must be used to help identify opportunities for program improvement.				ABET-CAC.CS.1.6	> The results of the program's assessments and the actions taken based on the results must be documented.			
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Assessment List Findings for the Assessment Measure level for Outcome 6: Communicate effectively, both orally and in writing.(Imported)

Goal/Objective	Outcome 6: Communicate effectively, both orally and in writing.(Imported)			
Legends	SLO - Student Learning Outcome/Objective (academic units);			
Standards/Outcomes	Identifier		Description	
	ABET-CAC.CS.1		Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program??s objectives.	
	ABET-CAC.CS.1.1		> The program must have documented, measurable objectives.	
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Direct - Writing Exam		Outcome 6 is measured through CMPS 430, 453, and 460. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 6 is to achieve an average rating of 2.8 or higher out of 4 on rubric.		
Assessment Findings				
	Assessment Measure	Criterion	Summary	Attachments of the Assessments

	<p>Direct - Writing Exam</p>	<p>Has the criterion Outcome 6 is measured through CMPS 430, 453, and 460. In addition it is also assessed through indirect measure (graduating students survey, surveys from stakeholders). The target for outcome 6 is to achieve an average rating of 2.8 or higher out of 4 on rubric. been met yet? Met</p>	<p>CMPS 430: 83% of the students achieved Developed or Exemplary rating on the rubric, from evaluation of their research report. CMPS 460 (based on the data from Spring 2018): Percentage of students who fulfilled Outcome 6 in different levels: • 3.27% of students between 50 – 69 (Developing) • 14.75% of students between 70 – 84 (Developed) • 83.60% of students between 85 – 100 (Exemplary) CMPS 453: Percentage of students</p>	<p>rubricEvaluation_F17.docx Outcome_2_4_6_7_CMPS_453_rubricEvaluation_F17.docx</p>	<p>- Assessment Process: Continuous monitoring : The results exceed our expectations for this outcome. We will monitor this outcome in the future to replicate the best practices followed this year.</p>
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		<p>who fulfilled Outcome 6 in different levels: • 17.85% of students between 70 – 84 (Developed) • 82.14% of students between 85 – 100 (Exemplary) 99% of the students met Developed, or Exemplary score on the rubric.</p>		
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Assessment List Findings for the Assessment Measure level for Outcome 7: Work effectively, both independently and in a team.(Imported)

Goal/Objective	Outcome 7: Work effectively, both independently and in a team.(Imported)	
Legends	SLO - Student Learning Outcome/Objective (academic units);	
Standards/Outcomes	Identifier	Description
	ABET-CAC.CS.1	Objectives and Assessments: Intent: The program has documented, measurable objectives, including expected outcomes for graduates. The program regularly assesses its progress against its objectives and uses the results of the assessments to identify program improvements and to modify the program??s objectives.
	ABET-CAC.CS.1.1	> The program must have documented, measurable objectives.
	ABET-CAC.CS.1.2	> The program??s objectives must include expected outcomes for graduating students.
	ABET-CAC.CS.1.3	> Data relative to the objectives must be routinely collected and documented, and used in program assessments.
	ABET-CAC.CS.1.4	> The extent to which each program objective is being met must be periodically assessed.

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		<p>of 4 on its rubric. been met yet? Met</p>	<p>(Exemplary) CMPS 430 (Fall 2017: additional point of measurement): 95% of the students achieved rating of 3 or 4 on the rubric, thus exceeding expectations! CMPS 453: Percentage of students who fulfilled Outcome 7 in different levels: • 10.71% of students between 70 – 84 (Developed) • 89.28% of students between 85 – 100 (Exemplary)</p>		
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Reflection (Due 9/15/18)

Reflection

The primary purpose of assessment is to use data to inform decisions and improve programs and operations; this is an on-going process of defining goals and expectations, collecting results, analyzing data, comparing current and past results and initiatives, and making decisions based on these reflections. Recalling this purpose, respond to the questions below.

1) How were assessment results shared in the program / department?

Please select all that apply. If "other", please use the text box to elaborate.

Distributed via email (selected)

Presented formally at staff / department / committee meetings (selected)

Discussed informally

Other (explain in text box below)

2) How frequently were assessment results shared?

Frequently (>4 times per cycle)

Periodically (2-4 times per cycle) (selected)

Once per cycle

Results were not shared this cycle

3) With whom were assessment results shared?

Please select all that apply.

Department Head (selected)

Dean / Asst. or Assoc. Dean (selected)

Departmental assessment committee (selected)

Other faculty / staff

4) Consider the impact of prior applied changes. Specifically, compare current results to previous results to evaluate the impact of a previously reported change. Demonstrate how the use of results improved student learning and/or operations.

Continued practice of our successful methods are continuing to produce excellent results. We will keep mentoring and supporting the instructors to follow the best practices in instruction and support.

5) Over the past three assessment cycles, what has been the overall impact of "closing the loop"? Provide examples of improvements in student learning, program quality, or department operations that are directly linked to assessment data and follow-up analysis.

Improved coverage of current material; improved SEIs; improved rating from graduating seniors.

Attachments (optional)

Upload any documents which support the program / department assessment process.

ABET_310Rubric_Fall2017_1_.doc

Outcome_2_4_6_7_CMPS_453_rubricEvaluation_F17.docx

rubricEvaluation_F17_1_.docx

Revised_Plan_of_Assessment_CMPS_Effec_2014_2015.doc