

University of Louisiana at Lafayette

Detailed Assessment Report 2015-2016 Computer Science BS

As of: 11/22/2016 10:55 AM CENTRAL

(Includes those Action Plans with Budget Amounts marked *One-Time, Recurring, No Request.*)

Mission / Purpose

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 does not have a separate mission.

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software..

Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software design, operating systems, and database.

Relevant Associations:

Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software design, operating systems, and database.

Related Measures

M 1: Assessment Strategy for Outcome 1

Outcome 1 is assessed through courses CMPS 340, CMPS 341, CMPS 455, and CMPS 460. In addition it is also assessed through indirect measure (surveys from stakeholders).

Source of Evidence: Academic direct measure of learning - other

Target:

The target for outcome 1 is to achieve an average rating of 2.8 out of 4. Also, the target for outcome 1 is to meet the respective thresholds for each course.

Finding (2015-2016) - Target: Not Reported This Cycle

This outcome was not assessed in 2015 and it is due for assessment next year (please see our plan of assessment document in the repository).

Related Action Plans (by Established cycle, then alpha):

Action Plan for Outcome 1

Implement a revised assessment and evaluation plan following ABET's formal feedback in August 2014.

Established in Cycle: 2013-2014

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 1 |

Outcome/Objective: Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software..

Bridge the gap in instruction and learning for theory material

In the next offering, specific measures will be taken to bridge the gap in instruction and learning for theory material for CMPS 460.

Established in Cycle: 2014-2015

Implementation Status: Planned

Priority: Medium

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 1 |

Outcome/Objective: Understand and use the fundamental principles of the science of computation including those of algorithm analysis, software..

Implementation Description: Assess students performance and provide feedback much earlier.

SLO 2: Have the ability to analyze, design, implement, and test computer systems or components.

Have the ability to analyze, design, implement, and test computer systems or components.

Relevant Associations:

Have the ability to analyze, design, implement, and test computer systems or components.

Related Measures

M 2: Assessment Strategy for Outcome 2

Outcome 2 is assessed through courses CMPS 430, 453, and 455.

In addition it is also assessed through indirect measure (surveys from stakeholders).

Source of Evidence: Academic direct measure of learning - other

Target:

The target for outcome 2 is to achieve an average rating of 2.8 out of 4 from stakeholders.

Also, the target for outcome 2 is to

meet the respective thresholds for each course. Please see the enclosed report in the document repository.

Finding (2015-2016) - Target: Not Reported This Cycle

This outcome was not assessed in 2015 and it is due for assessment next year (please see our plan of assessment document in the repository).

Related Action Plans (by Established cycle, then alpha):

Action Plan for Outcome 2

Implement a revised assessment and evaluation plan following ABET's formal feedback in August 2014.

Established in Cycle: 2013-2014

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 2 |

Outcome/Objective: Have the ability to analyze, design, implement, and test computer systems or components.

SLO 3: Be proficient in more than one programming language on more than one computing platform.

Be proficient in more than one programming language on more than one computing platform.

Outcome 3 is measured exclusively through CMPS 351, 450, and 460.

Mapping Matrix

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
310				X			

341	X						
351			X				
430		X				X	
440	X						
450			X		X		
453		X				X	X
455	X	X			X		X
460	X		X			X	X

Relevant Associations:

Be proficient in more than one programming language on more than one computing platform.

Related Measures

M 3: Assessment Strategy for Outcome 3

Outcome 3 is measured through CMPS 351, CMPS 450, and CMPS 460.

In addition it is also assessed through indirect measure (surveys from stakeholders).

Source of Evidence: Academic direct measure of learning - other

Target:

The target for outcome 3 is to achieve an average rating of 2.8 out of 4 from stakeholders.

Also, the target for outcome 3 is to

meet the respective thresholds for each course. Please see the enclosed report in the document repository.

Finding (2015-2016) - Target: Not Reported This Cycle

This outcome was not assessed in 2015 and it is due for assessment next year (please see our plan of assessment document in the repository).

Related Action Plans (by Established cycle, then alpha):

Action Plan for Outcome 3

Implement a revised assessment and evaluation plan following ABET's formal feedback in August 2014.

Established in Cycle: 2013-2014

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 3 |

Outcome/Objective: Be proficient in more than one programming language on more than one computing platform.

Bridge the gap in instruction and learning for implementation projects

To bridge the gap between expected student achievement and actual student achievement on implementation projects in CMPS 351 and CMPS 450.

Established in Cycle: 2014-2015

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 3 |

Outcome/Objective: Be proficient in more than one programming language on more than one computing platform.

Implementation Description: Train the instructors of CMPS 351 and CMPS 450 about new methods for bridging the gap.

SLO 4: Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.

Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.

Outcome 4 is measured exclusively through CMPS 310.

Mapping Matrix

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
310				X			
341	X						
351			X				
430		X				X	
440	X						
450			X		X		
453		X				X	X
455	X	X			X		X
460	X		X			X	X

Relevant Associations:

Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.

Related Measures

M 4: Assessment Strategy for Outcome 4

Outcome 4 is measured through CMPS 310.

In addition it is also assessed through indirect measure (surveys from stakeholders). Please see

the enclosed report in the document repository for full details.

Source of Evidence: Academic direct measure of learning - other

Target:

The target for outcome 4 is to achieve an average rating of 2.8 out of 4 from stakeholders.

Also, the target for outcome 4 is to

meet the respective thresholds for each course. Please see the enclosed report in the document repository.

Finding (2015-2016) - Target: Met

This outcome was assessed through CMPS 310, Ethical Issues in Computing, course in Spring 2015 and Fall 2015 for this cycle.

In Spring 2015, 32 out of 38 students (84%) achieved rating of developing or developed on the rubric for this outcome.

In Fall 2015, 28 out of 37 students (75%) achieved rating of developing or developed on the rubric for this outcome.

Grand average rating for this course is more than the target.

Related Action Plans (by Established cycle, then alpha):

Action Plan for Closing the Loop for Outcome 4

Sample size will be increased to 24 students.

Established in Cycle: 2009-2010

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 4 |

Outcome/Objective: Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.

Expand coverage of ethical issues through additional course

Starting Fall 2016, ethical issues will be measured through CMPS 453 too, in addition to CMPS 310. This will provide two data points each time this outcome is evaluated.

Established in Cycle: 2015-2016

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 4 |

Outcome/Objective: Understand the professional, ethical, legal, and societal issues in the design and application of computer systems.

Implementation Description: Current instructor of CMPS 453 has been advised to cover ethical issues in more depth in the course. The course will measure it directly through some question(s) on the test/final.

Responsible Person/Group: Dr. Aminul Islam / Dr. Ashok Kumar

Additional Resources: None

SLO 5: Possess the ability to solve problems using efficient algorithms and data structures

Possess the ability to solve problems using efficient algorithms and data structures

Relevant Associations:

Possess the ability to solve problems using efficient algorithms and data structures

Related Measures

M 5: Assessment Strategy for Outcome 5

Assessment Strategy for Outcome 5

Outcome 5 is measured through CMPS 450 and 455.

In addition it is also assessed through indirect measure (surveys from stakeholders).

Source of Evidence: Project, either individual or group

Target:

The target for outcome 5 is to achieve an average rating of 2.8 out of 4 from stakeholders. Also, the target for outcome 5 is to meet the respective thresholds for each course. Please see the enclosed report in the document repository.

Finding (2015-2016) - Target: Not Reported This Cycle

This outcome was not assessed in 2015 and it is due for assessment next year (please see our plan of assessment document in the repository).

Related Action Plans (by Established cycle, then alpha):

Action Plan for Outcome 5

Implement a revised assessment and evaluation plan following ABET's formal feedback in August 2014.

Established in Cycle: 2013-2014

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 5 |

Outcome/Objective: Possess the ability to solve problems using efficient algorithms and data structures

Bridge the gap in instruction and learning for implementation projects

CMPS 450 has a gap between expected student achievement and actual student achievement. This will be addressed in the next cycle..

Established in Cycle: 2014-2015

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 5 |

Outcome/Objective: Possess the ability to solve problems using efficient algorithms and data structures

Implementation Description: CMPS 450 has a gap between expected student achievement and actual student achievement. This will be addressed in the next cycle..

SLO 6: Communicate effectively, both orally and in writing.

Communicate effectively, both orally and in writing.

Relevant Associations:

Communicate effectively, both orally and in writing.

Related Measures

M 6: Assessment Strategy for Outcome 6

Outcome 6 is measured through CMPS 430, 453, and 460.

In addition it is also assessed through indirect measure (surveys from stakeholders).

Source of Evidence: Academic direct measure of learning - other

Target:

The target for outcome 6 is to achieve an average rating of 2.8 out of 4 on its rubric. Also, the target for outcome 6 is to meet the respective thresholds for each course. Please see the enclosed report in the document repository.

Finding (2015-2016) - Target: Met

This outcome was assessed for this cycle through the following courses: CMPS 430 (Fall 2015), CMPS 453 (Fall 2015), and CMPS 460 (Spring 2015). The following are the results.

CMPS 430 (Fall 2015): 12 out of 14 students (i.e., 85%) received rating of 3 or higher on the rubric for outcome 6.

CMPS 453 (Fall 2015): 40 out of 42 students (i.e., 95%) received rating of 3 or higher on the rubric for outcome 6.

CMPS 460 (Spring 2015): 52 out of 57 students (i.e., 91%) received rating of 3 or higher on the rubric for outcome 6.

Grand average for this outcome is more than the target of 2.8.

Related Action Plans (by Established cycle, then alpha):

Action Plan for Outcome 6

Implement a revised assessment and evaluation plan following ABET's formal feedback in August 2014.

Established in Cycle: 2013-2014

Implementation Status: Finished

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 6 |

Outcome/Objective: Communicate effectively, both orally and in writing.

Implementation Description: This was implemented.

Continue the practice unchanged since it is successful

Continue the practice unchanged since it is successful

Established in Cycle: 2015-2016

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 6 |

Outcome/Objective: Communicate effectively, both orally and in writing.

Implementation Description: N/A

Responsible Person/Group: N/A

Additional Resources: None

SLO 7: Work effectively, both independently and in teams.

Work effectively, both independently and in teams.

Relevant Associations:

Work effectively, both independently and in teams.

Related Measures

M 7: Assessment Strategy for Outcome 7

Outcome 7 is measured through CMPS 453, 455, and 460.

In addition it is also assessed through indirect measure (surveys from stakeholders).

Source of Evidence: Project, either individual or group

Target:

The target for outcome 7 is to achieve an average rating of 2.8 out of 4 on its rubric. Also, the target for outcome 7 is to meet the respective thresholds for each course. Please see the enclosed report in the document repository.

Finding (2015-2016) - Target: Met

This outcome was assessed for this cycle through the following courses: CMPS 455 (Spring 2015), CMPS 453 (Fall 2015), and CMPS 460 (Spring 2015). The following are the results.

CMPS 455 (Spring 2015): 45 out of 50 (i.e., 90%) students received rating of 3 or higher on the rubric for outcome 7.

CMPS 453 (Fall 2015): 40 out of 42 students (i.e., 95%) received rating of 3 or higher on the rubric for outcome 7.

CMPS 460 (Spring 2015): 52 out of 57 students (i.e., 91%) received rating of 3 or higher on the rubric for outcome 7.

Grand average for this outcome is more than the target of 2.8.

Related Action Plans (by Established cycle, then alpha):

Action Plan for Outcome 7

Implement a revised assessment and evaluation plan following ABET's formal feedback in August 2014.

Established in Cycle: 2013-2014

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 7 |

Outcome/Objective: Work effectively, both independently and in teams.

Continue the practice unchanged since it is successful

Continue the practice unchanged since it is successful

Established in Cycle: 2015-2016

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Assessment Strategy for Outcome 7 |

Outcome/Objective: Work effectively, both independently and in teams.

Implementation Description: N/A

Responsible Person/Group: N/A

Additional Resources: None

Analysis Questions and Analysis Answers

How were assessment results shared and evaluated within the unit?

Assessment results were shared with faculty members in the department (CMPS) via faculty meeting and also email.

Identify which action plans [created in prior cycle(s)] were implemented in this current cycle. For each of these implemented plans, were there any measurable or perceivable effects?

How, if at all, did the findings appear to be affected by the implemented action plan?

This cycle, only outcomes 4, 6, and 7 were assessed per schedule. Previous action plans did not pertain to these outcomes.

What has the unit learned from the current assessment cycle? What is working well, and what is working less well in achieving desired outcomes?

Everything related to outcomes 4, 6, and 7 (assessed this cycle) is working well. It was observed that outcome 4 could be measured through more than one data point on a regular basis, and it was decided that CMPS 453 will start direct measurement of this outcome through either questions on test or through implementation project.