

Texas A&M University

Detailed Assessment Report 2016-2017 Construction Management, MS

As of: 10/03/2017 09:55 AM CENTRAL

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

Mission / Purpose

The Construction Science Department is dedicated to education, discovery, development and application of knowledge in the field of construction while fulfilling the land grant mission of Texas A&M University and enhancing the economic development of the State of Texas. Our mission of providing the highest quality academic programs is inseparable from our mission of developing new understanding through teaching, research and service. We prepare students to assume roles in leadership, responsibility, and service to society.

Goals

G 1: Cycle 1

Objectives 3,6, & 8

G 2: Cycle 2

Objectives 1, 4, & 7

G 3: Cycle 3

Objectives 2, 5, & 9

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

SLO 1: Demonstrate critical thinking and creativity

Students will demonstrate critical thinking and creativity. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

1.3 Use a variety of sources and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments.

Related Measures

M 1: Thesis Rubric

Review of completed theses using outcome specific rubric. Scores range from a minimum of 1 ("Unsatisfactory performance") to 5 ("Excellent performance") points. Assessment is conducted by at least two reviewers who are members of the Graduate Instruction Committee in the department.

Source of Evidence: Senior thesis or culminating major project

Target:

Students will achieve an average score of at least 3.5 (out of 5) on all criteria of the rubric. At least 80% of the students score 3 or above. This is a new measure. Targets will be adjusted at the end of two full cycles of data collection (each cycle occurs once every three years) in order to establish baseline data upon more than one data collection event.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum

of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

SLO 2: Demonstrate complex problem solving and decision making

Students will demonstrate complex problem solving and decision making. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

1.2 Apply subject matter knowledge in a range of contexts to solve problems and make decisions.

Related Measures

M 1: Thesis Rubric

Review of completed theses using outcome specific rubric. Scores range from a minimum of 1 ("Unsatisfactory performance") to 5 ("Excellent performance") points. Assessment is conducted by at least two reviewers who are members of the Graduate Instruction Committee in the department.

Source of Evidence: Senior thesis or culminating major project

Target:

Students will achieve an average score of at least 3.5 (out of 5) on all criteria of the rubric. At least 80% of the students score 3 or above. This is a new measure. Targets will be adjusted at the end of two full cycles of data collection (each cycle occurs once every three years) in order to establish baseline data upon more than one data collection event.

Finding (2016-2017) - Target: Not Met

The Graduate Instruction Committee (GIC) were asked to evaluate several student learning outcomes SLOs based on completed theses. During the 2016/17 academic year a sample of 7 theses, that became available on the Oak Trust Repository, were evaluated in a blinded peer review by two GIC members each. The average score of the two reviewers for each thesis is used to report the SLO. An average score of 3.23 (out of 5) was obtained, with standard deviation of 0.85. This does not meet the target. Three of the seven (43%) Theses received a mean score of 3 or above, which does meet the target.

Finding (2016-2017) - Target: Not Met

The Graduate Instruction Committee (GIC) were asked to evaluate several student learning outcomes SLOs based on completed theses. During the 2016/17 academic year a sample of 7 theses, that became available on the Oak Trust Repository, were evaluated in a blinded peer review by two GIC members each. The average score of the two reviewers for each thesis is used to report the SLO. An average score of 3.23 (out of 5) was obtained, with standard deviation of 0.85. This does not meet the target. Due to three Theses only receiving one review each instead of two reviews, three of the seven (43%) Theses received a mean score of 3 or above, which does meet the target. Although the target of an average score of 3.5 or higher was not met, the relatively high average of 3.23 when three of the seven Theses reviewed only received one review and thereby lowered the overall average indicates that if all Theses received the requisite 2 reviews each all both targets of 80% of students receiving an average Theses score of 3 or better and students achieving an average score of at least 3.5 or better on all criteria of the rubric would have been met. Greater effort needs to be focused on ensuring all student Theses receive the required two reviews each.

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

Thesis Reviews

Established in Cycle: 2015-2016

Ensure all thesis reviews are completed.

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Met

Each graduating student was solicited to participate in a departmental exit survey online. Out of the 15 students who graduated in Summer 2017 (4), Fall 2016 (5), and Spring 2017 (6). Nine responses were collected equaling a 60% response rate. An average score of 3.57 (Scale: 1 = Very Weak; 2 = Weak; 3 = Average; 4 = Strong; 5 = Very Strong) was achieved, meeting the target. Also, 7 out of 9 (78%) responses were 3 or above, meeting the target as well. These results indicate students believe the Masters of Construction Management degree program was strong in how well it met the Student learning outcome of demonstrating complex problem solving and decision making. (Cut Points: 0 - 1.50 = Very Weak; 1.51 - 2.50 = Weak; 2.51 - 3.50 = Average; 3.51 - 4.50 = Strong; 4.51 - 5.0 = Very Strong)

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

The Former Student Survey was not administered during the 2016-17 Academic year, therefore there are no data to report for this student learning outcome. Former Student Survey data will be reported after the next administration of the Former Student Survey.

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Met

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine SLOs. An average score of 4.33 (out of 5) was achieved, meeting the target. Also, 3 out of 3 responses were 4 or above, meeting the target as well.

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

SLO 3: Demonstrate effective professional oral and written communication

Students will demonstrate effective professional oral and written communication. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

1.4 Communicate effectively.

Related Measures

M 1: Thesis Rubric

Review of completed theses using outcome specific rubric. Scores range from a minimum of 1 ("Unsatisfactory performance") to 5 ("Excellent performance") points. Assessment is conducted by at least two reviewers who are members of the Graduate Instruction Committee in the department.

Source of Evidence: Senior thesis or culminating major project

Target:

Students will achieve an average score of at least 3.5 (out of 5) on all criteria of the rubric. At least 80% of the students score 3 or above. This is a new measure. Targets will be adjusted at the end of two full cycles of data collection (each cycle occurs once every three years) in order to establish baseline data upon more than one data collection event.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle
Not Reported This Cycle

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle
Not Reported This Cycle

SLO 4: Use information and communication technology

Students will effectively use information and communication technology. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

1.5 Use appropriate technologies to communicate, collaborate, conduct research, and solve problems.

Related Measures

M 5: COSC Course Assignments - Information and Communication Technology

Assessment is based on input from instructors of four (4) different classes: COSC 642 ("Construction Information Technology"), COSC 644 ("Advanced Construction Systems"), COSC 648 ("Graduate Capstone"), and COSC 650 ("Advanced Construction Visualization"). Each instructor is to identify one component of the class which requires students to investigate or implement knowledge of advanced construction technology and practices. Each instructor is asked to provide a narrative as of the objective(s) of the assignment (in relation to advanced project management principles and practices), what students were asked to do, and how students were graded on (criteria).

Source of Evidence: Project, either individual or group

Target:

At least 80% of the students score a letter grade of "B" or above in each of the components identified in COSC 642 ("Construction Information Technology"), COSC 644 ("Advanced Construction Systems"), COSC 648 ("Graduate Capstone"), and COSC 650 ("Advanced Construction Visualization").

Finding (2016-2017) - Target: Not Reported This Cycle
Not Reported This Cycle

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle
Not Reported This Cycle

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle
Not Reported This Cycle

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle
Not Reported This Cycle

SLO 5: Understand and apply principles of leadership in business and management

Students will understand and apply principles of leadership in business and management. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

1.1 Master degree program requirements, including theories, concepts, principles, and practice, and develop a

coherent understanding of the subject matter through synthesis across courses and experiences.

Related Measures

M 1: Thesis Rubric

Review of completed theses using outcome specific rubric. Scores range from a minimum of 1 ("Unsatisfactory performance") to 5 ("Excellent performance") points. Assessment is conducted by at least two reviewers who are members of the Graduate Instruction Committee in the department.

Source of Evidence: Senior thesis or culminating major project

Target:

Students will achieve an average score of at least 3.5 (out of 5) on all criteria of the rubric. At least 80% of the students score 3 or above. This is a new measure. Targets will be adjusted at the end of two full cycles of data collection (each cycle occurs once every three years) in order to establish baseline data upon more than one data collection event.

Finding (2016-2017) - Target: Not Met

The Graduate Instruction Committee (GIC) were asked to evaluate several student learning outcomes SLOs based on completed theses. During the 2016/17 academic year a sample of 7 theses, that became available on the Oak Trust Repository, were evaluated in a blinded peer review by two GIC members each. The average score of the two reviewers for each thesis is used to report the SLO. An average score of 3.10 (out of 5) was obtained, with standard deviation of 0.86. This does not meet the target. Due to three Theses only receiving one review each instead of two reviews, three of the seven (43%) Theses received a mean score of 3 or above, which does meet the target.

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

Thesis Reviews

Established in Cycle: 2015-2016

Ensure all thesis reviews are completed.

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Met

Each graduating student was solicited to participate in a departmental exit survey online. Out of the 15 students who graduated in Summer 2017 (4), Fall 2016 (5), and Spring 2017 (6). Nine responses were collected equaling a 60% response rate. An average score of 4.14 (Scale: 1 = Very Weak; 2 = Weak; 3 = Average; 4 = Strong; 5 = Very Strong) was achieved, meeting the target. Also, 7 out of 9 (78%) responses were 3 or above, meeting the target as well. These results indicate students believe the Masters of Construction Management degree program was strong in how well it met the Student learning outcome of Understand and apply principles of leadership in business and management. (Cut Points: 0 - 1.50 = Very Weak; 1.51 - 2.50 = Weak; 2.51 - 3.50 = Average; 3.51 - 4.50 = Strong; 4.51 - 5.0 = Very Strong)

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

New Student Boot Camp

Established in Cycle: 2016-2017

Based on the finding of Measure 6/Objective 9 that some students did not believe the program was strong in application of advanc...

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

The Former Student Survey was not administered during the 2016-17 Academic year, therefore there are no data to report for this student learning outcome. Former Student Survey data will be reported after the next administration of the Former Student Survey.

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Met

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine SLOs. An average score of 3.50 (out of 5) was achieved, meeting the target. Also, 3 out of 3 responses were 3 or above, meeting the target as well.

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

New Student Boot Camp

Established in Cycle: 2016-2017

Based on the finding of Measure 6/Objective 9 that some students did not believe the program was strong in application of advanc...

SLO 6: Demonstrate a working knowledge of current issues in construction

Students will demonstrate a working knowledge of current issues in construction. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

1.1 Master degree program requirements, including theories, concepts, principles, and practice, and develop a coherent understanding of the subject matter through synthesis across courses and experiences.

Related Measures

M 2: Proposal Review

Review of the literature review and problem statement of students' individual proposals. Assessment is based on the students' individual proposals in COSC 690 ("Theory of Research in Construction Management"), and is to be conducted by the instructor of COSC 690.

Source of Evidence: Project, either individual or group

Target:

Students will achieve an average score of at least 3.5 (out of 5) on all criteria of the rubric. At least 80% of the students score 3 or above. This is a new measure. Targets will be adjusted at the end of two full cycles of data collection (each cycle occurs once every three years) in order to establish baseline data upon more than one data collection event.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported this Cycle

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

SLO 7: Demonstrate the ability to solve complex construction problems taking into account associate risk management issues

Students will demonstrate the ability to solve complex construction problems taking into account associate risk management issues. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

- 1.1 Master degree program requirements, including theories, concepts, principles, and practice, and develop a coherent understanding of the subject matter through synthesis across courses and experiences.
- 1.2 Apply subject matter knowledge in a range of contexts to solve problems and make decisions.

Related Measures

M 1: Thesis Rubric

Review of completed theses using outcome specific rubric. Scores range from a minimum of 1 ("Unsatisfactory performance") to 5 ("Excellent performance") points. Assessment is conducted by at least two reviewers who are members of the Graduate Instruction Committee in the department.

Source of Evidence: Senior thesis or culminating major project

Target:

Students will achieve an average score of at least 3.5 (out of 5) on all criteria of the rubric. At least 80% of the students score 3 or above. This is a new measure. Targets will be adjusted at the end of two full cycles of data collection (each cycle occurs once every three years) in order to establish baseline data upon more than one data collection event.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

SLO 8: Demonstrate knowledge of construction contracts, risks, construction laws and ethics

Students will demonstrate knowledge of construction contracts, risks, construction laws and ethics. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

- 1.7 Choose ethical courses of action in research and practice.

Related Measures

M 3: COSC Course Assignments - Ethics

Assessment is based on input from instructors of four (4) different classes: COSC 620 ("Construction Company Operations"), COSC 628 ("Construction Contracts and Risk Management"), COSC 648 ("Graduate Capstone"), and COSC 684 ("Professional Internship"). Each instructor is to identify one component of the class which requires students to investigate or implement knowledge of construction contracts, risks, construction laws and ethics. Each instructor is asked to provide a narrative as of the objective(s) of the assignment (in relation to construction contracts, risks, construction laws and ethics), what students were asked to do, and how students were graded on (criteria).

Source of Evidence: Written assignment(s), usually scored by a rubric

Target:

At least 80% of the students score a letter grade of "B" or above in each of the components identified in the four classes.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

Not Reported This Cycle

SLO 9: Apply advanced project management principles and practices to construction projects

Students will apply advanced project management principles and practices to construction projects. This outcome is to be measured once every three years.

Relevant Associations:

Graduate Outcome Associations

- 1.1 Master degree program requirements, including theories, concepts, principles, and practice, and develop a coherent understanding of the subject matter through synthesis across courses and experiences.
- 1.2 Apply subject matter knowledge in a range of contexts to solve problems and make decisions.
- 1.3 Use a variety of sources and evaluate multiple points of view to analyze and integrate information and to conduct critical, reasoned arguments.

Related Measures

M 4: COSC Course Assignments - Project Management

Assessment is based on input from instructors of four (4) different classes: COSC 621 ("Advanced Project Management"), COSC 624 ("Construction Business Development"), COSC 631 ("Advanced Productivity and Lean"), and COSC 648 ("Graduate Capstone"). Each instructor is to identify one component of the class which requires students to investigate or implement knowledge of advanced project management principles and practices. Each instructor is asked to provide a narrative as of the objective(s) of the assignment (in relation to advanced project management principles and practices), what students were asked to do, and how students were graded on (criteria).

Source of Evidence: Project, either individual or group

Target:

At least 80% of the students score a letter grade of "B" or above in each of the components identified in the four classes.

Finding (2016-2017) - Target: Not Reported This Cycle

The courses from which this student learning outcome are collected (COSC 621, 624, 631, & 648) were not taught in either the Fall 2016 or Spring 2017 semesters due in part to the classes not having large enough enrollment per university rules for the class to be held, therefore no data were collected for this student learning outcome during the 2016/17 reporting cycle. Data will be collected and reported when the courses are next taught.

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

New Student Boot Camp

Established in Cycle: 2016-2017

Based on the finding of Measure 6/Objective 9 that some students did not believe the program was strong in application of advanc...

M 6: Graduate Student Exit Survey

Graduating students are asked to self-assess how well they believe the program met each of the nine learning

outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points

Source of Evidence: Student satisfaction survey at end of the program

Target:

Average score of at least 3.25 (out of 5). At least 70% of the students score this outcome as 3 or above. This is a new measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Partially Met

Each graduating student was solicited to participate in a departmental exit survey online. Out of the 15 students who graduated in Summer 2017 (4), Fall 2016 (5), and Spring 2017 (6). Nine responses were collected equaling a 60% response rate. An average score of 3.57 (Scale: 1 = Very Weak; 2 = Weak; 3 = Average; 4 = Strong; 5 = Very Strong) was achieved, meeting the target. Also, 6 out of 9 (67%) responses were 3 or above. Therefore the overall target was partially met, because even though the average response score of students was above the target of 3.25, the percentage of students scoring this outcome as 3 or above was below the target of 70%. Although the overall average indicates students believe the Masters of Construction Management degree program was strong in how well it met the Student learning outcome of apply advanced project management principles and practices to construction projects, the low percentage of students who believed the program was only average indicates a need to increase the focus during instruction on the application of advanced project management principles and practices to construction projects in order to increase students' knowledge and skill level. (Cut Points: 0 - 1.50 = Very Weak; 1.51 - 2.50 = Weak; 2.51 - 3.50 = Average; 3.51 - 4.50 = Strong; 4.51 - 5.0 = Very Strong)

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

New Student Boot Camp

Established in Cycle: 2016-2017

Based on the finding of Measure 6/Objective 9 that some students did not believe the program was strong in application of advanc...

M 7: Former Student Survey

Former students of the program are asked to self-assess how well they believe the program prepared them for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Alumni survey or tracking of alumni achievements

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Not Reported This Cycle

The Former Student Survey was not administered during the 2016-17 Academic year, therefore there are no data to report for this student learning outcome. Former Student Survey data will be reported after the next administration of the Former Student Survey.

M 8: Construction Industry Advisory Council (CIAC) Survey

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine learning outcomes. Scores range from a minimum of 1 ("Very weak") to 5 ("Very strong") points.

Source of Evidence: Advisory board or community feedback on program

Target:

Average score of at least 3.25 (out of 5). This is a new Measure. Targets will be adjusted once baseline data has been collected.

Finding (2016-2017) - Target: Met

Members of the Construction Industry Advisory Council (CIAC) are asked to self-assess how well they believe the program prepares the students for the industry in each of the nine SLOs. An average score of 4.33 (out of 5) was achieved, meeting the target. Also, 3 out of 3 responses were 4 or above, meeting the target as well.

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

For full information, see the *Details of Action Plans* section of this report.

Reduce Size of Graduate Program

Established in Cycle: 2014-2015

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the...

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Reduce Size of Graduate Program

In order to improve the quality of our product, the graduate faculty in the department decided to reduce the size of the graduate program and be much more selective in our admission of new graduate students into the program. Implementation of this started during the 2015/16 admission cycle, where only 33 applicants were admitted into the program (compared to almost 100 in the last two admission cycles). This trend continues during the 2016/17 admission cycle with only 42 new students admitted to the MSCM program and 18 students admitted. The Graduate Instruction Committee made some significant changes in the admission process in order for us to be able to identify who the best candidates are, and will continue monitoring this over the next year for possible improvements in future admission cycles.

Established in Cycle: 2014-2015

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Construction Industry Advisory Council (CIAC) Survey | **Outcome/Objective:** Apply advanced project management principles and practices to construction projects
 | Demonstrate complex problem solving and decision making | Understand and apply principles of leadership in business and management

Measure: COSC Course Assignments - Project Management | **Outcome/Objective:** Apply advanced project management principles and practices to construction projects

Measure: Graduate Student Exit Survey | **Outcome/Objective:** Apply advanced project management principles and practices to construction projects
 | Demonstrate complex problem solving and decision making | Understand and apply principles of leadership in business and management

Measure: Thesis Rubric | **Outcome/Objective:** Demonstrate complex problem solving and decision making
 | Understand and apply principles of leadership in business and management

Thesis Reviews

Ensure all thesis reviews are completed.

Established in Cycle: 2015-2016

Implementation Status: In-Progress

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Thesis Rubric | **Outcome/Objective:** Demonstrate complex problem solving and decision making
 | Understand and apply principles of leadership in business and management

New Student Boot Camp

Based on the finding of Measure 6/Objective 9 that some students did not believe the program was strong in application of advanced project management principles and practices to construction projects, the department will implement in Fall 2017 a 2-week intensive "Boot Camp" for all new Master of Science in Construction Management (MSCM) students. The intent of the Boot Camp is to address the weakness in construction management knowledge of new MSCM students by increasing students' baseline knowledge at the beginning of their degree program in order for the MSCM program to decrease the amount of instructional time on fundamental principles in order to provide students a foundation for more advanced topics and therefore provide more instructional time for advanced project management principles and practices. This Boot Camp will replace the Graduate Entrance Survey.

Established in Cycle: 2016-2017

Implementation Status: Planned

Priority: High

Relationships (Measure | Outcome/Objective):

Measure: Construction Industry Advisory Council (CIAC) Survey | **Outcome/Objective:** Understand and apply principles of leadership in business and management

Measure: COSC Course Assignments - Project Management | **Outcome/Objective:** Apply advanced project management principles and practices to construction projects

Measure: Graduate Student Exit Survey | **Outcome/Objective:** Apply advanced project management principles and practices to construction projects
 | Understand and apply principles of leadership in business and management

Analysis Questions and Analysis Answers**Consider the Findings and the Action Plan(s) established this cycle. How did the program/unit identify these next steps for action? Why does the program/unit believe this Action Plan(s) should improve future assessment results?**

AY 2016/17 was the third year in which the Assessment Plan for the Master of Science in Construction Management degree program was implemented. The Assessment Plan developed and proposed a three-year cycle, and therefore, our input only refers to three SLO's that are reported this year, namely SLO's #2, 5, and 9 SLO #2 – Demonstrate complex problem solving and decision making: The targets for this SLO were nearly all met. Measure 1 (thesis rubric), did not meet the target of 80% or more scoring 3 or above (43%), and did not meet the target of an average score of 3.5 or higher (3.23). This was the only target not met for this SLO. Measure 6 (graduate student exit survey), fully met this target. Measure 8 (Construction Industry Advisory Council [CIAC]), fully met this target. Measure 7 (Former Student Survey) will be administered during the 2017/18 assessment cycle so no SLO data were available for this measure. SLO #5 – Understand and apply principles of leadership in business and management: The targets for this SLO were nearly all met. Measure 1 (thesis rubric), did not meet the target of 80% or more scoring 3 or above (43%), and did not meet the target of an average score of 3.5 or higher (3.10). This was the only target not met for this SLO. Measure 6 (graduate student exit survey), fully met this target. Measure 8 (Construction Industry Advisory Council [CIAC]), fully met this target. Measure 7 (Former Student Survey) will be administered during the 2017/18 assessment cycle so no SLO data were available for this measure. SLO #9 – Apply advanced project management principles and practices to construction projects: Of the three measures for this SLO only one fully met the target (Measure 8), one partially met the target (Measure 6), and two were not reported (Measures 4 & 7). Measure 8 (Construction Industry Advisory Council [CIAC]), fully met this target. Measure 6 (graduate student exit survey), partially met this target. Measure 6 did not meet the target of 70% or more scoring 3 or above (67%), but did meet the target of an average score of 3.5 or higher (3.57). Measure 4 (COSC Course Assignments – Project Management) was not reported this cycle as none of the four courses (COSC 621, 624, 631, or 648) were taught during the 2017/18 academic year due in part to classes not having large enough enrollment per university rules for the class to be held. Therefore there were not data to report for Measure 4. Measure 7 (Former Student Survey) will be administered during the 2017/18 assessment cycle so no SLO data were available for this measure. We expect SLO 9 scores to improve in future due to implementation of a 2-week intensive "Boot Camp" for all new Master of Science in Construction Management (MSCM) students. The intent of the Boot Camp is to address the weakness in construction management knowledge of new MSCM students by increasing students' baseline knowledge at the beginning of their degree program. Thereby enabling the MSCM program to decrease the amount of instructional time on fundamental principles in order to provide students a foundation for more advanced topics and more instructional time for advanced project management principles and practices. For both SLO #2 and SLO #5 the missed targets came from the thesis rubric measurement, indicating that while the students themselves and the construction industry deem performance in these areas is adequate, the COSC faculty disagree. The low performing Theses may also be attributed to only 4 of the 7 Theses receiving two reviews by faculty, resulting in the remaining three Theses average score being much lower than if

two reviews had been received. Future action to correct these missing reviews will include stronger emphasis and follow-up with graduate faculty to complete all Theses reviews and return scores in a timely manner. In addition, the quality of work produced by the graduate students is expected to improve as the overall number of students admitted to the program yearly has been cut by more than half. As a result faculty should be supervising fewer graduate students and as a result the quality of graduate theses is expected to increase, and better reflect the SLOs. However we caution that because of holds placed on theses, those reviewed over the next two years are likely to continue to reflect the work of students who entered the program before the more selective admissions process was implemented and took effect.

Provide an update for completed or ongoing action plans from the previous year(s). Discuss any successes, challenges, and/or obstacles the program/unit has experienced while implementing the Action Plan(s). Address whether or not the program/unit has seen any improvement in assessment results for the targeted Outcome(s) the Action Plan(s) were designed to address and why the action plan may/may not have resulted in improvements.

· Reduce the size of the graduate program – In-Progress. In 2015, 33 students were admitted and 17 enrolled. In 2017, 42 students were admitted and 18 enrolled. The total number of MSCM students during the 2017/18 academic year will be 43 students. Smaller numbers of graduate students appear to be improving the quality of students, because 2015 was the first year of reduced admissions the exit surveys and the quality of these student's theses will not be able to be evaluated until 2017 and beyond. · Require graduate students to work with their faculty chair on major tasks in COSC 690 – In Progress. The faculty who taught COSC 690 in 2016 indicated that more interaction between the students and their faculty chairs was needed. This will again be an emphasis in COSC 690 and in COSC 681. · Thesis Review – In-Progress. Stronger emphasis and follow-up with graduate faculty to complete all Theses reviews and return scores in a timely manner will be implemented during the 2017/18 academic year. · Conduct an entrance survey – Terminated. An entrance survey was not conducted in 2015 or 2016. Based on graduate instructor input regarding the lack of fundamental knowledge pertaining to construction management, the Graduate Instruction Committee determined that a more efficient use of time and resources will be to conduct 2-week long intensive “Boot Camp” be conducted prior to the Fall 2017 semester in order to provide newly admitted graduate students fundamental construction management knowledge instead of merely administering an entrance survey to identify deficiencies and then requiring graduate students to enroll in semester-long undergraduate courses to address those deficiencies. Thereby decreasing the time-to-graduation for students seeking a MSCM degree. New Action Plan Items: · New Student Boot Camp – Planned. In order to address gaps in new graduate student fundamental knowledge, the MSCM program will require all newly admitted MSCM students to attend a 2-week intensive “Boot Camp” prior to the first day of class in Fall 2017. This Boot Camp will provide new students with an overview of the essential construction management knowledge and skills currently deemed lacking in new students. This Boot Camp will replace the Graduate Entrance Survey.