

SLO 1 - Create written communications appropriate to the construction discipline.

Achievement Target: 70% of students will achieve at 70% or higher on the assessment.

Summary of Assessment Results (findings): 98% (50/51) achieved 70% or better

Improvements and Adjustments:

We reviewed the requirements for the seven-page paper for CMGT 33092 Construction Management Internship to ensure that they are adequately addressing the SLO.

We decided that the topics of the paper were adequately addressing SLO 1 along with the weekly reports that were also required for the course.

SLO 2: Create Oral Presentations Appropriate to the Construction Discipline

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the oral presentation - Assignment#14 (direct assessment) in students' Final project in CMGT 42107 Construction Scheduling course in CMGT 42107 Construction Scheduling course, and Construction Management Senior Exit Survey (indirect assessment).

SLO 3: Create a Safety Plan / Asbestos

Assessment Method: Create a Project-Specific Contract Document for Asbestos

Class performance:

71 % of students scored 70% or more.

The SLO was assessed using the assignment "Create an Asbestos Contract" referencing the OSHA 1926.1101 Subpart Z. The work includes students explaining how to control Asbestos compliance through documentation.

Although the results are satisfying, the following actions will be taken in the next evaluation:

The rubric will be shared with the students at the time the assignment is posted. That will help students understand the skills required.

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the Final Project (project specific assignment) in CMGT 11044 Construction Safety (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 4: Create construction project cost estimates.

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the Final Assignment in CMGT 41041 Construction Estimating 2 (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 5: Create construction project schedules

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the Assignment#12 – Final Project P6 Schedule in CMGT 42107 Construction Scheduling (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 6: Analyze professional decisions based on ethical principles

We have reviewed the project assignment for each section of CMGT 42110 to ensure compliance with the SLO 6 requirements.

Overall, 81.5% of our students met the required level of assessment (70% or better).

The following observations and adjustments will be made to the assignment: We reviewed the personal professional ethical reflection assignment in 42110:

While participation is 100%, there were some low scores. We believe this is attributed to the nature of the assignment. The assignment is writing intensive, and some lower grades are attributed to lack of grammar, shortness of summary and bad examples of writing. A clear rubric should be discussed.

Some students did not have a good construction or professional example, due to lack of internship experience. In this instant a student should pick a current event business case, in lieu of a personal example. This will be communicated to the course, prior to the assignment.

SLO 7. Analyze construction documents for planning and management of construction processes.

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the Assignment#11 – Final Project Activities and Relationships in CMGT 42107 Construction Scheduling (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 8. Analyze methods, materials, and equipment used to construct projects.

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured with a three-part assignment in the CMGT Capstone course. The three parts include (1) Proper placement of crane on jobs items, (2) Choosing the best external cladding option for buildings, and (3) Proper installation methods of building materials (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 9: Understand the role of the construction manager as a member of different multidisciplinary project teams

Direct Assessment: Multidisciplinary assignment

Achievement Target: 70% of students will achieve at 70% or higher in the course.

Results: At least 77% (10/13) achieved 70% or better

Assessment of Assignment:

In the Construction Management Capstone class, students work in teams on a commercial project. This assignment provides a real-life scenario and requires students to work in a multi-disciplinary team consisting of a construction manager (CM), field engineer, subcontractor, architect, and owner. A role play is simulated in class where students, acting as construction managers, work with other team members in solving a problem encountered on a construction site. The assignment is an individual assignment, and it assesses the students understanding of the construction manager's role in a multi-disciplinary team in solving the encountered problem. Through this assignment, students comprehend and can demonstrate an understanding of the CMs role including the roles of other team members – field engineer, subcontractor, architect, and owner. Improvements and Adjustments The assignment was reviewed to ensure that it is addressing the SLO.

The real-life scenario currently being used allows students to demonstrate their understanding of the CM's role.

As an adjustment, we are considering changing the project every year for the assignment. As and when we have an ongoing project on campus, we will use it for the students to experience how the different roles interact in a multi-disciplinary team on a live project

SLO 10. Apply electronic-based technology to manage the construction process.

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the Assignment 13: Final Project Applying P6 in Managing the Process in CMGT 42107 Construction Scheduling (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 11: Apply basic surveying techniques for construction control layout and control

Performance Criteria: At least 70% of students score 70% or more

Method: Lab – In Person

Assessment Method:

Perform field computation and layout of buildings using various survey equipment

Class performance:

83 % of students scored 70% or more

The SLO was assessed using field labs to calculate and layout multiple structures using surveying equipment including total stations. Although the results are satisfying, the following actions will be taken in the next evaluation:

In person class attendance due to Covid 19 impacted lab activities.

SLO 12: Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.

Course(s): CMGT 42105 Construction Contracts & Law

Achievement Target: 70% of students will achieve at 70% or higher in the course.

Results: 93% (65/70) achieved 70% or better in CMGT 42105

Improvements and Adjustments

While we met the assessment goal of “70% achieving 70% or better on the assignment”, we reviewed the assessment and decided to make changes to the assessment method. The SLO was assessed using an assignment that required the students to compare the traditional project delivery method (DBB) with any other delivery method of their choice. We realized that this assignment only gauges their understanding of the two delivery methods that they compare. We therefore decided to use a test format for this SLO going forward. This will allow us to ask them a myriad of questions across the different delivery methods and hence get a better assessment of their understanding of this content.

SLO 13: Understand construction risk management

Course(s): CMGT 42105 Construction Contracts & Law

Achievement Target: 70% of students will achieve at 70% or higher in the course.

Results: 74% (43/58) achieved 70% or better in CMGT 42105.

Improvements and Adjustments

While we met the assessment goal of “70% achieving 70% or better on the assignment”, a closer review of the student’s scores revealed that there was a significant number of students with a failing score in this class: 20% (8/40) and 18% (6/33) in sections 001 and 002 respectively. 78% (31/40) of the students achieved 70% or better in CMGT 42105_001 and 76% (25/33) achieved 70% or better in CMGT 42105-00. This assignment required the students to identify 10 construction risk factors and assign construction contract clauses or draft clauses that mitigate those risks. It is recommended that the instructor focus instruction in class on identification of different construction risk factors, risk assessment, and risk mitigation measures with emphasis on mitigation measures in the construction contract.

SLO 14. Understand construction accounting and cost control

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by the Assignment 4 (Construction Pay Application and Accounting Assignment) and Assignment 10 (Construction Project Control) in CMGT 41041 Construction Estimating 2 (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 15: Understand construction quality assurance and control

Direct Assessment: Module #4 Construction Quality Quiz

Achievement Target: Achievement Target: 70% of students will achieve at 70% or higher on the assessment.

Summary of Assessment Results (findings): 72.4% (121/167) achieved 70% or better

We have reviewed the project assignment for each section of CMGT 10001 to ensure compliance with the SLO 15 requirements. Overall, 72.4% of our students met the required level of assessment (70% or better). The following observations and adjustments will be made to the assignment:

We reviewed the final scheduling across all sections, in course 10001.

- While the pool of questions is greater than 10, an increase in questions asked will be implemented. Increasing the quiz size to a minimum of 20 questions, will help strengthen the assessment.
- A focus on project-based TQM, and site management regarding quality should be more present here. Understanding building science is important, but more questions focused on operations in the field will be added to the quiz pool.
- The quiz questions were also analyzed, 5 questions were identified as “Poor”, those have been removed and replaced with project-based quality questions.

SLO 16. Understand construction project control processes

Based on the ACCE Reaccreditation Team Visit report, we will have a new assessment method.

The assessment will be measured by a computerized quiz (direct assessment) on construction project control processes in CMGT 42107 Construction Scheduling course, and Construction Management Senior Exit Survey (indirect assessment).

SLO 17: Understand the legal implications of contract, common, and regulatory law to manage a construction project

Direct Assessment: Comprehensive Final Exam.

Achievement Target: 70% of students will achieve at 70% or higher in the course.

Results: 94% (66/70) achieved 70% or better in CMGT 42105.

Course(s): CMGT 42105 Construction Contracts & Law Improvements and Adjustments

While we met the assessment goal of “70% achieving 70% or better on the assignment”, we reviewed the two comprehensive tests that were used to gauge the students’ understanding of mechanical, electrical, and piping systems. To improve on the assessment, the following adjustments will be made:

- All questions with an average score of 50% or less were highlighted and revised (for those that needed revision).
- For the questions that were correctly framed but still had low scores, we made notes to emphasize the content in subsequent classes.
- We also reviewed the questions that the system ranked as “poor” and will appropriately modify them to improve on their quality going forward.

SLO 18: Understand the basic principles of sustainable construction

We have reviewed the project assignment for each section of CMGT 37295 to ensure compliance with the SLO 18 requirements. Overall, 77.35% of our students met the required level of assessment (70% or better).

The following observations and adjustments will be made to the assignment:

We reviewed the final scheduling across all sections, in course 37295.

- While the pool of questions is greater than 65, increasing the question count will help add weight to the assignment.
- This is the first assignment/final in the newly created 37295 courses and we would like to collect data for another semester.
- The quiz questions were also analyzed, 7 questions were identified as “Poor”, those have been removed and will be replaced.

SLO 19 – Understand the basic principles of structural behavior

Course: CMGT 37295 – Introduction to Building Structures

Direct Assessment: Students will calculate beam support reactions, forces in truss members, and member forces in a pinned frame

Achievement Target: 70% of students will achieve at 70% or higher.

Results: 86% (43/50) achieved 70% or better on assignment for CMGT 37295

Students determine support reactions for a beam with distributed loads, analyze a truss using the Method of Joints and the Method of Sections, and determine member forces in a pinned frame.

Detailed Analysis

The project assignment for CMGT 37295 was reviewed to ensure compliance with the SLO 19 requirements. Overall, 86% of our students met the required level of assessment (70% or better). The following observations and adjustments will be made to the assignment:

- While participation is 100%, there were some low scores. This could be attributed in some instances to the student's limited expertise in basic trigonometry concepts. The assignment accentuates resolution of applied forces into triangular components, and some lower grades are due to incorrect perception of the sides that are opposite and adjacent to an acute angle of a right-angled triangle. The trigonometric functions which relate an acute angle of a right-angled triangle to the ratios of two side lengths should be reviewed and emphasized.
- All homework assignments are graded, and the students are subsequently provided with a printed solution for each assignment. Student review of a printed homework solution is less useful than real time observation of the procedure for solving a homework problem. Time should be allocated during each class session for solving at least one homework problem in real time.

SLO 20 – Understand the basic principles of mechanical, electrical, and piping systems

Course(s): CMGT 31040 Electrical Systems and CMGT 31033 Mechanical Systems

Direct Assessment: Comprehensive final exam.

Achievement Target: 70% of students will achieve at 70% or higher in the course.

Results: 96% (79/82) achieved 70% or better in CMGT 31033-002; 95% (79/83) achieved 70% or better in CMGT 31040-001

We will continue to assess the SLO with the Comprehensive Final Exam in both CMGT 31040 Electrical Systems and CMGT 31033 Mechanical Systems (direct assessments), and Construction Management Senior Exit Survey (indirect assessment).