BSCM SLO s ASSESSMENT Spring 2019

SLO	Target average score for the SLO	Achieved average score for the SLO	Course Number & Name	CLO Number & Description	Assessment Tool	Target class average score for the CLO	Achieved class average score for the CLO	Improvement Plan for the CLO
SLO 1 - Create written communications appropriate to the construction discipline.	85.0	89.4	CM 2000 - Construction Graphics	CLO 1- Generate plan, elevation and section of 3D objects.	Exam 1	85.0	87.4	Target met,Print 3d objects and use glass box to help students better understand orthographic projection.
				CLO 2- Read and interpret Civil, Architecture, and Structural drawings.	Exam 2	85.0	87.0	Target met, no action is needed.
				CLO 3- Identify conflicts & coordination between the different construction drawings.	Exam 2	85.0	93.0	The use of Bluebeam aided in the improvement in this lab.To overcome the learning curve Bluebeam was started early in the semester with a couple of classes focusing on simple tasks in Bluebeam. The exercise should include more interaction between the different plans.
			CM 4900 - Capstone Project	CLO 6 - Create a high quality, professional submittal	Project Notebook submittal	85.0	87.7	Target Met
			CM 4760 - Construction & Real Property Law	CLO 1- Author a construction contraction with all legal terms,risk,contingencies,addendums,etc.As required by AIA for construction related projects	Final project	85.0	91.7	Target Met
SLO 2 - Create oral presentations appropriate to the construction discipline.	85.0	87.2	CM 4900 - Capstone Project	CLO 7 - Prepare and delivery a professional presentation	Project presentation	85.0	87.2	Target Met
			CM 3800 - Construction Finance	CLO 1 - Creative effective project presentation.Demonstrate presentation skills	Final project	85.0	87.3	Formative feedback throughout the semester led to improved ppt and student presentation
SLO 3 - Create a construction project safety plan.	85.0	91.1	CM 4710 - Construction Safety	CLO 1 - Develop a detailed safety manual that includes subparts discussed in OSHA 29 CFR 1926.	Safety Manual	75.0	100.0	Target met
				CLO 2 - Develop a knowledge of safety procedures, regulations, and hazards.	Exam 1	80.0	83.2	Target met
					Exam 2	80.0	84.8	Target met
					Exam 3	80.0	93.8	Target met
					Safety Manual	75.0	100.0	Target met
			CM 4900 - Capstone Project	CLO 3 - Develop project specific safety plan	Risk/Safety component of notebook submittal	85.0	84.5	Target Met
SLO 4 - Create construction project cost estimates.	85.0	84.3	CM 4900 - Capstone Project	CLO 1 - Provide comprehensive estimate for a project	Estimate component of notebook submittal	85.0	84.3	Target Met
SLO 5 - Create construction project schedules.	85.0	85.9	CM 4510 - Construction Scheduling	CLO 1 - Understanding and development of project planning and how to incorporate into a project schedule, including the determination of project constraints, activities, logic, and durations.	Deck planning and bar chart	85.0	86.3	Target Met
					House WBS worksession 1			
					House worksession 2			
			CM 4900 - Capstone Project	CLO 2 - Planning and schedule development	Schedule component of notebook submittal	85.0	85.4	Target Met
SLO 6 - Analyze professional decisions based on ethical principles.	85.0	94.5	CM 3800 - Construction Finance	CLO 2 - Define ethics and defend choices or decisions on the principles of ethics.	HW (Ethics)	85.0	90.0	Students were given instruction on how to write a summary of publications. Students below B grade repeated assignment.
			CM 4710 - Construction Safety	CLO 3 - Distinguish between ethical and non-ethical safety procedures in building construction.	Ethics Test	75.0	99.4	Target Met
			CM 4760 - Construction & Real Property Law	CLO 2 - Examine legal documents and contracts to ensure ethical behavior and principles are understood and followed throughout the agreement.	Final Project	85.0	91.7	Target Met
				CLO 3 - Compare and contrast what behavior may be legal but not ethical within the construction industry.	Ethics Assignment	90.0	100.0	Target Met
			CM 4560 - Construction Project Management	CLO 4 - Examine scenarios in construction management settings to differentiate ethical and unethical behaviors	Assignment 4	75.0	91.4	Target Met
SLO 7 - Analyze construction documents for planning and management of construction processes	85.0	86.3	CM 4510 - Construction Scheduling	CLO 2 - Attain skill and confidence in precedence network diagrams and CPM software	Sample 1	85.0	85.9	Target met
					Sample 2			
					Sample 3			
					Sample 4			
			CM 4560 - Construction Project Management	CLO 3 - Organize a planning and scheduling process for construction projects.	Assignment 3	75.0	86.8	Target met
SLO 8 - Analyze methods, materials, and equipment used to construct projects.	85.0	88.4	CM 3110 - Resi. And Light Construction Meth	CLO 1 - Determine scopes of work, construction materials,and basic means & methods	Lab 1-10	85.0	88.8	Target met
					Quiz 1-6	75.0	74.4	Target met
				CLO 2 - Sequence construction activities	Lab 12	85.0	88.4	Target met
			CM 3180 - Mechanical and electrical building systems	CLO 1 - Identify the equipment and materials used in mechanical sytems	Lab 1	85.0	92.3	With such a long final exam a new lab will be added to do mechanical questions. It will be set up as a mechanical quiz.
				CLO 2 - Identify the equipment and materials used in plumbing systems	Lab 2	85.0	94.0	With such a long final exam a new lab will be added to do the plumbing questions. It will be set up as a plumbing quiz.
				CLO 3 - Differentiate between the equipment and materials used in electrical systems.	Lab 3	85.0	90.9	With such a long exam a new lab will be added to do the electrical questions. It will be set up as a electrical quiz.
				CLO 4 - Examine the sequence of installation, with milestone dates, for mechanical,electrical and plumbing (MEP) systems in a construction project	Schedule	85.0	90.1	Combine students into groups, have them start by coming up with the tasks needed and milestones. Write out each task then organize them in order. Once the tasks have been adjusted then they will enter it into scheduling software.
SLO 9 -Apply construction management skills as a member of a multi-disciplinary team.	85.0	91.6	CM 4560 - Construction Project Management	CLO 5 – Execute a Change Order, a Schedule of Values, and Pay Applications	Final project	75.0	91.6	Target met
SLO 10 - Apply electronic-based technology to manage the construction process.	85.0	86.5	CM 3000 - Computer Applications in Construction	CLO 1 - Prepare basic AutoCAD construction drawings, modify, exchange, and extract information from CAD drawing files	Exam 1, using AutoCAD	85.0	87.0	Continue with the modules as designed. Introduce new asignments to intergrate Bluebeam with other CAD tools.
				CLO 2 - Generate basic BIM models, modify, exchange, and extract information from 3D BIM models.	Exam 2, using Revit	85.0	87.0	Continue module as is. Update revit and AutoCAD instructional materials to incorporate new drafting and construction drawings management features.
				CLO 3 - Use computer software to prepare basic work schedules typically used in construction practice.	Lab project 18 using primavera p6 for scheduling	85.0	86.0	Continue module as is. Introduce cost loaded schedule concepts to the scheduling assignments.
				CLO 4 - Use computer software to prepare basic quantity takeoff schedules using estimating software.	Lab project 12 (using Onscreen takeoff)	85.0	86.0	Continue module as is. Update and improve the assignments related to integrating revit, excell and AutoCAD for quantity takeoff.
SLO 11 - Apply basic surveying techniques for construction layout and control.	85.0	85.0	SURV 2200 - Construction Measurments	CLO 1 - Perform differential leveling	Lab	70.0	95.0	Continue labs with alternate locations to show affects of topography.
				CLO 2 - Transfer elevations	Lab	70.0	95.0	Continue labs with alternate locations to show affects of topography.
				CLO 3 - Perform a 2D traverse	Lab	70.0	85.0	Incorporate a 3D travesre to utilize trig elevations
				CLO 4 - Understand %grade and calculate elevations	Lab	70.0	80.0	Typical testing, emphasis more homework to engage students.
				CLO 5 - Perform elementary cogo calculations	Exam, Lab	70.0	72.0	Most difficult topic to grasp. Continue more homework and emphasis on applications and calculator usage.
				CLO 6 - Perform elementary route calculations	Exam, Lab	70.0	78.0	More homework and add field visit to roadway site.
				CLO 7 - Apply elementary surveying to construction	Lab	70.0	90.0	Continue layout of structures and add lab for field visit.
SLO 12 - Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	85.0	91.7	CM 4560 - Construction Project Management	CLO 1 - Classify the types of project delivery methods and identify the stakeholders in the construction process and describe their roles.	Assignment 1	75.0	91.7	Target met
				CLO 1 -ISelect risk factors associated with construction projects	Assignment 1 (Quiz 1)	85.0	89.0	
				CLO 2- Recognize how to transfer and avoid risk as an owner/GC.	Project 1 (Quiz 3)	85.0	86.0	

SLO 13 - Understand construction risk management.	85.0	92.3	CM - 3400 Risk & Quality Management	CLO 3 -Describe and understand risk associated with construc	Project 1 (Quiz 3)	85.0	86.0	Continue module as is. Update contract used for excercise.
				CLO 4 - Recognize and reduce risk by utilizing decision tree n	Assignment 2 (Quiz 2)	85.0	98.6	Continue module as is. Update contract used for excercise.
SLO 14 - Understand construction accounting and cost control.	85.0	81.9	CM 3800 - Construtions Finance	CLO 3 - Prepare and forecast statement of cash flow for construction projects.	FPM 1	80.0	86.0	This is the time for formative assesment such that the quality of the final project is good. So grading is very consecutive. Pay apps are introduced in this class to help students understand the co-relation between project cash flow and payapps.
					Test 1 CLO 3	80.0	81.2	This is very important concept. An additional class excercise was added to help students grasp the concept firmly. The excercise helped improve the target from 77 to 81.1
				CLO 4 - Prepare and analyze labor burden and general overhead for a construction company. Suggest recommendations to control costs.	FPM 2	80.0	84.0	One of the key goals of this milestone is formative assesment for overall improvement of the quality of the project. Because of the grading is rigorous and conservative. No improvements suggested at this time.
					Test 1 CLO 4	80.0	85.2	An extra excercise helped improve the achievement on this CLO.
				CLO 5 - Analyze company's key financial statements to predict company's financial health and performance. Recommend cost control strategies.	FPM 3	85.0	88.0	No improvements at this time. Because of formative assesment throughout the semester, the quality of final project is good.
					Test 2 health	80.0	67.2	The concept needs more time. Repeat financial health problems as a class quiz to reiterate the process and concept. The CLO improved from 52.53 to 69.07.Students confuse the nature of financial indicators, for example liquidity parameters are different from profitabilty parameter.
			CM 4900 - Capstone Project	CLO 4 - Understand requirements for project cost controls	Cash flow/pay app component of notebook submittal	85.0	81.4	Invite faculty to give refreshing lectures
SLO 15 - Understand construction quality assurance and control.	83.3	91.2	CM 3400 - Risk & Quality Management	CLO 4 - Identify risk with quality control solutions	Assignment 5 (quiz 5)	80.0	85.0	Continue model as is. Provide example of use of project management software.
				CLO 5 - Describe a quality assurance program for risk manage				Continue model as is. Provide example of use of project management software.
			CM 3180 Mechanical And Electrical Building System	CLO 5 - Locate and prepare inspection documents for MEP systems in construction projects	Inspections	85.0	100.0	
				CLO 6 - Explain the process of submittals, shop drawings and quality assurance programs as they relate to MEP systems	Lab 5	85.0	88.5	The group approach worked well but they need to look at the drawings and submittals more not just methods of assessing.
SLO 16 - Understand construction project control processes	85.0	81.9	CM 3800 - Construction Finance	CLO 6 - Examine construction project performance using CPI and SPI. Analyze to suggest recommendations for project control.	Test 2 CPI SPI /Dep	80.0	88.9	No improvements suggested at this time
			CM 4510 - Construction Scheduling	CLO 3 - Determine progress; Analyze schedule status	Sample 5	85.0	64.4	Attendance is required and labs are due during class- if absent, grade is 0
					Sample 6		82.8	If 0 grades removed, this is average
			CM 4560 - Construction Project Management	CLO 2 - Demonstrate cost and schedule control	Final project	75.0	91.6	Target met
SLO 17 - Understand the legal implications of contract , common and regulatory law to manage a const. project	85.0	86.0	CM 4900 - Capstone Project	CLO 5 - Understand project specific provisions for contracts with owner and subcontractors	Contract component of notebook submittal	85.0	86.9	Target met
			CM 4760 - Construction & Real Property Law	CLO 4 - Identify within construction contracts loopholes, liabilities, illegal content, etc.	Final Project	85.0	91.7	Target met
				CLO 5 - Identify legal terms,contracts terms, and construction term used in AIA documents for construction projects.	Test 1	85.0	77.8	Do more review with the students to prepare for test 1
					Test 2	85.0	85.3	Target met
					Final project	85.0	91.7	Target met
				CLO 6 - Recognize contract, common and regulatory law in construction contracts and projects.	Test 1	85.0	77.8	Do more review with the students to prepare for test 1
					Test 2	85.0	85.3	Target met
					Final project	85.0	91.7	Target met
SLO 18 - Understand the basic principles of sustainable construction.	85.0	93.2	CM 3110 Resi. And light Construction Metho	CLO 3 - Recognize fundamentals of sustainable construction	Lab 11	90.0	90.6	Target met
			CM 3180 Mechanical And Electical Building System	CLO 7 - Analyze and compare MEP systems to determine best options for sustainable construction;This will include energy analysis, water usage analysis materials and processes.	Lab 7	85.0	95.7	Working in groups was a positive approach but the directions need to be more directed.
SLO 19 - Understand the basic principles of structural behavior.	85.0	89.2	CM 2210 - Intro To Structures	CLO 1 – Understand of the basic concepts and principles of statics.	HW - Resultants and Reactions	85.0	86.5	Target met, no actions required. at this time.
				CLO 2 – Understand of the basic concepts of strength of materials.	HW - Stress & Strain	85.0	90.7	Target met, no actions required. at this time.
				CLO 3 – Analyze and design simple beams and columns.	HW - Design of Beams	85.0	90.3	Target met, no actions required. at this time.
SLO 20 - Understand the basic principles of mechanical, electrical and piping system.	85.0	92.8	CM 3180 Mechanical And Electrical Building System	CLO 1 - Identify the equipmentand materials used in mechanical systems	Lab 1	85.0	92.3	With such a long final exam a new lab will be added to do the Mechanical questions It will be set up as a Mechanical quiz
				CLO 2 - Identify the equipments and materials used in plumbing systems	Lab 2	85.0	94.0	With such a long final exam a new lab will be added to do the plumbing questions It will be set up as a plumbing quiz
				CLO 3 - Differentiate betweenthe equipment and materials used in electrical systems	Lab 3	85.0	90.9	With such a long final exam a new lab will be added to do the Electrical questions.It will be set up as a Electrical quiz.
				CLO 8 - Explain which types of MEP systems are used for a particular project type.	Final paper	85.0	94.1	Research is good way to learn and understand a topic.

SLO 1

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 1 – Create written communications appropriate to the construction discipline

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 2000 - 75% of students will receive a score of 85% or greater for the assessments.
  CM 4760 - 75% of students will receive a score of 85% or greater for the assessments
  CM 4900 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 2000 Construction Graphics, CM4760 Construction and Real Property Law, and CM 4900 Capstone Project courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 2000 - The evaluation of the assessment data for this SLO concluded the target was met. Print 3d objects and use a glass box to help students better understand orthographic projection.
  CM 4760 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 2

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 2 – Create oral presentations appropriate to the construction discipline

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3800 - 75% of students will receive a score of 85% or greater for the assessments.
  CM 4900 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3800 Construction Finance and CM 4900 Capstone Project courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3800 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. Formative feedback throughout the semester led to improved ppt and student presentation.

SLO 3

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 3 – Create a construction project safety plan

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4710 - 75% of students will receive a score of 79.2% or greater for the assessments.
  CM 4900 - 75% of students will receive a score of 79.2% or greater for the assessments

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4710 Construction Safety and CM 4900 Capstone Project courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4710 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 4

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 4 – Create construction project cost estimates

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4900 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4900 Capstone Project course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 5

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 5 – Create construction project schedules

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4510 - 75% of students will receive a score of 85% or greater for the assessments.
  CM 4900 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4510 Construction Scheduling and CM 4900 Capstone Project courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4510 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 6

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 6 – Analyze professional decisions based on ethical principles

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3800 - 75% of students will receive a score of 82% or greater for the assessments.
  CM 4560 - 75% of students will receive a score of 82% or greater for the assessments.
  CM 4710 - 75% of students will receive a score of 82% or greater for the assessments.
  CM 4760 - 75% of students will receive a score of 82% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3800 Construction Finance, CM 4560 Construction Project Management, CM 4710 Construction Safety, and CM 4760 Construction and Real Property Law courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3800 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4560 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4710 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4760 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 7

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 7 – Analyze construction documents for planning and management of construction processes

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4510 - 75% of students will receive a score of 80% or greater for the assessments.
  CM 4560 - 75% of students will receive a score of 80% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4510 Construction Scheduling and CM 4560 Construction Project Management courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4510 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4560 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 8

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 8 – Analyze methods, materials, and equipment used to construct projects

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3110 - 75% of students will receive a score of 83.6% or greater for the assessments.
  CM 3180 - 75% of students will receive a score of 83.6% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3110 Residential and Light Construction Methods and CM 3180 Mechanical and Electrical Building Systems courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3110 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 3180 - The evaluation of the assessment data for this SLO concluded the target was met. With such a long final exam a new lab will be added to do mechanical questions. It will be set up as a mechanical quiz. With such a long final exam a new lab will be added to do the plumbing questions. It will be set up as a plumbing quiz. With such a long exam a new lab will be added to do the electrical questions. It will be set up as an electrical quiz. Combine students into groups, have them start by coming up with the tasks needed and milestones. Write out each task then organize them in order. Once the tasks have been adjusted then they will enter it into scheduling software.

SLO 9

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 9 – Apply construction management skills as a member of a multi-disciplinary team

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4560 - 75% of students will receive a score of 75% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4560 Construction Project Management course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4560 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 10

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 10 – Apply electronic-based technology to manage the construction process

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3000 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3000 Computer Applications in Construction course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3000 - The evaluation of the assessment data for this SLO concluded the target was met. Continue with the modules as designed. Introduce new assignments to integrate Bluebeam with other CAD tools. Continue module as-is. Update Revit and AutoCAD instructional materials to incorporate new drafting and construction drawings management features. Continue module as-is. Introduce cost loaded schedule concepts to the scheduling assignments. Continue module as-is. Update and improve the assignments related to integrating Revit, Excel, and AutoCAD for quantity takeoff.

SLO 11

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 11 – Apply basic surveying techniques for construction layout and control

- *One copy of each assessment measure used and the desired performance standard for each measure*
  SURV 2200 - 75% of students will receive a score of 70% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the SURV 2200 Construction Measurements course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  SURV 2200 - The evaluation of the assessment data for this SLO concluded the target was met. Continue labs with alternate locations to show the effects of topography. Incorporate a 3D traverse to utilize trig elevations. Emphasize more homework to engage students. Add more homework and emphasize on applications and calculator usage. Add field visit to roadway site. Continue layout of structures and add lab for a field visit.

SLO 12

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 12 – Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4560 - 75% of students will receive a score of 75% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4560 Construction Project Management course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4560 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 13

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 13 – Understand construction risk management

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3400 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3400 Risk and Quality Management course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3400 - The evaluation of the assessment data for this SLO concluded the target was met. Continue module as-is. Update the contract used for exercise.

SLO 14

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 14 – Understand construction accounting and cost control

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3800 - 75% of students will receive a score of 81.4% or greater for the assessments.
  CM 4900 - 75% of students will receive a score of 81.4% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3800 Construction Finance and CM 4900 Capstone Project courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3800 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 15

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 15 – Understand construction quality assurance and control

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3180 - 75% of students will receive a score of 85% or greater for the assessments.
  CM 3400 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3180 Mechanical and Electrical Building Systems and CM 3400 Risk and Quality Management courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3180 - The evaluation of the assessment data for this SLO concluded the target was met. Look at the drawings and submittals more not just methods of assessing.
  CM 3400 - The evaluation of the assessment data for this SLO concluded the target was met. Provide an example of the use of project management software.

SLO 16

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 16 – Understand construction project control processes

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3800 - 75% of students will receive a score of 81.3% or greater for the assessments.
  CM 4510 - 75% of students will receive a score of 81.3% or greater for the assessments.
  CM 4560 - 75% of students will receive a score of 81.3% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3800 Construction Finance, CM 4510 Construction Scheduling, and CM 4560 Construction Project Management courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3800 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4510 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 4560 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 17

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 17 – Understand the legal implications of the contract, common and regulatory law to manage a construction project

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 4760 - 75% of students will receive a score of 85% or greater for the assessments.
  CM 4900 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 4760 Construction and Real Property Law and CM 4900 Capstone Project courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 4760 - The evaluation of the assessment data for this SLO concluded the target was met. Do more review with the students to prepare for test 1.
  CM 4900 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 18

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 18 – Understand the basic principles of sustainable construction

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3110 - 75% of students will receive a score of 87.5% or greater for the assessments.
  CM 3180 - 75% of students will receive a score of 87.5% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3110 Residential and Light Construction Methods and CM 3180 Mechanical and Electrical Building Systems courses which are the related courses for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3110 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.
  CM 3180 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 19

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 19 – Understand the basic principles of structural behavior

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 2210 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 2210 Introduction to Structures course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 2210 - The evaluation of the assessment data for this SLO concluded the target was met. No action needed.

SLO 20

3.1.6.7. The SLO documentation described in Sections 3.1.6.4, 3.1.6.5, and 3.1.6.6 is to be organized by SLO and uploaded in the electronic SLO folders created on OneDrive. The information required for each SLO shall include the following:

- *Description of the SLO (taken from Section 3.1.5 of ACCE Document 103B)*
  SLO 20 – Understand the basic principles of mechanical, electrical and piping system

- *One copy of each assessment measure used and the desired performance standard for each measure*
  CM 3180 - 75% of students will receive a score of 85% or greater for the assessments.

- *Description of assessment data collected and how it was included in the Program's Quality Improvement Plan*
  The assessment data was collected by the instructors for the CM 3180 Mechanical and Electrical Building Systems course which is the related course for this SLO.

- *Description of actions taken based on the evaluation of assessment data*
  CM 3180 - The evaluation of the assessment data for this SLO concluded the target was met. With such a long final exam a new lab will be added to do the Mechanical questions It will be set up as a Mechanical quiz. With such a long final exam a new lab will be added to do the plumbing questions It will be set up as a plumbing quiz. With such a long final exam a new lab will be added to do the Electrical questions. It will be set up as an Electrical quiz. Research is a good way to learn and understand a topic.