EASTERN ILLINOIS UNIVERSITY

Student Learning Outcomes (SLOs) Report for Non-Accredited Programs

(updated 9/19/23)

Program Type: **Non-Accredited Program**

Program Name: Construction Management (CMG)

Submitted By: Dr. Issac Slaven, Interim Program Coordinator

Email: islaven@eiu.edu

Submission Date: 04/30/2025

Review Cycle:

- **Even Year**
- Odd Year

Review Round:

- **Round A** (Associate Dean review)
- **Round B** (Associate Dean + VPAA review)

All SLO reports are archived here: https://www.eiu.edu/assess/majorassessment.php

DUE: **October 15th** to your Associate Dean or designee

Year Report

Construction Management
Student Learning Outcomes (SLOs) for Academic Programs

Please list all of the student learning outcomes for your program as articulated in the assessment plan.

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline
3. Create a Construction Safety Plan
4. Create Construction Cost Estimates
5. Create Construction Project Schedules
6. Analyze Professional Decisions based upon ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used to construct projects.
9. Apply construction management skills as a member of a multi-disciplinary team.
10. Apply electronic-based technology to manage construction processes.
11. Apply basic surveying techniques for construction layout and control.
12. Understand different method of project delivery and the roles and responsibilities of all constituents involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand quality assurance and control.
16. Understand construction control process.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the principles of sustainable construction.
19. Understand the principles of structural behavior.
20. Understand the basic principles of mechanical, electrical, and piping systems.

Overview of Measures/Instruments

A preliminary draft table of the Outcomes mapped to individual classes and rubrics with performance measures and expected results is provided. Additionally, mapping to EIU University objectives is included. These items were initially reviewed by the Dean's office and are in the process of being reviewed by CMG Faculty and Industrial Advisory Board. These are expected to be complete in final form by the end of Fall Semester 2026.

Eastern Illinois University CMG Program Student Outcomes Assessment Table by ACCE Outcomes

This is the data collection plan for compliance with ACCE accreditation outcomes. The individual instructor is responsible for collecting this data and transmitting the data to the Program Coordinator every semester within a week of the instructor's last final examination and before leaving campus. The Program Coordinator will assemble the data within a binder (maybe online file system) and transmit to the Chair, Dean's Office, and VPAA's office as warranted.

Data collection is required for construction management core classes only as the core classes collectively meet all ACCE requirements. Other courses, required and elective, reinforce these outcomes.

ACCE Learning Outcomes (1,2,3) and Substantiating Event (1.1, 1.2, 1.3)	*Class Where Collected with Class Description*	*Rubric or Other Evaluation Instrument*	*Performance Measures*	*Acceptable Performance Level and Expectation of Results*	*Direct or Indirect Assessment?*
1. Create written communications appropriate to the construction discipline.					
1.1 Creation of Technician-level Lab Reports	EGT 2004G - Material Science and Evaluation	CMG committee-approved technician-level lab report instructions.	Written Technician Lab Report	At least 70% of the students will score 70% or better.	Direct
1.2 Preparation of Professional Laboratory Reports	CMG 2013 - Soil, Concrete, and Paving Testing	CMG committee-approved professional-level lab report instructions.	Written Professional Lab Report	At least 70% of the students will score 70% or better.	Direct
1.3 Development of a written Job Hazard Safety Analysis	EGT 2773 - Safety for Engineers and Technical Professionals	In compliance with OSHA and other governmental safety standards.	Written Job Hazard Safety Analysis	At least 70% of the students will score 70% or better.	Direct
1.4 Development of a Sustainability Construction Work Plan Meeting LEED of Green Globes Protocols	CMG 3833 - Sustainable Buildings	LEED and Green Globes published standards.	Work Plan	At least 70% of the students will score 70% or better.	Direct
1.5 Create a Project Safety Plan	CMG 4243 - Construction Management Capstone	In compliance with OSHA and other government and industry safety standards.	Written Project Safety Plan	At least 70% of the students will score 70% or better.	Direct
2. Create oral presentations appropriate to the construction discipline					
2.1 Present finding regarding the student-developed subdivision layout.	CMG 3213 - Site Surveying and Planning	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual Presentation	At least 70% of the students will score 70% or better.	Direct
2.2 Present Group Development of a Passive Heating and Lighting System Design	CMG 3603 - Mechanical Systems Residential and Commercial	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
2.3 Presentation of Findings of a LEED or Green Globes Sustainable Construction Work Plan	CMG 3833 - Sustainable Buildings	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
2.4 Presentation of Findings of a Group Cost Estimate for a Small Commercial Project	CMG 4223 - Construction Cost Estimating	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
2.5 Presentation of Findings for a Design-Build Project as Part of a Charrette	CMG 4243 - Construction Management Capstone	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct

ACCE Learning Outcomes (1,2,3) and Substantiating Event (1.1, 1.2, 1.3)	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment?
3. Create a Construction Safety Plan					
3.1 Development of a Written Site Safety Work Pl	EGT 2773 - Safety for Engineers and Technical Professionals	In compliance with OSHA and other government and industry safety standards.	Written Project Safety Plan Assignment	At least 70% of the students will score 70% or better.	Direct
3.2 Create a Project Safety Plan	CMG 4243 - Construction Management Capstone	In compliance with OSHA and other government and industry safety standards.	Written Project Safety Plan Assignment	At least 70% of the students will score 70% or better.	Direct
4. Create Construction Project Cost Estimates.					
4.1 Development of detailed Material, Labor, and Equipment Take-off Estimates using Excel.	CMG 4223 - Construction Cost Estimating	RS Means or MasterFormat Template	Develop Detailed Estimate	At least 70% of the students will score 70% or better.	Direct
4.2 Develop a Preliminary Estimate in the Development of a Sustainable Building Project	CMG 3833 - Sustainable Buildings	CMG-committee-approved and IAB Education Task Force-approved Format	Develop a Preliminary Estimate	At least 70% of the students will score 70% or better.	Direct
4.3 Create an Estimate and Develop a Project Bid for a Design-Build Project	CMG 4243 - Construction Management Capstone	CMG-committee-approved and IAB Education Task Force-approved Format	Develop an Conceptual Estimate and Project Proposal	At least 70% of the students will score 70% or better.	Direct
4.4 Develop a Risk-based Estimate based upon Monte Carlo Analytical Techniques	CMG 4023 - Construction Risk Management	CMG-committee-approved and IAB Education Task Force-approved Format	Develop a Risk-based Estimate and Monte Carlo Simulation	At least 70% of the students will score 70% or better.	Direct
5. Create Construction Project Schedules					
5.1 Develop Project Schedule using Microsoft Project demonstrating a mastery of understanding precedence and their impact upon Project Time Scheduling	TEC 3413 - Technology Project Management	Rubric developed by Certified Master Project Manager or Professional Engineer	Develop Project Schedule	At least 70% of the students will score 70% or better.	Direct
5.2 Relate Take-off Estimating to Project Scheduling	CMG 4243 - Construction Management Capstone	RS Means or MasterFormat Template	Develop Line-based Project Schedule	At least 70% of the students will score 70% or better.	Direct
5.3 Develop an Advanced Project Schedule using Resource Leveling Techniques and Monte Carlo Analysis	CMG 4243 - Construction Management Capstone	CMG-committee-approved and IAB Education Task Force-approved Format	Develop Risk-based Schedule with Resource Leveling	At least 70% of the students will score 70% or better.	Direct
6. Analyze Professional Decisions based upon ethical principles.					
6.1 Write a short paper balancing ethics, safety, productivity, and business objectives within the realm of a construction project.	EGT 2773 - Safety for Engineers and Technical Professionals	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
6.2 Prepare a short paper and presentation examining risk and rewards associated with ethical decision-making.	CMG 4023 - Construction Risk Management	EIU Writing and Critical Reading and Speaking and Listening Rubrics	Written Short Paper	At least 70% of the students will score 70% or better.	Direct

ACCE Learning Outcomes (1,2,3) and Substantiating Event (1.1, 1.2, 1.3)	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment?
7. Analyze Construction Documents for planning and management of construction processes					
7.1 Prepare a set of facility prints including floor plans, elevations, and details using 3-dimensional software.	CMG 2223 - Print Reading and Building Informational Modeling	Standards set by CMG-committee with consultation with Education Task Force of Construction Management IAB	Detailed Project Prints	At least 70% of the students will score 70% or better.	Direct
7.2 Develop a site-specific safety plan drawing using CAD, Sketch-up, Photoshop or other digital methods to illustrate a logical progression of safe construction events.	EGT 2773 - Safety for Engineers and Technical Professionals	In compliance with OSHA and other government and industry safety standards.	Site-specific Site Safety Plan Drawing	At least 70% of the students will score 70% or better.	Direct
7.3 Analyze construction or facility prints while developing a logical activity progression plan.	TEC 3414 - Technology Project Management	Rubric developed by Certified Master Project Manager or Professional Engineer	Logical Activity Progression Plan	At least 70% of the students will score 70% or better.	Direct
7.4 Using a set of construction plans, develop a scale model of the foundations and structural components of a multi-story building.	CMG 3023 - Formwork and Building Processes	Standards set by CMG-committee with consultation with Education Task Force of Construction Management IAB	Scale Group Model Project	At least 70% of the students will score 70% or better.	Direct
7.4 Development of detailed Material, Labor, and Equipment Take-off Estimates using Excel.	CMG 4223 - Construction Cost Estimating	RS Means or MasterFormat Template	Detailed Estimate	At least 70% of the students will score 70% or better.	Direct
7.5 Create a preliminary estimate and schedule for a commercial building using construction documents.	CMG 4243 - Construction Management Capstone	Standards set by CMG-committee with consultation with Education Task Force of Construction Management IAB	Preliminary Estimate	At least 70% of the students will score 70% or better.	Direct
8. Analyze methods, materials and equipment used to construct projects.					
8.1 Analyze materials such as steel, plastic, concrete, wood, ceramic, and composite identifying their physical and chemical behavior under environmental stressors.	EGT 2004G - Material Science and Evaluation	ASTM and Other Materials Specifier Standards	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
8.2 Conduct advanced analysis of soil, pozzolanic concrete, and asphaltic concrete for use as construction materials.	CMG 2013 - Soil, Concrete, and Paving Testing	CMG committee-approved professional-level lab report instructions.	Written Professional Lab Report	At least 70% of the students will score 70% or better.	Direct
8.3 Construct a building project using equipment, tools, and trade workmanship.	CMG 2253 - Construction Equipment and Materials	Standards set by CMG-committee with consultation with Education Task Force of Construction Management IAB	Physical Building Project	At least 70% of the students will score 70% or better.	Direct
8.4 Write a Short Paper examining the selection of equipment and their use on heavy construction project.	CMG 3023 - Formwork and Building Processes	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
8.5 Present findings of an investigation either for construction or manufacturing assigning resources using LEAN techniques.	EGT 3414 - Engineering Technology Project Management	Rubric developed by Certified Master Project Manager or Professional Engineer	Either Written Paper or Oral Presentation	At least 70% of the students will score 70% or better.	Direct
8.6 Present finding of an investigation using either sustainable active or passive mechanical systems in the built environment.	CMG 3603 - Mechanical Systems Residential and Commercial	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual or Group Presentation	At least 70% of the students will score 70% or better.	Direct
8.7 Present alternate methods of material selection and construction practices to enhance project sustainability.	CMG 4243 - Construction Management Capstone	Standards set by CMG-committee with consultation with Education Task Force of Construction Management IAB	Written Comprehensive Proposal	At least 70% of the students will score 70% or better.	Direct

ACCE Learning Outcomes (1,2,3) and Substantiating Event (1.1, 1.2, 1.3)	*Class Where Collected with Class Description*	*Rubric or Other Evaluation Instrument*	*Performance Measures*	*Acceptable Performance Level and Expectation of Results*	*Direct or Indirect Assessment?*
9. Apply construction management skills as a member of a multi-disciplinary team.					
9.1 Construct a building project as part of a group activity.	CMG 2253 - Construction Equipment and Materials	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Physical Building Project	At least 70% of the students will score 70% or better.	Direct
9.2 Participate in a survey party while conducting laboratory assignments.	CMG 3213 - Site Surveying and Planning	Peer Evaluation Form approved by CMG committee	Survey Crew Laboratory Assignment	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
9.3 Present a summary of group findings as part of group mechanical/electrical systems design.	CMG 3603 - Mechanical Systems Residential and Commercial	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Group Presentation	At least 70% of the students will score 70% or better.	Direct
9.4 Participate within a Charrette examining a sustainability project from the perspective of many stakeholders.	CMG 3833 - Sustainable Buildings	Peer Evaluation Form approved by CMG committee	Charrette Group Work	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
10. Apply electronic-based technology to manage construction process					
10.1 Develop Project Schedule using Microsoft Project demonstrating a mastery of understanding precedence and their impact upon Project Time Scheduling	Te C 3414 - Technology Project Management	Rubric developed by Certified Master Project Manager or Professional Engineer	Microsoft Project Scheduling	At least 70% of the students will score 70% or better.	Direct
10.2 Develop an Advanced Project Schedule using Resource Leveling Techniques and Monte Carlo Analysis	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Advanced Project Scheduling	At least 70% of the students will score 70% or better.	Direct
11. Apply basic surveying techniques for construction layout and control.					
11.1 Layout a building structure and stake horizontal curves.	CMG 3213 - Site Surveying and Planning	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Layout of Building	At least 70% of the students will score 70% or better.	Direct
11.2 Calculate cut and fill requirements for a roadway project.	CMG 3213 - Site Surveying and Planning	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Assignment	At least 70% of the students will score 70% or better.	Direct
11.3 Understand error d etermination and precision as it pertains to surveying.	CMG 3213 - Site Surveying and Planning	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
12. Understand different methods of project delivery and the roles and responsibilities of all constituents involved in the design and construction process.					
12.1 Understand the division of labor and resources on a job site.	CMG 2253 - Construction Equipment and Materials	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
12.2 Understand the best contractual methods to develop a sustainable building. Explain how stakeholders are included within the process.	CMG 3833 - Sustainable Buildings	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
12.3 Comprehend each contract type and the risk associated as it relates to the client, contractor, subcontractor, and other stakeholders.	CMG 4023 - Construction Risk Management	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct

ACCE Learning Outcomes (1,2,3) and Substantiating Event (1.1, 1.2, 1.3)	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment?
13. Understand construction risk management.					
13.1 Identify risk sources and impact.	CMG 4023 - Construction Risk Management	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
13.2 Evaluate risk sensitivity and risk attitude as it pertains to construction management.	CMG 4023 - Construction Risk Management	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Homework Assignment	At least 70% of the students will score 70% or better.	Direct
13.3 Create statistical mathematic models to evaluate project risk and exposure.	CMG 4023 - Construction Risk Management	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Excel Sheet Statistical Modelling	At least 70% of the students will score 70% or better.	Direct
13.4 Develop a project Quality Assurance plan and describe how it impacts construction risk.	EGT 4843 - Statistical Quality and Reliability	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
14. Understand construction accounting and cost control.					
14.1 Development of detailed Material, Labor, and Equipment Take-off Estimates using Master Format Guidelines.	CMG 4223 - Construction Cost Estimating	RS Means or MasterFormat Template	Detailed Estimate	At least 70% of the students will score 70% or better.	Direct
14.2 Develop a Project Cost Control plan based upon learned business and financial practices.	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Project Cost Control Plan	At least 70% of the students will score 70% or better.	Direct
15. Understand quality assurance and control.					
15.1 Develop a project Quality Assurance plan for a construction project and describe how it impacts construction risk.	EGT 4843 - Statistical Quality and Reliability	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Project Quality Assurance Plan	At least 70% of the students will score 70% or better.	Direct
15.2 Develop a project specific QA/QC Plan for a commercial project.	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Commercial Project QA/QC Plan	At least 70% of the students will score 70% or better.	Direct
16. Understand construction control process.					
16.1 Understand the construction control process within construction.	CMG 4223 - Construction Cost Estimating	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
16.2 Develop a construction control plan for a commercial project.	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Written Construction Control Plan	At least 70% of the students will score 70% or better.	Direct
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.					
17.1 Understand relevant ethical principles and values from the perspectives of various stakeholders as they relate to contractual and legal implications.	BUS 2750 - Legal and Social Environment of Business	Standards set by School of Business	Objective Homework or Test Questions	At least 70% of the students will score 70% or better.	Direct
17.2 Analyze through case studies the legal implications of contract, common, and regulatory law as it pertains to the construction industry.	CMG 4023 - Construction Risk Management	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual or Group Presentation	At least 70% of the students will score 70% or better.	Direct

ACCE Learning Outcomes (1,2,3) and Substantiating Event (1.1, 1.2, 1.3)	*Class Where Collected with Class Description*	*Rubric or Other Evaluation Instrument*	*Performance Measures*	*Acceptable Performance Level and Expectation of Results*	*Direct or Indirect Assessment?*
18. Understand the principles of sustainable construction.					
18.1 Development of a Sustainability Construction Work Plan Meeting LEED of Green Globes Protocols	CMG 3833 - Sustainable Buildings	LEED and Green Globes published standards.	Work Plan	At least 70% of the students will score 70% or better.	Direct
18.2 Develop value added alternated to support green initiatives as part of a design-build project.	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Project Value-added Plan	At least 70% of the students will score 70% or better.	Direct
19. Understand the principles of structural behavior.					
19.1 Understand the concepts of force, force distribution, stress, strain and how to apply mathematical models to assess material sufficiency.	CMG 2953 - Statics and Strength of Materials	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Homework or Test Questions	At least 70% of the students will score 70% or better.	Direct
19.2 Understand force flow within a building, foundations, lateral bracing, and construction techniques as they apply to building construction.	CMG 3023 - Formwork and Building Processes	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Homework or Test Questions	At least 70% of the students will score 70% or better.	Direct
20. Understand the basic principles of mechanical, electrical, and piping systems.					
20.1 Develop heating cooling requirement for a building envelope. Size appropriate passive and cooling system requirements.	CMG 3603 - Mechanical Systems Residential and Commercial	Standards set by CMG committee with consultation with MCA and NECA	System Design Problem	At least 70% of the students will score 70% or better.	Direct
20.1 Determine DMV and supply piping requirements within a building.	CMG 3603 - Mechanical Systems Residential and Commercial	Standards set by CMG committee with consultation with MAC and NECA	Piping Design Problem	At least 70% of the students will score 70% or better.	Direct
20.3 Understand the function of electrical systems within a commercial building.	CMG 3603 - Mechanical Systems Residential and Commercial	Standards set by CMG committee with consultation with MCA and NECA	Objective Homework or Test Questions	At least 70% of the students will score 70% or better.	Direct

Eastern Illinois University CMG Program Student Outcomes Assessment Table by EIU Learning Objectives

EIU Learning Objectives (side border) and Goals (1, 2, 3, etc.)	Substantiating Event or Activity	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment
Critical Thinking	**1. Asking essential questions and engaging diverse perspectives**					
	A. Participate within a Charrette examining a sustainability project from the perspective of many stakeholders.	CMG 3833 - Sustainable Buildings	Peer Evaluation Form approved by CMG committee	Charrette Group Work	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
	B. Analyze through case studies the legal implications of contract, common, and regulatory law as it pertains to the community stakeholders and the construction industry.	CMG 4023 - Construction Risk Management	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Homework Assignment	At least 70% of the students will score 70% or better.	Direct
	2. Seeking and gathering data, information, and knowledge from experience, texts, graphics, and media.					
	A. Conduct advanced analysis of soil, pozzolanic concrete, and asphaltic concrete for use as construction materials.	CMG 2013 - Soil, Concrete, and Paving Testing	CMG committee-approved professional-level lab report instructions.	Written Professional Lab Report	At least 70% of the students will score 70% or better.	Direct
	B. Development of detailed Material, Labor, and Equipment Take-off Estimates using Master Format	CMG 4223 - Construction Cost Estimating	RS Means or MasterFormat Template	Detailed Estimate	At least 70% of the students will score 70% or better.	Direct
	3. Understanding, interpreting, and critiquing relevant data, information, and knowledge.					
	A. Analyze materials such as steel, plastic, concrete, wood, ceramic, and composite identifying their physical and chemical behavior under environmental stressors.	EGT 2004G - Material Science and Evaluation	ASTM and Other Materials Specifier Standards	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
	B. Develop heating cooling requirement for a building envelope. Size appropriate passive and cooling system requirements.	CMG 3603 - Mechanical Systems Residential and Commercial	Standards set by CMG committee with consultation with MCA and NECA	System Design Problem	At least 70% of the students will score 70% or better.	Direct
	4. Synthesizing and integrating data, information, and knowledge to infer and create new insights.					
	A. Prepare a set of facility prints including floor plans, elevations, and details using 3-dimensional software.	CMG 2223 - Print Reading and Building Informational Modeling	Standards set by CMG-committee with consultation with Education Task Force of Construction	Detailed Project Prints	At least 70% of the students will score 70% or better.	Direct
	B. Development of a written Job Hazard Safety Analysis	EGT 2773 - Safety for Engineers and Technical Professionals	In compliance with OSHA and other governmental safety standards.	Written Job Hazard Safety Analysis	At least 70% of the students will score 70% or better.	Direct
	5. Anticipating, reflecting upon, and evaluating implications of assumptions, arguments, hypotheses, and conclusions.					
	A. Prepare a short paper and presentation examining risk and rewards associated with ethical decision-making.	CMG 4023 - Construction Risk Management	EIU Writing and Critical Reading and Speaking and Listening Rubrics	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	B. Present alternate methods of material selection and construction practices to enhance project sustainability.	CMG 4243 - Construction Management Capstone	Standards set by CMG-committee with consultation with Education Task Force of Construction Management IAB	Written Comprehensive Proposal	At least 70% of the students will score 70% or better.	Direct
	6. Creating and presenting defensible expressions, arguments, positions, hypotheses, and proposals.					
	A. Development of a Sustainability Construction Work Plan Meeting LEED of Green Globes Protocols	CMG 3833 - Sustainable Buildings	LEED and Green Globes published standards.	Work Plan	At least 70% of the students will score 70% or better.	Direct
	B. Identify risk sources and impact upon project and society.	CMG 4023 - Construction Risk Management	Standards set by CMG committee with consultation with Education Task Force of Construction	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct

EIU Learning Objectives (side border) and Goals (1, 2, 3, etc.)	Substantiating Event or Activity	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment
Writing and Critical Reading	**1. Creating documents appropriate for specific audiences, purposes, genres, disciplines, and professions.**					
	A. Preparation of Professional Laboratory Reports	CMG 2013 - Soil, Concrete, and Paving Testing	CMG committee-approved professional-level lab report instructions	Written Professional Lab Report	At least 70% of the students will score 70% or better.	Direct
	B. Development of a Written Site Safety Work Plan	EGT 2773 - Safety for Engineers and Technical Professionals	In compliance with OSHA and other government and industry safety standards.	Written Project Safety Plan Assignment	At least 70% of the students will score 70% or better.	Direct
	2. Crafting cogent and defensible applications, analyses, evaluations, and arguments about problems, ideas, and issues.					
	A. Present findings of an investigation either for construction or manufacturing assigning resources using LEAN techniques.	EGT 3414 - Engineering Technology Project Management	Rubric developed by Certified Master Project Manager	Either Written Paper or Oral Presentation	At least 70% of the students will score 70% or better.	Direct
	B. Prepare a short paper and presentation examining risk and rewards associated with ethical decision-making.	CMG 4023 - Construction Risk Management	EIU Writing and Critical Reading and Speaking and Listening Rubrics	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	3. Producing documents that are well-organized, focused, and cohesive.					
	A. Write a short paper balancing ethics, safety, productivity, and business objectives within the realm of a construction project.	EGT 2773 - Safety for Engineers and Technical Professionals	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	B. Prepare a short paper and presentation examining risk and rewards associated with ethical decision-making.	CMG 4023 - Construction Risk Management	EIU Writing and Critical Reading and Speaking and Listening Rubrics	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	4. Using appropriate vocabulary, mechanics, grammar, diction, and sentence structu					
	A. Write a Short Paper examining the selection of equipment and their use on heavy construction project.	CMG 3023 - Formwork and Building Processes	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	B. Develop a project Quality Assurance plan and describe how it impacts construction risk.	EGT 4843 - Statistical Quality and Reliability	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	5. Understanding, questioning, analyzing, and synthesizing complex textual, numeric, and graphical sources.					
	A. Development of detailed Material, Labor, and Equipment Take-off Estimates using Excel	CMG 4223 - Construction Cost Estimating	RS Means or MasterFormat Template	Develop Detailed Estimate	At least 70% of the students will score 70% or better.	Direct
	B. Develop a Risk-based Estimate based upon Monte Carlo Analytical Techniques	CMG 4023 - Construction Risk Management	CMG-committee-approved and IAB Education Task Force-approved Format	Develop a Risk-based Estimate and Monte Carlo Simulation	At least 70% of the students will score 70% or better.	Direct
	6. Evaluating evidence, issues, ideas, and problems from multiple perspectives.					
	A. Participate within a Charrette examining a sustainability project from the perspective of many stakeholders.	CMG 3833 - Sustainable Buildings	Peer Evaluation Form approved by CMG committee	Charrette Group Work	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
	B. Presentation of Findings for a Design-Build Project as Part of a Charrette	CMG 4243 - Construction Management Capstone	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation f	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
	7. Collecting and employing source materials ethically and understanding their strengths and limitations.					
	A. Understand relevant ethical principles and values from the perspectives of various stakeholders as they relate to contractual and legal implications.	BUS 2750 - Legal and Social Environment of Business	Standards set by School of Business	Objective Homework or Test Questions	At least 70% of the students will score 70% or better.	Direct
	B. Analyze through case studies the legal implications of contract, common, and regulatory law as it pertains to community stakeholders and the construction industry.	CMG 4023 - Construction Risk Management	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual or Group Presentation	At least 70% of the students will score 70% or better.	Direct

EIU Learning Objectives (side border) and Goals (1, 2, 3, etc.)		Substantiating Event or Activity	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment?
Speaking and Listening		6.1 Write a short paper balancing ethics, safety, productivity, and business objectives within the realm of a construction project.	EGT 2773 - Safety for Engineers and Technical Professionals	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
		6.2 Prepare a short paper and presentation examining risk and rewards associated with ethical decision-making.	CMG 4023 - Construction Risk Management	EIU Writing and Critical Reading and Speaking and Listening Rubrics	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	2. Adapting formal and impromptu presentations, debates, and discussions to their au						
		A. Present finding of an investigation using either sustainable active or passive mechanical systems in the built environment.	CMG 3603 - Mechanical Systems Residential and Commercial	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual or Group Presentation	At least 70% of the students will score 70% or better.	Direct
		B. Presentation of Findings of a Group Cost Estimate for a Small Commercial Project	CMG 4223 - Construction Cost Estimating	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
	3. Developing and organizing ideas and supporting them with appropriate details and evidence.						
		A. Present finding regarding the student-developed subdivision layout.	CMG 3213 - Site Surveying and Planning	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual Presentation	At least 70% of the students will score 70% or better.	Direct
		B. Presentation of Findings of a Group Cost Estimate for a Small Commercial Project	CMG 4223 - Construction Cost Estimating	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
	4. Using effective language skills adapted for oral delivery, including appropriate vocabulary, grammar, and sentence structure.						
		A. Presentation of Findings of a LEED or Green Globes Sustainable Construction Work Plan	CMG 3833 - Sustainable Buildings	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
		B. Presentation of Findings for a Design-Build Project as Part of a Charrette	CMG 4243 - Construction Management Capstone	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
	5. Using effective vocal delivery skills, including volume, pitch, rate of speech, articu						
		A. Present a summary of group findings as part of group mechanical/electrical systems design.	CMG 3603 - Mechanical Systems Residential and Commercial	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Group Presentation	At least 70% of the students will score 70% or better.	Direct
		B. Present finding regarding the student-developed subdivision layout.	CMG 3213 - Site Surveying and Planning	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual Presentation	At least 70% of the students will score 70% or better.	Direct
	6. Employing effective physical delivery skills, including eye contact, gestures, and m						
		A. Presentation of Findings of a LEED or Green Globes Sustainable Construction Work Plan	CMG 3833 - Sustainable Buildings	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
		B. Presentation of Findings of a Group Cost Estimate for a Small Commercial Project	CMG 4223 - Construction Cost Estimating	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct
	7. Using active and critical listening skills to understand and evaluate oral communic						
		A. Analyze through case studies the legal implications of contract, common, and regulatory law as it pertains to community stakeholders and the construction industry.	CMG 4023 - Construction Risk Management	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual or Group Presentation	At least 70% of the students will score 70% or better.	Direct
		B. Presentation of Findings for a Design-Build Project as Part of a Charrette	CMG 4243 - Construction Management Capstone	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Group Presentation	At least 70% of the students will score 70% or better.	Direct

EIU Learning Objectives (side border) and Goals (1, 2, 3, etc.)	Substantiating Event or Activity	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment?
Qualitative Reasoning	**1. Performing basic calculations and measurements.**					
	A. Construct a building project using equipment, tools, and trade workmanship.	CMG 2253 - Construction Equipment and Materials	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Physical Building Project	At least 70% of the students will score 70% or better.	Direct
	B. Participate in a survey party while conducting laboratory assignments.	CMG 3213 - Site Surveying and Planning	Peer Evaluation Form approved by CMG committee	Survey Crew Laboratory Assignment	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
	2. Applying quantitative methods and using the resulting evidence to solve problems.					
	A. Creation of Technician-level Lab Reports	EGT 2004G - Material Science and Evaluation	CMG committee approved technician-level lab report	Written Technician Lab Report	At least 70% of the students will score 70% or better.	Direct
	B. Understand the construction control process within construction.	CMG 4223 - Construction Cost Estimating	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
	3. Reading, interpreting, and constructing tables, graphs, charts, and other representations of quantitative material.					
	A. Develop a Risk-based Estimate based upon Monte Carlo Analytical Techniques	CMG 4023 - Construction Risk Management	CMG committee approved and IAB Education Task Force-approved Format	Develop a Risk-based Estimate and Monte Carlo Simulation	At least 70% of the students will score 70% or better.	Direct
	B. Develop an Advanced Project Schedule using Resource Leveling Techniques and Monte Carlo Analysis	CMG 4243 - Construction Management Capstone	CMG-committee-approved and IAB Education Task Force-approved Format	Develop Risk-based Schedule with Resource Leveling	At least 70% of the students will score 70% or better.	Direct
	4. Critically evaluating quantitative methodologies and data.					
	A. Analyze materials such as steel, plastic, concrete, wood, ceramic, and composite identifying their physical and chemical behavior under environmental stressors.	TEC 2004G - Material Science and Evaluation	ASTM and Other Materials Specifier Standards	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
	B. Conduct advanced analysis of soil, pozzolanic concrete, and asphaltic concrete for use as construction materials.	CMG 2013 - Soil, Concrete, and Paving Testing	CMG committee-approved professional-level lab report instructions.	Written Professional Lab Report	At least 70% of the students will score 70% or better.	Direct
	5. Constructing cogent arguments utilizing quantitative material.					
	A. Create a preliminary estimate and schedule for a commercial building using construction documents.	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Preliminary Estimate	At least 70% of the students will score 70% or better.	Direct
	B. Develop a project Quality Assurance plan and describe how it impacts construction risk.	EGT 4843 - Statistical Quality and Reliability	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	6. Using appropriate technology to collect, analyze, and produce quantitative materi					
	A. Analyze materials such as steel, plastic, concrete, wood, ceramic, and composite identifying their physical and chemical behavior under environmental stressors.	TEC 2004G - Material Science and Evaluation	ASTM and Other Materials Specifier Standards	Objective Test Questions	At least 70% of the students will score 70% or better.	Direct
	B. Conduct advanced analysis of soil, pozzolanic concrete, and asphaltic concrete for use as construction materials.	CMG 2013 - Soil, Concrete, and Paving Testing	CMG committee-approved professional-level lab report instructions.	Written Professional Lab Report	At least 70% of the students will score 70% or better.	Direct

EIU Learning Objectives (side border) and Goals (1, 2, 3, etc.)	Substantiating Event or Activity	Class Where Collected with Class Description	Rubric or Other Evaluation Instrument	Performance Measures	Acceptable Performance Level and Expectation of Results	Direct or Indirect Assessment?
Responsible Citizenship	**1. Engaging with diverse ideas, individuals, groups, and cultures.**					
	A. Write a short paper balancing ethics, safety, productivity, and business objectives within the realm of a construction project.	EGT 2773 - Safety for Engineers and Technical Professionals	EIU Writing and Critical Reading Rubric	Written Short Paper	At least 70% of the students will score 70% or better.	Direct
	B. Participate within a Charrette examining a sustainability project from the perspective of many stakeholders.	CMG 3833 - Sustainable Buildings	Peer Evaluation Form approved by CMG committee	Charrette Group Work	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
	2. Applying ethical reasoning and standards in personal, professional, disciplinary, and civic contexts.					
	A. Understand relevant ethical principles and values from the perspectives of various stakeholders as they relate to contractual and legal implications.	BUS 2750 - Legal and Social Environment of Business	Standards set by School of Business	Objective Homework or Test Questions	At least 70% of the students will score 70% or better.	Direct
	B. Analyze through case studies the legal implications of contract, common, and regulatory law as it pertains to community stakeholders and the construction industry.	CMG 4023 - Construction Risk Management	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Oral Individual or Group Presentation	At least 70% of the students will score 70% or better.	Direct
	3. Participating formally and informally in civic life to better the public good.					
	A. Present a summary of group findings as part of group mechanical/electrical systems design.	CMG 3603 - Mechanical Systems Residential and Commercial	EIU Speaking and Listening Rubric and CMG-committee-approved evaluation forms	Group Presentation	At least 70% of the students will score 70% or better.	Direct
	B. Participate within a Charrette examining a sustainability project from the perspective of many stakeholders.	CMG 3833 - Sustainable Buildings	Peer Evaluation Form approved by CMG committee	Charrette Group Work	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
	4. Applying knowledge and skills to new and changing contexts within and beyond the classroom.					
	A. Participate within a Charrette examining a sustainability project from the perspective of many stakeholders.	CMG 3833 - Sustainable Buildings	Peer Evaluation Form approved by CMG committee	Charrette Group Work	Favorable Rating of Performance by Peer for 80% of the Students	Indirect
	18.2 Develop value added alternated to support green initiatives as part of a design-build project.	CMG 4243 - Construction Management Capstone	Standards set by CMG committee with consultation with Education Task Force of Construction Management IAB	Project Value-added Plan	At least 70% of the students will score 70% or better.	Direct

Improvements and Changes Based on Assessment

1. Provide a short summary (1-2 paragraphs or bullets) of any curricular actions (revisions, additions, and so on) that were approved over the past two years as a result of reflecting on the student learning outcomes data. Are there any additional future changes, revisions, or interventions proposed or still pending?

Curricular activities over the last two years focused on the four year plan to make the curriculum more transfer friendly.

We had been accepted as a candidate program for ACCE accreditation. For this, the CM Faculty, CM IAB members, and EIU administration have developed Quality Improvement Standards (attached) to meet ACCE accreditation requirements. The plan will also provides objective mapping and assessment procedures, academic analytic measurement processes, data analysis practices, and data reporting procedures to ensure the constant improvement of the program. These plans are currently in progress and are expected to be completed by the end of Spring Semester 2027.

Following the plan development, data will be collected, tested and analyzed to determine progress in obtaining program objectives. Following that, the data will be used to provide ACCE with a self-assessment study. This is expected to be complete by December 2026. It is expected that a visiting team will arrive in Spring of 2027 to finalize the accreditation process.

2. Please provide a brief description or bulleted list of any improvements (or declines) observed/measured in student learning. Be sure to mention any intervention made that has not yet resulted in student improvement (if applicable).

Measures for student learning have difficult due to the absence of faculty and the dependence on adjunct faculty. Once the plans are in place, valid data will be collected, analyzed, and examined for program improvements.

3. Using the form below, please document annual faculty and committee engagement with the assessment process (such as the review of outcomes data, revisions/updates to assessment plan, and reaffirmation of SLOs).

History of Annual Review		
Date of Annual Review	**Individuals/Groups who Reviewed Plan**	**Results of the Review (i.e., reference proposed changes from #1 above, revised SLOs, etc...)**
10/15/2020	Austin Cheney	
	John Cabage	Attendees developed tactical items for the three
	J C Foley	strategic focus areas. These are to combined with
	David Melton	four other task force meeting and a final CM
	Susan Meacham	strategic plan developed. Standardization of syllabi
	Logan Cannady	was discussed. Objective assessment and
	Scott Gossett	measurement was discussed. It was agreed that two
	Dan Ordos	additional meetings were required to finalize the
	Ed Thomas	curriculum map. These will occur over the next month.
Spring 2025	Mahmoud Al-Odeh	Reviewed previous plan, made updates and plans for future
	Isaac Slaven	assessment through ACCE accreditation

Formal annual reviews were not conducted in the manner suggested by the table at this time. The first official review for the mapping content occurred on October 15, 2020 which was a collaborative meeting with faculty and IAB members. From the meeting two additional meetings are scheduled. The IAB is to look at the applicability of the course map with industry needs and the second will be a faculty meeting to work out assessment and rubric details. All this mapping and assessment will be examined by an ACCE-assigned mentor familiar with the accreditation process.

Further reviews will be undertaken when displaced faculty are replaced.

Dean Review and Feedback

The assessment data collected for the Construction Management (CMG) program reflects a strengthening of the CMG program since the 2022 assessment reported. The CMG program has done extensive revising of the program that reflects many of the growth areas in this field of study. The CMG program has expanded its program selection to allow students different career paths obtainable through the new innovative CMG program.

As mentioned in the report (see above), the program is pursuing accreditation from the Association of Technology, Management, and Applied Engineering (ATMAE). Over the past year the CMG program has focused on necessitating modifications to the program outcomes to closely align with ATMAE accreditation standards.

Finally, we note that the CMG program learning outcomes have been revised to support student's development in the many diverse fields of Construction Management. This includes: 1) strengthening and development of new instructional material that is used in the classroom experiences through lectures, activities, assignments, and examinations; 2) allowing students to demonstrate both verbal and written communication skills in the classroom; and 3) fostering of critical thinking skills through the analyzing of real-world engineering problems that allow for the evaluation of the problem, discussing and determining potential solutions, then communicate those solutions that are based on sound engineering principles.

It is recommended that SLO be revised to one sentence, such as, "Display critical thinking skills through the analysis of engineering technology problems to create a viable solution, considering cost, quality, and schedule." It is unclear how the assessment results are being used to improve student learning and drive positive program modifications. The CMG faculty should strive to make this connection more explicit in the future.

Dean or designee: David Wayne Melton Digitally signed by David Wayne Melton Date: 2025.04.30 14:22:52 -05'00' Date: 04/30/2025

VPAA Office Review and Feedback (for "Round B" SLO report only)

B.S. Construction Management
The Construction Management B.S. program report indicates efforts to revise the assessment program as part of the ongoing pursuit of accreditation by the Association of Technology, Management, and Engineering (ATMAE). However, since the assessment table lists student learning outcomes according to the American Council of Construction Education (ACCE), we would want to have a clearer picture of how ACCE alignment works in relation to, and in the service of, the ATMAE accreditation application. With accreditation demands coming into full view, the program will need to make sure that a coherent assessment plan is in operation, with targeted data collected and discussed for making improvements in the program.

SUZIE PARK, Assistant VPAA

VPAA or designee Date 6/3/25