

PROGRAM QUALITY IMPROVEMENT PLAN

Kent State University - Construction Management Unit

The Construction Management Unit is dedicated to aligning its mission, vision, goals, and strategic plan to those of the University and the College. The following align with these, and a part of the review process expressed below to check this alignment.

1. EDUCATIONAL UNIT STRATEGIC PLAN

The strategic plan for the Program is focused on the mission, vision, degree program objectives, strategic goals of the program, and the continuous improvement plan. Having become a unique major in 2013, we have developed and created our program to follow the ACCE curricular plan and program guidance. Our goals are focused and align with the overall university goals, which provide for a distinctive, student-first, regionally and globally impactful program, and to provide organizational stewardship for our program, our student experience, and our university. Through the enhancement and development of our faculty and our facilities, we will continue to move toward the achievement of our mission, vision, program learning outcomes, degree program goals, and strategic goals. The continuous improvement plan is established to ensure that each class fulfills the student learning outcomes and aligns with the overall pedagogy and goals of the program.

The Strategic Plan is reviewed and modified as necessary during the two Unit faculty retreats each August, prior to the start of the academic year, and May, after the completion of the academic year. The faculty retreats are held to adjust the strategic plan as necessary. During the semester, there are bi-weekly meetings to review the strategic goals, mission and vision, and the status of the obtainment of these goals. If any of the goals or missions are not going to be achieved or being met, adjustments will be made, and action items will be created. All relevant stakeholders, including all faculty, the Associate Dean, Assistant Dean, and support staff attend these meetings as required. This allows for input and dialogues from and with the college level stakeholders, as well as valuable input from outside the unit. It also allows for discussions relative to the budgetary dialogues necessary to fund and support these strategic goals. As the College Dean oversees the budget at Kent State University, he provides direct input and support of these Strategic Goals or will by the goal implementation of 2024.

2. DEGREE PROGRAM ASSESSMENT PLAN

2.1. MISSION STATEMENT

The mission of the Construction Management Major is to prepare students for professional careers in the management of construction projects through education, experiential learning,

and research in various and distinctive arenas of the construction industry, in regionally, nationally, and globally diverse settings.

2.2. VISION

Our Vision is to create and maintain an organization of highly skilled faculty members, and staff, housed in a world-class facility, while serving our students' needs, and driving innovation within the industry through the utilization of exceptional knowledge and dedication to research and continuous improvement. This will ultimately differentiate ours as the program of choice to those seeking a high quality, well rounded, focused educational experience.

2.3. DEGREE PROGRAM GOALS

1. Produce graduates who understand and have demonstrated competence in construction management practices and procedures.
2. Produce graduates who develop innovative solutions to problems encountered in the construction management profession.
3. Produce graduates that will be lifelong learners and contributors to the construction industry by understanding that constantly changing technology requires continual updating of knowledge and skills.
4. Produce graduates that have the desire and skillsets to support the growth of future construction professionals both in academic and professional settings.
5. Develop and maintain academic, financial and employment relationships for College of Architecture and Environmental Design (CAED) and students with construction industry professionals.
6. Continue to grow and develop the construction management faculty in new and upcoming construction industry practices and technologies.

2.4. DEGREE PROGRAM OBJECTIVES (BY 2024)

1. Increase six-year graduation rate by 5% or to 70%
2. Increase retention rate to 80%
3. Achieve 95% placement rate or above every semester.
3. Have 10 endowed scholarships (\$25,000)
5. Maintain an enrollment of at least 250 undergraduates
6. Faculty to participate in two professional development events annually

2.5. PROGRAM LEARNING OUTCOMES

The ultimate Program Learning Outcome of the Program is to meet 20 ACCE student learning outcomes.

2.6. ASSESSMENT MEASURES

Degree Program outcomes are assessed with direct and indirect methods. Direct assessment methods include written exams, homework, and projects. Indirect assessments include surveys that are conducted with students, alumni, and industry advisory board members.

2.7. ASSESSMENT TOOLS

The assessment tool for collecting the learning outcomes is web-based. It includes the benchmark set for evaluating respective learning outcomes. The tool for maintaining the learning outcomes information is a web-based database. The responsible faculty have access to the database. They can upload the assessment results, and other documentation.

The Senior Exit Survey information includes graduation and retention rate data collection, placement rates with construction industry segmentation, and starting salaries. The method for collecting and maintaining the data is web-based.

2.8. PERFORMANCE CRITERIA

Each SLO is measured with one direct and one indirect assessment tool.

For all 20 ACCE SLOs the direct assessment tool will be a whole or part of class assignments, projects, quizzes, and tests from the various CMGT courses.

The indirect assessment tool for 20 ACCE SLOs will be a seniors' exit survey questionnaire. Each SLO will be measured on 1 to 5 scale.

The minimum performance criteria for each direct SLO assessment shall be 70% of students will achieve at 70% or higher in the course.

The minimum performance criteria for each indirect assessment shall be 3.5 on a 1-5 scale.

The associated assessment assignments for each SLO are shown below:

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

The assessment will be measured by the Internship Paper in CMGT 33092 Construction Management Internship (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 2. Create oral presentations appropriate to the construction discipline.

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

SLO 3. Create a construction project safety plan.

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

SLO 4. Create construction project cost estimates.

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

SLO 5. Create construction project schedules.

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

SLO 6. Analyze professional decisions based on ethical principles.

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

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

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

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

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

SLO 9. Apply construction management skills as a member of a multi-disciplinary team.

The assessment will be measured by the Class Assignment in CMGT 43099 Construction Capstone (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

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

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

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

The assessment will be measured by a homework (field assignment) in CMGT 31023 Construction Surveying (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

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

The assessment will be measured by the Quiz#3: Project Delivery in CMGT 42105 Construction Contracts and Law (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 13. Understand construction risk management.

The assessment will be measured by the Assignment 4: Clauses to Limit Risks in Construction Contracts in CMGT 42105 Construction Contracts and Law (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 14. Understand construction accounting and cost control.

The assessment will be measured by the Assignment 4 (Construction Pay Application and Accounting Assignment) and Assignment 10 (Construction Project Control) in CMGT

41041 Construction Estimating 2 (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 15. Understand construction quality assurance and control.

The assessment will be measured by the Module #4 Construction Quality Quiz in CMGT 10001 Introduction to Construction Management (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 16. Understand construction project control processes.

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

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

The assessment will be measured by the Comprehensive Final Exam in CMGT 42105 Construction Contracts and Law (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 18. Understand the basic principles of sustainable construction.

The assessment will be measured by the Comprehensive Final Exam in CMGT 27210 Sustainability in the Built Environment (direct assessment), and Construction Management Senior Exit Survey (indirect assessment).

SLO 19. Understand the basic principles of structural behavior.

The assessment will be measured by a homework assignment (providing relevant Free Body Diagrams and all calculations for four different building structure problems - direct assessment), in CMGT 33111 Introduction to Building Structures and Construction Management Senior Exit Survey (indirect assessment).

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

The assessment will be measured by the Comprehensive Final Exam in both CMGT 31040 Electrical Systems and CMGT 31033 Mechanical Systems (direct assessments), and Construction Management Senior Exit Survey (indirect assessment).

2.9. EVALUATION METHODOLOGY

- a) Direct Assessments – Each year, data is collected for the performance of the students on the assessments utilized to measure the Student Learning Outcomes (SLOs). Then, between 6 and 7 of those assessments are analyzed specifically to evaluate and adjust if necessary for a better measure, each assessment. Also, curriculum modifications are made to better reinforce and teach the subject matter to ensure that the students are achieving the SLOs. The schedule for the reviews and implementation is based on the schedule in Appendix – 1.
- b) Indirect Assessments – Student Exit Survey – Upon graduation, each student is solicited to participate in an academic assessment survey. This survey asks questions relative to our ability to effectively reach our student learning outcome goals. These questions require responses from 1 - 5, with 1 being poor and 5 being excellent. The responses are then tallied and reviewed in the semester following receipt as indicated in Appendix – 1.

As Blackboard is a standard platform in academia, utilized for many accreditation tasks, there is not a great deal of change or modification to this evaluation methodology. The column statistics utilized for data collection are sound, and as the assessments are tailored to easily provide feedback within the column statistics, the data is sound. Further, the population is sufficient as each assessment usually has 50 – 60 results per semester, which equates to approximately 300 assessments within the 3-year rotation of analysis. These assessments have been specifically chosen as they comprehensively assess the SLOs.

- c) Course Evaluations – At the end of each semester, course evaluations are reviewed during the program retreat. Action items are discussed. If there is a need for curricular change, the proposed change is voted by the program committee members. The program committee is composed of full-time faculty members. The program director prepares the formal document to be presented to the College Curriculum Committee (CCC).
- d) Senior Exit Survey – This survey helps us understand the overall CM Program specific undergraduate experience of our students. Students provide information on career fair experience, classrooms, computer labs, lab availability after hours, quality of advising, flexibility of the curriculum, quality of instruction, internship opportunities, construction management student organization, student competitions, study abroad opportunities, strengths/weaknesses of the program, and size of classes etc. In addition, we can gather data on internship and type of employment statistics, placement rate, and salary range.

- e) IAB Exit Survey – The IAB members will conduct an exit survey with Construction Capstone students, immediately after their final presentation. The results will be discussed in IAB General Meeting in the Spring semester.
- f) Curriculum Review – IAB Curriculum Review committee meets regularly. They report at the IAB General meetings.
- g) Internship Survey – This survey is conducted with employers who provided internship opportunities for our students. The survey results inform us about the internship scope, specific duties, approximate compensation per hour, etc.
- h) Faculty Annual Reviews – The annual performance evaluation of the faculty regarding teaching, research, and service activities is conducted by the CAED.
- i) Career Fair Statistics – The Construction Management Program Career Fairs are organized both in Spring and Fall semesters. The number of firms that participate in each fair, and their construction industry segment are recorded. The number of firms and segmentation are monitored.
- j) Alumni Survey – A three-year survey will be conducted with alumni to provide input for all aspects of the CM Program.

3. ASSESSMENT IMPLEMENTATION PLAN FOR THE DEGREE PROGRAM

The Kent State Construction Management Program has a database of SLOs that is accessible by the faculty. The faculty uploads their SLO data for Spring and Fall semesters no later than two weeks after the end of a respective semester. Each SLO folder in the database has specific year folders. The three-year cycle for the complete assessment for each SLO is indicated on the respective year folder. Therefore, respective faculty is aware of the exact three-year cycle for complete assessment. The CM Program Committee meets biweekly and faculty who are not in compliance in uploading their data are reminded to do so in those meetings.

The assessment of SLOs will be done with faculty and IAB members. During the curriculum and course reviews in IAB General Meeting, the SLO data will be presented by the program director and faculty.

The degree program objectives are reviewed annually in the first CM Program Committee meeting in Spring semester. The CM faculty evaluate the data to see if progress is being made toward meeting the degree program objectives. The

status/progress is communicated to IAB members in Spring IAB General Meeting. The revisions are made if necessary.

The CM Career Fair statistics are discussed in the CM Program Committee meeting following the career fair. The number of participating firms, their segments within the construction industry and the number of students who participated the fair are analyzed. If there is a need, the ways in which the participation by students or by firms can be increased are discussed. The results are also communicated to IAB in the next IAB General Meeting.

The Senior Exit Survey is conducted with Capstone students at the end of every semester. The results are discussed in the following CM Program meeting and the next IAB General Meeting. During the IAB meeting strengths and weaknesses are assessed, and the action plan is created. The action items can include curricular changes, new space allocations for our students, improving competition preparation strategies etc. Based on the feedback from the CM Program Committee and IAB, the survey questions can also be revised.

The IAB Exit surveys are conducted during the Capstone presentation days. The results are communicated to faculty during the next IAB General meeting.

The Internship Survey results become a good indicator for CM faculty to understand if internships ease our students' journey to full-time employment after graduation. We also understand what type of basic qualifications are beneficial before they start their internships so we can advise them as early as possible.

4. APPENDICES

APPENDIX A: Degree Program Assessment Implementation Plan

APPENDIX B: Curriculum Map

APPENDIX C: Quality Improvement Plan

APPENDIX A: DEGREE PROGRAM ASSESSMENT IMPLEMENTATION PLAN

FALL AND SPRING SEMESTERS

Career Fair Statistics (Review by faculty and IAB)

Senior Exit Survey (Review by faculty and IAB)

IAB Exit survey (Review by faculty and IAB)

Courses/Curriculum Review – IAB Curriculum Subcommittee (Review by faculty and IAB)

Review Course Evaluations

Internship Survey (Review by faculty and IAB)

ANNUALLY

Degree Program Objectives (Review by faculty and IAB. Make changes if necessary)

Graduation rate

Retention rate

Student Placement

Endowments

Enrollment

Program Learning Outcomes (Direct and Indirect Assessments of SLOs – Student Exit Survey for Indirect Assessment)

Quality Improvement Plan (QIP) Review Meeting (Review Quality Improvement with IAB during the Spring Meeting).

Faculty Annual Reviews

EVERY 3-YEAR

Alumni survey

APPENDIX B: CURRICULUM MAP

Kent State Construction Management - ACCE Student Learning Outcomes Mapping																									
		SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	SLO7	SLO8	SLO9	SLO10	SLO11	SLO12	SLO13	SLO14	SLO15	SLO16	SLO17	SLO18	SLO19	SLO20				
		Written	Oral	Safety	Estim.	Sched.	Ethics	Docum.	Meth.	Team	IT	Survey	Delivery	Risk	Accoun.	QA/QC	Control	Contract	Sustain	Structure	MEP				
CMGT 10001	Intro. CMGT	I		I	I	I	I		I				I		I	A ^d			I						
CMGT 11044	Con. Safety			R/A ^d			R																		
CMGT 11071	Con. Mat. & Meth. I								I							R			R	R					
CMGT 42030	Building Information Modeling for Cons																								
CMGT 21071	Con. Mat. & Meth. II								I							R			R	R					
CMGT 22200	Con. Documents Reading							I				I													
CMGT 27210	Sustainability in the Built Environment																		A ^d						
CMGT 31023	Con. Surveying											R/A ^d													
CMGT 31033	Mech. Systems								R	R									R		R/A ^d				
CMGT 31040	Electrical Systems				R				R	R											R/A ^d				
CMGT 33111	Introduction to Building Structures																								
CMGT 33092	Construction Management Internship	R/A ^d																							
CMGT 41040	Con. Estimating I				R				R	R	R					R									
CMGT 41041	Con. Estimating II				R/A ^d		R/A ^d	R	R	R					R/A ^d										
CMGT 42105	Con. Contracts & Law						R											R/A ^d							
CMGT 42107	Con. Scheduling		R/A ^d				R/A ^d	R/A ^d										R/A ^d							
CMGT 42110	Con. Man. Capstone			R	R	R			R/A ^d	R/A ^d															
	Student Exit Survey	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i				
	Internship Employer Evaluation	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i	A _i				
		KEY										Assessment Cycle Schedule													
		I	=	Introduced										2017-18										2023-24	
		R	=	Reinforced										2018-19										2024-25	
		A ^d	=	Direct Assessment										2019-20										2025-26	
		A _i	=	Indirect Assessment																					

APPENDIX C: QULAITY IMPROVEMENT PLAN

