

**Quality Improvement Plan**

**Including Assessment of  
Student Learning Outcomes  
&  
Program Assessment**

**Construction Management**

**2021**

**Professional Management Department  
Minnesota State University Moorhead**

# **CONSTRUCTION MANAGEMENT QUALITY IMPROVEMENT PLAN (QIP)**

## **Overview**

The Assessment Plan for the Construction Management program is designed to satisfy both the American Council for Construction Education (ACCE) and Minnesota State University Moorhead.

Assessment is a requirement of ACCE and the CM program must meet its criteria if the program is to continue as an accredited program. Since we were the first accredited Construction Management program in Minnesota, we feel it is imperative that we maintain accreditation. **ACCE requires a comprehensive Quality Improvement Plan (QIP) that includes a Strategic Plan, Assessment Plan and an Implementation Plan. These three components will serve as the basis for assessing Student Learning Outcomes, Program Student Outcomes and Overall Program Goals and Objectives.**

In addition, Minnesota State University Moorhead (MSUM) requires that all degree-granting programs have a student learning outcomes assessment plan. The CM program Quality Improvement Plan mission statement, goals, objectives, and performance measures are detailed in these three documents and support the Mission of the Minnesota State University Moorhead and College of Business, Analytics, & Communication.

The CM Program transitioned to outcome-based assessment in preparation for the 2016 re-accreditation process. The CM program at MSU Moorhead was one of the Pilot Programs that was visited under the new standards. The ACCE outcome based standards have evolved since their initial implementation. The change that has had the greatest effect on assessment is the interpretation that the AC exam and team evaluations cannot be used to assess SLO's 1-5 and 9-11. The CM program had used the Capstone Experience and the AC Exam as Direct Assessment (DA) measures for those SLO's. During 2018 and 2019, the transition was made to revise the direct and indirect assessments of the ACCE SLO's to meet the mandate that all assessment measures were individually measured. A mapping document that details the direct and indirect assessment measures is included in the student learning outcome assessment section.

## **Section 1: Construction Management Mission Statement**

The mission of the Construction management program is three fold.

1. To maintain a nationally accredited construction management program, which will produce graduates who will have the technical, managerial and general knowledge necessary to enter and advance professionally in the construction industry.
2. Provide an environment, which encourages students and faculty to engage in professional development, critical thinking, and creative endeavors.
3. Promote continuous improvement of teaching, learning and program curriculum.

## **Section 2: CM Program Goals and Objectives**

The CM Program Goals and Objectives detail are included in the Strategic Plan. The strategic plan updates periodically to meet the changing needs of the program, university and the construction industry. See below for a summary of the goals and objectives:

**Strategic Plan (see Strategic Plan Document for details)**

### **Goal #1: Implement a Quality Improvement Plan for the CM Program**

- 1. Evaluate CM Program Student Learning Outcomes.**
- 2. Evaluate Course Learning Outcomes for each CM Course.**
- 3. Evaluate ACCE Student Learning Outcome (SLO's).**
- 4. Maintain ACCE Accreditation.**

### **Goal #2: Increase the number of Construction Management majors**

### **Goal #3: Enhance Scholarship Opportunities for CM Majors.**

### **Goal #4: Develop activities that lead to greater construction industry interaction with CM students.**

## **Section 3: Construction Management Program Student Learning Outcomes and ACCE Student Learning Outcomes**

The CM program design prepares graduates to be a professional constructor who possesses the skills and knowledge acquired through education and on-site experience necessary to manage construction processes including bid preparation, project acquisition, project management, safety, and supervision of the construction process. The twenty ACCE Student Learning Outcome data is updated annually and the outcomes are assessed every three year within the six-year accreditation cycle. The MSU Moorhead CM Program Student Learning Outcomes are based from the ACCE SLO's, but are assessed differently.

**MSU Moorhead CM Program Student Learning Outcomes and are assessed on an annual basis and are included in the annual CM assessment report for the University.**

1. Students will demonstrate basic knowledge of, and be able to apply, the concepts of estimating, construction planning, scheduling, project controls, construction finance, cost control, risk management, and safety as they relate to being a field or project engineer, superintendent, or project manager. (ACCE SLO's 3,4,5,9,13,14,&16)
2. Student will apply appropriate knowledge of mathematics, science, business fundamentals, and electronic-based technology to various construction management processes, design theory, surveying techniques, mechanical/electrical concepts, and analysis of construction systems. (ACCE SLO's 10,11,19,&20)
3. Students will be able to analyze construction materials, methods, construction systems, equipment, design theory, quality assurance, sustainable/lean construction concepts, and have basic knowledge of their application to the construction process. (ACCE SLO's 8,15&18)

4. Analyze construction documents for planning and management of construction processes and understand the legal implications of project delivery methods, contracts, common, and regulatory law needed to manage a construction project. (ACCE SLO's 7,12&17)
5. Students will develop ethical principles and be able to communicate clearly and effectively as individuals and as a member of a multi-disciplinary team. (ACCE SLO's 1,2,6,&9)

**ACCE Student Learning Outcomes that are assessed on a three-year cycle as identified in the CM Program Strategic Plan. Included below the twenty outcomes is a mapping document that details the direct and indirect assessment instruments. The assessment documents and evaluation data are stored on the S Drive and are available for all CM faculty to view and update as needed.**

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on 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 an effective member of a multi-disciplinary team.
10. Apply electronic-based technology to manage the construction process.
11. Apply basic surveying techniques for construction layout and control.
12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping systems.

#### **Section 4: Assessment Tools & Performance Criteria**

##### **Overview**

Assessment occurs at all levels of the Construction Management Degree Program. The Assessment Report submitted annually to the MSU Moorhead Administration must assess the CM Program as a unit within the University, while ACCE requires a more detailed assessment process. The assessment process developed by the CM faculty identifies the levels of assessment and a brief statement identifying the need and the intended audience.

- Level 1: CM Program Assessment, including CM Program SLO Assessment
- Level 2: ACCE Student Learning Outcome Assessment
- Level 3: Course Student Learning Outcome Assessment

## **Assessment Tools: CM Program Assessment & CM Program**

### **1. Graduate/Senior Exit Survey**

**Uses:** ACCE SLO's (indirect assessment measure),

**Frequency:** Surveys are completed annually in the Capstone Experience.

**Performance Criteria 1:** Using a Likert Scale of 1 to 5, each CM graduate will assess general CM program questions related to their experience at MSUM. The benchmark is to meet or exceed a rating of greater than three (3) on all the general program questions.

**Evaluation:** The department will analyze survey data to identify strengths and weaknesses of the program. The CM faculty will review the results to determine remedial actions.

**Performance Criteria 2:** Using a Likert Scale of 1 to 5, each CM graduate will assess their perceived knowledge of the ACCE Student Learning Outcomes. The benchmark is to meet or exceed a rating of greater than three (3) on all the student learning outcomes. The survey will be used as an Indirect Assessment on all the ACCE SLO's.

**Evaluation:** The department will analyze the survey data to identify SLO categories that receive a rating of less than three (3). The CM faculty will review the results to determine remedial actions.

**Performance Criteria 3:** Verify employment status (yes or no) and average starting salary.

**Evaluation:** The percent of the graduating seniors accepting employment each semester and the average starting salaries will be posted on the CM Website and reported to the CM Industry Advisory Board (IAB).

### **2. Graduate Survey**

#### **B. Alumni Follow-Up**

- The Construction Management program conducts an alumni survey for graduates every 5 years to determine the continued success of graduates and suggested improvements to the CM program. Alumni will evaluate how well the program prepared them.

- **Assessment Measure**

Alumni Survey

**The results will be analyzed and trends will be identified. With input from the advisory committee the faculty will determine appropriate action.**

### 3. Employer Survey

- An employer survey accompanies the alumni survey mailings. The survey will help to determine the continued success of the graduates and needed changes from the employer's perspective. Employers will evaluate how well the program prepared employees.
- **Assessment Measure**  
**The Alumni's supervisor will evaluate the preparedness of the graduate and identify strengths and weakness of technical skills. Program changes will be identified and appropriate actions will be taken.**

### 4. Advisory Board

- The advisory meets twice a year. The Board communicates through email to work on committees and projects. Board actions and suggestions are recorded in the Board minutes each meeting.
- **Assessment Measure**  
**As part of the general assessment report, the CM faculty will report status and progress for each Advisory Board goals and objectives as outlined in this document and the five-year strategic plan.**

## Level I Program Student Learning Outcome Assessment

### 1. Course Comprehensive Exams

Comprehensive exams may be developed in various courses as one of the assessment measures for student learning outcomes each semester the course is taught. Faculty can establish the benchmark but at a minimum must meet the following measure.

- **Assessment Measure**  
70% of the students will receive 70% or higher on comprehensive exams.

### 2. Course Semester Assignments or Projects

Major projects or semester projects may be developed in various courses as one of the assessment measures for student learning outcomes each semester the course is taught. Faculty can establish the benchmark but at a minimum must meet the following measure.

- **Assessment Measure**  
70% of the students will receive 70% or higher major or semester projects.

### 3. AC Level I Certification Exam.

Students will sit for the 8-hour certification Exam as a requirement of CM 492 Capstone Experience. The American Institute of Constructors (AIC) offers the exam. Successful candidates will be granted Associate Constructor (Level I) Certification by AIC. Students will be required to sign a waiver so that the program can obtain individual results as well as composite results for each teach test period.

- **Assessment Measure**  
**CM program will meet or exceed the national average for each SLO.**

The individual SLO results will be analyzed. Areas of concern will be identified and analyzed. Appropriate changes will be implemented.

#### **4. Internship Experience**

At the completion of the internship experience, the intern's supervisor will be asked to complete an internship evaluation of the student's competencies. As an indirect measure of student outcomes, the student will be asked to complete an essay explaining what was learned and observed during the internship. The employer evaluation and essay will be compared and discussed by the student and by internship coordinator. The CM faculty will track trends and areas of concern.

- **Assessment Measure**
  1. Internship Employer Evaluation
    - **90% of intern will receive a 3/5 overall rating from their internship supervisor.**
  2. Student Essay
    - **100 % of the students will complete an essay reflecting over their internship experience**

## **THE CM COURSE SYLLABI AND ITS USE**

Each course offered by the Construction Management (CM) program is designed for the student to understand the course content and requirements. The syllabi provide general information regarding course organization, outcome expectations, assessment, assignments, applicable University and Departmental policies, and schedule of course content. Following is the required syllabus outline.

- I. Instructor information
- II. Course description with prerequisites
- III. Course presentation and schedule
- IV. Text/references
- V. ACCE student learning outcomes identified to the course
- VI. Course student learning outcomes
- VII. Assessment Measures
- VIII. Instructor Expectations
- IX. Student responsibilities and instructor expectations
  - A. Class attendance
  - B. Class absence
  - C. Homework assignments
  - D. Writing Style
  - E. Academic honesty/integrity
  - F. Assistance available
  - G. Sexual Violence
  - H. Other University Policies
  - I. Building Emergency Plan
- X. Instructor's explanation and requirements specific to the course and other entries as deemed necessary by the course instructor
- XI. Grading Criteria
- XII. Topical content outline and course schedule

## **CONSTRUCTION MANAGEMENT PROGRAM ADVISORS**

The student will need to make contact early in their enrollment period with the program advisor for assistance and direction while completing the Construction Management program of studies at Minnesota State University Moorhead.

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Mr. John Green	CB 204E (218) 477-4375	<a href="mailto:john.green@mnstate.edu">john.green@mnstate.edu</a>
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## **MINNESOTA STATE UNIVERSITY MOORHEAD INSTITUTIONAL PURPOSE, MISSION, VALUES, AND STRATEGIC PRIORITIES**

### **Purpose**

Our purpose, in its simplest and most idealistic form, is to transform the world by transforming lives.



## **Mission Statement**

Minnesota State University Moorhead is a caring community promising all students the opportunity to discover their passions, the rigor to develop intellectually and the versatility to shape a changing world.

## **Core Values**

The University is committed to the core values inherent in its purpose and mission:

### **Grit**

We are “scrappy” and resourceful.

We have big goals and the tenacity to achieve them.

We have the courage to do what’s right.

### **Humility**

We’re all on the same team and everyone’s role is important.

We seek the best ideas and know they can come from anywhere and anyone in our campus community.

We don’t take ourselves too seriously

### **Heart**

We go the extra mile for our students and each other.

We are passionate about our purpose.

We are fiercely loyal to MSUM

## **Strategic Anchors**

Minnesota State University Moorhead will achieve our purpose by anchoring our work with three key strategies. While we may prioritize these strategic anchors differently at different times, the anchors themselves will remain constant for the foreseeable future. These are the strategies that will enable us to achieve our purpose of transforming the world by transforming lives:

### **Strategic Anchor #1: Our Students**

We will focus relentlessly on student achievement and students’ return on their investment.

WE WILL:

- Ensure student learning and achievement are at the center of our work
- Assess the effectiveness of our curriculum and pedagogy and make continuous improvement
- Engage students with the community in educationally purposeful ways
- Celebrate students’ outstanding achievement in academics, the arts, athletics, service, and leadership

### **Strategic Anchor #2: Our University**

We will create a campus community that is diverse, inclusive, globally aware, and just.

WE WILL:

- Create a campus community that reflects the diversity of society

- Ensure MSUM is accessible and welcoming to students and employees who have historically been under-served by higher education
- Create a campus culture that values and celebrates diversity of ideas, perspectives, and people
- Create a campus community that is just and equitable

### **Strategic Anchor #3: Our World**

We will be indispensable to the social, cultural, and economic advancement of Moorhead and the surrounding communities.

WE WILL:

- Attract and retain talent to Moorhead and the region
- Contribute leadership and expertise to address community issues and economic development
- Enrich the community through academic, athletic, arts, service, and leadership opportunities.

### **Proposed Strategic Priorities: 2021-2025**

Strategic priorities guide our planning and budgeting for a 4-year period. They contribute directly to our strategic anchors but are more focused. Because they identify what is most important during a given period of time, they help us make difficult decisions about how to allocate our resources, including our time.

#### 1. Academic Distinctiveness:

- Ensure student learning and achievement are at the center of our work
- Assess the effectiveness of our curriculum and pedagogy and make continuous improvement
- Engage students with the community in educationally purposeful ways
- Celebrate students' outstanding achievement in academics, the arts, athletics, service, and leadership

#### 2. Diversity and Inclusion:

- Create a campus community that reflects the diversity of society
- Ensure MSUM is accessible and welcoming to students and employees who have historically been under-served by higher education
- Create a campus culture that values and celebrates diversity of ideas, perspectives, and people
- Create a campus community that is just and equitable

#### 3. Community Engagement:

- Attract and retain talent to Moorhead and the region
- Contribute leadership and expertise to address community issues and economic development
- Enrich the community through academic, athletic, arts, service, and leadership opportunities.

### **University-Wide Student Learning Outcomes**

1. Demonstrate intellectual preparedness for success in professional life, bolstered by integrative experiences and technological competence.
2. Demonstrate effective written and oral communication.
3. Apply critical thinking skills in deliberative decision-making and problem-solving.
4. Demonstrate community and civic engagement, both locally and globally.
5. Develop ethical relationships with people who have different backgrounds, life experiences, cultures, beliefs, and values.
6. Demonstrate the knowledge, skills, and the self-awareness to sustain the life of ongoing, independent learning.

### **COLLEGE OF BUSINESS, ANALYTICS & COMMUNICATION MISSION**

The College of Business, Analytics & Communication, building a strong foundation of liberal studies, provides professional career and leadership preparation through student-centered learning that incorporates technology, experiential learning and interaction with industry and community.

### **College Of Business And Innovation Goals (Will be updated Fall 2021)**

- Goal #1: To prepare students for fulfilling and productive careers.
- Goal #2: To encourage and support faculty development in teaching, advising, service, scholarship, and creative activity.
- Goal #3: To employ resources to enhance and complement the academic experience.
- Goal #4: To provide service and educational outreach to the region.
- Goal #5: To engage in an ongoing process that achieves and maintains high professional standards.
- Goal #6: To contribute to a strong liberal studies foundation for undergraduate programs.
- Goal #7: To embrace diversity and base relationships on tolerance, civility, and affirmation.

**The following Quality Improvement Plan for the Construction management program supports the College of Business and Innovation goals which in turn support the University mission, core values, strategic vision, strategic priorities and the university-wide student learning outcomes. At the same time it meets the requirements for ACCE Accreditation.**