

**Master's Degree Program Academic Quality
2017-2018 Assessment Report**

Kennesaw State University
Construction Management

Master's Degree Program Academic Quality 2017-2018 Assessment Report

Program Objectives:

- PO1: Prepare bids and estimates for construction projects
- PO2: Prepare construction schedule and manage project risks.
- PO3: Carry-out project management related tasks.
- PO4: Conduct research and disseminate findings through publications.
- PO5: Pursue advanced degrees
- PO6: Maintain MS program ACCE accreditation
- PO7: Increase visibility and awareness of the CM Department

PO1 to PO5 Assessment

The PO1 to PO5 are assessed through program student learning outcomes (SLO)s assessment and graduate students exit survey.

Assessment through SLOs

To accomplish PO1 to PO5 objectives, the Program Student Learning Outcomes (SLO)s are developed in accordance with American Council of Construction Education (ACCE).

Student Learning Outcomes:

- SLO 1 - Critical thinking and creativity
- SLO 2 - Problem solving and decision making
- SLO 3 - Effective and Professional oral and written communication
- SLO 4 - Use of information and communication technology
- SLO 5 - Principles of leadership in business and management
- SLO 6 - Current issues in construction
- SLO 7 - Complex project decision making and associated risk management
- SLO 8 - Professional ethics including application to situations and choices
- SLO 9 - Advanced construction management practices
- SLO 10 - Research methods

Table 1 shows the correlation of PO1 to PO5 with SLOs.

Table 1: Correlation of Program Objectives (PO)s and Student Learning Outcomes (SLO)s

	PO1	PO2	PO3	PO4	PO5
SLO1	X	X	X	X	X
SLO2		X	X	X	
SLO3		X	X	X	X
SLO4	X		X		
SLO5	X	X	X		
SLO6	X		X	X	
SLO7	X	X	X		X
SLO8	X		X		X
SLO9	X	X	X	X	
SLO10				X	X

The target set for accomplishment of PO1 to PO5 is 85%. PO1 to PO5 are assessed through course level learning outcomes (CLO) assessment by using SLOs and graduate students exit survey. The level of accomplishment of PO1 to PO5 is assessed by determining the mean value of contributing SLOs achievement as shown in Table 2.

Table 2: PO Accomplishment Calculation using SLOs

PO#	PO Accomplishment Calculation
PO1	Mean of SLO1, SLO4, SLO5, SLO6, SLO7, SLO8, SLO9 achievement
PO2	Mean of SLO1, SLO2, SLO3, SLO5, SLO7, SLO8, SLO9 achievement
PO3	Mean of SLO1, SLO2, SLO3, SLO4, SLO5, SLO6, SLO7, SLO8, SLO9 achievement
PO4	Mean of SLO1, SLO2, SLO3, SLO6, SLO9, SLO10 achievement
PO5	Mean of SLO1, SLO3, SLO7, SLO8, SLO10 achievement

The following Figure 1, shows the accomplishment of PO1 to PO5 through SLOs Assessment. The average achieved mean values exceed the target mean values.

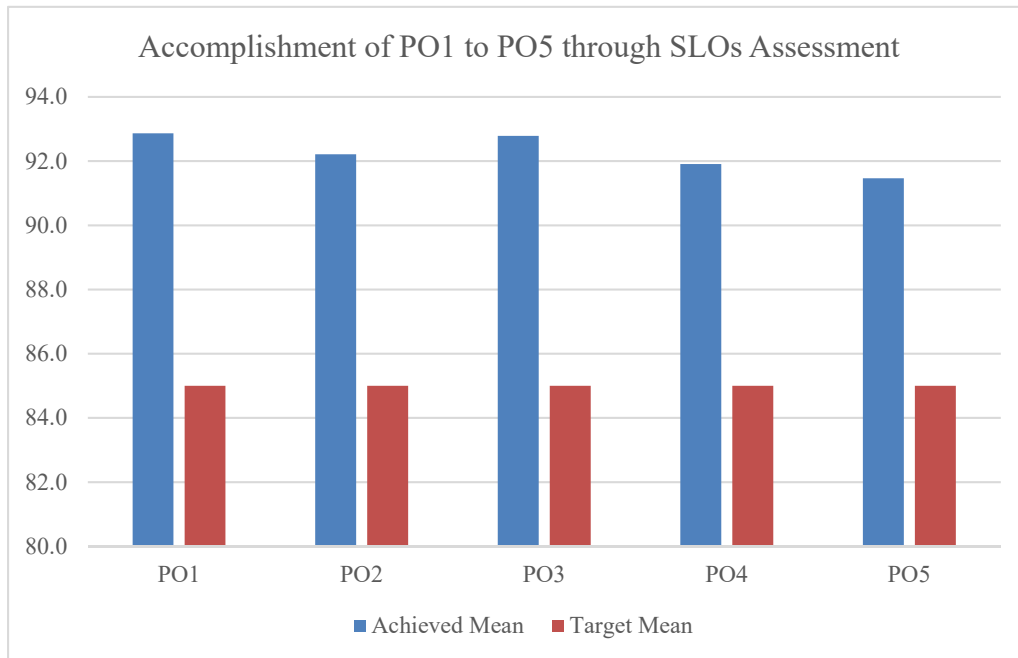


Figure 1: Accomplishment of PO1 to PO5 through SLOs Assessment

Assessment through Graduate Students Exit Survey

Students will specify the level of achievement of PO1 to PO5 on scale of from 1-5 (highest “5” being Very High and lowest “1” being Very Low) through Question 1 as shown below.

*** 1. How well did the program prepare you in each of these areas? On a scale from highest “5” being Very High and lowest “1” being Very Low please rate the following areas:**

	1	2	3	4	5
1) Prepare bids and estimates for construction project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) Prepare construction schedule and manage project risks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) Carry-out project management related tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) Conduct research and disseminate findings through publications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) Pursue advanced degree programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The target set for accomplishment of PO1 to PO5 is 3. The following Figure 2, shows the accomplishment of PO1 to PO5 through graduate students exit survey. The average achieved mean values exceeded the target mean values. The average achieved mean value of PO2 (3.1) is least of all POs.

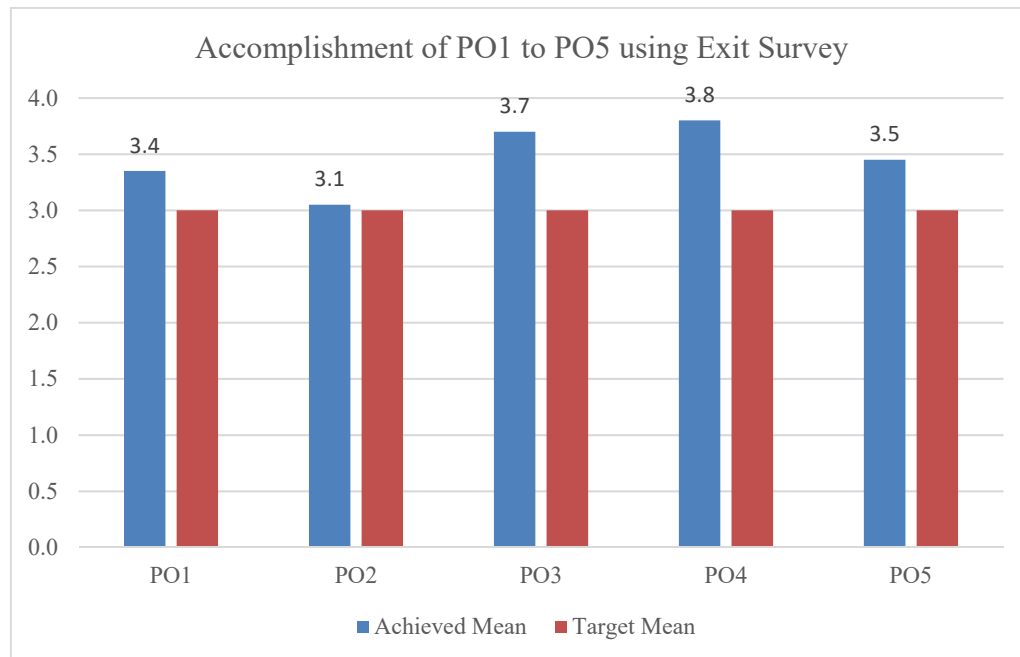


Figure 2: Accomplishment of PO1 to PO5 using Exit Survey

These results were discussed with the faculty teaching CM6310 course. Faculty agreed to monitor the performance of the students to identify any problems associated with achieving the outcome. Faculty also suggested the following actions to be included in the next offering of the courses.

- Produce multi-media videos and other instructional materials for cost loaded schedule and cost leveling schedules
- Attract guest speakers from the industry to bring field perspective
- Encourage the students to partner with construction companies early in the semester.

PO6 Assessment

PO6: Maintain MS program ACCE accreditation

MSCM program self-study will be submitted as scheduled during November 2018. Reaccreditation visit is scheduled during March 2019. 2018 ACCE annual status report was submitted (Refer to Appendix W for status reports).

PO7 Assessment

PO7: Increase visibility and awareness of the CM Department

The MSCM graduate students and faculty contributions are given below.

- *Peer-reviewed faculty publications in journals and conferences*
Faculty and graduate students published one journal and seven peer reviewed conference papers. Details of these are provided under Research and Scholarly Activities section.

- *Awards, leadership activities at the national, state and regional level*
 - Prof. Brandi Williams (Construction Management) and Ed Akins (Architecture) collaborated with Center for Sustainability at Agnes Scott College (ASC) to initiate a partnership that would allow KSU students the opportunity to participate in LEED Lab at an alternative location. (Oct 27, 2017).
 - Under guidance of Prof. Jacqueline Stephens, Kennesaw State University's Association of Energy Engineers (AEE) student chapter received 2018 "Best Student Chapter Meeting" award. This award is a national award given by AEE corporate annually (July 24, 2018).
 - Dr. Khalid Siddiqi, Chair of Kennesaw State University's Department of Construction Management, shared a Georgia Construction Outlook Survey presentation with 80 CEOs and CFOs from premier construction firms in Georgia. The Lunch and Learn Session was held on January 30, 2018 at Maggianos, Cumberland Mall, Atlanta, GA
- *Industry Advisory Board activities*
 - Five graduate faculty and two graduate students participated in the four and one CIAB board meetings respectively.
 - Seven graduate faculty participated in annual fundraiser gala.
 - One graduate faculty participated in skeet shoot.
 - One graduate faculty coordinated for organizing Elite and Diamond sponsor career fairs.
- *Number of organization coming to the department to recruit CM graduates and interns*

Refer to the Appendix K to see the list of organizations came to the department to recruit CM graduates and interns.

Teaching Activities

The CM faculty teaching graduate courses continues to receive very positive teaching effectiveness evaluations from their students. Eleven graduate level courses were offered and most of the courses were rated as beneficial by the students.

Research and Scholarly Activities

Faculty teaching graduate courses published one journal and 7 peer reviewed conference papers. Within CM6000 Information Methods course all the students did conduct a formal research project and all students presented their research as per the course guidelines. Four students published their papers in Proceedings of Associated Schools of Construction 54th Annual International Conference April 18-21, 2018, Minneapolis, Minnesota organized by University of Minnesota.

The list of published papers is given below.

Peer-Reviewed Papers:

- Siddiqi, K., and O'Connor, H. (2018). Impact of Lean Principles on Timely Project Completion, published at Construction in the Twenty First Century Conference held at Colombo Sri Lanka July 2-4, 2018. The conference was organized jointly by Auburn University, University of Wolverhampton, Ceylon Institute of Builders, University of Moratuwa, City University of Science and Information Technology, Western Carolina University, Florida International University, and East Carolina University North Carolina.
- Siddiqi, K., and Woldemichael, A.G., (2018). Union Electrical Workers are not Against Prefabrication, published in Proceedings of Associated Schools of Construction 54th Annual International Conference April 18-21, 2018, Minneapolis, Minnesota organized by University of Minnesota
- Siddiqi, K., and Mahdi, L.F., (2018) Barriers to the Net Zero Housing in the US, published in Proceedings of Associated Schools of Construction 54th Annual International Conference April 18-21, 2018, Minneapolis, Minnesota organized by University of Minnesota.
- Siddiqi, K., and Gunjan, G. (2018). Earthcraft Homes Costs more than Conventional Homes, published in Proceedings of Associated Schools of Construction 54th Annual International Conference April 18-21, 2018, Minneapolis, Minnesota organized by University of Minnesota.
- Siddiqi, K., Stockbridge, C., and Jollay, T. (2018). Best Practices for Attracting and Retaining Female Construction Project Managers, published in Proceedings of Associated Schools of Construction 54th Annual International Conference April 18-21, 2018, Minneapolis, Minnesota organized by University of Minnesota
- Meadati, P., and Akhnouk, A.K., (2018). Hololens – A New Teaching Tool in Construction Education. The Tenth International Conference on Construction in the 21st Century (CITC-10), July 2nd-4th, 2018, Colombo, Sri Lanka.
- Abaza, Hussein, and Charner Rodgers (2017) “Reducing Icy Conditions Over Bridges, Through Passive Means” The Journal of Engineering Technology, GSTF JET Vol.4 No.3, August, 2017
- Jacqueline F. Stephens, Andrew P. Payne, “Historical Restoration and Sustainability Savings,” 2017 World Energy Engineering Congress Convention Proceedings, AEE 40th World Conference – September 27-29, 2017 at Georgia World Congress Center in Atlanta, Georgia

Grant Proposals:

Faculty continued to write grant proposals and was successful in obtaining one grant.

Dates	Description	Sponsor	Amount (\$)	Major Investigator
January 2016-December 2019	2016 HELP Grant	National Housing Foundation	\$60,000	Charner Rodger

Service Activities

Faculty continued their service to the profession and community by involving in ACCE accreditation visit, serving as reviewers for journal and peer-reviewed conference papers, and serving as judges in various state wide competitions.

- ACCE accreditation visit (Khalid Siddiqi).
- Journal and Peer-reviewed conference papers (Khalid Siddiqi,,Pavan Meadati, Abaza Hussein, Parminder Juneja).
- Build Georgia Awards by AGC (Khalid Siddiqi).
- Associated Builders and Contractors (Khalid Siddiqi).
- Architecture, Construction and Engineering (ACE) Mentoring Program (Khalid Siddiqi).

Graduate Students Contribution

- Participated in social event skeet shoot with industry professionals
- Participated in CM department cookout events
- Participated in annual fund raiser event.
- Attended presentations given by practicing professionals.
- Participated in department sponsored field trips to construction projects.

Students Feedback

The most important skill sets to future graduates are Communication Skills, Computer based project management applications Skills, Building Information Modeling (BIM), Computer based estimating Skills, Computer based scheduling Skills, Financial Planning Skills, Leadership/Management Skills, and Risk Management Skills.

- “As an international student, everything else is fine but from industry perspective, Kennesaw needs to develop better career department for their growth. being a non-STEM course the risk transfers to the student how much effort can he put to get a job otherwise it almost impossible to find a job.”
- “dozens and dozens of opportunities to meet potential employers”

- “Only problem I could not be able to solve during my study is to find supporting employers. I don't really know how but there may be some support for international student to find those supporting employers”.
- “In one of our last semester class we had to use our laptops and work on virtual machine which affects on the efficiency of the class. I need this department needs more labs”.
- “it is recommended that assignments, tests & quiz should be given in more strict manner in order to evaluate students performance. Most of the tests & quiz are taken online out-of-class which leads to plagiarism.”
- “real world examples, use more.”

Action Plan:

- CM Department will check the feasibility of listing MSCM program as STEM program.
- CM Department will seek CIAB members help to look into internship opportunities for international students.
- Coordinate with IT team and improve the efficiency of the virtual labs.
- Encourage the students to involve in the research activities, competition teams and service activities.
- Faculty will be requested to include more real world examples in their courses.
- Faculty will be informed to stream line the administration of the tests and quizzes.
- Faculty will be informed to look into eliminate the plagiarism issues of online out-of-class tests and quizzes.
- Faculty will be encouraged to continue to engage in Research and Service activities.