

2015  
Construction Management Program  
Public Information, Outcomes Assessment and Continuing  
Quality Improvement Plan  
School of Planning Design and Construction  
Michigan State University

Tim Mrozowski A.I.A, LEED AP  
Professor and Program Leader  
Spring 2015

**MICHIGAN STATE**  
**U N I V E R S I T Y**

School of Planning, Design  
and Construction  
Construction Management Program

# Construction Management Program at Michigan State University

## Table of Contents

Introduction	3
What do our Graduates do?	3
Employment Rates	4
Curriculum	4
Construction Management Program Mission	4
Construction Management Program Objectives	5
Student Learning Outcomes (SLO)	5
Admission Requirements	6
Program Size and Class Size	7
Program Assessment Measures Employed	7
Quality Improvement Plan	8
2014-2015 Action Items from Fall 2014 Strategic Planning Meeting	9
Information Obtained Through Assessment Measures	12
Action Items Taken as a Result of Feedback	15
Student Achievement	17

# Construction Management Program at Michigan State University

## Introduction

The Construction Management program is one of four accredited programs in the School of Planning Design and Construction (SPDC). The four undergraduate degree programs include Construction Management, Urban Planning, Landscape Architecture and Interior Design.

The CM undergraduate major operates within the broader context of Michigan State University and the School of Planning Design and Construction which is jointly administered by the College of Agriculture and Natural Resources and the College of Social Science. The CM undergraduate program began in its earliest form in 1948 and is primarily focused on developing and educating students with sufficient knowledge of construction science and management to be successful in a variety of management careers within the building construction industry, including commercial and residential construction management, contracting and development firms.

## What do our graduates do?

Graduates seek employment in commercial and residential construction management, contracting, specialty contractors and development firms. Typically, recent graduates may start in an operations or field position such as a project or field engineer and then advance into project management. Other recent graduates may start in office positions such as a junior estimator or scheduler position. Many companies have planned approaches to move recent hires into a variety of experiences so that they become well rounded and understand overall processes. Some of the typical positions that graduates take on are listed below.

- Construction project management.
- Field operations side of construction.
- Cost side of construction.
- Scheduling.
- Project planning.
- Procurement.
- Project Management.
- Business side of construction companies.
- Company management.
- Land and project development.

Our overall target is that our graduates will go on to take leadership positions within their organizations. Many of our graduates have advanced to the upper leadership and ownership levels in their construction and development companies where they may build public sector projects such as university buildings, schools, hospitals, arenas and stadiums or private sector projects such offices, restaurants, apartments, subdivisions and single family homes.

## Employment Rates

MSU places a great emphasis in aligning students with employers and program data shows we are doing very well. Eleven of twelve December 2014 graduates had their full time positions long before graduation and 100% of graduates were employed in our field within one month of December graduation. Data from MSU Career Network Services shows the starting salaries of December 2014 graduates averaged over \$59,000. May 2014 and Summer Graduates are also 100% employed with starting salaries averaging \$49,000. We host an annual Career Fair and our October 2014 Fair had 58 construction companies exhibit who were interested in hiring both graduating seniors and summer interns. We also post job opportunities to our SPDC Career Opportunities page at our website and MSU Career Service Network posts them at **myspartancareer** which is a university searchable employment system. In 2014, 131 interviews for construction management positions were conducted on campus.

## Curriculum

The curriculum is 120 Semester credits and includes construction management and construction science courses, business and management, science, mathematics, communications, writing and general university courses. Students take courses in materials, structures, site construction, codes, finance, scheduling, Building Information Modeling, quantity surveying, construction contracts, cost analysis, safety, project management and also have a capstone class or experience. Detailed program and course requirements can be found at: <http://www.reg.msu.edu/AcademicPrograms/ProgramDetail.asp?Program=5257>.

## Construction Management Program Mission

*The mission of the Construction Management Program is to provide a construction education for its students, such that upon graduation students are knowledgeable and prepared to enter careers in construction management. The longer term objective is that, as they gain experience, the CM alumni will take on important leadership positions within construction management organizations.*

The construction industry, along with educators and educational associations such as ACCE, have established a defined body of knowledge and skills that are essential in meeting the mission above. It is the specific aim of the Construction Management major at MSU to provide the opportunity for students to gain sufficient mastery of this body of knowledge and skill set in order to be successful in a variety of management careers within the commercial and residential construction industries.

Many aspects of the undergraduate curriculum and overall educational experience contribute to meeting these objectives. Key components include course work, leadership in activities and organizations, work experiences, interactions with professional organizations, and interactions

with industry participants. It is the goal of the CM major to provide a high quality and well-rounded set of opportunities for all students.

## Construction Management Program Objectives

The CM Program strives for the following Program Outcomes:

- Provide a learning setting where students develop an understanding of the real world of construction management and its requisite content and skills.
- Provide appropriate course content building upon sound fundamentals which is accurate and up to date in construction science and management.
- Provide a learning setting where students can master the material and are encouraged to explore.
- Provide a learning setting where students can develop strong interpersonal, communication, and leadership skills.
- Provide a learning environment where students develop an understanding of the broader social, environmental, economic and business context in which the construction industry operates.

## Student Learning Outcomes (SLO)

In 2014, the CM Program Faculty adopted the latest American Council for Construction Education (ACCE) Student Learning Outcomes (SLO).

Upon graduation from the undergraduate program a graduate shall be able to:

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 plumbing systems

Assessment of student achievement of the Student Learning Outcomes is measured through direct assessment in key classes utilizing assignments and tests with quantified performance achievement targets. Additionally, in 2014 the faculty decided and submitted for approval (effective Fall 2015) to require all graduating seniors to take the American Institute of Constructors, Associate Constructor Certification (Level 1) exam. For more information on this exam see: [http://www.professionalconstructor.org/?page=AC\\_Certification](http://www.professionalconstructor.org/?page=AC_Certification).

Indirect assessment measures include monitoring employment rates, student exit surveys, review by the Construction Management Alumni & Industry Advisory Board, as well as, feedback from employers after graduation and from summer internships.

## Admissions Requirements

At Michigan State University, students are officially admitted to a major upon reaching 56 semester credits (Junior status). All students with fewer than 56 credits may declare Construction Management as their “major preference” without being subjected to any admission screening. Enrollment as a Junior in the Construction Management major is managed. To be considered for admission to the major, the student must have:

- a. Completed at least 56 credits.
- b. Completed the following courses with a minimum grade of 2.0:
  - I. MTH 124 Survey of Calculus with Applications I.
  - II. PHY 231 Introductory Physics I.
  - III. c. EC 201 Introduction to Microeconomics or EC 202 Introduction to Macroeconomics.
  - IV. STT 200 or STT 201 or STT 315 or STT 421.

A cumulative GPA of 2.3/4.0 is used as a minimum for admission decisions but the CM Program has a managed admission process as follows:

Students who have a CM GPA of at least 3.0 in the 100 and 200 level CMP courses, who also have an overall MSU cumulative minimum GPA of 3.0 and at least a 2.0 in Physics, Calculus, Statistics and Economics are automatically admitted upon application. Cases where an applicant falls short in one or two criteria but are very close are reviewed by the CM faculty in

May for determination of admission. The CM faculty may elect to admit these special cases with regular admission or with “provisionally admit criteria.”

For Fall 2014, 35 students were admitted into the program as Juniors through this process. The average GPA for all admitted students based on CM 100 and 200 level courses (CMP 101, CMP 124, CMP 210, CMP 211, CMP 222 and CMP 230) was 3.34 on a 4.0 Scale and 2.95 MSU Overall Cumulative GPA, again on a 4.0 scale.

## Program Size and Class Size

Students are officially admitted at the Junior level but may be coded as Construction Management students at the 100 and 200 level. In Fall we had 129 students with approximately 35 at the Junior and Senior levels.

Typical class size in 2014-2015 for Senior level classes averaged around 20 students per section. Lab sections in the 300 level courses are had around 20 students. Common lectures for multi-section courses at the 300 and 400 level courses typically had 33-39 students and 50-60 students in the 200 level lecture style courses. Our largest course, CMP 101 had 116 students in Fall 2014.

## Program Assessment Measures Employed

The following data collection instruments are used in assessing achievement of Program Outcomes:

- Statistical reports where appropriate from the following:
  - SIRS forms.
  - SOCT forms.
  - AIC CPC level 1 exam results.
  - CMAIAA Board report.
- Statistical or qualitative reports as appropriate for the following:
  - Graduating Senior Destination Survey employment placement information.
  - CM Program Graduating Senior Exit Survey.
- Qualitative summaries of:
  - Summary report by SPDC Director and Associate Director of informal contacts with students or open forums.
  - Informal feedback from employers, recruiters and interviewers.
- Internal reports including:
  - Assessment of ACCE topical curriculum content compliance prepared by CM faculty.
  - Competency Course Matrix prepared by CM faculty.
- External reports including:
  - ACCE reports.

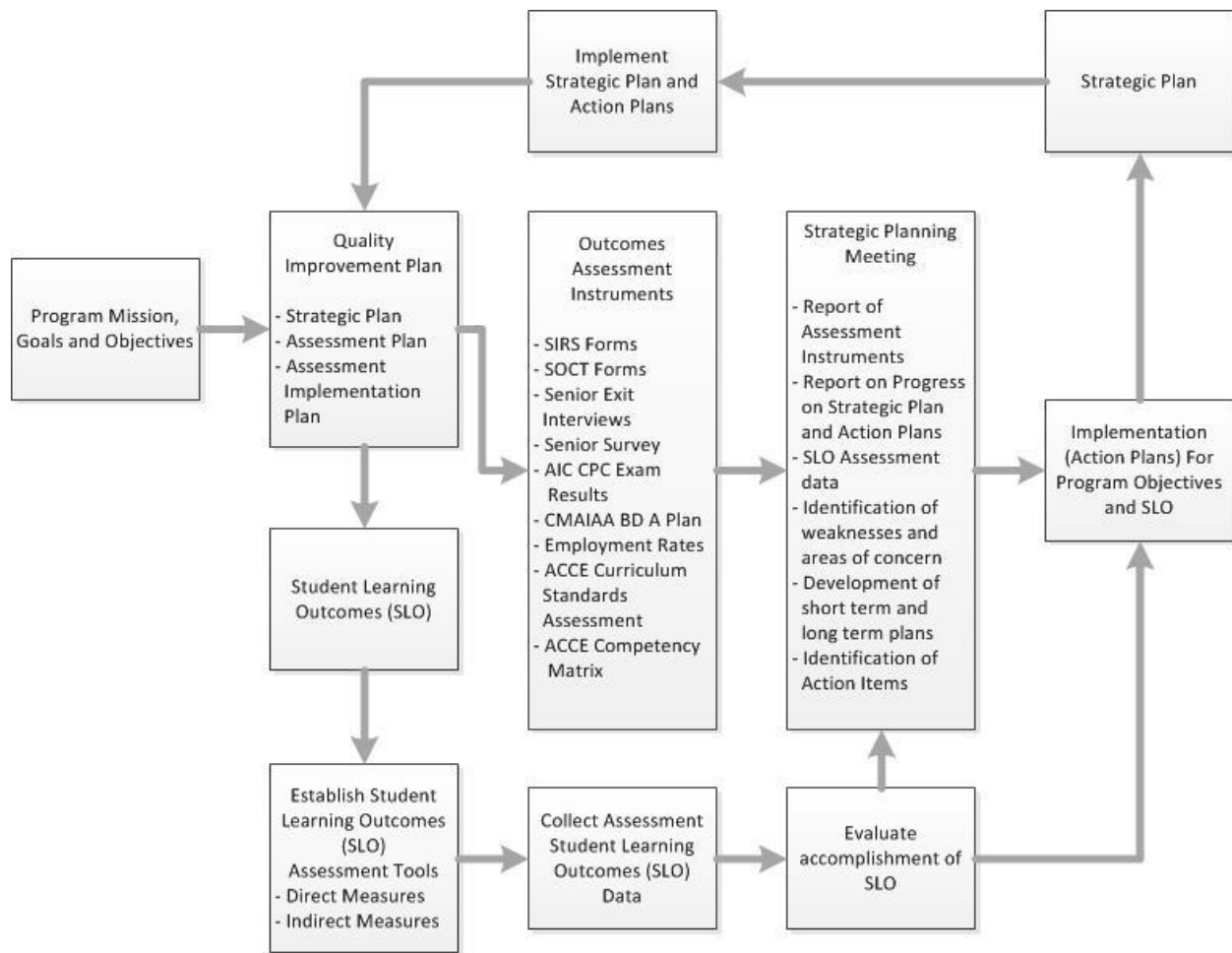
## The Quality Improvement Plan

The Construction Management Program at Michigan State University has an ongoing Outcome Assessment and Continuing Quality and Improvement Process. Elements of the plan include our program mission and desired program outcomes, student learning outcomes, defining achievement targets, collecting data, presenting and evaluating this data against targets, and creating and implementing Action Plans and monitoring progress toward these plans. This process ensures that data is collected to establish that we are meeting our objectives and that we consider that data in undertaking changes in the program to improve quality.

The Construction Management faculty conducts an annual Fall Strategic Planning meeting to develop a Strategic Plan to guide the program. We have an articulated planning process where we evaluate assessment results against our mission and program objectives. Annually, we create an Action Plan to help guide the activities of the program with the goal of continuous quality improvement. At the Fall Strategic Planning we evaluate our progress against any Action Items from the prior Action Items list

This year an important part of our plan is to fully adopt and implement the ACCE Outcomes Based Assessment process for Student Learning Outcomes (SLO). Consequently, we have revised our process map to reflect the processes for evaluating student achievement of SLO. The updated process map is shown below.





## 2014-2015 Action Items from the Fall 2014 Strategic Planning Meeting

Measureable Action Items coming out of the 2014 Strategic Planning meeting or through the monthly meetings are listed below. The CM faculty shall accomplish the Near Term Activities prior to start of classes Fall 2015 but shall make measurable and reportable progress on all activities. All activities toward action items shall be reported at the 2015 Fall Strategic Planning Meeting.

### Near Term (Prior to classes Fall 2015)

- Prepare ACCE Self Study for Reaccreditation (Per ACCE due date). Assessment method Yes/No.
- Adopt and Implement the ACCE Student Learning Outcomes Process
  - Finalize adoption of the ACCE Student Learning Outcomes (SLO) (To be completed by September 1, 2014.) Assessment method Yes/No.

- Develop a SLO Assessment Process  
(To be completed by September 1, 2014.) Assessment method Yes/No.
- Evaluate the curriculum and courses against the adopted SLO  
(To be completed by September 1, 2014.) Assessment method Yes/No.
- Assign SLO to specific courses for direct assessment of student achievement  
(To be completed September 1, 2014.) Assessment method Yes/No.
- Collect assessment data for five SLO as pilot  
(To be completed by May 15, 2015.) Assessment method Yes/No.
- Analyze achievement for the five pilot SLO  
(To be completed prior to September 1, 2015.) Assessment method Yes/No.
- Reevaluate assessment processes as necessary  
(To be completed by September 1, 2015. This will be in the 2015 August Faculty meeting. CMAIAA Curriculum Committee members along with faculty will assess and evaluate the pilot study of SLO assessments and recommend any necessary changes.
- Develop comprehensive schedule of SLO Assessment on a rotating schedule  
(To be completed by May 15, 2015.) Assessment method Yes/No.
- Develop and implement a senior student survey to evaluate overall program experience and satisfaction as an assessment tool. This survey should supplement the graduating senior exit open forum and the MSU Destination survey (To be completed by December 1, 2014.) Assessment method Yes/No.
- Accommodate probable faculty retirement. (Assessment: Successfully gain approval to replace any retiring faculty and conduct successful faculty search, prior to Fall 2015 classes.) Assessment method Yes/No.
- Monitor course and instructor quality (Assessment: data includes Fall semester and Spring Semester class SIRS forms. Collect data during 2014-2015 academic year, Evaluate at Fall 2015 Strategic Planning Meeting. Strive for all evaluations above 2.0 overall average.)
- Obtain full access to lab facility (Assessment: gain full CM Program control of construction materials laboratory. To be completed during 2014-2015 academic year) Dr. Witter and Professor Mrozowski are tasked with implementing this.

### **Intermediate Near Term (0-3 years)**

- Increase enrollment to 60 students per year at the 300 level and 400 level courses (Assessment: Monitor enrollments yearly in all courses but in particular in the 300 level and 400 level courses. Monitor yearly with target to be completed no later than Fall 2018.)
- Increase donor contributions to CM via the MSU Capital Campaign to increase endowments (Assessment: gain approvals from university and College Development offices to set fund raising goals, target uses and identify donors. To be completed by May 15 2016.)
- Increase engagement opportunities for students both inside and outside the classroom through enrichment activities through student organizations and research activities and by expanding classroom experiences through assignments and activities. We have made progress on engaging students in some of our research projects and expanding outside classroom experience. (Assessment: engage active participation in at least 50% of CM students within the major in enrichment activities).
- Development comprehensive plan to increase writing and oral communication experiences throughout the curriculum in support of SLO 1 (Written Communications) and SLO 2 (Oral Communications) (Assessment: Have some written or oral experiences in at least 75% of all CM major classes by May 2016.)
- Enhance the residential aspects of our curriculum in support of this rebounding market. Assessment: catalog residential content and repackage as necessary to have defined perceivable content, emphasis and industry support for students interested in the residential sector. To be completed by May 2016.)

### **Longer Term (0-5 years)**

- Enhance the building science components of our program. Assessment: There are considerable opportunities for student work in this area. Catalog current course content, resources and outreach and research opportunities. Develop a focused plan for formalizing this content in one course or have formal modules in several courses). Once the plan is developed for proposed program changes they should be processed through the university approval process. Target date is August 2017.
- Repackage and reconfigure the “sustainability” content of the curriculum, consider a required class or specific modules to be included and distributed among the classes. Assessment: There are considerable opportunities for student work in this area. Catalog current course content, resources and outreach and research opportunities. Develop a focused plan for formalizing this content in one course or have formal module in several

courses. Once the plan is developed, program changes should be processed through the university approval process. Target date is August, 2017.

- Seek donor contributions to CM to support a new endowed faculty position in construction management via the MSU Capital Campaign. A successful effort would be to achieve this in three years.)
- Seek donor contributions to CM in support of a building addition or new building via the MSU Capital Campaign (Assessment: gain approvals from university and College Development offices to set fund raising goals, target uses and identify donors. To be completed by May 15, 2016. Dr. Witter and Senior Faculty are tasked with creating this plan.

## Information Obtained Through Assessment Measures

The following assessment data was collected from 2013-August 2014.

### **Student Instructional Rating System (SIRS) courses**

Professor Mrozowski presented summary tables for SIRS forms for Spring 2014, Fall 2013, Spring 2013, Fall 2012. Overall, the CM courses continue to be rated well above average by students for Instructor Involvement and Student Instructor Interaction. Courses that were rated above average but fell between “average and above average” included CMP 222 and CMP 311 and CMP 322 and CMP 328 Fall 2013. **We should continue to monitor these courses.**

### **Student Opinion of Courses and Teaching (SOCT) form available on web**

Professor Mrozowski shared the most recent SOCT form responses for all CM courses. Consistent with the SIRS forms the CM classes are consistently rated above average. CMP 322, 328, 453 and PDC 491 had more neutral responses than other course generally in the “course demands” or “course organization” items. **We should continue to monitor these courses.**

### **Summary report by Associate Director of open student forums conducted at end of each semester 2013).**

Dr. Crawford, SPDC Associate Director, conducted the senior exit open forum in May 2014 and reported.

*“Overall, the students are optimistic about their entry level employment opportunities. Hands-on-learning experiences and construction site visits were highlights of their CMP experience. Students recommend more of both be integrated into the core courses and extra-curricular activities. The core course sequence is perceived as positive and could be improved by continuity of projects between classes (connecting subject areas) to*

*enhance their depth of knowledge. Students spoke about a lack of community between the faculty and students and shared concerns about classroom experiences that have been described in the learning literature as a “chilly classroom.” They recommended community building activities to help the faculty and students learn how to talk with each other and that faculty incorporate a range of techniques that allow students to ask questions and provide feedback on instruction. The student club is considered a missed opportunity and should be refocused to enhance their University experience.*

*Within the curriculum, students felt:*

- *Need more residential construction opportunities.*
- *Undergraduate research opportunities are important and should be expanded.*
- *Incorporation of future trends in software and construction techniques in course topics is important for early career development.*
- *Hands-on-learning experience are valued and the time spent on theory isn’t valued or connected with how to apply to projects or real world situations.*
- *Estimating and scheduling should be integrated together to increase depth of working knowledge.*

*Students felt scheduling of required classes is easily achieved through Degree Navigator and helps to minimize missing required courses for graduation. They would like to have known more, sooner, from the advisors about minors/specializations available at MSU and options for their elective courses.”*

The graduating senior open forum was not well attended and only had a few students, therefore it is not known how reflective it is of student views. Consequently, the faculty decided that we should develop and administer a written program survey to graduating seniors in the CMP 423 course. The survey should be developed with focused questions about the program and educational experiences and piloted in Fall 2014, and is an action item for Fall 2014. We will continue to hold the open forums but also administer the written survey. Additionally, student leaders are now invited to attend CM faculty monthly meetings once per semester to gain input and feedback.

### **Graduating Senior Destination Survey**

The MSU 2013 Destination Survey results were distributed. Specific CM data for Spring and Summer 2014 was not yet available from the College at the time of the CM meeting. The MSU wide survey showed that within the college of Agriculture and Natural Resources (CANR) that Construction/engineering was among the top industries for employment by CANR graduates. Employment in construction for Spring and Summer graduates is believed to be near 100%. Professor Mrozowski will contact Jill Cords from MSU Career Network Services to try to get more specific CM data.

## **Student Performance on the AIC CPC Level I Exam**

AIC Exam results from Spring 2014 showed 49.4% of test takers passed the exam nationally. MSU CM had 5 students take the test and two of five passed. Fall 2013 only two students took the test and both passed. This puts our total pass rate at four of seven or 57% which is slightly above the national average, for the 2013-2014 academic year. For Spring 2015 we had five students take the exam and 100% passed.

MSU AIC Level 1 exam data from Fall 2010-Spring 2015 shows that during that period 39 students took the test and 28 students passed for an overall passing rate of 72% which is above the national average. Graduate students use the test more frequently than undergraduates because it can satisfy the Plan B exam requirement. Of 26 CM grad students taking the test since Fall 2010 85% have passed and no grad students have failed the test since it has been allowed as a means to meet the Plan B end of program exam. Of the 13 undergraduates who have taken the test 5 have passed. This data shows that when students are motivated to do well as in the case of the grad students they can do very well. We will be adding the CPC Level I exam as a requirement for CMP 423 starting in Fall 2015 and will need to emphasize performance of those students since it will become an important assessment tool in evaluating achievement of SLO.

## **Preliminary results from the CM Alumni and Industry Advisory Association**

The CMAIAA had 23 completed surveys for a 10% response rate. 48% of respondents were general contractors and 63% said they were senior management. Some of the respondents recruit at MSU as well as other schools. Generally, respondents who recruit from MSU said that the quality of students was increasing. There were a number of open ended questions that provide insight into the importance of new trends including BIM, LEAN and technology. They also ranked communication skills, presentation skills and technology as important skills for graduates to have. We should consider the curriculum emphasis suggestions as we move forward with the SLO process.

## **Alumni/Industry Board Summary report (CMAIA Bd Strategic Plan)**

The CMAIAA Strategic Planning Committee updated its strategic plan and presented its report at the April 17, 2014 CMAIAA Board meeting.

A summary of recommended Action Items:

- Expand and tailor branding for promotion of program.
- Expand promotion of programs (study abroad, internships).
- Work to acquire permanent dedicated lab facilities.
- Maintain depth of instructional faculty as new faculty are hired to replace faculty who retire.

- Improve appearance of facility to present an exciting image for programs.
- Maintain and expand connections with industry.
- Increase the number of high quality graduates for industry.

Toward this end Professor Mrozowski and the CMAIAA Board have started to have a monthly phone meeting to discuss these action items and keep them in the forefront.

### **Career Fair 2013 Report**

Robin Rennie had prepared a summary report of the 2013 Career Fair. The report showed that we had 50 companies exhibit and it was attended by 137 students. There were 24 company survey respondents. 70% had exhibited at the career fair previously. All respondents rated the Career Fair highly with scores for all metrics rating between 4-5 on a five point scale. There were some individual practical comments on parking, timing and schedule for the event. All employers would like to see more students. Residential companies want to see more students interested in residential. Some companies want students to be aware of sectors beyond commercial and residential.

### **Assessment of ACCE Topical Curriculum Content Compliance**

Dr. Welch and Professor Mrozowski reviewed the curriculum against the numerical ACCE requirements and the topical contents in Spring 2013 and 2014. No problems were found.

### **Actions Taken as a Result of the Feedback**

Since its August 24, 2015 Strategic Planning meeting the CM program has completed the following fifteen specific actions from its Action Plan or in support of it, in order to improve the way assess and collect data.

- We have completed the following Student Learning Outcomes (SLO) action items:
  - Finalized adoption of the ACCE Student Learning Outcomes (SLO).
  - Developed an SLO Assessment Process. Professor Mrozowski has created a pilot process which includes achievement targets for five SLO #1, #12, #17, #13 and #6. He has collected data on #12, #17 and #13. #6 will be assessed on the final exam. A jury from the CMAIAA consisting of industry professionals is assessing student writing for SLO #1.
  - Evaluated the curriculum and courses against the adopted SLO.
  - Assigned SLO to specific courses for direct assessment of student achievement.

- Developed a target schedule of SLO Assessment on a rotating schedule.
- We modified our overall Continuing Quality Improvement and Outcomes Assessment Process to include evaluation of SLO.
- We developed and implemented a senior student survey for evaluating overall program experience and satisfaction. This survey supplements the graduating senior exit open forum and the MSU Destination Survey. Results will be added into the Fall 2015 Strategic planning meeting. It was developed Fall 2014 and first administered in Fall 2014.
- Accommodate probable faculty retirement. Professor Streng is retiring effective May 16, 2015 and Dr. Abdelhamid will now serve 100% in Auxiliary enterprises. His tenure home will remain in SPDC. He will continue to teach CMP 831 and advise graduate students. SPDC sought approval to refill those positions and they have been approved and we currently have two faculty searches ongoing.
- We continue to collect SIRS information for all courses and they will be evaluated in the Fall 2015 Strategic Planning meeting.
- The university has assigned a 3,100 sf space for a dedicated CM Construction Lab in support of our classes. This course will support CMP 124, CMP 210, CMP 322, CMP 305 as well as building science related research. We have also worked on a concept course outline for a Hands-on type class for students.
- In order to move to increase enrollment to our targets of 60 at the Junior and Senior levels, several CM faculty presented as guest speakers to the CMP 101 course on careers in construction management and the program. The Program Leader now meets with all prospective students and parents if they visit the program. Additionally, we have strengthened our ties with NAWIC and took students to the Fall statewide NAWIC meeting and we have a group of professionals who have agreed to be contacted or job shadowed by prospective students. Lastly, we are working with the SPDC Communications Director to improve our website presence and marketing materials during Summer 2015.
- We have increased our engagement opportunities for students both inside and outside the classroom. Undergraduate students are employed to work on our Belle Isle Energy Assessment Project and our Department of Labor Safety Grant. All faculty were asked to increase engagement types of activities in classes and many have done so. Examples are that development of a safety plan was added to CMP 401 Safety, a team project was added to CMP 101, labs sessions were added to CMP 322, and CMP 322 added a structural design contest. Several courses added writing assignments.



- In support of SLO #1 we have expanded our writing assignments, with several courses adding in business letter assignments. As discussed above the CMAIAA along with the SPDC Communications Center staff will help to juror and evaluate a new writing assignment for the CMP 385 class.
- In support of enhancing the residential aspects of our curriculum Dr. Sinem Korkmaz organized a field trip for 40 students to several residential sites. Dr. Korkmaz and Dr. Syal's received an NAHB Help Grant and have developed a Green/Residential class. Dr. Mazor, a Scientist from the Dow Chemical company, is jointly teaching that class Spring 2015 with Professor Metoyer. We also dedicated our Fall 2015 Industry Speaker series to residential development, with speakers from Mayberry Homes. We also saw an uptick in interest from residential companies who attended our Fall 2014 Career Fair and who have contacted the program about graduating seniors and interns who are looking for employment in residential.
- In support of enhancing the building science components of our program. We have employed seven students to conduct our energy audits at Belle Isle and develop computer simulations. These projects are student driven and are supported by our MI DNR Sustainable Parks project.
- We presented the focused fundraising idea at our CMAIAA April, 2015 Board meeting and received positive feedback on willingness to work on defining and supporting this effort.

## Student achievement

Student achievement currently is measured by monitoring class grades, honor roll and employment rates. Data for Fall Semester 2014 show that 22.5% of students overall were on the honor roll with 55% of Seniors, 10.3% of Juniors and 17% of Sophomores and 17% of Freshman on the honor roll. For Spring 2014 the overall rate was 26% on the honor roll with 49% of Seniors, 21.5% of Juniors, 18% Sophomores and 21.5 of Freshman on the honor roll.

Starting Fall 2014 the faculty adopted and are implementing the twenty ACCE Student Learning Outcomes. Data for five SLO including SLO #1, #12, #17, #13 and #6 is being collected Spring Semester as a Pilot study. Data has been collected on SLO #12, #17 and #13. SLO #6 will be assessed on the final exam. A jury from the CMAIAA consisting of industry professionals is assessing student writing for SLO #1 from writing samples being collected during the Spring Semester 2015 CMP 385 Class.

Assessment data collection and analysis procedures used for these five measures will be evaluated in the Fall 2014 Strategic Planning meeting and revised as necessary. All courses will implement the revised procedures starting Fall 2015.

Also starting Fall 2015 all graduating Seniors will be required to take the AIC Level 1 exam which will provide an additional third party assessment of achievement for some SLO.

Employment rate which is an indirect measure of whether we are meeting our program objectives has been excellent with many students receiving multiple offers and with both the MSU Destination Survey and our internal Senior Survey showing near 100% employment at graduation or within one to two months from graduation.