Section
4

# Assessment Report for the Construction Management Program

## Executive Summary

The annual assessment report provides the opportunity to review the state of the construction management program at Roger Williams University. This annual report covers the academic year beginning in August 2013 and ending in July 2014 (AY 2013-2014). Its focus is on the academic assessment through the year. Based on a review of the course reports as well as surveys and discussion with students and recent graduates, it is evident that the state of the program is strong.

The program faculty met on May 9, 2014 to review the AY 2013-2014 academic year and to discuss changes for next year. At this meeting we reviewed all published program outcomes and the metrics we are using to measure each. Reports were also made on our internship program, the CM Club, Sigma Lambda Chi (SLC) Student Association, RWU US Green Building Council (USGBC) Student Group, Capstone project, Senior exit surveys, Alumni Survey and the Associate Constructor (AC) exam. The meeting agenda, and the reports made are attached to this assessment report.

Overall this was a strong year for the Construction Management program. Some of the hi-lights of the year are as follows:

- Our fourth annual Alumni and Senior Banquet was held in May 2014. At this event our Capstone Project winners were announced and our graduating senior class (photo below) were introduced to our program alumni.

- Professor Gould stepped down after fourteen years as CM Program Coordinator. Dr. Celik will replace Professor Gould beginning with the AY 2014-2015 academic year.

- The student population dropped with the fall 2013 enrollment at 105 students less than the fall 2012 enrollment of 106.

- Our CM Design-Build (DB) team won 1st Place in the Design Build Institute of America (DBIA) Northeast Region Student Competition. This is the first time Roger Williams University competed in this competition. As regional victors, our DB team will compete in the 2nd part of the competition in September.

- The CM Professional Advisory Board (CMPAB) awarded its fourth endowed scholarship to Bianca Capiello.

# 1. Introduction

The Construction Management program was reaccredited by the ACCE in spring 2005.The First Year Interim Report was submitted in AY 2005-2006 and the Third Year Interim Report was submitted in AY 2007-2008. One published ACCE concern was outcomes assessment. In October 2006 the SECCM published a comprehensive Assessment Plan that detailed the assessment process for the school and each program. The Construction Management program has submitted annual assessment reports in compliance with this plan for AY 2005-2006, AY 2006-2007, AY 2007-2008, AY 2008-2009, 2009-2010, 2010-2011, 2011-2012, and 2012-2013. This report will address the 2013-2014 academic year.

Each year the program faculty reviews the instruments used to gather assessment data making the necessary adjustments to streamline the effort and to attain better information. Next, program faculty members use these data to measure our success in meeting our defined objectives and outcomes as they have been described in the SECCM Assessment Plan. Successes, failures and metric adjustments are discussed on an annual basis. Programmatic adjustments made in previous years are also assessed on an annual basis as well as changes that are implemented for the following year.

The generation of formal reports (written for the first time in AY 2006-2007) for the Internship program, Construction Management Student Club, the Associate Constructor exam, Capstone Project, Sigma Lambda Chi and the USGBC was continued this year. Over the last year two years, CM Alumni were surveyed at our Senior Alumni Banquet. This led to good number of responses, but not a broad, representative cross-section of alumni. Beginning last year, we decided to focus on a specific year group – graduates four years out from graduation. We targeted 2008 graduates last year, and continued with 2009 graduates this year.

These reports, along with inputs from course transcripts, exit surveys, alumni surveys, capstone juror reports, student competition performance, course binders and advisory board communications were used to perform this annual assessment. The program faculty met on May 9, 2014 to discuss the above reports and to conduct this annual assessment. The agenda for this assessment meeting is included at Tab D. At this meeting program performance for AY 2013-2014 was assessed and adjustments in outcomes and metrics were made for coming year. Faculty also discussed ways to strengthen the Construction Management Student Club, the Internship and Externship programs, CM Capstone Project, and the Associate Constructor exam. The CM program's web site was also discussed as a special topic. All of the above topics are addressed further within the body of this report.

## 2. Analysis of Evaluation Instrument Data

**Present**

This assessment report considered both formal and informally gathered data. The formally gathered input information included transcript review, CM Senior Exit Survey Summary (Tab E), CM Senior Exit Survey Data (Tab F), CM Senior Capstone Jury Report (Tab G), Associate Constructor Level I Examination Report (Tab H), CM Student Club Report (Tab I), and the SLC-USGBC-Internship Report (Tab J). Informal data included informal conversations between faculty and faculty, faculty and students and between faculty and industry. The Associated Schools of Construction student competition serves as an excellent assessment input – our student's work is formally assessed and scored by industry professionals.

Senior exit surveys were performed both objectively and subjectively. For the sixth time, the CM professional advisory board through the academic subcommittee coordinated our senior exit surveys. Two program alumni formed the panel which met with all but graduating seniors. Seniors also filled out an objective survey. The report from the alumni panel and the written survey results are included at Tab E and Tab F.

For the fourth time, as recommended for the first time in our AY 2009-2010 assessment process, this year's two capstone projects were held in a competition format and with each focusing on a different project type. The projects were corporate sponsored and a SECCM alumni team coordinated each project. The capstone project winners were announced at our 4th annual CM Alumni and Senior Banquet. Tab G provides additional detail on the Capstone Project.

Program faculty also gather input from professional associations such as AGC, ASC, CSI, ACCE and ASCE. At these meetings faculty stay abreast of changes in accreditation standards and construction education "best practices" as regularly reported at these venues. Both permanent and intern employers provided feedback to the faculty on student performance. Formal internship reports are particularly valuable. Professional Advisory Board members also provide valuable support and feedback to the faculty. Starting last year, program faculty were invited to meet with the CMPAB prior to each CMPAB meeting. Tab K includes copies of our CMPAB meeting minutes.

Within each course assessment report students are provided the opportunity to evaluate their accomplishment of course objectives. This information is used by instructors to modify courses from semester to semester. Faculty provide formal course reports after each semester and a summary of each course is reviewed and discussed with other faculty from the program. This discussion facilitates adjustment in course coverage and adjustments in the overall program.

**Adjustments for Next Year**

As suggested last year, we did not interview program alumni at the Alumni Survey Banquet and instead contacted all 2009 alumni in advance of the banquet. Survey Monkey versus a paper survey was used. Unfortunately, alumni response was very weak, netting only 7 respondents. 2009 alumni were sought out both through "Linked In" as well as through the RWU Alumni database.

Our CMPAB Alumni Committee, RWU Alumni committee and faculty are all working to strengthen the CM alumni database in the hope that we can reach more graduates. We also plan to appoint class leaders who we will ask to help us reach out to graduates within their class and coordinate specific class activities like this survey. Additionally, our redesigned web site will be linked to a "Linked In" RWU CM Alumni group that should facilitate better alumni contact. All of the above are positive ideas, but to make this all work dedicated resources through either faculty release time or committed Alumni Office staff must be identified to coordinate this effort to create a strong, reliable CM alumni data base.

## 3. Program Assessment

The program educational objectives were first presented in that format for the 2007-2008 academic year. These objectives are shown in the table below.

**Table 4.3-1 RWU Construction Management Program Educational Objectives**

| Objectives – Three to Five Years After Graduation, We Expect Our Graduates To: |
|---|
| 1. Demonstrate exemplary technical knowledge and skills while achieving success as a practicing constructor and leader, and always displaying the highest standards of ethical conduct. |
| 2. Value the concept of life-long learning and continue to grow intellectually while keeping informed of new concepts and developments in the construction process. |
| 3. Advance the construction management profession by becoming actively involved in professional associations and societies, serving in professional and community volunteer positions, and acting as a role model for the future generation of constructors and the Roger Williams University Construction Management students. |

**Assessment of CM Program Educational Objectives**

An Alumni Survey was sent out to 2009 alumni prior to our Alumni and Senior Banquet. Only, seven surveys were completed, not a response rate that the faculty feels comfortable with for a statistically significant evaluation of our stated program objectives. As previously addressed an effort will be made to improve the alumni return rate for next year.

**1. Demonstrate exemplary technical knowledge and skills while achieving success as a practicing constructor and a leader, and always displaying the highest standards of ethical conduct.**

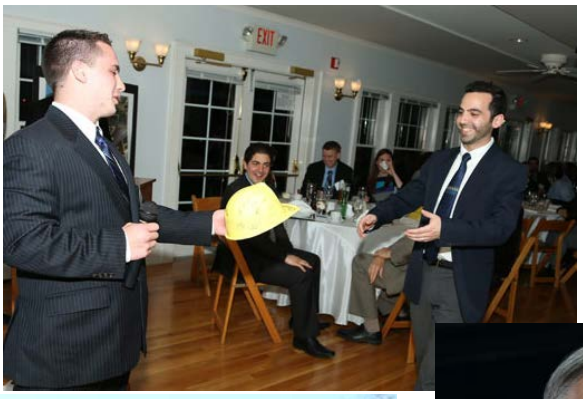
Judging from conversations faculty have had with employers and professional advisory board members our graduates have consistently excelled in the different in-house management training programs many of the larger construction companies' conduct. Also, quite a few of our graduates were promoted ahead of peers to advanced leadership positions. One company representative and CM Advisory Board member noted RWU retention as the highest of any school they hire from. We look forward to attaining better statistical survey results from our 2010 class next year.

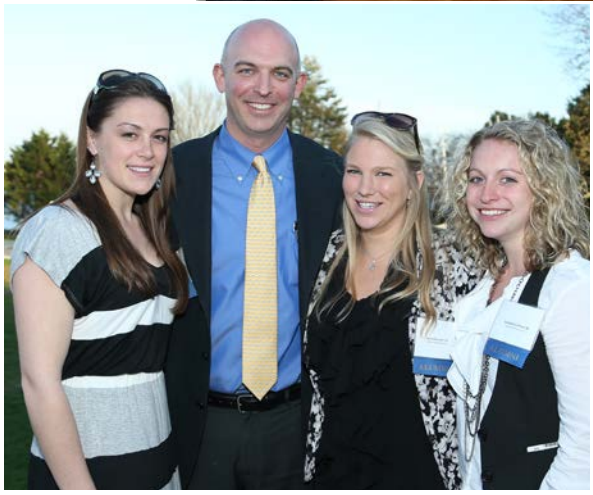
**2. Value the concept of life-long learning and continue to grow intellectually while keeping informed of new concepts and developments in the construction process.**

Conversations with graduates and employers display a strong commitment from our graduates to continuous learning. Graduate employers commented that our graduates display the ability to grasp new concepts and technologies well and also show a strong interest in teaching others. Non-targeted surveys received in previous years scored this objective at 3.78 out of 5.

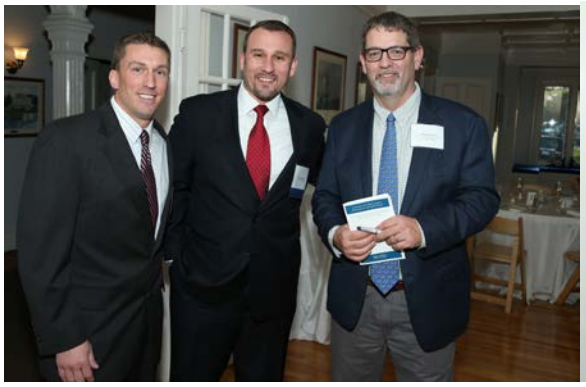
**3. Advance the construction management profession by becoming actively involved in professional associations and societies, serving in professional and community volunteer positions, and acting as a role model for the future generation of constructors and the Roger Williams University Construction Management students.**

Most of our graduates are members of professional associations. Alumni involvement on our CM Advisory Board and as members of our capstone review panel has grown. Four alumni joined the board as foundation members and other alumni participate as team mentors and guest speakers. The alumni subcommittee of our CM Advisory Board sponsored the fourth annual CM Alumni and Senior banquet on May 2nd.

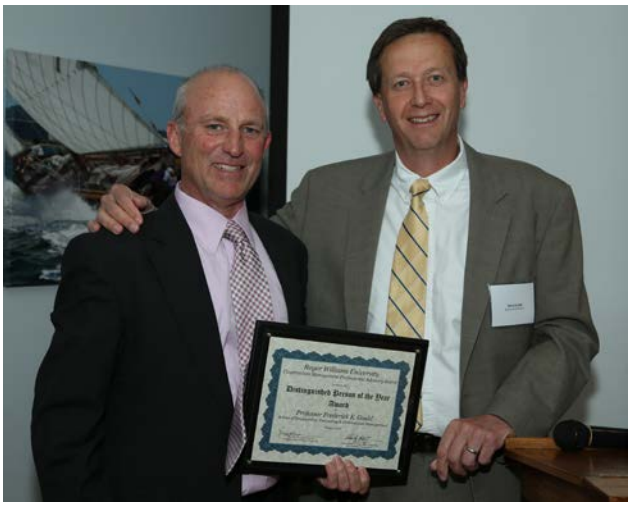


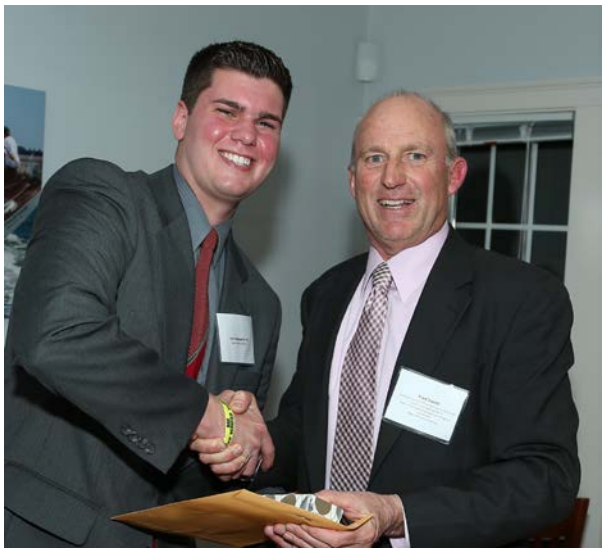



The event was organized by CM alumni and culminated a day filled with CM alumni program involvement. Alumni participated both as capstone project judges and volunteered to meet with all graduating seniors as part of the senior “exit survey” process.



Professor Frederick Gould received this year's Alumni Distinguished person award. Professor Gould will be returning to full-time faculty duties after having served for fourteen years as the CM Program Coordinator.





John Holsworth was recognized as the top Construction Management graduate.

Employers report that our graduates have demonstrated a willingness to become involved in community and professional organizations. Graduates have joined Habitat for Humanity, ACE Mentoring, United Way and Rebuilding MA to name a few. Our graduates have become active in AGC's young constructor program in MA, RI and CT. Graduates have also displayed a willingness to mentor others both outside and within their companies.

To better identify the interrelationship between the program educational objectives and the program outcomes, Table 4.3-2, is presented below.

**Table 4.3-2 Program Educational Objectives linked to Construction Management Program Outcomes**

☐ = Weak Relationship
☐ = Moderate Relationship
☐☐ = Strong Relationship

| a – i Outcomes | Technical knowledge, success as a practicing constructor and leader, display the highest standards of ethical conduct | Lifelong learning | Advance the construction management profession, service, role model, assist SECCM |
|---|---|---|---|
| a. an ability to apply knowledge of mathematics and science to typical Construction Management tasks | ☐ | ☐ | ☐ |
| b. effective research and problem solving skills applied to typical Construction Management tasks | ☐ | ☐ | ☐ |
| c. an ability to plan, organize and control a construction project | ☐ | ☐ | ☐ |
| d. an ability to lead and/or function as a member of a team | ☐ | ☐ | ☐ |
| e. an understanding of professional and ethical responsibility | ☐ | ☐ | ☐ |
| f. an ability to communicate effectively | ☐ | ☐ | ☐ |
| g. the broad education necessary to understand the impact of construction in a global, economic, environmental, and societal context | ☐ | ☐ | ☐ |
| h. a recognition of the need for, and an ability to engage in lifelong learning | ☐ | ☐ | ☐ |
| i. a knowledge of contemporary issues | ☐ | ☐ | ☐ |

Program graduates continue to stay involved with the construction management program as members of the advisory board, mentors to our competition teams, guest speakers and employers of our most recent graduates. All of these graduates speak highly of the education they received at Roger Williams University and, given the overall success they have had in their careers, it is evident that our graduates are attaining our program objectives.

Based on the anecdotal information collected from our graduates' employers as well as the feedback received from the graduates themselves, the program faculty members believe that the Program Educational Objectives are being satisfied. As alumni involvement grows the program continues to seek more and better ways to engage and learn about our program.

**Assessment of CM Program Outcomes**

In our assessment plan metrics were defined to assess each program outcome on an annual basis. The tables below outline each program outcome, defined metrics, and a summarization with comments as to whether or not the identified metric was met. The outcomes and metrics as defined in the table are what the faculty evaluated for the AY 2012-2013 academic year. However, as each

outcome was evaluated, program faculty examine the outcomes and metrics and made adjustments to better evaluate program performance. It should be noted that current plans call for a vote for the adoption of ACCE mandated outcomes at the July 2014 annual meeting. If ACCE outcomes are approved, our AY 2014-2015 outcomes will be adjusted accordingly.

| **Outcome a:<br>an ability to apply knowledge of mathematics and science to typical Construction Management tasks** | | | |
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| | | | |
| **Metrics Associated with Outcome a:** | **Where Measured** | **Met** | **Comments** |
| 1. CM student pass rate of the AC exam meets or exceeds the national average | AC Exam | No | |
| 2. All graduating seniors report that they have achieved proficiency in the ability to apply knowledge of mathematics and science to solve construction problems. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Course Student Survey<br>Student Exit Survey | Yes | |
| 4. Faculty report adequate application of mathematics in construction coursework. | Course Assessment Report | No | Faculty will work with Math department to address |
| 5. Alumni rate their preparation for the workplace proficient in the use of mathematics and science to solve construction management tasks. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Alumni Survey<br>Employer Survey | N/A | Poor Alumni Survey participation |

| Outcome b:<br>effective research and problem solving skills applied to typical Construction Management tasks | | | |
|---|---|---|---|
| | | | |
| **Metrics Associated with Outcome b:** | **Where Measured** | **Met** | **Comments** |
| 1. At least 50% of all CM courses will require research and problem solving skills. | Course Binders | Yes | |
| 2. At least 10% of all Construction Management seniors will participate in a competition where their ability to research and solve problems and will be externally judged and assessed. | Student Competitions | Yes | |
| 3. Graduating seniors report that they have achieved proficiency in the ability to solve construction problems. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Student Exit Survey | Yes | |
| 4. Alumni rate their preparation for the workplace proficient in the area of research and problem solving. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Alumni Survey<br>Employer Survey | N/A | Poor Alumni Survey participation |

| Outcome c:<br>an ability to plan, to organize and to control a construction project | | | |
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| | | | |
| **Metrics Associated with Outcome c:** | **Where Measured** | **Met** | **Comments** |
| 1. 100% of Construction students participate in a Capstone Project Class that involves a semester long industry sponsored project that demonstrates their ability to successfully plan, organize and control a project. | Capstone Project Juror Evaluations Transcript Review | Yes | |
| 2. Employment Interviewers rate applicants proficient for internship and permanent placement in the applicant's ability to plan, organize and control a construction project. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Employer Interview Survey | Yes | Rating system needs to be adjusted so that 5 means the highest level of proficiency has been achieved for all survey questions |
| 3. Employers rate proficient RWU Construction Management hires in their ability to plan, organize and control a construction project. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Employer Survey | Yes | |

| Outcome d:<br>an ability to lead and/or function as a member of a team | | | |
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| | | | |
| **Metrics Associated with Outcome d:** | **Where Measured** | **Met** | **Comments** |
| 1. 100% of students participate as a team member as they complete their Capstone project. Each team member brings different construction experiences to the project. | Transcripts<br>Capstone Project juror evaluations<br>Course Assessment Report | Yes | |
| 2. 100% of all Construction students will participate in the university CORE sequence and University Senior Integrative Experience. | Transcripts | Yes | |
| 3. At least 50% of construction courses will give students the opportunity to work on collaborative team projects. | Course Binders<br>Course Assessment Report | Yes | |
| 4. At least two student-led teams will participate in the Associated Schools of Construction Region 1 student competition | Student Competitions | Yes | |
| 5. At least 75% of work eligible construction management students will have held a construction related summer position, internship or co-op, or construction management work-study related position by the time of graduation | Senior Exit Survey | Yes | |

| Outcome e:<br>an understanding of professional and ethical responsibility | | | |
|---|---|---|---|
| | | | |
| **Metrics Associated with Outcome e:** | **Where Measured** | **Met** | **Comments** |
| 1. 75% of graduating seniors will sit for the AC exam. | AC Examination | No | 72%<br>Taking the exam was made a graduation requirement starting with our 2012 entering class. |
| 2. All students will develop and present a case that focuses on professional and ethical responsibility. | Course Binders | Yes | |
| 3. At least 25% of all construction management classes will address, and students will demonstrate an understanding of professional and ethical responsibility. | Course Binders<br>Course Student Surveys | Yes | |

| Outcome f:<br>an ability to communicate effectively | | | |
|---|---|---|---|
| | | | |
| **Metrics Associated with Outcome f** | **Where Measured** | **Met** | **Comments** |
| 1. At least 85% of all mentors and potential employers agree that graduating seniors possess the ability to communicate effectively. | Capstone Jury<br>Graduate employer survey | Yes | Though achieved all feel that there is room for improvement |
| 2. 100% of seniors will have the opportunity in construction classes to make an oral presentation at least twice a semester in their senior year. | Course Binders<br>Course Assessment Report | Yes | |
| 3. 100% of all freshmen will have the opportunity to make an oral presentation in a construction class at least 2 times per year. | Course Binders<br>Course Assessment Report | Yes | |
| 4. 100% of graduates will produce an acceptable senior capstone oral report as evaluated by external and internal review. | Capstone Jury | Yes | More work is needed to better assist our international students |
| 5. At least 90% of alumni report that their RWU education has prepared them proficiently in communication skills for the workplace. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Alumni Survey | N/A | Poor Alumni Survey participation |

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| **Outcome g:**<br>**the broad education necessary to understand the impact of construction in a global, economic, environmental, and societal context** | | | |
|---|---|---|---|
| | | | |
| **Metrics Associated with Outcome g** | **Where Measured** | **Met** | **Comments** |
| 1. 100% of construction students fulfill the Multidisciplinary Core Education component as well as the Core Concentration component of study to include the Core Senior Seminar. | Transcripts | Yes | |
| 2. At least 25% of construction courses address this outcome. | Course Assessment Report<br>Course Binders | Yes | |
| 3. At least 1 guest speaker per semester will address the above outcome. | CM Club Report | Yes | |
| 4. Graduating seniors rate themselves proficient with the broad education necessary to understand the impact of construction in a global, economic, environmental and societal context. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Senior Exit Survey | Yes | |

| Outcome h:<br>a recognition of the need for, and an ability to engage in lifelong learning | | | |
|---|---|---|---|
| | | | |
| **Metrics Associated with Outcome h** | **Where Measured** | **Met** | **Comments** |
| 1. 75% of graduating seniors will sit for the AC exam. | AC Exam Results | No | 72% |
| 2. At least 50% of CM students will be active members in the CM club. | CM Club Report | Yes | |
| 3. Alumni indicate participation in professional training, professional societies or a graduate school since graduating from RWU. Adequate participation is defined as a mean and median score of 4 or above on a 5 point scale where 5 means participation achieved and 1 means participation not achieved. | Alumni Survey | N/A | Poor Alumni Survey participation |
| 4. Graduating seniors rate their education as having increased their motivation to become lifelong learners. Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Senior Exit Survey | Yes | Exit Survey = 4.24 |

| Outcome i:<br>a knowledge of contemporary issues related to the construction industry | | | |
|---|---|---|---|
| | | | |
| **Metrics Associated with Outcome i** | **Where Measured** | **Met** | **Comments** |
| 1. All (100%) of construction students will be exposed to contemporary issues through the Multidisciplinary Core Education component as well as the Senior multidisciplinary Core course | Course Binders | Yes | |
| 2. At least 25% of construction courses will address this outcome. | Course Binders<br>Course Assessment Report | Yes | |
| 3. Graduating seniors will rate themselves proficient in knowledge of contemporary issues Proficiency is defined as a mean and median score of 4 or above on a 5 point scale where 5 means proficiency achieved and 1 means proficiency not achieved. | Construction Student Exit Survey | Yes | Exit survey = 4.13 |
| 4. All (100%) of construction students will be exposed to contemporary issues through the Senior Seminar class. | Course Binders | Yes | |
| 5. All (100%) of construction students will participate in the Feinstein Service Learning Requirement of at least 5 hours in the surrounding community. | Transcripts | Yes | |

## 4. Assessment of Previously Implemented Program Changes

The CM Masters program initiated during the 2007-2008 academic year deserves comment.

AY0708-1 Launched a Master of Science in Construction Management (MS in CM) program scheduled for the start with the fall 2009 semester. The program is designed to incorporate both on-line, classroom, and resident instruction. The program will be two years in length, 36 credits, with the students operating as a cohort. Unfortunately, current enrollment was not adequate to start the program in 2009. Due to tough economic times, corporate support did not materialized as planned, so starting in the fall 2010 the program temporarily moved away from the "corporate sponsored," cohort model. Entrance requirements were also changed allowing students to enter the program with less than 3 years of work experience. The program officially started with a fall 2010 class of 12 students. Enrollment for the fall 2011 did not generate a full class necessitating the combination of the entering CM students with the 2010 cohort CM students and graduate architecture and historical preservation Masters students. Fall 2012 enrollment continued at less than a full class. At the time of this writing the MS in CM program has been put on hiatus while the program is re-examined as to content and mode of delivery. Students currently in the program will be provided the courses and advising support necessary to complete the program.

Discussion of changes made last year follows:

AY 1213-1: Replace PHYS 201 with PHYS 109. The Physics department encouraged the change. MATH 207, Applied Calculus for Business and Social Sciences, does not stress the theoretical foundations of calculus required for PHYS 201. PHYS 201 is noted as a prerequisite for ENGR 210 a course taken by the CM students, but the program faculty have been notified that PHYS 109 will be an acceptable prerequisite. It is still early, but the CM faculty view this change positively.

AY 1213-2: Replace PLS 221 with either LS 220 or BUSN 305. Lately PLS 221 has been increasingly taught off campus, in the evenings, and on line making it difficult for the CM student to take. Both PLS 221 and BUSN 305 offer course content very similar to PLS 221 and were found acceptable to the CM faculty. Listing both LS 220 and BUSN 305 as acceptable options will provide the CM student with better schedule flexibility and choice. The faculty also view this change positively, but the change did lead to one unintended consequence, by taking BUSN 305 students were able to "double dip," counting BUSN 305 also as their business elective. This necessitated an additional curriculum change described later.

AY 1213-3: Replace PLS 436 with a CM Elective. Currently, the CM program does not offer any CM elective courses. The CM students, faculty and accreditation visiting team members have encouraged the program to create an elective course. Removing PLS 436 Construction Law and replacing it with two elective courses CNST 540 Sustainable Construction or CNST 555 Advanced Construction Law provides some choice. As program enrollment grows additional electives will be offered. This change affords the undergraduate students in the CM Program the opportunity to sample the graduate CM Program. To date the CM faculty view this change positively with several new courses being considered by the faculty. A protocol was developed by the faculty to approve CM electives. This protocol is discussed within the faculty minutes at Tab N.

# 5. Discussion of Recommended Program Changes

Three curriculum changes were made and approved this year.

AY 1314-1: Change is semester offered for CNST 130 to spring from fall.

AY 1314-2: Change in semester offered for CNST 116 to fall to spring.

AY 1314-13: Replace the required business elective in the major with business elective (pick one): MGMT 336, FNCE 301, ACCTG 304, MRKT 335, and ENGR 335. This change creates more structure to the CM student's business elective choice. Options are provided the student in each of the major business school sectors. Business courses selected are offered both semesters, are of reasonable rigor, and require prerequisite courses our CM student has taken.

As mentioned in Section 2 a number of formal reports were made this year which were reviewed and discussed be the faculty:

**Internship Program**

In the AY 2013-2014, faculty and administration as well as the RWU Career Center continued to encourage all students to get involved with internships specifically during the summer periods. Approximately 79% of all students in the CM program reported to have a paid employment experience during the summer of 2013. The percentage of summer employment within different academic levels is lower for seniors when compared to juniors and sophomores. Approximately 87% of all juniors and sophomores had paid summer employment compared to 61% employment of the seniors, during the summer of 2013. Some of these numbers are encouraging for the upcoming years as a high internship experience among under classmen helps program meet its goal of having a 100% of all students to have at least one internship experience prior to graduation. However, based on the exit survey results, CM program could not meet the 100% internship goal with the graduating class of 2014 unlike the previous years. Based on the survey responses from those students who do not have an internship experience prior to graduation, it is clear that the main challenge has been for international students. Lack of a working visa and a lack of interest from a majority of companies to sponsor an international student have had the major contribution to this issue. This year CM program had one of the highest number of international students within a senior class. While increasing the number of international students have been one of the long term goals of the program, it is critical to make sure that the CM program focuses on the needs of this increasing body of students and work with the career center as well as the advisory board to address their internship and employment needs. This will not only support a vibrant and diverse group of students within the program but also will help meet the 100% internship experience goal of the program in the future years.

In addition to surveying sophomores, juniors, and seniors, we have continued to survey the employers to get feedback about our students. Every fall semester, a survey is sent out to the most recent employers of our current senior class. Out of 14 seniors who had an internship in the summer of 2013, six of their employers have responded to the survey this year. Employers were asked to evaluate our students based on 20 different areas such as "responsibility", "CAD proficiency", and "technical knowledge". Among the 20 areas, our students scored highest in "relations with others", "estimating", "scheduling", and "excel proficiency". Some of the areas that can be further improved included "CAD proficiency", "judgment", "technical knowledge", "oral communication", and "written communication". Based on the performance evaluation of the students by the employers in each of the 20 areas, each student receives an average performance score. Internship average performance score of our seniors, as determined by their immediate supervisors this year has increased to 80% compared to the 78.8% AY 2012-2013. CM program will continue to evaluate the feedback from employers, as well as the students themselves to further improve the internship rates and seniors' performance scores in the upcoming years.

See Tab J for Internship Survey data.

**CM Student Club activity: CM Club, Sigma Lambda Chi and USGC Student Chapter**

The CM club ran a spring and fall lecture series, managed elections for next year's officers, and helped select next year's competition teams. Much time was spent establishing a process for the selection of competition teams. It is the CM program's philosophy that the CM club manages team selection, but as faculty we need to provide oversight. This is a delicate balance. The CM club rewrote the organization's Constitution that describes this process as well as the overall governance and operation of the club. The complete CM club report can be found at Tab I.

SLC was an active participant in the Community Partnership Center project. SLC also helped industry professionals mentor high school students as part of the ACE Mentor Program and assisted in historic renovation of some Bristol town properties. SLC won the Excellence in Service Projects to Major Field of Study. John Saunders, a long time Heavy Highway industry mentor, was recognized as an Honorary Chapter Member at the spring induction ceremony. Plans for next year include an effort to reconnect with past SLC members and work with the program to create a more complete and active alumni database. SLC will also select a member to sit on the editorial board of the new CM Blog on the upcoming CM website. See Tab J for the complete SLC report.

This year's USGBC group was very inactive as compared to past years. One accomplishment was the receipt of funding to send four students to the Green Building Expo to be held in Washington, DC. Every effort will be made to strengthen leadership for next year. See Tab J for a complete report.

**Capstone Project**

A complete report on the student Capstone Project experience can be found at Tab G.

Like last year, projects were run in a competition format; students were given a choice on project type; all projects were corporate sponsored and headed by alumni. Additionally, the competition winners were recognized at our fourth annual Student Alumni dinner at the Bristol Harbor Yacht club. Program alumni conducted senior exit surveys in parallel with capstone presentations.

Shawmut Design and Construction and Gilbane Building Company capstone project winners.

As was suggested last year, to provide more preparation time projects were introduced at the end of the fall semester. Other course requirements, for example research paper guidelines, were also announced allowing students to take advantage of the winter intercession period. This year's projects were also close in size and scope. Two changes proposed for next year include selecting projects that will accommodate a site visit. Both of this years' projects, since they were both close to complete, did not allow site visits. So larger alumni capstone panels will be formed to divide up the work

increasing feedback and providing more opportunities for alumni student interaction. Again, two projects will be used next year given the projected senior class size.

Access to Primavera software outside of class was a problem. Possible solutions are to allow students access to our labs evenings and weekends, allow the students to “check out” laptops, or provide access to the software via the cloud.

**Senior Exit Survey**

At Tabs E and F are the complete results of our both our objective survey and qualitative survey conducted by two members of our Construction Management Professional Advisory Board (CMPAB) Peter Holden and James Wrisley.

Noted strengths include the faculty, student camaraderie, team competitions, internships, class size and the support of the Career Center and most specifically Susan Caizzi.

Many ideas for improvement were mentioned. Students need better access to the software and facilities necessary to do their work. Students recognize the importance of internships and would like to see internships more formally integrated into the program. Students would like to see more choice when it comes to courses – more elective opportunities and courses to select from.

**Associate Constructor Exam and Review Course**

Sixteen of a total senior class of twenty-two took the AC exam with no one passing. This was shocking to the program faculty as the RWU pass rate has steadily climbed over the last 3 years with our school besting the national average the last two years. The full AC Exam report is included at Tab H. Faculty agreed to include sample AC exam questions provided in the study guide in pertinent classes. A preparatory class is also being considered.

**Other Topics**

Bill Thumm, Hensel Phelps Construction Company, continues as the chair of our CMPAB. This year the CMPAB presented a fourth scholarship, conducted mock interviews, participated in senior exit surveys, supported student internship and externships, organized the Alumni and Senior banquet and supported student guest lecture and laboratory activities. Our CMPAB endowed scholarship continues to grow and has been funded to a level where starting next year, two scholarships may be provided. Our four new foundation board members, added last year, has brought new energy and enthusiasm to our Advisory Board. Program enrollment continues as a major challenge and one the CMPAB plans to help the program overcome. Planned actions to meet this challenge include strengthening our alumni data base, improving our program web site and reaching out to targeted high schools. These actions will be taken with the support of Alumni, Admissions, and our CMPAB.