# Learning Outcomes Assessment for Building Construction Management

### **Building Construction Management Learning Outcomes**

- 1. The student is prepared to assume an entry level professional constructor's role as a member of a multidisciplinary team in the construction industry.
- 2. The student has the fundamental education that will lead to a leadership role in the construction industry.
- 3. The student has developed an ethical and professional foundation to become a responsible member of society and the construction industry.
- 4. The student has the fundamental skills in oral and written communication as required to effectively communicate in the construction industry.
- 5. The student possesses the fundamental knowledge and skills needed to manage the principal resources of the construction industry to include human, material, equipment, and financial resources
- 6. The student has a well-developed concept of mathematics and physical science.
- 7. The student possesses an understanding of the contributions made by design professionals to the construction processes, and can communicate and interact with design professionals within the multi-disciplinary construction team.
- 8. The student will understand the global nature of the construction industry.

#### Sources of Learning Outcomes

Advisory Committee	Faculty
Alumni	Outside Accrediting Body
Employers / Recruiters	Students

The data from the assessment program is evaluated by the department head in terms of our stated mission, goals, and objectives. Those suggestions that help eliminate a weakness or are opportunities that are within the range of our resources are charged to the committee or person that has the authority to address the particular change suggestion.

The results of these assessments drive change within our curriculum. The method of assessment, change, and implementation for the Department of Building Construction Management is a dynamic process that is based on the mission of the university, school, and department. The process affirms that the department is implementing the changes that are necessary for the students to receive a vigorous program of academic learning designed to produce motivated, well educated, responsible citizens with the management and technical skills requisite for leadership positions in the construction industry.

The dynamic process involves four interdependent stages:

- 1. Mission, Goals, and Learning Outcomes
- 2. Means of Implementation Curriculum Design
- 3. Results Performance Assessment
- 4. Analysis of Results Change Mechanism

#### **Additional Information**

The assessment program is grounded in the mission of the department. The department mission statement is developed from the university and school mission statement. Desired learning outcomes have evolved in several different ways. First, we pride ourselves on being one of the initial programs to become accredited by the American Council for Construction Education (ACCE) which has established a set of common core competencies for all construction education programs. Second, our program effectively utilized our

Construction Advisory Council members in generating outcomes that best support the employment capacity of our graduates. One of our desires is to produce undergraduate students with the ability to affect a company's productivity and bottom line immediately upon hire. Third, we continuously work closely with our Peer Institutions (Virginia Tech, University of Florida, Auburn University, Texas A & M, Arizona State, and Colorado State) in monitoring performance among our programs thus aligning to similar outcomes to maintain our competitive edge. Fourth, several of the BCM faculty have served in various roles within accrediting agencies (ABET, ACCE, UAE's MOHESR) and in conjunction with that service some outcomes have been identified or evolved.

### **Identified Stakeholders**

- Alumni
- Employers
- Faculty

### Mechanisms for Stakeholder Involvement

- Curriculum Committee
- Faculty Meeting
- Faculty Retreat
- Open Forum
- Senior Exit Surveys

- PEER Programs
- Students
- ACCE Accrediting Body
- Course Evaluations
- Benchmarking among Peer Institutions
- Construction Advisory Committee
- Required 800 hours of construction work experience

#### Stakeholder Involvement in Assessment of Learning Outcomes

- American Council for Construction Education (ACCE) which has established core competencies for all construction education programs. Our involvement and service activities with the ACCE have driven many changes throughout the past 25 plus years.
- The Construction Advisory Council members provide the department with desired student characteristics and capabilities to ensure that our students can contribute directly to a company's overall performance immediately upon employment.
- Peer Institutions (Virginia Tech, University of Florida, Auburn University, Texas A & M, Arizona State, and Colorado State) provide us with comparative situations and drive our changes through competition.
- BCM faculty have served in various roles within accrediting agencies (ABET, ACCE, UAE's MOHESR) and in conjunction with that service some outcomes have been identified or evolved. In addition, BCM faculty continues to work closely within the industry via research and consulting. These close ties allow for exchange of ideas and identification of current issues being faced by our industry partners. These challenges are identified as necessary skills for success among our students.
- Student feedback from their summer internships leads to revised curriculum and desired program outcomes based upon the identified potential weaknesses within our program.

#### Stakeholder Involvement for Learning Activities/Assessment Methods

Performance assessment is an ongoing process of collecting data from several different operational committees, boards, and surveys. Data is collected from the following sources.

*Course Assessment* – Each course has an assessment of the expected learning outcomes. Changes are made to individual courses when the assessment process indicates a need for improvement.

*ACCE Accreditation* – The American Council for Construction Education (ACCE) process is the formal process whereby programs receive accreditation. The process involves the preparation of a detailed self-study which is the source document for a structured visitation team, composed of faculty and industry representatives, to conduct an in-depth analysis of the program.

*Senior Exit Interviews and Survey* – All graduating seniors are required to complete an exit survey and interview conducted by the department head. The results of the survey and interview are distributed to the faculty and appropriate committees.

*Student Course and Instructor Evaluation* – Each course is evaluated by the students enrolled in the course. The evaluation and the results are distributed to the faculty member and department head.

*Placement Rate of Graduating Seniors* – It is expected that 100% of the graduating seniors will be placed in the construction profession within one month of graduation. This is one of the strongest measures of the success of the program.

*Construction Industry Advisory Council* – The department has an active advisory board that meets once each semester. The board includes executives from all segments of the construction industry. The board advises the department head and faculty on the effectiveness of the department's educational programs and strategic direction for the department. Suggestions for department improvement are recorded in the minutes of the meeting. Minutes from the meetings are forwarded to the appropriate committee for review and implementation.

*Student Chapters* – The department sanctions ten different nationally affiliated organization student chapters. The performance of student chapters of professional societies is another means to assessing the quality of education at Purdue University when compared to other universities. Chapters are encouraged to participate in national and regional competitions and meetings. Students receive feedback on the current state-of-the-art of the construction industry. Through the faculty advisory of the student organization information is forwarded to curriculum committee or any other relevant faculty committee.

Annual Review of Faculty Goals and Performance – During the annual review of faculty goals and performance with the department head many ideas are generated on possible improvements to the program. Each faculty member is expected to have a section in their annual report that discusses assessment activities of the courses that they are responsible.

*Benchmarking with Peer Institutions* – The department informally gathers information from peer institutions on the direction of construction education and how our programs are meeting the demand. This information is studied to determine the viability for change within the department.

#### **Stakeholder Involvement for Review Process**

The results of the information gathered is analyzed by the following stakeholders / committees and the department head for validity and recommendations for changes in student learning processes and the establishment of department goals and objectives. The department head serves as the focal point for gathering the performance assessment data results and distribution to the appropriate committee. After further analysis these committees initiate the recommended changes to improve the department. The operating structure for the department change mechanism includes the following:

• Curriculum Committee

- Primary Tenure and Promotion Committee
- Construction Advisory Committee
- BCM Faculty

The development of goals and objectives that improve the department is dependent on the analysis of the results of the performance assessment. The means of improving student learning is achieved by the changes in the curriculum and courses. With this process faculty and prospective employers are assured those students are acquiring knowledge, developing the ability to assess what they have learned, and applying their knowledge effectively. In addition, students will understand the ethical issues facing the construction industry and they will be prepared for a lifetime of continual learning.

#### Self -Reflection

The development of goals and objectives that improve the department is dependent on the analysis of the results of the performance assessment. The means of improving student learning is achieved by the changes in the curriculum and courses. With this process faculty and prospective employers are assured That all students are acquiring knowledge, developing the ability to assess what they have learned, and applying their knowledge effectively. In addition, students will understand the ethical issues facing the construction industry and they will be prepared for a lifetime of continual learning.

After evaluating data from our assessment program, we feel that generally we are meeting our goals and objectives. The following are specific strengths, weaknesses, and opportunities identified in the 2010-11 assessment cycle.

Strengths:

• The graduating seniors, Alumni, and Employers ranked the overall program with a 4.4 out of a possible 5.

- Faculty
- Placement program
- Facilities
- Team atmosphere and team projects
- Curriculum
- Experience of the faculty
- Computer applications
- Up-to- date information

- Construction clubs
- Full time counselors
- Relationship with construction industry
- Support staff
- Sequence of classes
- Work experience and internship
- Good in fundamentals
- New Distance Learning Masters' Program
- New Health Facilities Construction Management and Demolition Specialty Options

Weaknesses:

- Overlapping of project management and other course material
- Not enough marketing of the program to future minority students Opportunities:
- Opportunities:
- Recruitment of minority students.

Each year the objectives of the department can change due to the previous year's assessment process. The purpose of the assessment program is to implement change. All opportunities are established and agreed upon by the faculty each year to make the changes that are deemed necessary. The assessment process is the vehicle used for change within the Building Construction Management Department.

# **Details of Assessment on each Learning Outcome**

# <u>Learning Outcome #1:</u> The student is prepared to assume an entry level professional constructor's role as a member of a multi-disciplinary team in the construction industry.

#### **Performance Metrics to meet this Outcome**

Students are hired upon graduation into entry level positions. Students exhibit the ability to work together in team situations

#### Learning Activities that Support Development of the Outcome

The students participate in several group projects that facilitate the need for interaction and teamwork. The students are also exposed to this activity during their summer internships, service learning activities, and class projects as they work in teams.

Students are required to develop organizational charts and roles and responsibility matrices for both the project and company levels of construction operations. Assignments also include determining the proper project management team for various complexity levels of projects.

BCM Student teams are involved in regional and national student meetings and competitions. National / Regional Competitions are sponsored by industry associations. Each of these competitions requires effective team work and collaboration among the students to prove successful.

Faculty lectures focus on the need for collaboration within the construction industry. Students make group project presentations in several courses.

All Building Construction Management students are required to obtain a minimum of 800 hours of relevant work experiences in the construction industry prior to graduation. These internships expose students to various levels of responsibility and problem solving activities and reinforce the need for collaboration and cooperation among project team members.

#### Assessment Methods that track this Outcome

- **3 Year Post Graduation Survey:** The 3-year post graduation survey allows for the program graduate to reflect on the core competencies they possessed upon graduation and provide feedback with respect to how well prepared they perceived themselves then in comparison to what they realize after 3 years of experience.
- Advisory Committee: We receive continuous information from our advisory board members on the adequacy of our students and whether or not they possess employable skills upon graduation.
- **Employer Surveys:** Employers provide feedback through surveys on the core skills obtained by our students prior to their first job upon graduation.
- Exams / Tests: Exams include questions about collaboration and cooperation
- **Exit Interviews with Students:** All students participate in an exit interview with the department head and complete a comprehensive program evaluation. The survey includes reflection on course work, topical content, internship experiences, job placement activities, and faculty / staff effectiveness.

#### **Assessment Evidence & Findings**

BCM has had nearly 100% employment rate for graduates over the past 10 plus years. Most students receive multiple offers indicating that the skills obtained more than meet the minimal requirements for being hired into an entry level position.

We conduct internship performance reviews with each company immediately at the close of the internship. We receive feedback from employers through surveys at the career fair at least once per year. We receive feedback at our advisory council meeting each semester.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

Changes are made to curriculum and course content based on an overall assessment of the instruments used and the resulting comprehensive program data. As a department we do not follow a "knee-jerk" reaction to feedback received. We are fact based in our decisions to make any changes to the course content or curriculum structure. Based on the feedback from students and employers changes have made positive impacts on the overall effectiveness of all students.

# <u>Learning Outcome #2</u> The student has the fundamental education that will lead to obtaining a leadership role in the construction industry

#### **Performance Metrics to meet this Outcome**

Program graduates will obtain career advancement opportunities based on the merit of their performance. Graduates will progress from entry level management positions upon graduation to middle level management within 5-7 years; then to senior levels within 10-15 yrs.; and executive levels within 20 yrs.

#### Learning Activities that Support Development of the Outcome

Students complete self-evaluation of leadership profiles in entry level and upper level courses (Leadership vs. Management Profiles, DISC instruments, Personality Type Profile Instruments)

BCM has more than 10 active student organizations directly tied with the construction industry. Each of these student organizations require officers who take on leadership roles over the course of their campus experiences.

Instructors cover leadership in several courses throughout the curriculum. Much of these lectures focus on the difference between leadership and management characteristics/ actions.

Students are exposed to project and company leaders during their work experience. In addition, several of our students are given "leadership roles" during their internships concentrating on small projects, etc...

#### Assessment Methods that track this Outcome

- **3 Year Post Graduation Survey:** A three year survey is sent out to collect data on the specific areas of the curriculum supported their successful performance in the industry positions they have held to-date. Additional insight is gained because the 3 year post graduate knows more about what skills gained in their undergraduate curriculum actually played an important role in their overall success thus far.
- Advisory Committee: The Advisory Council meets twice a year and provides continuous feedback on the leadership characteristics of our graduates. Also, many of our advisory council members are alumni

of the program and currently hold senior level and executive level positions within their organizations. Their reflection on their own experiences and the experiences of the recent hires from our programs provide a good continuum of information.

- **Employer Internship Reports:** Each student reports on their internship activities which are verified with the employer. Leadership attributes are part of the inquiry.
- **Employer Surveys:** Employer surveys are obtained on a regular basis for interns and permanent hires. The employers report on how well various core competencies are obtained by our students based on the employers perception of applying those core skills on their jobs.
- **Exams / Tests:** Exams and tests will include questions that will measure the level of understanding management and leadership philosophies and their appropriate applications.
- **Exit Interview:** Various skill sets surrounding leadership attributes are collected both in written survey formats as well as through an open forum discussion with graduating seniors and the department head.

#### **Assessment Evidence & Findings**

Employers report that students possess fundamentals for future construction leadership. Employer surveys are obtained on a regular basis for interns and permanent hires. The employers report on how well various core competencies are obtained by our students based on the employers perception of applying those core skills on their jobs.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

Changes are made to curriculum and course content based on an overall assessment of the instruments used and the resulting comprehensive program data.

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? Based on the continuous feedback from students and employers, most changes have made positive impacts on the overall effectiveness of all students. Any changes that have not resulted in positive outcomes are reconsidered.

# <u>Learning Outcome #3:</u> The student has developed an ethical and professional foundation to become a responsible member of society and the construction industry

#### Performance Metrics to meet this Outcome

Graduates will be seen as professionals within the industry by their high levels of ethics and responsibility. This is based upon the perceptions of their supervisors, executives and industry peers.

#### Learning Activities that Support Development of the Outcome

Ethics and professionalism are discussed in each course. Often times the use of real-world cases studies are utilized as a basis for the discussion. Instructors also use actual student experience from internships to discuss ethical / unethical and professional / unprofessional practices that they were exposed to.

Class lectures involve "ethics across the curriculum". Based on the American Council for Construction Education (ACCE) accreditation requirements, BCM courses expose students to ethics and professionalism within the discussion of various topics across the curriculum. For example, ethics of contracting is covered in the contracts course, while ethics of handling subcontract bids is covered in the estimating courses.

Students are exposed to actual situations during their work experiences that reinforce the need for ethical and professional activities in the industry.

#### Assessment Methods that track this Outcome

- Advisory Committee: Advisory committee gives feedback on the ethical and professional behaviors of our graduates.
- **Employer Internship Reports:** Employers of the student interns provide feedback on the ethical and professional behaviors of our graduates.
- **Employer Surveys:** Employers' surveys provide feedback on the ethical and professional behaviors of our graduates.
- Exam/Test: Questions concerning ethical practices are included.
- Exit Interview: Ethics and professionalism are discussed at the exit interview with the students.

#### Assessment Evidence & Findings

Employers report that students have ethical and professional characteristics upon hire. We conduct internship performance reviews with each company immediately at the close of the internship. We receive feedback from employers through surveys at the career fair at least once per year. We receive feedback at our advisory council meeting each semester.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

BCM moved to include ethics and professionalism across the curriculum and each faculty encourages these practices as it relates to each subject area.

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? Awaiting assessment outcomes from these changes.

### <u>Learning Outcome #4:</u> The student has the fundamental skills in oral and written communication as required to effectively communicate in the construction industry

#### **Performance Metrics to meet this Outcome**

Gradates and interns will effectively communicate in both written and oral formats.

#### Learning Activities that Support Development of the Outcome

Student Chapter officers must effectively conduct meeting and utilize effective public speaking skills.

Lab reports are required in all hands-on components of BCM.

Group and individual student presentations are required throughout the curriculum.

Internships require students to utilize both written and oral communications while completing their work responsibilities.

Students are required to prepare APA formatted papers in courses throughout the curriculum.

#### Assessment Methods that track this Outcome

- Advisory Committee: Committee provides feedback on the communication effectiveness of student hires.
- **Employer Internship Reports:** Employers provide feedback on the communication effectiveness of student interns.
- **Employer Surveys:** Employers provide written feedback on the communication effectiveness of permanent hires.
- **Performance Task:** Students are required to make presentations in several courses and as part of their duties as officers in student organizations. Students are required to prepare letters, reports, projects, and presentations in a professional manner.

#### **Assessment Evidence & Findings**

Employers report that students continue to need more written communication skills.

We conduct internship performance reviews with each company immediately at the close of the internship. We receive feedback from employers through surveys at the career fair at least once per year. We receive feedback at our advisory council meeting each semester.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

BCM has increased the number of written assignments and encourage students to take advanced courses in English composition. BCM began BCMentors in the Fall of 2008

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? While written communications skills have seemed to be improved, the department has seen instances of horrific spelling and grammar since the proliferation of "texting and twittering".

<u>Learning Outcome #5:</u> The student possesses the fundamental knowledge and skills needed to manage the principal resources of the construction industry to include human, material, equipment, and financial resources

**Performance Metrics to meet this Outcome**: BCM graduates will possess the skills and knowledge required to obtain, manage, and allocate all necessary resources for successful completion of a construction project.

#### Learning Activities that Support Development of the Outcome

Discussions of the proper allocation of resources are held in all courses which involve human resource management, equipment selection and management, or cost management.

Homework assignments on determining the "ideal" allocation of resources are utilized throughout the curriculum.

In crew exercises as a part of the labs in BCM, students are exposed to the effects of underutilized and over utilized resources (humans, equipment, and materials).

During their internships students are involved in determining the proper level of resources required to support various project activities. Additionally, students are exposed to human resource management practices that are both effective and ineffective.

#### Assessment Methods that track this Outcome

- **3 Year Post Graduation Survey:** Surveys provide feedback on the perceived preparations for effective resource management obtained during their undergraduate experience.
- Advisory Committee: Advisory members provide feedback on resource management skills of both interns and permanent hires from our program.
- **Employer Surveys:** Employer surveys provide feedback on the student's ability to manage the principal resources of the construction industry to include human, material, equipment, and financial resources.
- **Exam/Test:** Exams and Tests include questions about resource acquisition, management, and allocation.
- **Projects:** Student course projects require the student to accurately determine the proper resources required for activities and full project execution. In addition students will develop resource management plans (project schedules) that take into consideration the limited resources available at any given time.

#### **Assessment Evidence & Findings**

Based on Employer feedback, students possess the fundamental knowledge to manage the principal resources of construction. Developing human and financial resource management skills requires related work experience. As student gain more work experience, both during college and upon graduation, these skills become more honed.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

Changes are made to curriculum and course content based on an overall assessment of the instruments used and the resulting comprehensive program data. Recent changes include the introduction of Building Information Modeling and Green Building / Sustainable philosophies to align with recent movements in the industry. Students are eligible for LEED Accredited professional credentials.

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? the response to the sustainability and LEED AP has been very good from the industry. BIM is in its early stages of introduction in the curriculum and should show greater impacts on the student outcomes within the next AY.

### Learning Outcome #6: The student has a well-developed concept of mathematics and physical science.

#### **Performance Metrics to meet this Outcome**

Graduates can effectively apply the mathematical and physical science skills required for executing their assigned job duties.

#### Learning Activities that Support Development of the Outcome

All courses with mathematical or science based components are reinforced through homework problems. BCM engineering and design courses are heavily based in math and physics. Each course requires numerous homework assignments to ensure student comprehension of this applied science. Estimating courses require the application of geometry and math skills to conduct detailed quantity take off and cost estimates.

Students are given problems to solve using the math and physics.

Math and science skills are applied through semester projects in estimating, scheduling, and design courses. Projects in BCM 112, 212, 175, 275, 285, 375, 315, 415, and 355 all require applied mathematics. Projects in BCM 215, 216, 285, 380, and 385 all

During internships students are required to further develop their applied math and science skills through application of job duties such as cost estimating, quantity take-offs, surveying and layout, and cost reporting.

Test and Exams in BCM 112, 212, 175, 275, 285, 375, 315, 415, and 355 all require applied mathematics. Exams / tests in BCM 215, 216, 285, 380, and 385 all require the use of applied physical science.

#### Assessment Evidence & Findings:

More students are successful in passing MA 159. fewer students are taking the remedial math sequence. More students are completing BCM 285 on their first attempt. This is a direct result of higher level math and physics skills. This finding is validated by recent student academic progress and the increased qualifications of entering freshman and CODOs

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

No changes have occurred in BCM. The increased admission requirements (math and science) and higher SAT scores are a reflection of improved entering student academic provess.

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? The increased admission requirements (math and science) and higher SAT scores are a reflection of improved entering student academic prowess.

<u>Learning Outcome #7:</u> The student possesses an understanding of the contributions made by design professionals to the construction processes, and can communicate and interact with design professionals within the multi-disciplinary construction team.

#### Performance Metrics to meet this Outcome

Graduates will effectively interact with design professionals. The graduates will understand and respect the role that these professionals play in the construction industry.

#### Learning Activities that Support Development of the Outcome

Throughout the BCM curriculum the contributions made by design professionals are discussed. Design professionals are often brought in as guest speakers by the student chapters

Students are exposed to professional designers in the architectural and engineering disciplines on the projects they are working on.

Employers provide feedback on the interactions of interns with the design profession.

Test questions about the role of the design professionals are included in many BCM courses. In addition applied design concepts (applied physical science) in BCM 285, 380, and 385 further reinforce the role of design professionals.

#### **Assessment Evidence & Findings**

Employers report that students work well in interdisciplinary teams. We conduct internship performance reviews with each company immediately at the close of the internship. We receive feedback from employers through surveys at the career fair at least once per year. We receive feedback at our advisory council meeting each semester.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

BCM has introduced more of the design profession in the BCM 215, 216,362 and BCM 417 courses. In addition, the BCM 419 course addressing Sustainability practices and LEED designs, which have led to a higher, level understanding of the designers' role in the construction process.

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? Students have a greater appreciation for the roles and responsibilities of professional designers in the construction project delivery process.

### <u>Learning Outcome #8:</u> The student will understand the global nature of the construction industry.

#### Performance Metrics to meet this Outcome

Graduates will possess the ability to draw linkages with global markets and the US construction market. In addition, graduates will be able to identify and contrast differing construction business practices from around the globe. graduates will identify / apply potential global practices in US.

#### Learning Activities that Support Development of the Outcome

On each occasion when we host an international guest, the visitor is asked to give a lecture to one or more of our classes.

BCM faculty lecture presentations on the globalization of the construction industry take place in BCM 100, BCM 355, BCM 450, and BCM 455

Reading assignments include the globalization of the construction industry in recent years.

BCM Students are actively seeking international activities in the form of summer study abroad programs. Current study abroad experiences are offered to China, Costa Rica, Ireland, and Saudi Arabia / Dubai.

#### Additional Information about the Learning Activities Notes:

Graduates will gain this understanding through exposure to international experiences such as study abroad programs, international guests and visitors, international students within BCM, and in course discussions.

#### **Assessment Methods**

- Advisory Committee: Advisory members will provide feedback on this developing outcome within our graduates.
- **Exit Interview: Students are asked about their global understanding. Students provide feedback on their international experiences while attending Purdue.**

#### **Assessment Evidence & Findings**

Faculty and employers recognize a change in the overall awareness of BCM students with respect to global opportunities and challenges.

We conduct internship performance reviews with each company immediately at the close of the internship. We receive feedback from employers through surveys at the career fair at least once per year. We receive feedback at our advisory council meeting each semester. Students have taken positions overseas with international firms.

#### **Changes and Rationale**

# As a result of reviewing the assessment evidence, what did or will you change (if anything) to help students achieve an acceptable or higher level of the learning outcome?

BCM began study abroad programs to Ireland, China, and the UAE in 2007. These provided opportunities to all BCM students to expose themselves to the global construction market. International firms now recruit at our career fair and students have taken notice of the change in economy. Faculty members are encouraged to increase the level of international topics in their courses. Faculty have

increased their international travels and have brought these experiences into the classroom. BCM continues to host international faculty members (China and Ireland) as guests for up to one year. This faculty are involved in lectures to increase student exposure to cultural and business practices.

#### **Impacts of Changes**

If any changes were made, what impacts did they have on student achievement of the learning outcome? More students have taken the study abroad opportunity. We have placed three students with international firms at overseas locations.