



Program Information for General Public

Moss School of Construction,
Infrastructure and Sustainability
College of Engineering & Computing

October 2017

I. Introduction

In April 2017, the School of Construction has been named Moss School of Construction, Infrastructure and Sustainability, thanks to Moss and Associates for their generous endowment gift. The school continued to make great strides in a number of noteworthy areas.

The undergraduate program is fully accredited by the American Council for Construction Education (ACCE). The school enjoys a very strong relationship with the south Florida construction industry. It has an active Industry Advisory Council (IAC) with representations from almost all major construction companies in south Florida.

The school has launched a new campaign with the help of the college development office for naming various facilities and laboratories.

Job market in the construction industry, particularly in south Florida, is strong and as a result our graduates have no problem finding jobs. We are also witnessing an increase in students interested in our programs – both undergraduate and masters.

II. Institution Vision and Mission

Vision:

Florida International University will be a leading urban public research university focused on student learning, innovation, and collaboration.

Mission:

Florida International University is an urban, multi-campus, public research university serving its students and the diverse population of South Florida. We are committed to high-quality teaching, state-of-the-art research and creative activity, and collaborative engagement with our local and global communities.

Values:

Florida International University is committed to the following core values:

Truth – in the pursuit, generation, dissemination, and application of knowledge

Freedom – of thought and expression

Respect – for diversity and the dignity of the individual

Responsibility – as stewards of the environment and citizens of the world

Excellence – in intellectual, personal, and operational endeavors

III. Program Mission and Objectives

The Bachelors of Science in Construction Management (BSCM) is accredited by the American Council for Construction Education (ACCE).

A. Program Mission

The mission of the School of Construction is to provide enlightened leadership to the construction industry through its graduates; to increase and improve the body of working knowledge; and to promote the interdisciplinary transfer of technology. The School will continue to strive to produce professional construction managers who are informed and participating citizens with a sense of duty and responsibility, whose actions express high moral and ethical standards, and who understand the impact of their work on society.

B. Program Goals/Objectives

The School continues to serve the needs of south Florida, the nation, and the world through high-quality teaching, research, and professional involvement through the following goals:

1. Provide effective education to students and prepare them to enter the construction profession.
2. Utilize available technology to enhance teaching and learning.
3. Broaden access to construction management education through distance learning opportunities.
4. Conduct and disseminate research in the construction area.
5. Foster and create opportunities for student-industry interaction.
6. Create the environment and provide adequate resources for the professional growth of the faculty.
7. Encourage, promote and support vibrant student organizations and an active alumni association.
8. Be the preeminent source of construction knowledge for industry and the community at large.

C. Admission and Degree Requirements

Bachelor of Science in Construction Management

Degree Program Hours: 121

The Bachelor of Science (BS) in Construction Management is a four-year program designed for students who are interested in preparing for professional careers in construction management, operations, and related areas in the construction industry.

Upper level coursework includes topics such as building codes, structural design, scheduling, cost estimating, construction safety and management. The undergraduate program in Construction Management is nationally accredited by the American Council for Construction Education (ACCE).

Prospective students are encouraged to apply as early as possible, in order to complete the admissions process. Requirements include a high school degree from an accredited institution, official SAT/ACT scores, transcripts from all previously attended post-secondary institutions.

The curriculum consists of 121 credit hours. Lower division requirements include at least 60 hours of pre-engineering credits.

The undergraduate program in Construction Management is nationally accredited by the American Council for Construction Education. Its goal is to provide students with the knowledge and skills required for entry level supervisory or managerial positions in the construction industry. Graduates usually find employment as project managers, project schedulers, cost estimators, quality controllers or in managing their own construction firms.

Opportunities for employment or advancement exist in all areas of the construction industry including land development, home building, public building, industrialized building systems, commercial, industrial, marine and highway heavy construction, underwater and space age facilities, material and equipment sales and installations, and construction product research, development and sales.

Program of Study

The four-year program leading to a Bachelor of Science in Construction Management is for students who are interested in preparing for professional careers in construction management, operations, and related areas in the construction industry.

The Lower Division courses, i.e. Freshman and Sophomore levels, are selected to provide easy transfer for community college graduates. With proper planning, full time transfer students with an A.A. degree are able to complete the four year degree program in four remaining semesters at the University. Prospective community college transfer students should contact an advisor for program information and Lower Division transfer requirements.

Students already working full or part time, many with trades or construction licenses, are generally able to plan their program around job commitments and responsibilities. Faculty advisors are on hand days and evenings to assist students in course selection and scheduling.

Admission

The School of Construction encourages applications for admission from qualified students from all cultural, racial, religious or ethnic groups, regardless of gender.

Grade Point Average

Admission into the undergraduate program requires a minimum 2.0 grade point average. Students transferring from another university or community college should review the Florida International University Undergraduate Catalog for university policies, application procedures, and financial aid information. Prior to or upon admission, transfer students should also contact a Construction Management advisor to review transcripts and determine allowable transfer credits.

Transfer Credits

No grade below a 'C' in any required course is acceptable for transfer into the program. Lower Division courses (courses at the 1000 or 2000 level) designated as equivalent by the statewide course numbering system will be accepted by the School as fulfilling the Upper Division requirements. Credits from these Lower Division courses may be used to offset Upper Division core credit requirements. Other 1000 and 2000 level courses designated as equivalent by a School advisor may be accepted by the School as fulfilling Upper Division requirements. When equivalent Lower Division courses are used to fulfill Upper Division course requirements a student will be required to complete an equal number of 3000 level (or above) credits from approved Departmental electives. Transfer credits above the 60 semester credit hours accepted from the community college system will not reduce the number of credit hours to be completed in the Upper Division, including electives, to earn a degree.

University Core Curriculum Requirements

Students entering the University with less than 36 semester credit hours will be required to meet the requirements of the University Core Curriculum, in addition to the School Lower Division Core. Students should review the General Core Requirements in the undergraduate catalog.

D. Program Assessment Tools, Plan and Results

Academic Learning Compacts, Assessment Plan, and Assessment Report are included in the **Appendix** at the end of this report.

IV. Student/Faculty Achievement

A. Student Employment

Historic Salary information is shown in Table 1.

Table 1. Employment and Continuing Education Data for Baccalaureate Graduates

	2011-2012	2012-2013	2013-2014
# of Graduates	65	31	50
% Employed after 1 year	53.8%	61.3%	88.0%
Average of Annual Salary	\$47,452	\$63,272	\$66,576

Note: The years noted above represent the graduation years for FIU baccalaureate recipients. The salary figures are based on outcomes from one year after graduation. Salary data are only for graduates who are employed full-time in Florida. Salary data are not provided for years with 10 or fewer full-time employees.

B. Student/Faculty Accomplishments

A team of our undergraduate students won the first place in estimating category in the ABC National Construction Management Competition held in November 2015. The School won overall championship last year. Thus the school placed itself within the top four teams nationwide in the last five consecutive competitions. Our team competed with reputable schools such as Auburn University, Clemson University, Colorado State, Georgia Tech, Purdue University, Texas A& M University, Ohio State University, University of Cincinnati and University of Florida among others. It should be noted that the local ABC chapter organized a golf tournament to raise funds for enabling students to participate in this competition.

Graduate research assistants Jin Zhu and Mostafa Batouli won the ASCE poster awards in the Construction Congress held in Puerto Rico in June 2016.

Dr. Wallied Orabi earned his tenure in the School and has been promoted to the rank of Associate Professor. He has also assumed the responsibility of Undergraduate Program Director.

Dr. Ali Mostafavi was named by the online publication Engineering News Record Southeast to its "Top 20 under 40" list for 2016, a recognition of up-and-coming leaders in the construction and design industries.

Dr. Irtishad Ahmad received the prestigious W. A. Klinger Construction Education Award from the American Institute of Constructors in 2016. He was honored in the AIC Annual Forum held in San Diego in February 2016.

Dr. Youngjib Ham received the Best Paper Award in the 6th International Conference on Construction Engineering and Project Management out of 225 papers from 21 countries in October 2015.

Four student chapters are active in the School - These are: Associated Builders and Contractors (ABC), Associated General Contractors of America (AGC), National Association of Women in Construction (NAWIC), and Sigma Lambda Chi Honor Society. The ABC Student Chapter is the most active and works closely with the South Florida ABC.

C. Student Scholarships

Scholarships - The department currently has six endowed scholarships and had seven one-time scholarships over the last four years. The details showing the sources and the amount of scholarship funds are included in the Table below.

Table 2. Scholarship Fund (endowed)

Name of Scholarship	Description	Current Principal Amount
MDX Condotte	One for \$2,000	\$56,022
Balfour Beatty	One for \$2,000	\$63,724
CASF - Const. Assoc. of South Florida	One for \$2,000	\$59,790
ASPE - American Association of Professional Estimators	One for \$2,000	\$37,909
Kelly Foundation	One for \$2,000	\$117,990

D. Additional Information

Current Size of the Programs - enrollment

The School has 11 full-time faculty and employs 5 to 10 adjunct faculty members in a given term. The Moss School of Construction, Infrastructure and Sustainability

currently has three full-time staff. Fall headcount (enrollment) history is shown in Table 3.

Table 3. Enrollment Data

CIP Description	Student Level	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017
Construction/ Building Technology	Lower	22	32	36	56	45
	Upper	216	191	204	212	239
	Grad I	122	111	79	79	70
Constr./Building Tech.		443	360	334	319	354
Total						

Note: Students are counted as enrolled if they are taking at least one class during the term specified above and their program is based on their declared major.

Degrees Awarded

The historical numbers over the last five years for bachelors and masters are shown in Table 4. Our graduates are employed by all major construction companies in south Florida and nationwide. MCM Construction, OHL Arellano, Moss and Associates, Coastal Construction, Turner Construction, Skanska, Link Construction, Odebrecht Construction, Balfour Beatty are some of the major employers.

Table 4. Degree Production

CIP Description	Student Level	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Construction/ Building Technology	Bachelors	70	51	44	33	42
	Masters	32	62	64	35	38
	Doctoral	N/A	N/A	N/A	N/A	N/A
Constr./Building Tech.		167	102	113	68	80
Total						

Appendix - Program Assessment

Academic Learning Compacts, Assessment Plan, and Assessment Report are included in the appendix at the end of this report.

Undergraduate Degree Program

Program - CEC Construction Management SLO (BS)

Mission Statement

The Department's mission is to provide enlightened leadership to the construction industry through its graduates; to increase and to improve the body of working knowledge; and to promote the interdisciplinary transfer of technology. The Department also strives to produce professional construction managers who are informed and participating citizens with a sense of civic duty and responsibility; persons with a sense of dignity whose actions express high moral and ethical standards; and professionals who strive to comprehend the impact of their work on their own lives as well as on the society in which they live.

Outcomes

FIU graduates should be able to achieve the following:

Content Knowledge and Skills (including Technology)	Direct Measures
<p>Content</p> <p>Graduates will learn basic construction estimating and scheduling techniques and will be competent in these core subject areas in construction management.</p>	<p>Procedure:</p> <p>Assessment Instrument: Rubric (Analytical) Assessment Method: Measure 1.1 A detailed construction cost estimate based on assigned plans and drawings of a construction project is developed and submitted by students individually or in groups (of at most three) in the estimating part of the course BCN 4910 Senior Project. All estimate submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. The two areas assessed will be:</p> <ol style="list-style-type: none"> 1. ability to prepare a construction estimate 2. ability to analyze methods, materials, and equipment used to construct a project. <p>A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Course Assessed: BCN 4910 Sampling: All students in BCN 4910. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric for each area.</p> <hr/> <p>Assessment Instrument: Rubric (Analytical) Assessment Method: Measure 1.2 A detailed construction schedule (Critical Path Method) based on assigned plans and drawings of a construction project is developed and submitted by students individually or in groups (of at most three) in the construction schedule part of the course BCN 4910 Senior Project. All schedule submissions will be evaluated by a panel of two faculty members with expertise in construction scheduling using a faculty developed rubric.</p> <p>A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Course Assessed: BCN 4910 Sampling: All students in BCN 4910. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.</p>
<p>Technology</p>	<p>Procedure:</p>

Each graduating student will demonstrate the ability to use computer software for estimating (electronic spreadsheet) and scheduling (commercially available, e.g. Primavera) in the senior project.

Assessment Instrument: Rubric (Analytical)
Assessment Method: A detailed construction estimate and schedule reports, generated by the use of specific computer software for estimating and scheduling, are developed and submitted by students individually or in groups (of at most three) in the computer-generated estimating and scheduling reports submitted as parts of the course BCN 4910 Senior Project. All submissions will be evaluated by a panel of two faculty members with expertise in the specific software technology using a faculty-developed rubric. A 5-point rubric will be used: 1=Poor; 2=Needs Improvement; 3=Satisfactory; 4=Good; 5=Excellent.
Course Assessed: BCN 4910
Sampling: All students in BCN 4910.
Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Critical Thinking

Direct Measures

Critical Thinking

Procedure:

Graduates will demonstrate an ability to think critically by integrating and synthesizing the knowledge and skills acquired, and to apply research and investigation skills in obtaining new information and knowledge required to solve problems.

Assessment Instrument: Rubric (Analytical)
Assessment Method: Measure 3.1
 Students will individually prepare a comprehensive project safety plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.
Course Assessed: BCN 4910
Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.
Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Assessment Instrument: Rubric (Analytical)
Assessment Method: Measure 3.2
 Students will individually prepare a comprehensive project quality control plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.
Course Assessed: BCN 4910
Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.
Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Assessment Instrument: Rubric (Analytical)
Assessment Method: Measure 3.3
 Students will individually prepare a comprehensive project management plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.
Course Assessed: BCN 4910
Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.
Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Assessment Instrument: Rubric (Analytical)
Assessment Method: Measure 3.4
 Students will individually or in groups (of at most three) prepare a company ethics policy in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.
Course Assessed: BCN 4910
Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.
Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Communication (Oral or Written)	Direct Measures
Communication Skills - Oral	Procedure:
<p>Graduates will demonstrate an ability to communicate their ideas effectively through oral reports in the field of construction management.</p>	<p>Assessment Instrument: Rubric (Analytical) Assessment Method: A rubric will be used to assess senior projects on their ability to make a professional quality verbal presentation of the project. All takeoff submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. A five point rating scale will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Course Assessed: Sampling: At least 50% of all reports, total number being no less than 10 in a given semester Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.</p>
Communication Skills - Written	Procedure:
<p>Graduates will demonstrate an ability to communicate their ideas effectively through written reports in the field of construction management.</p>	<p>Assessment Instrument: Rubric (Analytical) Assessment Method: A rubric will be used to assess senior projects on their ability to prepare a comprehensive project narrative. All takeoff submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. A five point rating scale was used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Course Assessed: Sampling: At least 50% of all reports, total number being no less than 10 in a given semester Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.</p>

Assessment Plan

Program - CEC Construction Management SLO (BS)

Mission: The Department's mission is to provide enlightened leadership to the construction industry through its graduates; to increase and to improve the body of working knowledge; and to promote the interdisciplinary transfer of technology. The Department also strives to produce professional construction managers who are informed and participating citizens with a sense of civic duty and responsibility; persons with a sense of dignity whose actions express high moral and ethical standards; and professionals who strive to comprehend the impact of their work on their own lives as well as on the society in which they live.

Outcome: Content

Graduates will learn basic construction estimating and scheduling techniques and will be competent in these core subject areas in construction management.

Outcome Status: Active

Competency Category: Content Knowledge and Skills (including Technology)

Assessment Method

Rubric (Analytical) - Measure 1.1

A detailed construction cost estimate based on assigned plans and drawings of a construction project is developed and submitted by students individually or in groups (of at most three) in the estimating part of the course BCN 4910 Senior Project. All estimate submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. The two areas assessed will be:

1. ability to prepare a construction estimate
2. ability to analyze methods, materials, and equipment used to construct a project.

A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: All students in BCN 4910.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric for each area.

Method Status: Active

Course Assessed: BCN 4910

Rubric (Analytical) - Measure 1.2

A detailed construction schedule (Critical Path Method) based on assigned plans and drawings of a construction project is developed and submitted by students individually or in groups (of at most three) in the construction schedule part of the course BCN 4910 Senior Project. All schedule submissions will be evaluated by a panel of two faculty members with expertise in construction scheduling using a faculty developed rubric.

A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: All students in BCN 4910.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Course Assessed: BCN 4910

Related Courses

BCN 1272 - Plans Interpretation - (Introduced)

Program - CEC Construction Management SLO (BS)

BCN 2210 - Construction Materials and Methods - (Introduced)

BCN 2253 - Building Informatics - (Reinforced)

BCN 3611 - Construction Cost Estimating I - (Reinforced)

BCN 3720 - Construction Scheduling I - (Reinforced)

BCN 4612 - Construction Cost Estimating II - (Reinforced)

BCN 4724 - Construction Scheduling II - (Reinforced)

BCN 4910 - Senior Project - (Assessed)

Alignments

Academic Units Requirements

ALC - Content Knowledge/Skills

Outcome: Technology

Each graduating student will demonstrate the ability to use computer software for estimating (electronic spreadsheet) and scheduling (commercially available, e.g. Primavera) in the senior project.

Outcome Status: Active

Competency Category: Content Knowledge and Skills (including Technology)

Assessment Method

Rubric (Analytical) - A detailed construction estimate and schedule reports, generated by the use of specific computer software for estimating and scheduling, are developed and submitted by students individually or in groups (of at most three) in the computer-generated estimating and scheduling reports submitted as parts of the course BCN 4910 Senior Project. All submissions will be evaluated by a panel of two faculty members with expertise in the specific software technology using a faculty-developed rubric. A 5-point rubric will be used: 1=Poor; 2=Needs Improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: All students in BCN 4910.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Course Assessed: BCN 4910

Related Courses

BCN 2253 - Building Informatics - (Introduced, Reinforced)

BCN 3611 - Construction Cost Estimating I - (Introduced, Reinforced)

BCN 4612 - Construction Cost Estimating II - (Introduced, Reinforced)

BCN 4724 - Construction Scheduling II - (Introduced, Reinforced)

BCN 4910 - Senior Project - (Assessed)

Alignments

Academic Units Requirements

Program - CEC Construction Management SLO (BS)

SACS - Technology

Outcome: Critical Thinking

Graduates will demonstrate an ability to think critically by integrating and synthesizing the knowledge and skills acquired, and to apply research and investigation skills in obtaining new information and knowledge required to solve problems.

Outcome Status: Active

Competency Category: Critical Thinking

Assessment Method

Rubric (Analytical) - Measure 3.1

Students will individually prepare a comprehensive project safety plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Course Assessed: BCN 4910

Rubric (Analytical) - Measure 3.2

Students will individually prepare a comprehensive project quality control plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Course Assessed: BCN 4910

Rubric (Analytical) - Measure 3.3

Students will individually prepare a comprehensive project management plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Course Assessed: BCN 4910

Rubric (Analytical) - Measure 3.4

Students will individually or in groups (of at most three) prepare a company ethics policy in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: At least 50% of all reports, total number being no less than 10 in a given semester.

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Course Assessed: BCN 4910

Related Courses

Program - CEC Construction Management SLO (BS)

BCN 3611 - Construction Cost Estimating I - (Introduced)

BCN 3720 - Construction Scheduling I - (Introduced)

BCN 3727 - Construction Sitework and Equipment - (Reinforced)

BCN 3730 - Construction Safety - (Reinforced)

BCN 4612 - Construction Cost Estimating II - (Reinforced)

BCN 4703 - Management of Construction Projects - (Reinforced)

BCN 4724 - Construction Scheduling II - (Reinforced)

BCN 4910 - Senior Project - (Assessed)

Alignments

Academic Units Requirements

ALC - Critical Thinking

Outcome: Communication Skills - Oral

Graduates will demonstrate an ability to communicate their ideas effectively through oral reports in the field of construction management.

Outcome Status: Active

Competency Category: Communication (Oral or Written)

Assessment Method

Rubric (Analytical) - A rubric will be used to assess senior projects on their ability to make a professional quality verbal presentation of the project. All takeoff submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. A five point rating scale will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. (Active)

Sampling: At least 50% of all reports, total number being no less than 10 in a given semester

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Related Courses

BCN 3761 - Construction Documentation and Communication - (Introduced)

BCN 4612 - Construction Cost Estimating II - (Reinforced)

BCN 4703 - Management of Construction Projects - (Reinforced)

BCN 4910 - Senior Project - (Assessed)

Outcome: Communication Skills - Written

Graduates will demonstrate an ability to communicate their ideas effectively through written reports in the field of construction management.

Program - CEC Construction Management SLO (BS)

Outcome Status: Active

Competency Category: Communication (Oral or Written)

Assessment Method

Rubric (Analytical) - A rubric will be used to assess senior projects on their ability to prepare a comprehensive project narrative. All takeoff submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. A five point rating scale was used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.
(Active)

Sampling: At least 50% of all reports, total number being no less than 10 in a given semester

Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.

Method Status: Active

Related Courses

BCN 3730 - Construction Safety - (Introduced)

BCN 3761 - Construction Documentation and Communication - (Reinforced)

BCN 4561 - Environmental Control in Buildings I - (Reinforced)

BCN 4612 - Construction Cost Estimating II - (Reinforced)

BCN 4703 - Management of Construction Projects - (Reinforced)

BCN 4910 - Senior Project - (Assessed)

Alignments

Academic Units Requirements

ALC - Communication

Assessment Report

Program - CEC Construction Management SLO (BS)

Mission: The Department's mission is to provide enlightened leadership to the construction industry through its graduates; to increase and to improve the body of working knowledge; and to promote the interdisciplinary transfer of technology. The Department also strives to produce professional construction managers who are informed and participating citizens with a sense of civic duty and responsibility; persons with a sense of dignity whose actions express high moral and ethical standards; and professionals who strive to comprehend the impact of their work on their own lives as well as on the society in which they live.

<i>Outcomes</i>	<i>Assessment Method</i>	<i>Results</i>	<i>Use of Results for Improvement</i>
<p>Content - Graduates will learn basic construction estimating and scheduling techniques and will be competent in these core subject areas in construction management.</p> <p>Outcome Status: Active</p> <p>Competency Category: Content Knowledge and Skills (including Technology)</p>	<p>Rubric (Analytical) - Measure 1.1 A detailed construction cost estimate based on assigned plans and drawings of a construction project is developed and submitted by students individually or in groups (of at most three) in the estimating part of the course BCN 4910 Senior Project. All estimate submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. The two areas assessed will be:</p> <ol style="list-style-type: none"> 1. ability to prepare a construction estimate 2. ability to analyze methods, materials, and equipment used to construct a project. <p>A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.</p> <p>Sampling: All students in BCN 4910.</p> <p>Minimum Criteria for Success:</p>	<p>Reporting Period: 2015 - 2016</p> <p>Criterion Status: 90 to 99% met</p> <p>Based on the Fall 2015 BCN 4910 class of 24 students,</p> <p>a. 84% of the students received a score of satisfactory or higher in the rubric, "student's ability to prepare a construction estimate." (6- excellent, 4-Good, 10 –Satisfactory, 2-Needs improvement, 2 - Poor).</p> <p>b. 100% of the students received a score of satisfactory or higher in the rubric, "student's ability to analyze methods, materials, and equipment used to construct a project." (13- excellent, 11-Good, 0-Satisfactory, 0-Needs improvement, 0 - Poor).</p> <p>(08/26/2016)</p>	<p>Use of Results for Improvement:</p> <p>The results show that students are doing well in this measure of construction estimating and very well in analyzing. There is room for improvement in students' ability to prepare a construction estimate. We will address this by strengthening this part of the course through additional readings, modeling, and assignments. (08/26/2016)</p>

<i>Outcomes</i>	<i>Assessment Method</i>	<i>Results</i>	<i>Use of Results for Improvement</i>
	<p>Students will receive a satisfactory (3) or above rating on a 5-point rubric for each area.</p> <p>Method Status: Active Course Assessed: BCN 4910</p> <p>Rubric (Analytical) - Measure 1.2 A detailed construction schedule (Critical Path Method) based on assigned plans and drawings of a construction project is developed and submitted by students individually or in groups (of at most three) in the construction schedule part of the course BCN 4910 Senior Project. All schedule submissions will be evaluated by a panel of two faculty members with expertise in construction scheduling using a faculty developed rubric.</p> <p>A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: All students in BCN 4910. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.</p> <p>Method Status: Active Course Assessed: BCN 4910</p>	<p>Reporting Period: 2015 - 2016 Criterion Status: 90 to 99% met Based on the Fall 2015 BCN 4910 class of 24 students,</p> <p>92% of the students received a score of satisfactory or higher in the rubric, “student’s ability to prepare a construction schedule.” (3-Excellent, 17-Good, 2-Satisfactory, 2-Need Improvement, 0-Poor). (08/26/2016)</p>	<p>Use of Results for Improvement: We will continue to provide students with applicable examples of how to prepare a construction schedule to better prepare them for this assignment. (08/26/2016)</p>
<p>Technology - Each graduating student will demonstrate the ability to use computer software for estimating (electronic spreadsheet) and scheduling (commercially available, e.g. Primavera) in the senior project. Outcome Status: Active Competency Category: Content</p>	<p>Rubric (Analytical) - A detailed construction estimate and schedule reports, generated by the use of specific computer software for estimating and scheduling, are developed and submitted by students individually or in groups (of at most three) in the computer-</p>	<p>Reporting Period: 2015 - 2016 Criterion Status: 90 to 99% met Based on the Fall 2015 BCN 4910 class of 24 students,</p> <p>92% of the students received a score of satisfactory or higher in the rubric, “student’s ability to employ electronic based technology to manage a project.” (3-Excellent, 17-Good, 2- Satisfactory, 2- Need Improvement, 0- Poor).</p>	<p>Use of Results for Improvement: The results show that students are doing very well in their ability to employ computer software to manage a project. Students taking courses BCN 3720 (Construction Scheduling I) and BCN 4724 (Construction</p>

<i>Outcomes</i>	<i>Assessment Method</i>	<i>Results</i>	<i>Use of Results for Improvement</i>
<p>Knowledge and Skills (including Technology)</p>	<p>generated estimating and scheduling reports submitted as parts of the course BCN 4910 Senior Project. All submissions will be evaluated by a panel of two faculty members with expertise in the specific software technology using a faculty-developed rubric. A 5-point rubric will be used: 1=Poor; 2=Needs Improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: All students in BCN 4910. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric. Method Status: Active Course Assessed: BCN 4910</p>	<p>(08/26/2016)</p>	<p>Scheduling II) will have specific instructions on how to employ computer software techniques in preparing schedules with a goal to increase students receiving 'excellent' grades. (08/26/2016)</p>
<p>Critical Thinking - Graduates will demonstrate an ability to think critically by integrating and synthesizing the knowledge and skills acquired, and to apply research and investigation skills in obtaining new information and knowledge required to solve problems. Outcome Status: Active Competency Category: Critical Thinking</p>	<p>Rubric (Analytical) - Measure 3.1 Students will individually prepare a comprehensive project safety plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: At least 50% of all reports, total number being no less than 10 in a given semester. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric. Method Status: Active Course Assessed: BCN 4910</p>	<p>Reporting Period: 2015 - 2016 Criterion Status: Met Results 3.1 Based on the Fall 2015 BCN 4910 class of 24 students 100% of the students received a score of satisfactory or higher in the rubric, preparation of a comprehensive project safety plan for the project. (14-Excellent, 7-Good, 3-Satisfactory). (08/26/2016)</p>	<p>Use of Results for Improvement: We will continue to ensure that all students meet this outcome by thoroughly reviewing sample safety plans with our students. (08/26/2016)</p>
	<p>Rubric (Analytical) - Measure 3.2 Students will individually prepare a</p>	<p>Reporting Period: 2015 - 2016 Criterion Status: Met</p>	<p>Use of Results for Improvement: We will continue to ensure that all</p>

<i>Outcomes</i>	<i>Assessment Method</i>	<i>Results</i>	<i>Use of Results for Improvement</i>
	<p>comprehensive project quality control plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: At least 50% of all reports, total number being no less than 10 in a given semester. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.</p>	<p>Based on the Fall 2015 BCN 4910 class of 24 students 100% of the students received a score of satisfactory or higher in the rubric, preparation of a comprehensive project quality control plan for the project. (19-Excellent, 2-Good, 3-Satisfactory). (08/26/2016)</p>	<p>students meet this outcome by thoroughly reviewing sample quality control plans with them in our courses. (08/26/2016)</p>
	<p>Method Status: Active Course Assessed: BCN 4910 Rubric (Analytical) - Measure 3.3 Students will individually prepare a comprehensive project management plan for the project in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: At least 50% of all reports, total number being no less than 10 in a given semester. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric. Method Status: Active Course Assessed: BCN 4910</p>	<p>Reporting Period: 2015 - 2016 Criterion Status: Met Based on the Fall 2015 BCN 4910 class of 24 students 100% of the students received a score of satisfactory or higher in the rubric, preparation of a comprehensive project management plan for the project. (19-Excellent, 3-Good, 2-Satisfactory). (08/26/2016)</p>	<p>Use of Results for Improvement: We will continue to ensure that we review sample comprehensive project management plans with our students in our courses through in-class discussions, assigned readings, and assignments. (08/26/2016)</p>
	<p>Rubric (Analytical) - Measure 3.4 Students will individually or in</p>	<p>Reporting Period: 2015 - 2016 Criterion Status: Met</p>	<p>Use of Results for Improvement:</p>

<i>Outcomes</i>	<i>Assessment Method</i>	<i>Results</i>	<i>Use of Results for Improvement</i>
	<p>groups (of at most three) prepare a company ethics policy in BCN 4910. Reports will be evaluated by a panel of two faculty members using a faculty developed rubric. A 5-point rubric will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: At least 50% of all reports, total number being no less than 10 in a given semester. Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric. Method Status: Active Course Assessed: BCN 4910</p>	<p>Based on the Fall 2015 BCN 4910 class of 24 students 100% of the students received a score of satisfactory or higher in the rubric, preparation of a company ethics policy. (9-Excellent, 15-Good, 0-Satisfactory). (08/26/2016)</p>	<p>We will continue to ensure, through course readings, discussions, etc., that we review company ethics policies in our courses. (08/26/2016)</p>
<p>Communication Skills - Oral - Graduates will demonstrate an ability to communicate their ideas effectively through oral reports in the field of construction management. Outcome Status: Active Competency Category: Communication (Oral or Written)</p>	<p>Rubric (Analytical) - A rubric will be used to assess senior projects on their ability to make a professional quality verbal presentation of the project. All takeoff submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. A five point rating scale will be used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent. Sampling: At least 50% of all reports, total number being no less than 10 in a given semester Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric. Method Status: Active</p>		
<p>Communication Skills - Written -</p>	<p>Rubric (Analytical) - A rubric will be</p>		

<i>Outcomes</i>	<i>Assessment Method</i>	<i>Results</i>	<i>Use of Results for Improvement</i>
<p>Graduates will demonstrate an ability to communicate their ideas effectively through written reports in the field of construction management.</p> <p>Outcome Status: Active</p> <p>Competency Category: Communication (Oral or Written)</p>	<p>used to assess senior projects on their ability to prepare a comprehensive project narrative. All takeoff submissions will be evaluated by a panel of two faculty members with expertise in construction estimating using a faculty developed rubric. A five point rating scale was used: 1= Poor; 2=Needs improvement; 3=Satisfactory; 4=Good; 5=Excellent.</p> <p>Sampling: At least 50% of all reports, total number being no less than 10 in a given semester</p> <p>Minimum Criteria for Success: Students will receive a satisfactory (3) or above rating on a 5-point rubric.</p> <p>Method Status: Active</p>		