School of Construction Program Outcomes 2013-2014

# Construction Engineering Technology (BCT)

**Program Summary BCT**

The program has undergone significant stresses in the past four years (turnover in leadership and teaching corps). Traditional enrollment has fallen since the recession of 2008-2009 paralleling trends in the construction industry, while distance-learning (online) enrollment has increased. Currently the program has 170 traditional students and 200 online students enrolled.

**Continuous Improvement Initiatives**

The following are improvement initiatives in the BCT Program underway in various stages of implementation:

A. Curriculum Redesign: The curriculum has been evaluated by the School of Construction Curriculum Committee and the following changes have been recommended:
   a. The addition and/or consolidation of courses. These changes enable the BCT and ACT (Architectural Technology) programs to have a common set of courses in the first two years of study. Additionally, students in each program will gain competencies traditionally specific to each of the programs. This alignment is consistent with industry trends and requirements for entry-level graduates. This change should also address ABET weaknesses above (a, e, g). Status: Submittal materials for the College and University Academic Councils are being reviewed for submission in the Fall 2014 term.
   b. Renumbering of courses and designation of new prerequisites: Some courses have been designated to receive lower course numbers so as to be taken earlier in the curriculum. The School of Construction Curriculum Committee has determined that new prerequisites are required to increase student success in all course and program outcomes, as well as increase quality overall. Status: Submittal materials for the College and University Academic Councils are being reviewed for submission Fall 2014.
   c. Cohort matriculation: The BCT and ACT Program Coordinators, along with The School of Construction Curriculum Committee, have developed a Cohort matriculation model which assists with enforcement of course prerequisites and better definition of future course scheduling. Status: Done, implementation to begin in Spring 2015 term.

B. Curriculum Quality Campaign: In order to better asses, and increase, the quality of teaching and assessment on the BCT Program (and the other programs in the School), the following initiatives are underway:
   a. Assessment Performance Targets: Performance targets will be changed from 70% to 100% of students scoring 70% or better on assessment outcomes. This is consistent with the program's Degree Plan which requires a minimum grade of 'C' to advance. Status: Implemented and reported next period.
   b. Education of faculty: New faculty will be orientated and participate in the program outcomes assessment and continuous improvement processes. Status: Underway.

   Peer review/assessment of faculty course design and pedagogy: The School is developing plans for peer review and reporting of course content, organization, delivery, and rigor as a part of annual program evaluation. This should enable communication of course assessment and methodology across the faculty, leading to the closing of gaps and weaknesses. Status: Planning.

**Closing the Loop/Action Plan Tracking**

1. Communication of all course and program assessment outcomes to all faculty via publication on School portal (Blackboard shell).
2. Feedback from the BCT Program's Industrial Advisory Council (IAC) on course and program assessment outcomes, course quality/rigor.
3. Redesign of BCT Program Capstone Course to better reflect and measure Weave/ABET outcome criteria.

**Achievement Summary / Analysis**

**What specifically did your assessments show regarding proven strengths or progress you made on outcomes/objectives?**

The Construction Engineering Technology (BCT) program has mapped its course assessments to ETAC-ABET's 'Criteria for Accrediting Engineering Technology Programs' since 2010. This year's findings show strengths in the following areas:

ETAC-ABET General Criteria Outcomes:

b. an ability to apply current knowledge and adapt to emerging applications of mathematics, science and technology (88% of 1,939 assessments scoring 70% or greater).

d. an ability to apply creativity in the design of systems, components, or processes appropriate to program educational objectives (89% of 1,201 assessments scoring 70% or greater).

k. a commitment to quality, timeliness, and continuous improvement (89% of 1,452 assessments scoring 70% or greater).

ETAC-ABET Degree Specific Outcomes:

a. producing and utilizing design, construction, and operations documents (86% of 827 assessments scoring 70% or greater).

b. performing economic analyses and cost estimates related to design, construction, and maintenance of systems in the construction technical specialties (83% of 1,034 assessments scoring 70% or greater).

c. selecting appropriate construction materials and practices (90% of 627 assessments scoring 70% or greater).

e. applying basic technical concepts to the solution of construction problems involving hydraulics and hydrology, geotechnics, structures, construction scheduling and management, and construction safety (85% of 2273 assessments scoring 70% or greater).

f. performing standard analysis and design in at least one recognized technical specialty within construction engineering technology that is appropriate to the goals of the program (84% of 1,667 assessments scoring 70% or greater).

All of these outcomes have remained relatively constant since 2010-2011 (data was not collected in 2012-2013).

**What specifically did your assessments show regarding any outcomes/objectives that will require continued attention?**

This year's findings show concern in the following areas:

ETAC-ABET General Criteria Outcomes:

a. an appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines (76% of 1,939 assessments scoring 70% or greater).

e. an ability to function effectively on teams (74% of 1,354 assessments scoring 70% or greater).

g. an ability to communicate effectively (79% of 2,057 assessments scoring 70% or greater).

These passing rates are significantly lower when compared to 2010-2011 and 2011-2012.

# School of Construction Program Outcomes 2013-2014

**Course Findings with Assessment Tools Mapped to ETAC-ABET Criteria and Course Objectives**

| AEC 132/L | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Sharp ACT & BCT | 1. Practice freehand sketching skills of architectural/construction related items | | | | | | | | 12 | | | 12 | 12 | | | | | | 12 | | | | | |
| | 2. Produce orthographic projections | | | | | | 3-5 | | | | | | 3-5 | | | | | | | | | | | 3-5 |
| | 3. Identify common architectural symbols | 10,11 | | | | | 6-11 | 14 | | 11 | | 6-11 | | 6-9,11 | | | | | 6-9,11 | | | | | 11 |
| | 4. Identify common architectural abbreviations | 10 | | | | | | 14 | | 10 | | | | | | | | | | | | | 10,14 | |
| | 5. Identify common architectural terms | 10 | | | | | | 13,14 | | 10 | | | | | | | | | | | | | 10,13,14 | |
| Architectural Graphics | 6. Create basic 2-D drawings using computer-aided drafting and design software | | | | | | 1-9 | | | | | 1-9 | 1-9 | | | | | | 1-9 | | | | | 1-9 |
| Architectural Graphics Laboratory | 7. Create a partial drawing set of a residence using computer-aided drafting and design software | 11 | | | | | 11 | | | | | 11 | | 11 | | | | | | | | | | 11 |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Exercise 1 -- Creating a title block with text in AutoCAD | 1 | 15 | 16 | 94% | | | | | | | | | | | | |
| 2. Exercise 2 -- Creating an isometric sketch of a house-like shape in AutoCAD | 2 | 15 | 16 | 94% | | | | | | | | | | | | |
| 3. Exercise 3 -- Othorgraphically projecting 6 sides of a shape in AutoCAD | 3 | 13 | 16 | 81% | | | | | | | | | | | | |
| 4. Exercise 4 -- Othorgraphically projecting 6 sides of a shape in AutoCAD | 4 | 13 | 16 | 81% | | | | | | | | | | | | |
| 5. Exercise 5 -- Othorgraphically projecting 6 sides of a shape in AutoCAD | 5 | 13 | 16 | 81% | | | | | | | | | | | | |
| 6. Exercise 6 -- Creating a partial floor plan with dimensions in AutoCAD | 6 | 14 | 16 | 88% | | | | | | | | | | | | |
| 7. Exercise 7 -- Creating a complete floor plan with dimensions in AutoCAD | 7 | 14 | 16 | 88% | | | | | | | | | | | | |
| 8. Exercise 8 -- Creating door and window schedules based on Exercise 7 in AutoCAD | 8 | 14 | 16 | 88% | | | | | | | | | | | | |
| 9. Exercise 9 -- Creating a front elevation and roof plan based on Exercise 7 in AutoCAD | 9 | 14 | 16 | 88% | | | | | | | | | | | | |
| 10. Exercise 10 -- Commercial plan reading worksheet | 10 | 14 | 16 | 88% | | | | | | | | | | | | |
| 11. Final Project -- Creating a floor plan, door and window schedules, roof plan, and two elevations in AutoCAD | 11 | 14 | 16 | 88% | | | | | | | | | | | | |
| 12. Sketching Notebook -- Sketching 50 objects in a Sketching Notebook | 12 | 13 | 16 | 81% | | | | | | | | | | | | |
| 13. Quizzes 1-5 -- Quiz 1: glossary terms A-C; Quiz 2: glossary terms D-F; Quiz 3: glossary terms G-N; Quiz 4: glossary terms O-R; Quiz 5: glossary terms S-Z | 13 | 14 | 16 | 88% | | | | | | | | | | | | |
| 14. Final Exam -- Comprehensive exam covering all modules | 14 | 14 | 16 | 88% | | | | | | | | | | | | |
| | | | AVG | **87%** | | | AVG | | | | AVG | | | | AVG | |

| AEC 132/L | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| AEC 132 | 1. Practice freehand sketching skills of architectural/construction related items | 3 | | | | | | 3 | | | | 3 | | 3 | 3 | | | | 3 | | | | | |
| AEC 132L | 2. Produce orthographic projections | 2,3,4 | 2,3,4 | | | | 2,4 | 2,3,4 | | | | | | | 2,3,4 | | | | 2,3,4 | | | | | |
| | 3. Identify common architectural symbols | 2,4,5 | | | | | | 2,4,5 | | | | | | | | | | | | | | | | |
| Germany | 4. Identify common architectural abbreviations | 2,4,5 | | | | | | 2,4,5 | | | | | | | | | | | | | | | | |
| | 5. Identify common architectural terms | 1 | | | | | | 1 | | | | | | | | | | | | | | | | |
| Architectural Graphics | 6. Create basic 2-D drawings using computer-aided drafting and design software | 2,4 | 2,4 | | | | 2,4 | 2,4 | | | | 2,4 | | 2,4 | 2,4 | | | | 2,4 | | | | | |
| Architectural Graphics Laboratory | 7. Create a partial drawing set of a residence using computer-aided drafting and design software | 2,4 | 2,4 | | | | 2,4 | 2,4 | | | | 2,4 | | 2,4 | 2,4 | | | | 2,4 | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Vocab Quizzes | | | | | | | | | 1 | 11 | 16 | 69% | | | | |
| 2. CAD Exercises | | | | | | | | | 2 | 16 | 16 | 100% | | | | |
| 3. Sketching Notebook | | | | | | | | | 3 | 13 | 16 | 81% | | | | |
| 4. Final Project | | | | | | | | | 4 | 12 | 16 | 75% | | | | |
| 5. Final Exam | | | | | | | | | 5 | 10 | 16 | 63% | | | | |
| | | | AVG | | | | AVG | | | | AVG | **78%** | | | AVG | |

| AEC 204/L | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| | 1. Identify the materials included in CSI Masterformat Divisions 3-14 | | | | | | | 6 | | | | | | | | | | | | | 6 | | 6 | |
| | 2. Create a report on observations made of materials being applied on both commercial and residential construction sites | 2 | | | | | | 2 | 2 | 2 | | 2 | | | | | | | 2 | | | | | |
| Sharp | 3. Define common construction processes and materials related terms | 5 | | 7,8 | | | | 5-8 | | | | | | | 7,8 | | | | | | 5-8 | | 5-8 | |
| ACT & BCT | 4. Create a 1,250 - 1,750 word (5-7 pages) research paper about one construction material | | | | | | 3 | 3 | | | | 3 | 3 | | | | | | 3 | | | | 3 | |
| Building Materials | 5. Create and discuss a layout of the location, type, and cost of materials found at both a general and specialized supplier | 1 | | | | | | 1 | 1 | | | 1 | | | | | | 1 | | 1 | | | | |
| Building Materials Laboratory | 6. Demonstrate presentation skills by designing, developing, and delivering a formal presentation (10-15 minute) about building materials | | | | | | 4 | 4 | | | | 4 | | | | | | | | | 4 | | 4 | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Supplier Report -- A layout of the location, type, and cost of materials found at both a general and specialized supplier | 1 | 14 | 14 | 100% | 1 | 22 | 26 | 85% | 1 | 11 | 13 | 85% | 1 | 22 | 24 | 92% |
| 2. (2) Job Site Reports -- A report on observations made of materials being applied on both commercial and residential construction sites | 2 | 12 | 14 | 86% | 2 | 22 | 26 | 85% | 2 | 12 | 13 | 92% | 2 | 20 | 24 | 83% |
| 3. Research Project -- A 1,250 - 1,750 word (5-7 pages) research paper about one construction material | 3 | 14 | 14 | 100% | 3 | 26 | 26 | 100% | 3 | 13 | 13 | 100% | 3 | 24 | 24 | 100% |
| 4. Final Project Presentation -- A formal presentation (10-15 minutes) about the installation of one building material | 4 | 12 | 14 | 86% | 4 | 23 | 26 | 88% | 4 | 12 | 13 | 92% | 4 | 22 | 24 | 92% |
| 5. Quizzes 1-5 -- Quiz 1: glossary terms A-C; Quiz 2: glossary terms D-F; Quiz 3: glossary terms G-N; Quiz 4: glossary terms O-R; Quiz 5: glossary terms S-Z | 5 | 14 | 14 | 100% | 5 | 23 | 26 | 88% | 5 | 13 | 13 | 100% | 5 | 23 | 24 | 96% |
| 6. Exam One -- Covers Chapters: 1-2, 4-8, and Basic estimating | 6 | 14 | 14 | 100% | 6 | 22 | 26 | 85% | 6 | 11 | 13 | 85% | 6 | 24 | 24 | 100% |
| 7. Exam Two | 7 | 14 | 14 | 100% | 7 | 22 | 26 | 85% | 7 | 13 | 13 | 100% | 7 | 23 | 24 | 96% |
| 8. Final Exam | 8 | 13 | 14 | 93% | 8 | 21 | 26 | 81% | 8 | 13 | 13 | 100% | 8 | 20 | 24 | 83% |
| | | | AVG | **96%** | | | AVG | **87%** | | | AVG | **94%** | | | AVG | **93%** |

| AEC 270 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| | 1. Calculate the components of a force | | 1-3,8 | | 1-3,8 | | 1-3,8 | | | | | | | | | | 1-3,8 | | | | | | 1-3,8 | 1-3,8 |
| | 2. Calculate the moments of forces | | 5-6, 8-9 | | 5-6, 8-9 | | 5-6, 8-9 | | | | | | | | | | 5-6, 8-9 | | | | | | 5-6, 8-9 | 5-6, 8-9 |
| Sharp | 3. Work problems involving the method of joints and sections | | 8 | | 8 | | 8 | | | | | | | | | | 8 | | | | | | 8 | 8 |
| | 4. Work problems involving pulleys | | 4 | | 4 | | 4 | | | | | | | | | | 4 | | | | | | 4 | 4 |
| ACT & BCT | 5. Trace load paths on structures | | 9 | | | | | | | | | | | | | | 9 | | | | | | 9 | 9 |
| | 6. Calculate axial, shear and bearing stresses | | 4,8-9 | | 4,8-9 | | 4,8-9 | | | | | | | | | | 4,8-9 | | | | | | 4,8-9 | 4,8-9 |
| Statics & Strengths | 7. Calculate axial strain using Hooke's law | | 4,8 | | 4,8 | | 4,8 | | | | | | | | | | 4,8 | | | | | | 4,8 | 4,8 |
| | 8. Calculate thermal stresses | | 4 | | 4 | | 4 | | | | | | | | | | 4 | | | | | | 4 | 4 |
| | 9. Calculate centroids and moments of inertia | | 5-6,9 | | 5-6,9 | | 5-6,9 | | | | | | | | | | 5-6,9 | | | | | | 5-6,9 | 5-6,9 |
| | 10. Construct load, shear, and moment diagrams | | 5-6,9 | | 5-6,9 | | 5-6,9 | | | | | | | | | | 5-6,9 | | | | | | 5-6,9 | 5-6,9 |
| | 11. Calculate flexural stresses and beam deflections | | 7 | | 7 | | 7 | | | | | | | | | | 7 | | | | | | 7 | 7 |
| | 12. Analyze and design columns | | 7 | | 7 | | 7 | | | | | | | | | | 7 | | | | | | 7 | 7 |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Homework #1 | | | | | | | | | | | | | 1 | 29 | 34 | 85% |
| 2. Homework #2 | | | | | | | | | | | | | 2 | 30 | 34 | 88% |
| 3. Homework #3 | | | | | | | | | | | | | 3 | 29 | 34 | 85% |
| 4. Homework #4 | | | | | | | | | | | | | 4 | 30 | 34 | 88% |
| 5. Homework #5 | | | | | | | | | | | | | 5 | 25 | 34 | 74% |
| 6. Homework #6 | | | | | | | | | | | | | 6 | 30 | 34 | 88% |
| 7. Homework #7 | | | | | | | | | | | | | 7 | 30 | 34 | 88% |
| 8. Homework #8 | | | | | | | | | | | | | 8 | 30 | 34 | 88% |
| 9. Homework #9 | | | | | | | | | | | | | 9 | 32 | 34 | 94% |
| | | | AVG | | | | AVG | | | | AVG | | | | AVG | **96%** |

| AEC 444 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| | 1. Calculate beam loads, shear, and moments | | 1-4 | | 1-4 | | 1-4 | | | | | | | | | | 1-4 | | | | | | 1-4 | 1-4 |
| Fletcher | 2. Design wood connections, columns, beams, and decking | | 5-8 | | 5-8 | | 5-8 | | | | | | | | | | 5-8 | | | | | | 5-8 | 5-8 |
| ACT & BCT | 3. Design steel connections, columns, beams, and decking | | 9-13 | | 9-13 | | 9-13 | | | | | | | | | | 9-13 | | | | | | 9-13 | 9-13 |
| Building Structures | 4. Design concrete beams, slab, and columns for bending, shear, and deflection | | 14 | | 14 | | 14 | | | | | | | | | | 14 | | | | | | 14 | 14 |
| | 5. Calculate reinforcement in concrete footings, beams, columns and slabs | | 14 | | 14 | | 14 | | | | | | | | | | 14 | | | | | | 14 | 14 |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Assgnment 1 | | | | | 1 | 27 | 28 | 96% | | | | | 1 | 21 | 22 | 95% |
| 2. Assgnment 2 | | | | | 2 | 24 | 28 | 86% | | | | | 2 | 21 | 22 | 95% |
| 3. Assgnment 3 | | | | | 3 | 27 | 28 | 96% | | | | | 3 | 21 | 22 | 95% |
| 4. Assgnment 4 | | | | | 4 | 25 | 28 | 89% | | | | | 4 | 19 | 22 | 86% |
| 5. Assgnment 5 | | | | | 5 | 27 | 28 | 96% | | | | | 5 | 20 | 22 | 91% |
| 6. Assgnment 6 | | | | | 6 | 28 | 28 | 100% | | | | | 6 | 20 | 22 | 91% |
| 7. Assgnment 7 | | | | | 7 | 24 | 28 | 86% | | | | | 7 | 20 | 22 | 91% |
| 8. Assgnment 8 | | | | | 8 | 27 | 28 | 96% | | | | | 8 | 20 | 22 | 91% |
| 9. Assgnment 9 | | | | | 9 | 24 | 28 | 86% | | | | | 9 | 19 | 22 | 86% |
| 10. Assgnment 10 | | | | | 10 | 26 | 28 | 93% | | | | | 10 | 19 | 22 | 86% |
| 11. Assgnment 11 | | | | | 11 | 27 | 28 | 96% | | | | | 11 | 19 | 22 | 86% |
| 12. Assgnment 12 | | | | | 12 | 26 | 28 | 93% | | | | | 12 | 19 | 22 | 86% |
| 13. Assgnment 13 | | | | | 13 | 24 | 28 | 86% | | | | | 13 | 13 | 22 | 59% |
| 14. Assgnment 14 | | | | | 14 | 27 | 28 | 96% | | | | | 14 | 19 | 22 | 86% |
| | | | AVG | | | | AVG | **93%** | | | AVG | | | | AVG | **88%** |

| AEC 454 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
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| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| | 1. Quantify and document three-dimensional materials represented by two-dimensional construction design drawings (Perform and display quantity surveying). | 2-7 | | | | | | | | | | 2-7 | | | | | | 2-7 | 2-7 | 2-7 | | | | 2-7 |
| Sharp | 2. Learn to algebraically resolve units of measure. | 2-9 | 2-9 | | | | | 2-9 | | | | 2-9 | | | | | | 2-9 | 2-7 | 2-9 | | | | 2-7 |
| ACT & BCT | 3. Utilize the CSI Master Format to categorize and organize construction information. | 7 | | | | | | | | | | | | | | | | 7 | | | | | | |
| Estimating I | 4. Visualize three dimensional structures and volumes from construction bidding documents (Construction drawing interpretation). | 2-9 | 2-9 | | | | | 2-9 | | | | 2-9 | | | | | | 2-9 | 2-7 | 2-9 | | | | 2-7 |
| | 5. Utilize the spreadsheet application and commercial software applications to automate quantity take-off. | 1-7 | | | | | | | | 1-7 | | 1-7 | | | | | | 1-7 | 1-7 | 1-7 | | 1-7 | | 1-7 |
| | 6. Interpret and conform to written technical specifications | 7 | | | | | | | | | | | | | | | | 7 | | | | | | |
| | 7. Be productive in an environment of critical deadlines. | 1-7 | | | | | | | | | | 1-7 | | | | | | 1-7 | | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Exercise 1 | 1 | 11 | 11 | 100% | | | | | | | | | 1 | 30 | 33 | 91% |
| 2. Exercise 2 | 2 | 11 | 11 | 100% | | | | | | | | | 2 | 28 | 33 | 85% |
| 3. Exercise 3 | 3 | 8 | 11 | 73% | | | | | | | | | 3 | 27 | 33 | 82% |
| 4. Exercise 4 | 4 | 9 | 11 | 82% | | | | | | | | | 4 | 27 | 33 | 82% |
| 5. Exercise 5 | 5 | 8 | 11 | 73% | | | | | | | | | 5 | 27 | 33 | 82% |
| 6. Exercise 6 | 6 | 11 | 11 | 100% | | | | | | | | | 6 | 27 | 33 | 82% |
| 7. Final Project | 7 | 11 | 11 | 100% | | | | | | | | | 7 | 27 | 33 | 82% |
| 8. Exam One | 8 | 11 | 11 | 100% | | | | | | | | | 8 | 30 | 33 | 91% |
| 9. Exam Two | 9 | 11 | 11 | 100% | | | | | | | | | 9 | 29 | 33 | 88% |

| AEC 496 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Kemp<br>ACT & BCT | 1. Recognize the functional areas (structure) of the host organization | 3,6,7 | | | | | | | | | | | | | | | | | | | | | | |
| | 2. Identify functional roles (tasks, responsibilities) in industry and the intern's functional role within the host organization | 3,6,7 | | | | 3,6,7 | | | | | | | | | | | | | | | | | | |
| | 3. Identify to which of the life cycle process(es) of an asset/facility the internship duties relate | 3,6,7,8 | | | | 3,6,7,8 | | | | | | | | | | | | | | | | | | |
| | 4. Describe the work flow processes and documentation associated with internship duties | 3,6,7 | | | | | | | | | | | 3,6,7 | 3,6,7 | | | | | 3,6,7 | | | | 3,6 | 3,6 |
| Industrial Internship | 5. Gain 400 contact hours of practical experience at a host company | | | | | | | | | | | 1,2,4,5 | | | | | | | | | | | | |
| | 6. Satisfactorily perform entry-level duties associated with the intern's role in the host company | 3,6-10 | | | | | | | | | | | | | | | | | 3,6,7 | | 3,6,7 | | 3,6 | 3,6 |
| | 7. Identify ethical situations and dilemmas observed during the internship | | | | | | | 3,6 | | 3,6,7 | | | | | | | | | | | | | | |
| | 8. Demonstrate verbal and written communication proficiency to advance in industry. | | | | | | | 3,6,7 | | | | | | | | | | | | | | | | |
| | 9. Submit 100% of the deliverables required by the established deadlines | | | | | | | | | | | 1-10 | | | | | | | | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Internship agreement | | | | | 1 | 2 | 2 | 100% | | | | | | | | |
| 2. Schedule supervisor/instructor conversation | | | | | 2 | 2 | 2 | 100% | | | | | | | | |
| 3. Midterm report | | | | | 3 | 2 | 2 | 100% | | | | | | | | |
| 4. Implement conversation between instructor/supervisor | | | | | 4 | 1 | 2 | 50% | | | | | | | | |
| 5. Schedule final oral presentation | | | | | 5 | 2 | 2 | 100% | | | | | | | | |
| 6. Final report | | | | | 6 | 2 | 2 | 100% | | | | | | | | |
| 7. Final oral presentation | | | | | 7 | 2 | 2 | 100% | | | | | | | | |
| 8. Student survey | | | | | 8 | 2 | 2 | 100% | | | | | | | | |
| 9. Industry representative survey | | | | | 9 | 2 | 2 | 100% | | | | | | | | |
| 10. Student intern evaluation | | | | | 10 | 2 | 2 | 100% | | | | | | | | |
| | | | AVG | | | | AVG | **95%** | | | AVG | | | | AVG | |

| AEC 300 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Kemp<br>BCT | 1. Provide average to excellent discussion capabilities with respect to the current issues in construction. | | | | | 1-4 | | | | | | 1-4 | | | | | | | | | | | | |
| Seminar | | | | | | | | | | | | | | | | | | | | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Research Paper 1-Technology | | | | | | | | | | | | | 1 | 35 | 39 | 90% |
| 2. Research Paper 2-Leadership | | | | | | | | | | | | | 2 | 35 | 39 | 90% |
| 3. Research Paper 3-Integrated Project Delvery | | | | | | | | | | | | | 3 | 36 | 39 | 92% |
| 4. Research Paper 4-Ethics | | | | | | | | | | | | | 4 | 37 | 39 | 95% |
| | | | AVG | | | | AVG | | | | AVG | | | | AVG | **92%** |

| BCT 205 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Hannon | Measure with steel tape, correct for errors, and adjust for temperature and tension | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| | Understand the concept of differential leveling | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| | Use level and perform calculations in order to adjust for errors and close the loop | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| Surveying | Use transit and understand the concept of angles and directions | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| | Calculate coordinates based on bearings and distances and vice versa, and also adjust for error closure | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| | Perform construction layout (setting up points of known coordinates/and As-built) | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| | Application of GPS and GIS technology used in Surveying and Construction Layout | 1-3 | 1-3 | 1-3 | | | 1-3 | | | | | | 1-3 | | 1-3 | | | | 1-3 | | | | | 1-3 |
| **BCT 205L** | Measuring Distances using Pacing | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |
| Hannon | Survey Field Note Standards | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |
| | Measuring building height using similar triangles | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |
| Surveying Laboratory | Determine the Finish Floor Elevation of a building using differential leveling | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |
| | Traverse survey | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |
| | Excel Spreadsheet of Compass Rule | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |
| | Building Layout | 4,5 | 4,5 | 4,5 | | 4,5 | | | | | | 4,5 | | | | | | | | | | | | |

## BCT 205

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Midterm | | | | | 1 | 36 | 36 | 100% | 1 | 13 | 14 | 93% | | | | |
| 2. Final Exam | | | | | 2 | 36 | 36 | 100% | 2 | 13 | 14 | 93% | | | | |
| 3 Research Paper | | | | | 3 | 36 | 36 | 100% | 3 | 13 | 14 | 93% | | | | |
| | | | AVG | | | | AVG | **100%** | | | AVG | **93%** | | | AVG | |

**BCT 205L**

## ASSESSMENT Tools

| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 Leveling Exercises | | | | | 4 | 36 | 36 | 100% | 4 | 13 | 14 | 93% | | | | |
| 5 Traverse Exercises | | | | | 5 | 36 | 36 | 100% | 5 | 13 | 14 | 93% | | | | |
| | | | AVG | | | | AVG | **100%** | | | AVG | **93%** | | | AVG | |

# School of Construction Program Outcomes 2013-2014

| BCT 336 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Langar | 1. Identify and understand Building System and Materials. | 6-8 | | | 6-8 | | | | | | 1-4, 6-8, | | | 6-8 | | | | | | | 6-8 | | | |
| | 2. Identify and evaluate sources of information on building systems | | | | 6-8 | | | | | | 6-8 | | | | | | | | | | | | | |
| | 3. Understand Sequenced Activities for Construction of Systems. | 6-8 | | | 6-8 | | | | | | 4, 6-8 | 6, 7 | | 6-8 | | | | | | | 6-8 | | 7, 8 | |
| Building Systems II | 4. Determine Resources Required to complete the installation of the system | 6-8 | | | 6-8 | | | | | | 4, 6-8 | 6, 7 | | 6-8 | | | | | | | 6-8 | | 2, 6-8 | |
| | 5. Understand, compare, and evaluate building materials from the perspective of technological, human, ecological, and economic performance. | 1-4, 6-8, | | | 6-8 | | 6, 7 | | | | 4, 6-8 | 6, 7 | | 6-8 | | | | | | 4, 7, 8 | 6-8 | | 6-8 | |
| | 6 Understand, compare, and evaluate building materials from the perspective of supply chain | 6-8 | | | 6-8 | | | | | | 4, 6-8 | 6, 7 | | 6-8 | | | | | | | | | | |
| | 7. Analyze and express constructability issues. | 6-8 | | | 6-8 | | | | | | | 6, 7 | | 6-8 | | | | | | | | | 6-8 | |
| | 8. Perform as an integral member of a technical team and communicate effectively within the team and with other teams within the class | | | | | 1, 5, 7 | | 6, 7 | | 5, 7 | | | | | | | | | | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1 Quiz I | 1 | 9 | 19 | 47% | | | | | | | | | 1 | 23 | 31 | 74% |
| 2 Quiz II | 2 | 2 | 19 | 11% | | | | | | | | | 2 | 12 | 31 | 39% |
| 3 Quiz III | 3 | 10 | 19 | 53% | | | | | | | | | 3 | 7 | 31 | 23% |
| 4 Quiz IV | 4 | 8 | 19 | 42% | | | | | | | | | 4 | 19 | 31 | 61% |
| 5 Team Assignment I | 5 | 19 | 19 | 100% | | | | | | | | | 5 | 21 | 31 | 68% |
| 6 Team Assignment II | 6 | 16 | 19 | 84% | | | | | | | | | 6 | 30 | 31 | 97% |
| 7 Class Participation | 7 | 18 | 19 | 95% | | | | | | | | | 7 | 30 | 31 | 97% |
| 8 Final Exam | 8 | 12 | 19 | 63% | | | | | | | | | 8 | 24 | 31 | 77% |
| | | | AVG | **62%** | | | AVG | | | | AVG | | | | AVG | **67%** |

| BCT 374 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Langar | 1. Introduce types of construction contracting systems | 4, 6-9 | | | | 4, 6-9 | 4, 6-9 | 4, 6-9 | | | | | 4, 6-9 | | | | 7-9 | | | | | | | | |
| | 2. Define the prevalent types of business ownership | 1, 6-9 | | | | 1, 6-9 | 1, 6-9 | 1, 6-9 | | | | | | | | | | | | | | | | |
| | 3. List the duties/functions within overall organizational structure of a construction company | 6-8 | | | | 6-8 | 6-8 | 6-8 | | | | | | | | | | | | | | | | |
| Construction Organization | 4 Understand teamwork, operate in teams, and importance of ethics | 5-7 | | | | 5-7 | 5-7 | 5-7 | | 5-7 | | | | | | | | | | | | 1,8,9 | | |
| | 5. Define and list estimating functions/operations and their relationship to managing a construction company | 2, 4, 7-9 | | | | 2, 4, 7-9 | 2, 4, 7-9 | 2, 4, 7-9 | | | | | | | | | 2, 4, 7-9 | | | | | | | |
| | 6. Define the types of project delivery | 1, 2, 6, 8, 9 | | | | 1, 2, 6, 8, 9 | 1, 2, 6, 8, 9 | 1, 2, 6, 8, 9 | | | | | | | | | | | | | | | | |
| | 7. Familiarize with construction industry, associated stakeholders, and relationship between them | 1, 5, 8, 9 | | | | 1, 5, 8, 9 | 1, 5, 8, 9 | 1, 5, 8, 9 | | | | | | | | | | | | | | | | |
| | 8. Define the types of construction surety bonds and inurances available and list the uses of each | 8, 9 | | | | 8, 9 | 8, 9 | 8, 9 | | | | | | | | | 8, 9 | | | | | | | |
| | 9. Define scheduling and explain relationship between activities | 3, 7, 8, 9 | | | | 3, 7-9 | 3, 7-9 | 3, 7-9 | | | | | | 3, 7-9 | | | 4, 7-9 | 7 | | | | | 3, 7-9 | |
| | 10. Define the accounting methods used in the construction industry | 4, 7-9 | | | | 4, 7-9 | 4, 7-9 | 4, 7-9 | | | | | | | | | | | | | | | | |
| | 11. List the duties/functions within field organizational structure of a construction company | 7, 8 | | | | 7, 8 | 7, 8 | 7, 8 | | | | | | | | | | | | | | | | |
| | 12. Realize the importance of safety and role of organization in implementation | 3, 8, 9 | | | | 3, 8, 9 | 3, 8, 9 | 3, 8, 9 | | | | | | | | | | | | | | | 3, 8, 9 | 3, 8, 9 |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1 Quiz I | 1 | 2 | 25 | 8% | | | | | | | | | 1 | 26 | 38 | 68% |
| 2 Quiz II | 2 | 6 | 25 | 24% | | | | | | | | | 2 | 9 | 38 | 24% |
| 3 Quiz III | 3 | 12 | 25 | 48% | | | | | | | | | 3 | 5 | 38 | 13% |
| 4 Quiz IV | 4 | 1 | 25 | 4% | | | | | | | | | 4 | 31 | 38 | 82% |
| 5 Team Assignment I | 5 | 22 | 25 | 88% | | | | | | | | | 5 | 26 | 38 | 68% |
| 6 Team Assignment II | 6 | 25 | 25 | 100% | | | | | | | | | 6 | 29 | 38 | 76% |
| 7 BIG | 7 | 25 | 25 | 100% | | | | | | | | | 7 | 38 | 38 | 100% |
| 8 Class Participation | 8 | 25 | 25 | 100% | | | | | | | | | 8 | 36 | 38 | 95% |
| 9 Final Exam | 9 | 8 | 25 | 32% | | | | | | | | | 9 | 27 | 38 | 71% |
| | | | AVG | **56%** | | | AVG | | | | AVG | | | | AVG | **66%** |

| BCT 400 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Basha | Site Plan Analysis | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | | | |
| | Organizational Chart & Cost Control Plan | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | |
| | Document & Material Control Plans & Video Presentation for items 1 through 3. | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | | | |
| Senior Project | Safety Plan | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | 1 | | |
| | Estimate | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | 1 | | | 1 | 1 | 1 | | | |
| | Schedule | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | 1 | | |
| | Executive Summary | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | | | |
| | Final Notebook Submittal & Final Video Presentation | 1 | 1 | | | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Paper | | | | | 1 | 16 | 19 | 84% | 1 | 4 | 4 | 100% | 1 | 18 | 18 | 100% |
| | | | | | | | AVG | **84%** | | | AVG | **100%** | | | AVG | **100%** |

| BCT 455/L | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| | 1. Identify and assemble the components of a construction cost estimate | | | | | 1-4 | | | | | | 1-4 | | | | | 1-4 | | | 1-4 | | | | |
| | 2. Be familiar with the start up activities for assembling a complete bid | | | | | | | | | | | | | | | | 1-4 | | | 1-4 | | | | |
| | 3. Categorize work into various scope packages | | | | | | | | | | | 2-4 | | | | | | | | | | | | |
| Fletcher | 4. Determine general conditions and overhead costs | | | | | 2-4 | | | | | | 2-4 | | | | | | | | | | | | |
| | 5. Determine labor, material, equipment and subcontractor costs | | | | | 2-4 | | | | | | | | | | | | | | | | | | |
| Estimating II | 6. Evaluate and analyze bids from subcontractors, suppliers and vendors | | | | | 2-4 | | | 2-4 | | | | | | | | | | | | | | | |
| Estimating II Laboratory | 7. Handle post-bid adjustments and final scopes of work | | | | | | | | | 2-4 | | | | | | | | | | | | | | |
| | 8. Prepare a complete bid for sample projects | | | | | 2-4 | | | | | | | | | | | | | | | | | | |
| | 9. Work with spreadsheets to analyze and compare bids | | | | | | | | | 2-4 | | | | | | | | | | | | | | |
| | 10. Discuss ethics when preparing, submitting, and evaluating bids | | | | | 2-4 | | | | 2-4 | | | | | | | | | | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Exam #1 covering the methods and proceedures of putting an estimate together. | | | | | 1 | 22 | 22 | 100% | | | | | 1 | 17 | 17 | 100% |
| 2. Graded Project #1. Individual project attempting to assemble a complete bid. | | | | | 2 | 16 | 22 | 73% | | | | | 2 | 13 | 17 | 76% |
| 3. Graded Project #2, Team project on a more dufficult bid package. | | | | | 3 | 19 | 22 | 86% | | | | | 3 | 15 | 17 | 88% |
| 4. Graded Project #3. Final project by teams with subbids, and scopes. | | | | | 4 | 21 | 22 | 95% | | | | | 4 | 9 | 17 | 53% |
| | | | AVG | | | | AVG | **89%** | | | AVG | | | | AVG | **79%** |

| BCT 477 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Langar | 1. Delivery methods, CM selection criteria | 1, 2, 5, 7, 8 | | | | 1, 2, 5, 7, 8 | 1, 2, 5, 7, 8 | 1, 2, 5, 7, 8 | | | 5, 7 | 6, 7 | | | | | | | | | | | | |
| | 2. Explain the bid documents, bid components, and procurement strategies | 3, 6-8 | | | | 3, 6-8 | 3, 6-8 | 3, 6-8 | | | 7 | 7 | | | | | 6 | | | | | | | |
| | 3. Introduction to construction law | 4, 7, 8 | | | | 4, 7, 8 | 4, 7, 8 | 4, 7, 8 | | | | | | | | | | | | | | 4, 7, 8 | | |
| Project Management | 4. Importance of Teamwork | 5-7 | | | | 5-7 | 5-7 | 5-7 | 5-8 | 5-8 | | 5, 6 | | | | | | | | | | 5-7 | | |
| | 5. Prepare, evaluate, and modify job schedules | 6, 7 | | | | 6, 7 | 6, 7 | 6, 7 | | | | 6 | | 6, 7 | | | 6 | | | | | | 6, 7 | |
| | 6. Understanding of project chronology | 6, 7 | | | | 6, 7 | 6, 7 | 6, 7 | | | 6, 7 | 6 | | 6, 7 | | | 6 | | | | | | 6, 7 | |
| | 7. Describe and implement job safety management practices | 4, 6-8 | | | | 4, 6-8 | 4, 6-8 | 4, 6-8 | | | | 6 | | | | | | | | | | | 4, 6-8 | |
| | 8. Introduction to the concept of best practices | 5, 7, 8 | | | | 5, 7, 8 | 5, 7, 8 | 5, 7, 8 | 5, 7, 8 | | 5, 7, 8 | 5 | | | | | | | | | | | | |
| | 9. Understanding of use of technology and its impact on project management | 1, 2, 6-8 | | | | 1, 2, 6-8 | 1, 2, 6-8 | 1, 2, 6-8 | | | 7 | 7 | | | | | | | | | | | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1 Quiz I | 1 | 3 | 7 | 43% | | | | | | | | | 1 | 20 | 30 | 67% |
| 2 Quiz II | 2 | 3 | 7 | 43% | | | | | | | | | 2 | 9 | 30 | 30% |
| 3 Quiz III | 3 | 3 | 7 | 43% | | | | | | | | | 3 | 15 | 30 | 50% |
| 4 Quiz IV | 4 | 0 | 7 | 0% | | | | | | | | | 4 | 25 | 30 | 83% |
| 5 Team Assignment I | 5 | 7 | 7 | 100% | | | | | | | | | 5 | 27 | 30 | 90% |
| 6 Team Assignment II | 6 | 7 | 7 | 100% | | | | | | | | | 6 | 28 | 30 | 93% |
| 7 Class Participation | 7 | 7 | 7 | 100% | | | | | | | | | 7 | 27 | 30 | 90% |
| 8 Final Exam | 8 | 1 | 7 | 14% | | | | | | | | | 8 | 24 | 30 | 80% |
| | | | AVG | **43%** | | | AVG | | | | AVG | | | | AVG | **48%** |

| BCT 480 | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Kemp | 1. Locate appropriate CFR reference for various construction hazards | | | | | | | | 7 | | | 1 | | | | | | | | | 1 | | 5,7 | |
| | 2. Visually recognize compliance and non-compliance issues and situations | | | | | | 5 | | | | | | | | | | | | | | | | 5 | |
| | 3. Produce summaries that reflect current accident causes and discuss violations, preventive measures, and ethical issues. | | | | | | | 3 | | 3,6 | | | | | | | | | | | | | 2-7 | |
| Construction Safety | 4. Create a basic Safety Plan for a general contractor | | | | 7 | | | | | | | | | | | | | | | | | | 7 | |
| | 5. Give presentations related to construction safety hazards and jobsite tool box meetings | | | | 7 | | | | | | | | | | | | | | | | | | 7 | |
| | 6. Research and document several current issues in construction safety | | | | | | 5 | | | | | | | | | | | | | | | 6 | | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1. Pre-Test & Post-Test | 1 | 8 | 9 | 89% | 1 | 32 | 37 | 86% | | | | | 1 | 32 | 36 | 89% |
| 2. OSHA Self-Test | 2 | 9 | 9 | 100% | 2 | 33 | 37 | 89% | | | | | 2 | 34 | 36 | 94% |
| 3. Two Safety Articles | 3 | 8 | 9 | 89% | 3 | 36 | 37 | 97% | | | | | 3 | 33 | 36 | 92% |
| 4. Exam 1 --covers Intro through Tools | 4 | 8 | 9 | 89% | 4 | 31 | 37 | 84% | | | | | 4 | 32 | 36 | 89% |
| 5. Hazard Recognition Report | 5 | 9 | 9 | 100% | 5 | 36 | 37 | 97% | | | | | 5 | 33 | 36 | 92% |
| 6. Exam #2 ---covers Electrical through Record Keeping | 6 | 7 | 9 | 78% | 6 | 35 | 37 | 95% | | | | | 6 | 31 | 36 | 86% |
| 7. Final Project | 7 | 9 | 9 | 100% | 7 | 37 | 37 | 100% | | | | | 7 | 36 | 36 | 100% |
| | | | AVG | **92%** | | | AVG | **93%** | | | AVG | | | | AVG | **92%** |

| BCT 486/L | Course Objectives | General Criteria | | | | | | | | | | | Assoc & BS program criteria | | | | | | BS program criteria | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | k | a | b | c | d | e | f | a | b | c | d | e | f |
| Hannon | 1. Analyze Cash Flow and Budgets. | 2,3 | 2,3 | | | | 2,3 | | | | | | 2,3 | | | | | 2,3 | 2,3 | 1 | | | 2,3 | |
| | 2. Identify Resource Limits and Constraints. | 2,3 | 2,3 | | | | 2,3 | | | | | | 2,3 | | | | | 2,3 | 2,3 | 1 | | | 2,3 | |
| | 3. Develop and Maintain Procurement Planning Methods and Tools. | 1 | 1 | | | | 1 | | | | | | 1 | | | | | 1, 2 | 1, 2 | | | | 1, 2 | |
| | 4. Measure Physical Work Progress. | 2,3 | 2,3 | | | | 2,3 | | | | | | 2,3 | | | | | 2,3 | 2,3 | | | | 2,3 | |
| Project Controls | 5. Analyze Variance from Plan. | 2,3 | 2,3 | | | | 2,3 | | | | | | 2,3 | | | | | 2,3 | 2,3 | 1 | | | 2,3 | |
| Project Controls Laboratory | 6. Assess Change and Variance Impacts. | 2,3 | 2,3 | | | | 2,3 | | | | | | 2,3 | | | | | 2,3 | 2,3 | 1 | | | 2,3 | |
| | 7. Document Control Plan Basis and Reporting. | 1-3 | 1-3 | | | | 1-3 | | | | | | 1-3 | | | | | 1-3 | 1-3 | | | | 1-3 | |

## ASSESSMENT Tools

| | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio | Assessment | #students >= C | #students | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FA13 | F-F | | | FA13 | ONL | | | SP14 | F-F | | | SP14 | ONL | | |
| 1 Quiz | | | | | 1 | 16 | 21 | 76% | | | | | 1 | 15 | 17 | 88% |
| 2 Paper | | | | | 2 | 15 | 21 | 71% | | | | | 2 | 17 | 17 | 100% |
| 3 Exam | | | | | 3 | 16 | 21 | 76% | | | | | 3 | 17 | 17 | 100% |
| | | | AVG | | | | AVG | **75%** | | | AVG | | | | AVG | **96%** |

## Findings: General Criteria (a-k)

| | BCT criteria | >=70 | ENR | % | sem | >=70 | ENR | % | type | >=70 | ENR | % | % | >=70 | ENR | BCT concatenated findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GC | a | 1529 | 2019 | 76% | FA13 | 517 | 721 | 72% | F-F | 375 | 549 | 68% | 76 | 1,529 | 2,019 | 76% ( 1,529 of 2,019 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'a |
| | | | | | | | | | ONL | 142 | 172 | 83% | | | | FA13: F-F = 68% ( 375 of 549 ); ONL = 83% ( 142 of 172 ); |
| | | | | | SP14 | 1012 | 1298 | 78% | F-F | 102 | 123 | 83% | | | | SP14: F-F = 83% ( 102 of 123 ); ONL = 77% ( 910 of 1,175 ); |
| | | | | | | | | | ONL | 910 | 1175 | 77% | | | | |
| GC | b | 1373 | 1561 | 88% | FA13 | 506 | 562 | 90% | F-F | 80 | 88 | 91% | 88 | 1,373 | 1,561 | 88% ( 1,373 of 1,561 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'b |
| | | | | | | | | | ONL | 426 | 474 | 90% | | | | FA13: F-F = 91% ( 80 of 88 ); ONL = 90% ( 426 of 474 ); |
| | | | | | SP14 | 867 | 999 | 87% | F-F | 45 | 52 | 87% | | | | SP14: F-F = 87% ( 45 of 52 ); ONL = 87% ( 822 of 947 ); |
| | | | | | | | | | ONL | 822 | 947 | 87% | | | | |
| GC | c | 139 | 154 | 90% | FA13 | 70 | 80 | 88% | F-F | 27 | 28 | 96% | 90 | 139 | 154 | 90% ( 139 of 154 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'c |
| | | | | | | | | | ONL | 43 | 52 | 83% | | | | FA13: F-F = 96% ( 27 of 28 ); ONL = 83% ( 43 of 52 ); |
| | | | | | SP14 | 69 | 74 | 93% | F-F | 26 | 26 | 100% | | | | SP14: F-F = 100% ( 26 of 26 ); ONL = 90% ( 43 of 48 ); |
| | | | | | | | | | ONL | 43 | 48 | 90% | | | | |
| GC | d | 1073 | 1201 | 89% | FA13 | 418 | 458 | 91% | F-F | 55 | 66 | 83% | 89 | 1,073 | 1,201 | 89% ( 1,073 of 1,201 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'd |
| | | | | | | | | | ONL | 363 | 392 | 93% | | | | FA13: F-F = 83% ( 55 of 66 ); ONL = 93% ( 363 of 392 ); |
| | | | | | SP14 | 655 | 743 | 88% | F-F | 0 | 0 | 0% | | | | SP14: F-F = 0% ( 0 of 0 ); ONL = 88% ( 655 of 743 ); |
| | | | | | | | | | ONL | 655 | 743 | 88% | | | | |
| GC | e | 998 | 1354 | 74% | FA13 | 303 | 451 | 67% | F-F | 203 | 338 | 60% | 74 | 998 | 1,354 | 74% ( 998 of 1,354 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'e |
| | | | | | | | | | ONL | 100 | 113 | 88% | | | | FA13: F-F = 60% ( 203 of 338 ); ONL = 88% ( 100 of 113 ); |
| | | | | | SP14 | 695 | 903 | 77% | F-F | 4 | 4 | 100% | | | | SP14: F-F = 100% ( 4 of 4 ); ONL = 77% ( 691 of 899 ); |
| | | | | | | | | | ONL | 691 | 899 | 77% | | | | |
| GC | f | 2037 | 2531 | 80% | FA13 | 828 | 1042 | 79% | F-F | 353 | 516 | 68% | 80 | 2,037 | 2,531 | 80% ( 2,037 of 2,531 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'f |
| | | | | | | | | | ONL | 475 | 526 | 90% | | | | FA13: F-F = 68% ( 353 of 516 ); ONL = 90% ( 475 of 526 ); |
| | | | | | SP14 | 1209 | 1489 | 81% | F-F | 70 | 78 | 90% | | | | SP14: F-F = 90% ( 70 of 78 ); ONL = 81% ( 1,139 of 1,411 ); |
| | | | | | | | | | ONL | 1139 | 1411 | 81% | | | | |
| GC | g | 1690 | 2137 | 79% | FA13 | 619 | 795 | 78% | F-F | 414 | 560 | 74% | 79 | 1,690 | 2,137 | 79% ( 1,690 of 2,137 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'g |
| | | | | | | | | | ONL | 205 | 235 | 87% | | | | FA13: F-F = 74% ( 414 of 560 ); ONL = 87% ( 205 of 235 ); |
| | | | | | SP14 | 1071 | 1342 | 80% | F-F | 164 | 188 | 87% | | | | SP14: F-F = 87% ( 164 of 188 ); ONL = 79% ( 907 of 1,154 ); |
| | | | | | | | | | ONL | 907 | 1154 | 79% | | | | |
| GC | h | 379 | 443 | 86% | FA13 | 163 | 192 | 85% | F-F | 63 | 74 | 85% | 86 | 379 | 443 | 86% ( 379 of 443 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'h |
| | | | | | | | | | ONL | 100 | 118 | 85% | | | | FA13: F-F = 85% ( 63 of 74 ); ONL = 85% ( 100 of 118 ); |
| | | | | | SP14 | 216 | 251 | 86% | F-F | 23 | 26 | 88% | | | | SP14: F-F = 88% ( 23 of 26 ); ONL = 86% ( 193 of 225 ); |
| | | | | | | | | | ONL | 193 | 225 | 86% | | | | |
| GC | i | 913 | 1067 | 86% | FA13 | 339 | 380 | 89% | F-F | 255 | 282 | 90% | 86 | 913 | 1,067 | 86% ( 913 of 1,067 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'i |
| | | | | | | | | | ONL | 84 | 98 | 86% | | | | FA13: F-F = 90% ( 255 of 282 ); ONL = 86% ( 84 of 98 ); |
| | | | | | SP14 | 574 | 687 | 84% | F-F | 12 | 13 | 92% | | | | SP14: F-F = 92% ( 12 of 13 ); ONL = 83% ( 562 of 674 ); |
| | | | | | | | | | ONL | 562 | 674 | 83% | | | | |
| GC | j | 390 | 548 | 71% | FA13 | 118 | 180 | 66% | F-F | 118 | 180 | 66% | 71 | 390 | 548 | 71% ( 390 of 548 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'j |
| | | | | | | | | | ONL | 0 | 0 | 0% | | | | FA13: F-F = 66% ( 118 of 180 ); ONL = 0% ( 0 of 0 ); |
| | | | | | SP14 | 272 | 368 | 74% | F-F | 0 | 0 | 0% | | | | SP14: F-F = 0% ( 0 of 0 ); ONL = 74% ( 272 of 368 ); |
| | | | | | | | | | ONL | 272 | 368 | 74% | | | | |
| GC | k | 1329 | 1500 | 89% | FA13 | 530 | 608 | 87% | F-F | 346 | 399 | 87% | 89 | 1,329 | 1,500 | 89% ( 1,329 of 1,500 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET General Criteria 'k |
| | | | | | | | | | ONL | 184 | 209 | 88% | | | | FA13: F-F = 87% ( 346 of 399 ); ONL = 88% ( 184 of 209 ); |
| | | | | | SP14 | 799 | 892 | 90% | F-F | 93 | 104 | 89% | | | | SP14: F-F = 89% ( 93 of 104 ); ONL = 90% ( 706 of 788 ); |
| | | | | | | | | | ONL | 706 | 788 | 90% | | | | |

# School of Construction Program Outcomes 2013-2014

## Associate Degree and Lower Division Baccalaureate Criteria

| | BCT criteria | >=70 | ENR | % | sem | >=70 | ENR | % | type | >=70 | ENR | % | % | >=70 | ENR | BCT concatenated findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AS | **a** | 591 | 713 | 83% | FA13 | 322 | 413 | 78% | F-F | 227 | 299 | 76% | 83 | 591 | 713 | 83% ( 591 of 713 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'a |
| | | | | | | | | | ONL | 95 | 114 | 83% | | | | FA13: F-F = 76% ( 227 of 299 ); ONL = 83% ( 95 of 114 ); |
| | | | | | SP14 | 269 | 300 | 90% | F-F | 17 | 17 | 100% | | | | SP14: F-F = 100% ( 17 of 17 ); ONL = 89% ( 252 of 283 ); |
| | | | | | | | | | ONL | 252 | 283 | 89% | | | | |
| AS | **b** | 520 | 651 | 80% | FA13 | 212 | 276 | 77% | F-F | 190 | 251 | 76% | 80 | 520 | 651 | 80% ( 520 of 651 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'b |
| | | | | | | | | | ONL | 22 | 25 | 88% | | | | FA13: F-F = 76% ( 190 of 251 ); ONL = 88% ( 22 of 25 ); |
| | | | | | SP14 | 308 | 375 | 82% | F-F | 45 | 52 | 87% | | | | SP14: F-F = 87% ( 45 of 52 ); ONL = 81% ( 263 of 323 ); |
| | | | | | | | | | ONL | 263 | 323 | 81% | | | | |
| AS | **c** | 177 | 195 | 91% | FA13 | 86 | 99 | 87% | F-F | 27 | 28 | 96% | 91 | 177 | 195 | 91% ( 177 of 195 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'c |
| | | | | | | | | | ONL | 59 | 71 | 83% | | | | FA13: F-F = 96% ( 27 of 28 ); ONL = 83% ( 59 of 71 ); |
| | | | | | SP14 | 91 | 96 | 95% | F-F | 30 | 30 | 100% | | | | SP14: F-F = 100% ( 30 of 30 ); ONL = 92% ( 61 of 66 ); |
| | | | | | | | | | ONL | 61 | 66 | 92% | | | | |
| AS | **d** | 38 | 41 | 93% | FA13 | 16 | 19 | 84% | F-F | 0 | 0 | 0% | 93 | 38 | 41 | 93% ( 38 of 41 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'd |
| | | | | | | | | | ONL | 16 | 19 | 84% | | | | FA13: F-F = 0% ( 0 of 0 ); ONL = 84% ( 16 of 19 ); |
| | | | | | SP14 | 22 | 22 | 100% | F-F | 4 | 4 | 100% | | | | SP14: F-F = 100% ( 4 of 4 ); ONL = 100% ( 18 of 18 ); |
| | | | | | | | | | ONL | 18 | 18 | 100% | | | | |
| AS | **e** | 1271 | 1514 | 84% | FA13 | 513 | 612 | 84% | F-F | 72 | 132 | 55% | 84 | 1,271 | 1,514 | 84% ( 1,271 of 1,514 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'e |
| | | | | | | | | | ONL | 441 | 480 | 92% | | | | FA13: F-F = 55% ( 72 of 132 ); ONL = 92% ( 441 of 480 ); |
| | | | | | SP14 | 758 | 902 | 84% | F-F | 0 | 0 | 0% | | | | SP14: F-F = 0% ( 0 of 0 ); ONL = 84% ( 758 of 902 ); |
| | | | | | | | | | ONL | 758 | 902 | 84% | | | | |
| AS | **f** | 229 | 254 | 90% | FA13 | 109 | 128 | 85% | F-F | 40 | 39 | 103% | 90 | 229 | 254 | 90% ( 229 of 254 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Associate Degree Program Specific Criteria 'f |
| | | | | | | | | | ONL | 69 | 89 | 78% | | | | FA13: F-F = 103% ( 40 of 39 ); ONL = 78% ( 69 of 89 ); |
| | | | | | SP14 | 120 | 126 | 95% | F-F | 11 | 13 | 85% | | | | SP14: F-F = 85% ( 11 of 13 ); ONL = 96% ( 109 of 113 ); |
| | | | | | | | | | ONL | 109 | 113 | 96% | | | | |

## Upper Division Baccalaureate Criteria

| | BCT criteria | >=70 | ENR | % | sem | >=70 | ENR | % | type | >=70 | ENR | % | % | >=70 | ENR | BCT concatenated findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BS | a | 711 | 827 | 86% | FA13 | 350 | 416 | 84% | F-F | 233 | 276 | 84% | 86 | 711 | 827 | 86% ( 711 of 827 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Baccalaureate Degree Program Specific Criteria 'a |
| | | | | | | | | | ONL | 117 | 140 | 84% | | | | FA13: F-F = 84% ( 233 of 276 ); ONL = 84% ( 117 of 140 ); |
| | | | | | SP14 | 361 | 411 | 88% | F-F | 29 | 30 | 97% | | | | SP14: F-F = 97% ( 29 of 30 ); ONL = 87% ( 332 of 381 ); |
| | | | | | | | | | ONL | 332 | 381 | 87% | | | | |
| BS | b | 861 | 1034 | 83% | FA13 | 414 | 500 | 83% | F-F | 282 | 346 | 82% | 83 | 861 | 1,034 | 83% ( 861 of 1,034 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Baccalaureate Degree Program Specific Criteria 'b |
| | | | | | | | | | ONL | 132 | 154 | 86% | | | | FA13: F-F = 82% ( 282 of 346 ); ONL = 86% ( 132 of 154 ); |
| | | | | | SP14 | 447 | 534 | 84% | F-F | 15 | 17 | 88% | | | | SP14: F-F = 88% ( 15 of 17 ); ONL = 84% ( 432 of 517 ); |
| | | | | | | | | | ONL | 432 | 517 | 84% | | | | |
| BS | c | 564 | 627 | 90% | FA13 | 256 | 291 | 88% | F-F | 123 | 136 | 90% | 90 | 564 | 627 | 90% ( 564 of 627 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Baccalaureate Degree Program Specific Criteria 'c |
| | | | | | | | | | ONL | 133 | 155 | 86% | | | | FA13: F-F = 90% ( 123 of 136 ); ONL = 86% ( 133 of 155 ); |
| | | | | | SP14 | 308 | 336 | 92% | F-F | 66 | 69 | 96% | | | | SP14: F-F = 96% ( 66 of 69 ); ONL = 91% ( 242 of 267 ); |
| | | | | | | | | | ONL | 242 | 267 | 91% | | | | |
| BS | d | 582 | 731 | 80% | FA13 | 146 | 208 | 70% | F-F | 130 | 189 | 69% | 80 | 582 | 731 | 80% ( 582 of 731 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Baccalaureate Degree Program Specific Criteria 'd |
| | | | | | | | | | ONL | 16 | 19 | 84% | | | | FA13: F-F = 69% ( 130 of 189 ); ONL = 84% ( 16 of 19 ); |
| | | | | | SP14 | 436 | 523 | 83% | F-F | 4 | 4 | 100% | | | | SP14: F-F = 100% ( 4 of 4 ); ONL = 83% ( 432 of 519 ); |
| | | | | | | | | | ONL | 432 | 519 | 83% | | | | |
| BS | e | 1936 | 2273 | 85% | FA13 | 745 | 885 | 84% | F-F | 261 | 348 | 75% | 85 | 1,936 | 2,273 | 85% ( 1,936 of 2,273 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Baccalaureate Degree Program Specific Criteria 'e |
| | | | | | | | | | ONL | 484 | 537 | 90% | | | | FA13: F-F = 75% ( 261 of 348 ); ONL = 90% ( 484 of 537 ); |
| | | | | | SP14 | 1191 | 1388 | 86% | F-F | 36 | 39 | 92% | | | | SP14: F-F = 92% ( 36 of 39 ); ONL = 86% ( 1,155 of 1,349 ); |
| | | | | | | | | | ONL | 1155 | 1349 | 86% | | | | |
| BS | f | 1402 | 1667 | 84% | FA13 | 608 | 708 | 86% | F-F | 241 | 312 | 77% | 84 | 1,402 | 1,667 | 84% ( 1,402 of 1,667 ) of student work samples (projects, exams, quizzes, papers) were scored 70 (out of 100) or better on all assessments supporting ABET Baccalaureate Degree Program Specific Criteria 'f |
| | | | | | | | | | ONL | 367 | 396 | 93% | | | | FA13: F-F = 77% ( 241 of 312 ); ONL = 93% ( 367 of 396 ); |
| | | | | | SP14 | 794 | 959 | 83% | F-F | 0 | 0 | 0% | | | | SP14: F-F = 0% ( 0 of 0 ); ONL = 83% ( 794 of 959 ); |
| | | | | | | | | | ONL | 794 | 959 | 83% | | | | |

**Action Plans**

| AEC 132 FF SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Shane Germany | ACT | BCT | IET | ID / Other | |
| Sketchbook | | 69 | | | Construction students avoid "Hand sketching" exercises, refuse to submit; Monitor, evaluate & obtain feedback on why this trend is obvious to BCT and adapt |
| Sketchbook | | | | | |
| Sketchbook | | | 33 | | Small sample size, similar to BCT comments |
| CAD Exercises | | | 67 | | Small sample size, ,monitor |
| Quizzes | | | 67 | | Small sample size, ,monitor |
| Final Exercise | 33 | 75 | | | 14/22 ACT-BCT Students opted not to submit the final or submitted it grossly incomplete; Monitor, prepare students better for the reality of a culmulative final & time commitment; |
| Final Exercise | | | 33 | 50 | Small sample sizes, 2/5 IET-ID Students |
| Final Exam | 50 | 63 | | | 13/22 Students opted not to submit the final or submitted it grossly incomplete; Monitor, prepare students better for the reality of a culmulative final & time commitment |
| Final Exam | | | 33 | | Small sample size, monitor |

| AEC 270 ONL SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Jessica Sharp | ACT | BCT | IET | ID / Other | |
| 5. Homework 5 | | 74 | | | Cheating was discovered, so multiple students received a "0" for this assignment. Remediation: Course delivery has been altered to reduce cheating. Assignments are graded but awarded less credit towards the student's overall grade. Exams are now proctored, ensuring each student understands and retains the course materials. |

| AEC 444 ONL FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Desmond Fletcher | ACT | BCT | IET | ID / Other | |
| A 2 | | | | 50 | No action required; small sample (2) |
| A 4 | | | | 50 | No action required; small sample (2) |
| A 9 | | | | 50 | No action required; small sample (2) |
| A 13 | | | | 50 | No action required; small sample (2) |

| AEC 444 ONL SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Desmond Fletcher | ACT | BCT | IET | ID / Other | |
| ASSIGNMENT 1 | 50 | | | | improve review materials |
| ASSIGNMENT 1 | | 59 | | | improve review materials |

**Action Plans Continued**

| AEC 454 FF FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Jessica Sharp | ACT | BCT | IET | ID / Other | |
| 3. Assignment 3 | | 73 | | | Cheating was discovered, so multiple students received a "0" for this assignment. Remediation: Course delivery has been altered to reduce cheating. Assignments are graded but awarded less credit towards the student's overall grade. Exams are now proctored, ensuring each student understands and retains the course materials. |
| 5. Assignment 5 | | 73 | | | Cheating was discovered, so multiple students received a "0" for their submission. Remediation: Course delivery has been altered to reduce cheating. Assignments are graded but awarded less credit towards the student's overall grade. Exams are now proctored, ensuring each student understands and retains the course materials. |

| AEC 496 ONL FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Doris Kemp | ACT | BCT | IET | ID / Other | |
| 1. Internship agreement | | | | 50 | Low numbers of students: no action required |
| 4. Implement conversation between instructor/supervisor | | 50 | | | |

| BCT 480 ONL SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Doris Kemp | ACT | BCT | IET | ID / Other | |
| 3. Two Safety Articles | | | | 50 | Only 2 students enrolled as 'other'; data results reflect poor performance outcome because of small sample number. |

| BCT 480 FF FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Doris Kemp | ACT | BCT | IET | ID / Other | |
| 6. Exam #2 ---covers Electrical through Record Keeping | | 78 | | | Students indicated they did not prepare well for exam because they had other exams that same day; no action required. |

| BCT 480 ONL FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Doris Kemp | ACT | BCT | IET | ID / Other | |
| 4. Exam 1 --covers Intro through Tools | | 79 | | | Students indicated they did not prepare well for exam; no action required. |

**Action Plans Continued**

| BCT 336 FF FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Sandeep langar | ACT | BCT | IET | ID / Other | |
| 1 Quiz I | 50 | | | | Monitor as sample is small |
| 1 Quiz I | | 47 | | | Stress on the intensity of the course, from the beginning |
| 1 Quiz I | | | | 0 | Monitor as sample is small |
| 2 Quiz II | 0 | | | | Monitor as sample is small |
| 2 Quiz II | | 11 | | | Stress on the intensity of the course, from the beginning |
| 2 Quiz II | | | | 0 | Monitor as sample is small |
| 3 Quiz III | 50 | | | | Monitor as sample is small |
| 3 Quiz III | | 53 | | | Explicitly mention what the quiz covers |
| 3 Quiz III | | | | 33 | Monitor as sample is small |
| 4 Quiz IV | | 42 | | | Explicitly mention what the quiz covers |
| 4 Quiz IV | | | | 33 | Monitor as sample is small |
| 6 Team Assignment II | 50 | | | | Monitor as sample is small |
| 6 Team Assignment II | | | | 67 | Monitor as sample is small |
| 7 Class Participation | | | | 33 | Monitor as sample is small |
| 8 Final Exam | 50 | | | | Monitor as sample is small |
| 8 Final Exam | | 63 | | | Explicitly mention what the finals covers |
| 8 Final Exam | | | | 0 | Monitor as sample is small |

| BCT 336 ONL SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Sandeep langar | ACT | BCT | IET | ID / Other | |
| 1 Quiz I | | 74 | | | Stress on the intensity of the course, from the beginning |
| 1 Quiz I | | | | 50 | Monitor as sample is small |
| 2 Quiz II | 0 | | | | Stress on the intensity of the course, from the beginning |
| 2 Quiz II | | 39 | | | Stress on the intensity of the course, from the beginning |
| 3 Quiz III | 33 | | | | Stress on the intensity of the course, from the beginning |
| 3 Quiz III | | 23 | | | Explicitly mention what the quiz covers |
| 3 Quiz III | | | | 50 | Monitor as sample is small |
| 4 Quiz IV | | 61 | | | Explicitly mention what the quiz covers |
| 6 Team Assignment II | 50 | | | | Spend more time with students from ACT |
| 6 Team Assignment II | | 68 | | | Stress on the intensity of the course, from the beginning |
| 6 Team Assignment II | | | | 50 | Monitor as sample is small |
| 8 Final Exam | | 77 | | | Stress on the intensity of the course, from the beginning |

**Action Plans Continued**

| BCT 374 FF FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Sandeep langar | ACT | BCT | IET | ID / Other | |
| 1 Quiz I | 0 | | | | Small sample, just monitor |
| 1 Quiz I | | 8 | | | Explicitly mention what the quiz covers |
| 1 Quiz I | | | | 0 | Small sample, just monitor |
| 2 Quiz II | 0 | | | | Small sample, just monitor |
| 2 Quiz II | | 24 | | | Explicitly mention what the quiz covers |
| 2 Quiz II | | | | 0 | Small sample, just monitor |
| 3 Quiz III | 0 | | | | Small sample, just monitor |
| 3 Quiz III | | 48 | | | Explicitly mention what the quiz covers |
| 3 Quiz III | | | | 0 | Small sample, just monitor |
| 4 Quiz IV | 0 | | | | Small sample, just monitor |
| 4 Quiz IV | | 4 | | | Explicitly mention what the quiz covers |
| 4 Quiz IV | | | | 0 | Small sample, just monitor |
| 8 Class Participation | | | | 0 | Small sample, just monitor |
| 9 Final Exam | 0 | | | | Small sample, just monitor |
| 9 Final Exam | | 32 | | | Explicitly mention what the quiz covers |
| 9 Final Exam | | | | 0 | Small sample, just monitor |

| BCT 374 ONL SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Sandeep langar | ACT | BCT | IET | ID / Other | |
| 1 Quiz I | | 68 | | | Monitor |
| 1 Quiz I | | | | 50 | Small sample, just monitor |
| 2 Quiz II | | 24 | | | Monitor |
| 2 Quiz II | | | | 0 | Small sample, just monitor |
| 3 Quiz III | | 13 | | | Monitor |
| 3 Quiz III | | | | 50 | Small sample, just monitor |
| 5 Team Assignment I | | 68 | | | Monitor |
| 5 Team Assignment I | | | | 50 | Small sample, just monitor |
| 6 Team Assignment II | | 76 | | | Monitor |
| 9 Final Exam | | 71 | | | Monitor |

**Action Plans Continued**

| BCT 477 FF FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Sandeep langar | ACT | BCT | IET | ID / Other | |
| 1 Quiz I | | 42 | | | Moniter, small sample |
| 1 Quiz I | | | | 0 | Small Sample |
| 2 Quiz II | | 42 | | | Moniter, small sample |
| 3 Quiz III | | 42 | | | Explicitly mention what the quiz covers |
| 3 Quiz III | | | | 0 | Small Sample |
| 4 Quiz IV | | 0 | | | Explicitly mention what the quiz covers |
| 4 Quiz IV | | | | 0 | Small Sample |
| 6 Team Assignment II | | | | | Small Sample |
| 9 Final Exam | | 14 | | | Moniter, small sample |
| 9 Final Exam | | | | 0 | Small Sample |

| BCT 477 ONL SP14 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Sandeep langar | ACT | BCT | IET | ID / Other | |
| 1 Quiz I | 0 | | | | Small Sample |
| 1 Quiz I | | 67 | | | Stress on the intensity of the course, from the beginning |
| 2 Quiz II | 0 | | | | Small Sample |
| 2 Quiz II | | 30 | | | Stress on the intensity of the course, from the beginning |
| 3 Quiz III | | 50 | | | Stress on the intensity of the course, from the beginning |
| 5 Team Assignment I | 0 | | | | Small Sample |
| 9 Final Exam | 0 | | | | Small Sample |

| BCT 455/L ONL FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Desmond Fletcher | ACT | BCT | IET | ID / Other | |
| Project 1 | | 73 | | | No action required -- developmental process: students progressively improve on next two projects |

| BCT 455/L ONL FA13 | Performance < target 80% | | | | ACTION PLANS |
|---|---|---|---|---|---|
| Desmond Fletcher | ACT | BCT | IET | ID / Other | |
| Project 1 | | 76 | | | No action required -- developmental process: students progressively improve on second project |
| Project 3 | | 53 | | | Reduce scope of project |

**BCT Three-year Summary (Not including 2012-2013 which was not reported)**

**BCT 2010-2011 summary**

| | criteria | >=70 | ENR | % |
|---|---|---|---|---|
| GC | **a** | 1772 | 1945 | 91% |
| GC | **b** | 1534 | 1688 | 91% |
| GC | **c** | 889 | 929 | 96% |
| GC | **d** | 954 | 1017 | 94% |
| GC | **e** | 1642 | 1874 | 88% |
| GC | **f** | 1271 | 1439 | 88% |
| GC | **g** | 894 | 966 | 93% |
| GC | **h** | 832 | 929 | 90% |
| GC | **i** | 974 | 1121 | 87% |
| GC | **j** | 207 | 234 | 88% |
| GC | **k** | 2183 | 2512 | 87% |
| AS | **a** | 1331 | 1490 | 89% |
| AS | **b** | 1016 | 1080 | 94% |
| AS | **c** | 332 | 342 | 97% |
| AS | **d** | 832 | 949 | 88% |
| AS | **e** | 146 | 195 | 75% |
| AS | **f** | 370 | 480 | 77% |
| BS | **a** | 1104 | 1275 | 87% |
| BS | **b** | 473 | 560 | 84% |
| BS | **c** | 811 | 927 | 87% |
| BS | **d** | 318 | 335 | 95% |
| BS | **e** | 1446 | 1632 | 89% |
| BS | **f** | 792 | 849 | 93% |
| | BCT | 22123 | 24768 | **89%** |

**BCT 2011-2012 summary**

| | criteria | >=70 | ENR | % |
|---|---|---|---|---|
| GC | **a** | 2500 | 2827 | 88% |
| GC | **b** | 2313 | 2614 | 88% |
| GC | **c** | 779 | 911 | 86% |
| GC | **d** | 831 | 989 | 84% |
| GC | **e** | 1593 | 1776 | 90% |
| GC | **f** | 2129 | 2436 | 87% |
| GC | **g** | 1792 | 1986 | 90% |
| GC | **h** | 621 | 731 | 85% |
| GC | **i** | 608 | 694 | 88% |
| GC | **j** | 302 | 359 | 84% |
| GC | **k** | 2923 | 3296 | 89% |
| AS | **a** | 2206 | 2504 | 88% |
| AS | **b** | 1219 | 1419 | 86% |
| AS | **c** | 579 | 628 | 92% |
| AS | **d** | 435 | 509 | 85% |
| AS | **e** | 719 | 830 | 87% |
| AS | **f** | 602 | 676 | 89% |
| BS | **a** | 2605 | 2967 | 88% |
| BS | **b** | 1282 | 1485 | 86% |
| BS | **c** | 948 | 1065 | 89% |
| BS | **d** | 935 | 1079 | 87% |
| BS | **e** | 1805 | 2049 | 88% |
| BS | **f** | 1583 | 1854 | 85% |
| | BCT | 31309 | 35684 | **87%** |

**BCT 2013-2014 summary**

| | criteria | >=70 | ENR | % |
|---|---|---|---|---|
| GC | **a** | 1529 | 2019 | 76% |
| GC | **b** | 1373 | 1561 | 88% |
| GC | **c** | 139 | 154 | 90% |
| GC | **d** | 1073 | 1201 | 89% |
| GC | **e** | 998 | 1354 | 74% |
| GC | **f** | 2037 | 2531 | 80% |
| GC | **g** | 1690 | 2137 | 79% |
| GC | **h** | 379 | 443 | 86% |
| GC | **i** | 913 | 1067 | 86% |
| GC | **j** | 390 | 548 | 71% |
| GC | **k** | 1329 | 1500 | 89% |
| AS | **a** | 591 | 713 | 83% |
| AS | **b** | 520 | 651 | 80% |
| AS | **c** | 177 | 195 | 91% |
| AS | **d** | 38 | 41 | 93% |
| AS | **e** | 1271 | 1514 | 84% |
| AS | **f** | 229 | 254 | 90% |
| BS | **a** | 711 | 827 | 86% |
| BS | **b** | 861 | 1034 | 83% |
| BS | **c** | 564 | 627 | 90% |
| BS | **d** | 582 | 731 | 80% |
| BS | **e** | 1936 | 2273 | 85% |
| BS | **f** | 1402 | 1667 | 84% |
| | BCT | 20732 | 25042 | **84%** |

**BCT Graduate Exit Survey Findings (Indirect Measure 2)**

| | criteria | 2013 | BCT Exit Survey Findings | |
|---|---|---|---|---|
| 1 | a | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'a' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 2 | b | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'b' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 3 | c | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'c' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 4 | d | 2.8 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'd' was 2.8. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | **Not Met** |
| 5 | e | 3.1 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'e' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 6 | f | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'f' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 7 | g | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'g' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 8 | h | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'h' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 9 | i | 3.3 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'i' was 3.3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 10 | j | 3.1 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'j' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 11 | k | 3.2 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'k' was 3.2. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| 12 | a | 3.1 | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'a' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |

| | | | | |
|---|---|---|---|---|
| **13** | **b** | **3.1** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'b' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **14** | **c** | **3.0** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'c' was 3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **15** | **d** | **2.9** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'd' was 2.9. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | **Not Met** |
| **16** | **e** | **3.2** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'e' was 3.2. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **17** | **f** | **3.0** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'f' was 3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **18** | **a** | **3.1** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'a' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **19** | **b** | **3.1** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'b' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **20** | **c** | **3.1** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'c' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **21** | **d** | **3.1** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'd' was 3.1. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **22** | **e** | **3.0** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'e' was 3. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Met |
| **23** | **f** | **2.9** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'f' was 2.9. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | **Not Met** |

**Action Plans Related to Indirect Measures**

## BCT Indirect Measures

| | | Action Plans |
|---|---|---|
| **Exit Surveys** | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET General Criteria 'd' was 2.8. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Require degree plan check to ensure increased sample size of respondents |
| | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Associate Degree Program Specific Criteria 'd' was 2.9. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Require degree plan check to ensure increased sample size of respondents |
| | Average of 19 ratings on the evaluation category supporting 2013-2014 ABET Baccalaureate Degree Program Specific Criteria 'f' was 2.9. (4 = Very True; 3 = True; 2 = Somewhat True; 1 = Not True) | Require degree plan check to ensure increased sample size of respondents |