Degree Program Assessment – Construction Management - BSCM for 2017-18

Degree code: CMGT
Degree type: BSCM
Degree title: Construction Management
Assessment year: 2017-18

Student Learning Outcomes #1-5:

Of the first 5 ACCE Student Learning Outcomes, outcomes 2 and 4 were assessed this year (full 3-year rotation schedule of all outcomes measured per year available in notes field at end of form):

2. Create oral presentations appropriate to the construction disciplines.
4. Create construction project cost estimates.

Measure(s):

Student Learning Outcome 2 as measured in CONS 4045/4046 Digital Site Management

Course Learning Outcome aligned with ACCE Student Learning Outcome 2:
E. Create a Presentation that includes video & images and present your findings to the class

Student Learning Outcome 4 as measured in CONS 4008/4009 Cost Estimating

Course Learning Outcomes aligned with ACCE Student Learning Outcome 4:
C. Apply labor adjustment factors that will impact your labor unit costs
F. Create an estimate using certain conceptual estimating methods

Target(s):

For each measure embedded in courses, the target for student performance is that 70% of the students will attain a 70% or higher score on the evaluation of the assignment.

Was this target met?: Met

Results - Explain target met answer:

Outcome 2:
CLO E, SLO 2—80% of the students achieved a 70% or higher grade and that exceeds the target(Indirect)
CLO E, SLO 2—90% of the students achieved a 70% or higher grade and that exceeds the target(Direct)

Outcome 4:
CLO C, SLO 4--86% of the students achieved a 70% or higher grade and that exceeds the target
CLO F, SLO 4—86% of the students achieved a 70% or higher grade and that exceeds the target

Actions to Seek Improvement or Maintain Success:

All targets were met, but faculty continue to use assessments to determine ways to revise and update curriculum to ensure students continue to meet or exceed expectations. For Outcome 4, faculty deduced that several homework assignments should be revised and/or updated, specifically the assignments that relate to cashflow, material unit costing, and forms. Also several of the homework assignments need to be updated so that they can be done using a computer.

Student Learning Outcomes #6-10:

Of ACCE Student Learning Outcomes 6-10, outcomes 6, 8, and 10 were assessed this year (full 3-year rotation schedule of all outcomes measured per year available in notes field at end of form):

6. Analyze professional decisions based on ethical principles.

8. Analyze methods, materials, and equipment.
10. Apply electronic-based technology to manage construction projects.

Measure(s):

Student Learning Outcome 6 as measured in CONS 4008/4009 Cost Estimating

Course Learning Outcome aligned with ACCE Student Learning Outcome 6:
A. Review basic concepts about mathematics and their relationship to construction indexes and ethics

Student Learning Outcome 6 as measured in CONS 3030 Construction Administration

Course Learning Outcome aligned with ACCE Student Learning Outcome 6:
A. Find the Professional Construction Associations and their Code of ethics and compare to academic integrity

Student Learning Outcome 8 as measured in CONS 4008/4009 Cost Estimating

Course Learning Outcome aligned with ACCE Student Learning Outcome 8
E. Determine the Formwork Quantity Takeoff

Student Learning Outcome 8 as measured in CONS 2008/2009 Construction Documents and Plan Reading

Course Learning Outcome aligned with ACCE Student Learning Outcome 8
A. Identify specific dimensions, locations, installation, and material requirements on commercial and industrial project plans and specifications from the Civil, Architectural, and Structural plans
B. Performs Quantity takeoffs from commercial and industrial construction plans
C. Search the technical specifications for information for division 02-14 and 31-33
D. Identify specific requirements from the various interior schedules

Student Learning Outcome 10 as measured in CONS 4045/4046 Digital Site Management

Course Learning Outcomes aligned with ACCE Student Learning Outcome 10
A. Demonstrate mastery of Excel applications utilized for estimating, cost control and technical management of construction operations.
B. Develop construction industry-specific PC-based and Internet-based applications.
C. Perform advanced applications of Word and MS Office and internet based applications used in construction
D. Apply Construction Project Management Software
F. Implement current real world construction software
G. Identify effective management and leadership principles
H. Combine all skills and knowledge into a single project

Target(s):
For each measure embedded in courses, the target for student performance is that 70% of the students will attain a 70% or higher score on the evaluation of the assignment.

Was this target met?: Mixed Results

Results - Explain target met answer:

Outcome 6:

CONS 4008/4009,
CLO A, SLO 6--95% of the students achieved a 70% or higher grade and that exceeds the target

CONS 3030,
CLO A, SLO 6 94% of the students achieved a 70% or higher grade and that exceeds the target

Outcome 8:

CONS 4008/4009,
CLO E, SLO 8—86% of the students achieved a 70% or higher grade and that exceeds the target

CONS 2008/2009,
CLO A, SLO 8 80% of the students achieved a 70% or higher grade and that exceeds the target
CLO B, SLO 8 87% of the students achieved a 70% or higher grade and that exceeds the target
CLO C, SLO 8 87% of the students achieved a 70% or higher grade and that exceeds the target
CLO D, SLO 8 47% of the students achieved a 70% or higher grade and that does not meet the target

Outcome 10:

CONS 4045/4046
CLO A, SLO 10--90% of the students achieved a 70% or higher grade and that exceeds the target
CLO B, SLO 10--90% of the students achieved a 70% or higher grade and that exceeds the target
CLO C, SLO 10--90% of the students achieved a 70% or higher grade and that exceeds the target
CLO D, SLO 10--64% of the students achieved a 70% or higher grade and that exceeds the target
CLO F, SLO 10—90% of the students achieved a 70% or higher grade and that exceeds the target
CLO G, SLO 10--82% of the students achieved a 70% or higher grade and that exceeds the target
CLO H, SLO 10--90% of the students achieved a 70% or higher grade and that exceeds the target

Actions to Seek Improvement or Maintain Success:

All targets were met with the exception of one assignment in CONS 2008/2009.

For the course learning outcome in 2008/2009, more supplementary material will be utilized in order to better demonstrate the methods and materials used in masonry construction.

Additionally, faculty continue to use assessments to determine ways to revise and update curriculum to ensure students continue to meet or exceed expectations on the other course learning outcomes. For example, in CONS 4045/4046, faculty are continually working to keep track of

what is happening in industry. Faculty have several activities that they want to expand, which includes students getting a better working knowledge of BlueBeam. They will continue to work on giving students the opportunity to present material to class, so they can become more comfortable. In 4008, faculty will be updating the exams prior to the next course assessments; also, homework assignments that relate to cashflow, material unit costing, and forms are being updated.

Student Learning Outcomes #11-15:

Of ACCE Student Learning Outcomes 11-15, outcome 14 was assessed this year (full 3-year rotation schedule of all outcomes measured per year available in notes field at end of form):

14. Understand construction accounting and cost control.

Measure(s):

Student Learning Outcome 14 as measured in CONS 4008/4009 Cost Estimating

Course Learning Outcomes aligned with ACCE Student Learning Outcome 14
B. Develop the material unit costs for certain materials, determined equipment production, unit costs and Owner & Operating costs for specific pieces of equipment
D. Calculate the Labor burden for specific trades by reading the labor agreements
G. Create a Cash Flow H. Interpret Financial Statement Reports and Calculate Ratios
H. Interpret Financial Statement Reports and Calculate Ratios
I. Generate a cost variance analysis report

Target(s):
For each measure embedded in courses, the target for student performance is that 70% of the students will attain a 70% or higher score on the evaluation of the assignment.

Was this target met?: Met

Results - Explain target met answer:

Outcome 14:

CLO B, SLO 14--77% of the students achieved a 70% or higher grade and that exceeds the target
CLO D, SLO 14--86% of the students achieved a 70% or higher grade and that exceeds the target
CLO G, SLO 14--71% of the students achieved a 70% or higher grade and that exceeds the target
CLO H, SLO 14--86% of the students achieved a 70% or higher grade and that exceeds the target
CLO I, SLO 14--86% of the students achieved a 70% or higher grade and that exceeds the target

Actions to Seek Improvement or Maintain Success:

All targets were met, but faculty continue to use assessments to determine ways to revise and update curriculum to ensure students continue to meet or exceed expectations on the other course learning outcomes. In 4008, faculty will be updating the exams prior to the next course assessments; also, homework assignments that relate to cashflow, material unit costing, and forms are being updated.

Student Learning Outcomes #16-20:

Of ACCE Student learning Outcomes 16-20, outcomes 16, 17, and 20 were assessed this year (full 3-year rotation schedule of all outcomes measured per year available in notes field at end of form):

16. Understand construction project control processes.
17. Understand the legal implications of contract, common and regulatory law to manage a construction project.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical, and plumbing systems.

Measure(s):

Student Learning Outcome 16 as measured in CONS 3030 Construction Administration

Course Learning Outcome aligned with ACCE Student Learning Outcome 16:
B. Identify the duties and responsibilities of members of the construction team, duties of the various crafts and draw an organizational chart displaying the relationships
E. Develop a logic network with design, procurement and construction activities along with a crew utilization chart
G. Complete the field weekly look-ahead plan including all resources required to complete the assigned tasks for the week

Student Learning Outcome 17 as measured in CONS 3030 Construction Administration

Course Learning Outcome aligned with ACCE Student Learning Outcome 17:
C. Search the Project Manual documents & AIA
D. Write Contractor's change order proposals
F. Write the subcontract agreement and complete a purchase order

Student Learning Outcome 19 as measured in CONS 2015 Structures

Course Learning Outcomes aligned with ACCE Student Learning Outcome 8
A. Apply Algebra & Trigonometry skills in this Statics course
B. Apply math techniques to find resultant of forces
C. Analyze and solve problems that yield forces of equilibrium. Free body diagrams will be utilized in solving these problems.
D. Solve truss and frames for forces in their members utilizing principles of statics.
E. Utilize principles of physics and Statics to solve for forces created by friction between two adjacent physical bodies while maintaining equilibrium.
F. Apply mathematical methods to determine the location of the centroid (center of gravity) and also calculate the moment of inertia of a two

dimensional objects.
G. Utilize given mathematical formulas to calculate torsional stress, rotation and in-plane stress and strain in a beam.
H. Using principles of statistical equilibrium, calculate shear forces, bending moments and deflection in beams under given applied loads

Student Learning Outcome 20 as measured in CONS 3020 Mechanical/Electrical Systems

Course Learning Outcome aligned with ACCE Student Learning Outcome 20:
A. Each individual will complete assignments and tests on heat, energy, & psychometric terms
B. Each individual will identify the different parameters from the psychometric chart
C. Campus walk abouts will be used to visualize and identify various building systems
D. Each individual will be complete assignments and be tested on terminology for various systems
E. Each individual will complete assignments and be tested on electrical concepts
F. Each individual will complete assignments and be tested on components of the fire/life safety system

Target(s):
For each measure embedded in courses, the target for student performance is that 70% of the students will attain a 70% or higher score on the evaluation of the assignment.

Was this target met?: Met

Results - Explain target met answer:

Outcome 16:

CONS 3030,
CLO B, SLO 16 79% of the students achieved a 70% or higher grade and that exceeds the target
CLO E, SLO 16 89% of the students achieved a 70% or higher grade and that exceeds the target
CLO G, SLO 16 83% of the students achieved a 70% or higher grade and that exceeds the target

Outcome 17:

CONS 3030,
CLO C, SLO 17 80% of the students achieved a 70% or higher grade and that exceeds the target
CLO D, SLO 17 83% of the students achieved a 70% or higher grade and that exceeds the target
CLO F, SLO 17 73% of the students achieved a 70% or higher grade and that exceeds the target

Outcome 19:

CONS 2015,
CLO A, SLO 19 91% of the students achieved a 70% or higher grade and that exceeded the target;
CLO B, SLO 19 94% of the students achieved a 70% or higher grade and that exceeded the target;
CLO C, SLO 19 91% of the students achieved a 70% or higher grade and that exceeded the target;
CLO D, SLO 19 92% of the students achieved a 70% or higher grade and that exceeded the target;
CLO E, SLO 19 91% of the students achieved a 70% or higher grade and that exceeded the target;
CLO F, SLO 19 92% of the students achieved a 70% or higher grade and that exceeded the target (indirect);
CLO G, SLO 19 88% of the students achieved a 70% or higher grade and that exceeded the target;
CLO H , SLO 19 82% of the students achieved a 70% or higher grade and that exceeded the target.

Outcome 20:
CONS 3020
CLO A, SLO 20 – 73% reached a score of 70% or higher. This exceeds the target.
CLO B, SLO 20 – 82% reached a score of 70% or higher. This exceeds the target.
CLO D,E,F, SLO 20 – 82% reached a score of 70% or higher. This exceeds the target.

Actions to Seek Improvement or Maintain Success:

While all targets were met, faculty continue to use assessments to determine ways to revise and update curriculum to ensure students continue to meet or exceed expectations on the other course learning outcomes. In CONS 3030, faculty are working to improve the scores on the Course Learning Objective (CLO) 17 F. Write the Subcontract Agreement by improving the students' skills in completing the Scope of Work section and the Enumeration Section of a Subcontract agreement. In CONS 3020, a new text will be adopted and a complete building assignment will be added. In CONS 2015, faculty are working to increase student participation and develop group study activities.

Notes (optional):

Course Evaluations Schedule (with ACCE aligned Student Learning Outcomes)

Spring/Summer 2018
CONS 1020 & 1021 Materials (ACCE SLOs 8,15,18)
CONS 1040/1041 Practices (ACCE SLOs 8,9)
CONS 3018/3019 Quantity Estimating (ACCE SLOs 4,6)
CONS 4030 Safety (ACCE SLOs 1,2,3,13)
CONS 4005/4006 Scheduling (ACCE SLOs 5,10)
CONS 4047/4048 Advanced Construction Projects (3D Model) (ACCE SLOs 2,5,7,9,10)

Spring/Summer 2019
CONS 1003 & 1004 Construction Graphics (ACCE SLO 8)
CONS 2015 Structures (ACCE SLO 19)
CONS 2008/2009 Construction Docs Plan Reading (ACCE SLO 8)
CONS 3030 Construction Admin (ACCE SLOs 6,16,17)
CONS 4045/4046 Digital Site (ACCE SLOs 2,10)
CONS 4008/4009 Cost Estimating (ACCE SLOs 4,6,8,14)

CONS 3020 Mechanical and Electrical Systems (ACCE SLO 20)

Spring/Summer 2020
CONS 3015 Temporary Structures (Formwork & Rigging) (ACCE SLOs 8,19)
CONS 2011/2012 Surveying (ACCE SLOs 9,11)
CONS 4020 Exam Prep (ACCE SLOs 1-20 with emphasis on 1,7,14,16)
CONS 4040 Contracts (ACCE SLOs 1,6,12,13,17)
CONS 2016/2017 Computer Applications (ACCE SLOs 2,10)
CONS 2026.2027 Mechanical, Electrical Plumbing Plan Reading (ACCE SLO 20)
CONS 2030/2031 Soils & Test (ACCE SLOs 15,19)

	ACCE Student Learning Outcomes																			
Course	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Cons 1003 1004								I,D	I											
Cons 1020 1021								I,D							I,D			I,D		
Cons 1040 1041								I,D	I											
Cons 2008 2009								I,D												
Cons 2011 2012									I		I,D									
Cons 2015																			I,D	
Cons 2016 2017		I,D								I,D										
Cons 2026 2027																				I,D
Cons 2030 2031															I,D				I,D	
Cons 3015								I,D											I,D	
Cons 3018 3019				I,D		I														
Cons 3020																				I,D
Cons 3030						I,D								I,D		I,D	I,D			
Cons 4005 4006					I,D					I,D										
Cons 4008 4009				I,D		I		I,D						I,D						
Cons 4020	I,D						I,D							I,D		I,D				
Cons 4030	I	I	I,D										I,D							
Cons 4040	I					I,D							D				I,D			
Cons 4045 4046		I,D								I										
Cons 4047 4048		I			I		I		I,D	I										