SCHOOL OF THE BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION MANAGEMENT

'Faculty - Course Self Evaluation' Assessment Report
Spring 2020

Dated: June 22, 2020

BOWLING GREEN STATE UNIVERSITY

Prepared By: Dr. Arsenio Rodrigues

ASSESSMENT PARTICULARS:

No. of Surveys Distributed:	Fifteen (15) Surveys
No. of Surveys Returned:	Fifteen (15) Surveys
No. of Courses Evaluated:	Fifteen (15) Courses
List of Courses Evaluated:	CONS 2350 - Introduction to Construction CONS 2590 - Construction Document Reading CONS 3180 - Construction Surveying CONS 3350 - Construction Materials and Testing CONS 3360 - Structural Design CONS 3370 - Mechanical, Electrical and Plumbing Systems in Buildings CONS 3380 - Steel, Concrete and Masonry Design CONS 3590 - Estimating and Cost Control CONS 3710 - Building Information Modeling (BIM) for Constructors CONS 4110 - Construction Safety and Health Management CONS 4350 - Construction Methods and Practices CONS 4400 - Construction Contracting CONS 4420 - Construction Scheduling CONS 4590 - Construction Estimating Computer Applications CONS 4700 - Construction Capstone
Assessment Criteria:	Overall level of preparation of students in the course related with ACCE student learning outcomes (SLO): - Very High (Assigned Score = 5.00) - High (Assigned Score =4.00) - Average (Assigned Score = 3.00) - Low (Assigned Score = 2.00) - Very Low (Assigned Score = 1.00)
ACCE SLO Reference:	See Appendix for SLO descriptions

CONS 2350 - Introduction to Construction
Instructor: Lisa Schaller

ACCE SLO	SLO 18
Rating	5
Score	Very High

Improvements/recommendations (self-reflection) for next offering of course:
- More industry professionals
- Service Learning
- More hands-on opportunities

CONS 2590 - Construction Document Reading
Instructor: Patrick Hansford

ACCE SLO	SLO 7
Rating	5
Score	Very High

Improvements/recommendations (self-reflection) for next offering of course:
- This course is currently well designed. I worked directly from Professor Gross's previous course preparation. All credit goes to Professor Gross for developing an excellent course for the subject matter. I would love to teach this course again, This course could be offered on-line as well as on campus or possibly as a hybrid (lectures online – active learning in the "plans room"). See below. The only suggestion I can make for improving this course really has to do with access to the drawings used during the course. It would be helpful if a "plans room" was created where students would have access to the drawings over the course of the semester and be able to work outside of class on the "in-class assignments". One or two sets of the drawings could be maintained in the "Plans Room". The course could actually be a hybrid course with lectures on-line and a "lab" occurring in the "Plans Room". The graduate assistant assigned to this course could be in the "plan room" to provide direction, assistance, and supportive instruction when needed by students. It would be great to incorporate a few field trips to project sites for this course

CONS 3180 - Construction Surveying
Instructor: Joseph Lavalette

ACCE SLO	SLO XX
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- Regain the field experience component of the course – becoming comfortable using the equipment to gather and layout data.

CONS 3350 - Construction Materials and Testing
Instructor: Robert Austin

ACCE SLO	SLO 15
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- Recommend keeping the labs at a more manageable size, which was the case this semester.
- Greater emphasis on planning & estimation construction materials was a positive change this term. Continue this approach.
- Limiting the breath of the course to focus on soils, concrete, asphalt. Catalog calls for emphasis of
- Consider eliminating the term length paper assignment (dropped this term with the Covid Challenges)
- The lack of commensurate testing equipment continues to be a weak point (e.g., concrete compression machine)
- Continue with Canvas Checkpoint quizzes with multiple attempts to build student understanding (introduced w/ Covid Challenge).
- Pay closer attention to TA's knowledge of the lab practices. Revisit prospects for adding to laboratory equipment, particularly concrete testing.

CONS 3360 - Structural Design
Instructor: Joseph Lavalette

ACCE SLO	SLO 19
Rating	5
Score	Very High

Improvements/recommendations (self-reflection) for next offering of course:
- Resume the face-to-face teaching model, allowing dialogue between the instructor and students while solving example problems. Continue to explain the importance of the basic structural concepts and use to the basic concepts to solve relatively complex problems.

CONS 3370 - Mechanical, Electrical and Plumbing Systems in Buildings
Instructor: Robert Austin

ACCE SLO	SLO 20
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- Continue to build on efforts of to strengthen educational ties to the National Electric Contractors Association and the Mechanical Contractor Associations, as well as equipment manufacturers (e.g., Trane).
- Resume field trips to BGSU's Central Build and to major MEP projects (suspended due to Covid Challenge)
- Build on efforts to increase planning and estimating aspects of MEP construction.

- Continue with Canvas Checkpoint quizzes with multiple attempts to build student understanding (introduced w/ Covid Challenge).
- Increase time allotment for electrical instruction

CONS 3380 - Steel, Concrete and Masonry Design
Instructor: Arsenio Rodrigues

ACCE SLO	SLO XX
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- More opportunities for students to observe/study structures in their immediate surroundings/on -campus.

CONS 3590 - Estimating and Cost Control
Instructor: Scott Gross

ACCE SLO	SLO 1	SLO 4
Rating	4	4
Score	High	High

Improvements/recommendations (self-reflection) for next offering of course:
- During this summer, I plan on exploring what other text books are currently available for this class. I would like to see if there is something better than the book currently being used for the class.

CONS 3710 - Building Information Modeling (BIM) for Constructors
Instructor: Andre Ballard

ACCE SLO	SLO 2
Rating	3
Score	Average

Improvements/recommendations (self-reflection) for next offering of course:
- The SLO does not seem to relate directly to the topic of BIM. An oral presentation could be applied to any topic. This SLO should relate to some technical aspects of BIM and its relationship to construction.

CONS 4110 - Construction Safety and Health Management
Instructor: Mark Prenzlin

ACCE SLO	SLO 1	SLO 3
Rating	3	4
Score	Average	High

Improvements/recommendations (self-reflection) for next offering of course:

- SLO 1:
  - I would encourage students to recognize and understand the importance of written communication in all aspects of their work.
  - For example, I would emphasize the importance of creating and maintaining written documentation to help minimize future discrepancies or liabilities.
  - I would also reinforce the importance of correct spelling, grammar, and punctuation as well as being professional in all written communication regardless of whether it is printed, emailed or some other method such as texting. Written communication is a reflection of you the author as well as the company they represent.
  - I would instruct students of the importance of proof-reading their written communications and making appropriate corrections before sending.
- SLO 3:
  - I would keep the assignment the same, but I would emphasize the need to include more detail in the planning of specific safety measures for high-hazard operations such as trenching, steel erection and roofing.
  - I would emphasize that an effective Construction Safety and Health Plan requires actual planning of the work and sequences to identify the most likely hazards and to create procedures to mitigate those hazards.
  - I would emphasize the importance of proof-reading their own work to prevent spelling and grammar mistakes. A lot of simple errors can be eliminated by just reading what they have written.

<u>CONS 4350 - Construction Methods and Practices</u>

Instructor: Alan Atalah

ACCE SLO	**SLO 8**	**SLO 13**
Rating	5	3
Score	Very High	Average

Improvements/recommendations (self-reflection) for next offering of course:

- SLO 14 was removed from this course.
- Use the Procore Technologies, Inc. as contract administration software. I need to get the needed training on using it. I will get it before the next time I teach this course.
- Stress the Risk Management in my covering and add to it how the Core of Engineers manage risk and its protocol. Also, I can elaborate on bonds as a risk mitigation measure and create a homework assignment for both.
- Teach the course via distance if I can to help the working students adjust and plan their lives.

<u>CONS 4400 - Construction Contracting</u>

Instructor: Douglass Zimmerman

ACCE SLO	**SLO 6**	**SLO 12**	**SLO 17**
Rating	5	5	4
Score	Very High	Very High	High

Improvements/recommendations (self-reflection) for next offering of course:

- SLO 6:
  - Again this semester the students created and presented a dialog based on ethical issue developed in the AGC Case Study "Allied Constructors: Ethics in Construction". Moving to on-line classes presented some obstacles to this, but with the use of WebEx I was able to split the class up into sections and all students got to present "in front" of some of their classmates as well as hear an participate in the discussion about other presentations. I really like this approach as we can talk about some of the grey areas that crop up in ethical issues and then apply them to real situations.
- SLO 12:
  - This was assessed via a standard test with various question types and an essay. This section was just about to begin when the pandemic moved classed to on-line. My initial goal was to complete this section prior to the original presumed return to normal classes. I used the Quizzes section of Canvas to create and administer the test. Based on the on-line test, with the ability for students to take it "open book", I expected higher scores. However, the average was about the same as the "traditional" in class test given for SLO 17; though the standard deviation was less.
- SLO 17:
  - This was assessed via an in-class test with various question types and an essay. Scores average around 89%.
- I changed the structure of my syllabus this semester, moving the Legal section to the beginning and the Ethics to the end of class. I was very pleased with this change. Teaching the legal / contract portion first allowed me to use those concepts more throughout the rest of the class topics. Additionally, moving the Ethics to the end, allowed all of the prior class information to be incorporated into the student's dialog presentations.
- I was a bit concerned when classes got moved to on-line in March. It did create quite a bit of additional work for me, but the outcome seemed to be OK. This would be an excellent class to present in an on-line format.

CONS 4420 - Construction Scheduling
Instructor: Quinn Lawrence

ACCE SLO	**SLO 5**	**SLO 16**
Rating	4	3
Score	High	Average

Improvements/recommendations (self-reflection) for next offering of course:
- This course struggled without being able to have a hands on approach. If the next instructor plans to work remote I would highly suggest setting everyone up with remote desktop well before the first assignment is due. They should also submit XER files for grading.

<u>CONS 4590 - Construction Estimating Computer Applications</u>
Instructor: Alan Atalah

ACCE SLO	**SLO 10**
Rating	5
Score	Very High

Improvements/recommendations (self-reflection) for next offering of course:
- Try to get the Timberline and other server based software installed on a server independent of BGSU-ITS. This would allow the students to access the software from anywhere.

- Emphasis to the students in CONS 1010 to buy a PC not a MAC machine because all the construction software does not work on the MAC systems.

CONS 4700 - Construction Capstone
Instructor: Robert Austin

ACCE SLO	SLO 9
Rating	5
Score	Very High

Improvements/recommendations (self-reflection) for next offering of course:
- Resume participation in AIC exam if needed for accreditation purposes.
- Weigh the benefits of preparing students for the AIC to the merits the term-based project based assignment (PBA). With the absence of the AIC due to the Covid Challenge, there was a greater emphasis on the project. Aspects of the final project revealed need for a greater emphasis on the PBA effort.
- Consider looking at Construction Management Association of America's, Construction Manager-in-Training exam as an alternative to the AIC.

SUMMARY OF SCORE / AVERAGE PER ACCE SLO:

ACCE SLO	AVERAGE
1	3.5
2	3.0
3	4.0
4	4.0
5	4.0
6	5.0
7	5.0
8	5.0
9	5.0
10	5.0
11	4.0
12	5.0
13	3.0
14	-
15	4.0
16	3.0
17	4.0
18	5.0
19	5.0
20	4.0

APPENDIX:

ACCE - STUDENT LEARNING OUTCOMES

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze construction documents for planning and management of construction processes.
8. Analyze methods, materials, and equipment used in construction processes.
9. Apply construction management skills as a member of a multidisciplinary team.
10. Apply electronic-based technology to manage the construction process.
11. Apply basic surveying techniques for construction layout and control.
12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
13. Understand construction risk management.
14. Understand construction accounting and cost control.
15. Understand construction quality assurance and control.
16. Understand construction project control processes.
17. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
18. Understand the basic principles of sustainable construction.
19. Understand the basic principles of structural behavior.
20. Understand the basic principles of mechanical, electrical and piping systems.