SCHOOL OF THE BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION MANAGEMENT

'Faculty - Course Self Evaluation' Assessment Report
Fall 2019

Dated: December 19, 2019

BOWLING GREEN STATE UNIVERSITY

Prepared By: Arsenio Rodrigues

ASSESSMENT PARTICULARS:

No. of Surveys Distributed:	Seventeen (17) Surveys
No. of Surveys Returned:	Seventeen (17) 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 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 TECH 6440 - Engineering Economics and Technical Strategic Management
Assessment Criteria:	Overall level of preparation of students in the course against each of the ACCE student learning outcomes (SLO) listed by means of Likert Scale: - 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
Instructors: Lisa Schaller

ACCE SLO	SLO 18
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- I would integrate the different project delivery systems and the impact each project delivery system has on building material and assemblies.
- Updated equipment
- More lab space
- Smaller lab sections
- Introduction to more industry professionals

CONS 2590 - Construction Document Reading
Instructor: Scott Gross

ACCE SLO	SLO 7
Rating	5
Score	Very High

CONS 2590 - Construction Document Reading
Instructor: Joseph Lavalette

ACCE SLO	SLO 7
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- Assign homework projects requiring students to hone both their visualization skills and their estimating skills. The project size ramped up from relatively basic at the beginning of the course to modestly challenging at the end of the course.

CONS 3180 - Construction Surveying
Instructor: Joseph Lavalette

ACCE SLO	SLO 11
Rating	3
Score	Average

Improvements/recommendations (self-reflection) for next offering of course:
- Assign more homework problems with practical application.

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:
- Accelerating schedule for student's interim submission and showing interim grade on Canvas, helped with student efforts on a term length projects, but many students are still lax. Next term rather that recommend visiting the BGSU Writing Center; include doing so as an assignment.
- Limited availability of graduate assistants was compounded this term with a low-performing student. A strong performer where a civil engineering undergraduate is needed to render assistance. The lack of equipment continues to necessitate moving more to class exercises and field trips v. hands on laboratory assignments. Next term, course will incorporate planning and scheduling aspects of differing materials (e.g., clay v. non-cohesive soils) which will add greater relevancy to the course content.
- Explore prospects for added Graduate Assistant/Teaching Assistant support. Revisit prospects for adding to laboratory equipment, particularly concrete testing.

CONS 3360 - Structural Design
Instructor: Joseph Lavalette

ACCE SLO	SLO 19
Rating	2
Score	Low

Improvements/recommendations (self-reflection) for next offering of course:
- Spend more time at the beginning of the course reviewing math and problem solving concepts, establishing a more solid foundation, to teach the course content more effectively.

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:
- Expand on initial efforts of assistance offered by the National Electric Contractors Association and the Mechanical Contractor Associations. Visit a major electrical project that is in process – Amazon
- Build on a very successful field trip to the BGSC Heating and Cooling plants
- Increase time allotment for electrical instruction

CONS 3590 - Estimating and Cost Control
Instructor: Scott Gross

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

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

ACCE SLO	SLO 2
Rating	5
Score	Very High

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:
- I will encourage students to recognize the importance of creating written communication that is well-organized and includes correct spelling, grammar, and punctuation.
- I will continue to emphasize the importance of proof-reading written communication and making appropriate corrections prior to sending/submitting.
- I will emphasize the importance of planning for safety and identifying and documenting specific procedures as they relate to safety in the Construction Project Safety Plan.

CONS 4350 - Construction Methods and Practices
Instructor: Alan Atalah

ACCE SLO	SLO 8	SLO 13	SLO 14
Rating	4	3	4
Score	High	Average	High

Improvements/recommendations (self-reflection) for next offering of course:
- I think this course can be taught on line, and may be help the student in terms of their time management.
- Include more applications in the course.

CONS 4400 - Construction Contracting
Instructor: Douglass Zimmerman

ACCE SLO	SLO 6	SLO 12	SLO 13	SLO 17
Rating	5	5	3	**3**
Score	Very High	Very High	Average	Average

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

- SLO 6: Rather than testing, we did a dialog presentation on ethics. Students paired up, and then presented to the class a dialog on an ethical issue. I used an AGC Case Study to develop "real world" type dialogs between Owners & Contractors, A/E and Contractors and even within Contractor's company. The goal was to show that with many ethical issues there is a grey area between right and wrong / ethical and not ethical. Overall this went well, but I would have liked to have seen most presentations be a bit longer as well as come to a conclusion at the end of the dialog based on their interpretation of ethical issue.
- SLO 12: This was one of the initial topics that we covered. Based on students work experience, this seemed to be a very easy concept for them to understand. I was lucky to have a nice mix of students that had experience with both types of Project Delivery Methods as well as Construction Management from all parties involved with contracting. I started the class with this topic but think it may be better to discuss near the end after dealing with Legal & Ethical issues which seemed to need more time to develop time to develop.
- SLO 13: I would like to have seen a higher result in overall understanding. Need to find some type of case study / scenarios or develop a project to incorporate a better understanding. I had two students that were just under the "C" level for this assessment and on student that took a "0" on the assessment for an unexcused absence on the assessment day.
- SLO 17: We spent the end of the semester on this topic; moving forward, I would do this at the beginning. It seemed like legal issue came up frequently in our prior discussions. With that, I believe the students will obtain a better understanding the impact of the law with contracts and construction. I also believe the lower results on this topic were due to higher the normal absences by students. There was a noticeable improvement on the Final Exam after a course review where all were in attendance, which resulted with only 1 student under the "C" level.

<u>CONS 4420 - Construction Scheduling</u>

Instructor: Quinn Lawrence

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

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

- SLO 5 - I believe the students have a very good understanding of how to create a Construction Project Schedule once they have completed this course. However, their overall construction knowledge is lacking in a lot of areas. Unfortunately, I do not have an answer to this as the Construction industry is far too diverse to focus on any one field an extended period of time. However, in the future I will try to switch more frequently between different types of construction be it commercial, industrial, heavy highway or residential. One student might have a great understanding of how to build a building, but almost little to zero understanding of how to build a bridge. This makes schedule creation based on reading plans and specifications very difficult as opposed to just following an example. My end goal is to have the students read the plans and specs thoroughly in order to create a schedule based off of how the project is to be built and managed.
- SLO 16 - Project controls obviously covers a lot more than just the scheduling of a project. For me to implement more control type material into this course I will need to focus on resource loading / leveling. For the next semester I plan to track resources and expenses through our schedule updates and show how this process will impact your company's year-end projections. I intend to stress the importance of managing projections to establish revenue based profit given a standard percentage that must be met before profit sharing can take place. A company's backlog is extremely important and forecasting the utilization of labor and equipment helps manage that backlog accordingly.

CONS 4590 - Construction Estimating Computer Applications
Instructor: Scott Gross

ACCE SLO	SLO 10
Rating	5
Score	Very High

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:
- Continue efforts in drawing and monitoring of interim project based assignments into early class deliverables as a hands on application of topics covered in the AIC, Level I examination.
- This term's student performance continues at the improved levels since 2016 (nominally higher pass rate (70%) and a noticeable improvement in the overall average score.
- Reach out to AIC to urge an earlier release of scores; at this writing, we still don't have the final scores with breakdowns of strengths and weaknesses. Scores have never been this late before.

TECH 6440 - Engineering Economics and Technical Strategic Management
Instructor: Alan Atalah

SLO	Justify investment decisions through advanced engineering economic analytical skills.
Rating	4
Score	High

Improvements/recommendations (self-reflection) for next offering of course:
- Adjust the course content from being for Engineering Technology and Construction focus to only Construction focus since it is not a core course any more.

SUMMARY OF SCORE / AVERAGE PER ACCE SLO:

ACCE SLO	AVERAGE
1	3.5
2	5.0
3	4.0
4	4.0
5	4.0
6	5.0
7	5.0
8	4.0
9	5.0
10	5.0
11	3.0
12	5.0
13	3.0
14	4.0
15	4.0
16	3.0
17	3.0
18	4.0
19	2.0
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.