SCHOOL OF THE BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION MANAGEMENT

'Faculty - Course Self Evaluation' Assessment Report
Spring 2019

Dated: July 18, 2019

BOWLING GREEN STATE UNIVERSITY

ASSESSMENT PARTICULARS:

No. of Surveys Distributed:	Sixteen (16) Surveys
No. of Surveys Returned:	Eleven (11) Surveys
No. of Courses Evaluated:	Eleven (11) Courses
List of Courses Evaluated:	CONS 2350 - Introduction to Construction CONS 2590 - Construction Document Reading CONS 3350 - Construction Materials and Testing CONS 3370 - Mechanical, Electrical and Plumbing Systems in Buildings CONS 3590 - Estimating and Cost Control 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 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
Instructor: Andre Ballard

ACCE SLO	SLO 18
Rating	Average
Score	3

Improvements/recommendations (self-reflection) for next offering of course:
- Could be improved if the labs were focused a little more on sustainability construction.

CONS 2590 - Construction Document Reading
Instructor: Scott Gross

ACCE SLO	SLO 7
Rating	High
Score	4

Improvements/recommendations (self-reflection) for next offering of course:
- Having taught this course for a number of sessions, I have continuously improved the content in the course. The course uses a large number of actual "real world" projects to supplement the content from the text. The biggest challenge is the range of skill sets of the students as they enter this class. Some have a fair to significant amount of experience in reading plans and specifications, while others have never had an opportunity to review a set of plans. Closing the gap is the biggest challenge in the class.

CONS 3350 - Construction Materials and Testing
Instructor: Robert Austin

ACCE SLO	SLO 15
Rating	Average
Score	3

Improvements/recommendations (self-reflection) for next offering of course:
- Consider accelerating schedule for student's interim submission of their term length projects and greater emphasis on engaging the BGSU Writing Center and library resources.
- Given the limited availability of graduate assistants and equipment, move toward more to class exercises and field trips v. hands on laboratory assignments. As an added alternative, engaging students for advance lab preparations through trail runs of labs may again prove to be helpful.
- Explore prospects for added Graduate Assistant/Teaching Assistant support. Revisit prospects for adding to laboratory equipment, particularly concrete testing.
- Incorporation of materials learned in ASCE Teaching Workshop (specific lecture learning objectives, board notes and Lowman's 2D Model of Effective College Teaching). Overall student performance this past semester surpassed that of earlier class sessions, likely due to the introduction of preview assignments and dialogs (roughly 50% of the class was actively engaged and a more active class period exchange with students with series of topical questions on recent and current class discussions.
- Student writing skills continue to be less than expected, in many cases.
- Offering this course with a single graduate assistant limited to 10-hours is extraordinarily challenging. Ideally, two graduate assistants during the lab is preferred for hands on instruction.

CONS 3370 - Mechanical, Electrical and Plumbing Systems in Buildings
Instructor: Andre Ballard

ACCE SLO	SLO 20
Rating	High
Score	4

CONS 3590 - Estimating and Cost Control
Instructor: Scott Gross

ACCE SLO	SLO 1	SLO 4
Rating	High	Very High
Score	4	5

Improvements/recommendations (self-reflection) for next offering of course:
- SLO 1: In the class, I have an assignment in which the students must take a set of plans and develop a "Scope of Work" proposal letter that would be submitted to the owner, along with the price. It is a good example of a document developed by a preconstruction department for a project. While it is a good assessment tool for SLO 1, I wonder if there is a better assignment found in another class that would be better for the direct assessment.
- SLO4: The students put together a comprehensive estimate for a "real world" project. This includes evaluating crew composition and efficiencies for activities that are self-performed. This class assignment works very well for comprehension and ability to create an entire estimate for a project.
- Overall, I have carefully constructed the content in this class for the first level of estimating. This includes breaking the content down into workable modules, with the emphasis on quantity take-off and then creating the crew composition and determining their efficiency. Many of the concepts utilized in class are the concepts are expanded upon the concepts that I used to train entry-level estimators when I worked in industry.

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

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

Improvements/recommendations (self-reflection) for next offering of course:
- SLO 1.
  1. I will emphasize the importance of creating written communications that are well-organized and consist of correct spelling, grammar, and punctuation.
  2. I will instruct students of the importance of proof-reading their written communication and making appropriate corrections before sending.
- SLO 3.
  1. I will better explain the need and purpose of an effective Construction Safety Plan.
  2. I will emphasize that an effective Construction Safety Plan requires actual planning of the work and sequences to identify the most likely hazards and create procedures to mitigate those hazards.

CONS 4350 - Construction Methods and Practices
Instructor: Alan Atalah

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

Improvements/recommendations (self-reflection) for next offering of course:
- I would teach it online or web-centric. A high percentage of the students is working and cannot come to class. The course material has been covered in one way or another in coop or other classes that the student took before. However, there are still a lot of new material and articulation of the other important material that is extremely beneficial for the students. My way of teaching depends significantly on the online resources available on CANVAS.

CONS 4400 - Construction Contracting
Instructor: Alan Atalah

ACCE SLO	SLO 6	SLO 12	SLO 13	SLO 17
Rating	High	Very High	Very High	High
Score	4	5	5	4

Improvements/recommendations (self-reflection) for next offering of course:
- I would teach it online or web-centric. A high percentage of the students is working and cannot come to class regularly. Some of the course material has been covered in one way or another in coop or other classes that the student took before. However, there are still a lot of new material and articulation of the other important material that is extremely beneficial for the students. My way of teaching depends significantly on the online resources available on CANVAS.

CONS 4420 - Construction Scheduling
Instructor: Quinn Lawrence

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

Improvements/recommendations (self-reflection) for next offering of course:
- SLO 5 - There is not much I would change for laying out the basics of the scheduling process. However, schedule development should be based primarily on actual project plans and specs. Not generic directions created by the instructor. The challenge will be selecting example projects that appeal to residential, commercial, heavy civil, and industrial type construction. Once tasked by their employers, students will not have the luxury of a formal set of directions to guide them through the process.
- SLO 16 - I believe the course does a good job explaining project controls as far as scheduling is concerned. However, true project controls involves much more than just the schedule aspect. To truly gain a Very High overall level of preparation we would need to expand the course objectives from a primarily scheduling based course to a project controls and scheduling course. Incorporated within it would be additional project control processes such as cost management (Cost Accounts / Billing / Cost Projections), quality control (QAQC Plan Development), submittal organization (Review & Tracking), and change order management. This addition

would also prompt some additional software management lessons such as ProjectManager, WorkZone, and Heavy Job.

CONS 4590 - Construction Estimating Computer Applications
Instructor: Scott Gross

ACCE SLO	SLO 10
Rating	High
Score	4

Improvements/recommendations (self-reflection) for next offering of course:
- The entire course is structured around the use of Sage Timberline and HCSS HeavyBid estimating software applications. Both programs are used extensively by General Contractors as well as Heavy Highway Contractors in their respective industries.
- There are a series of projects for both software applications. This enables the students to explore many of the distinct features of these applications.
- The students also use BlueBeam and Onscreen Take Off for the development of quantities for the main estimate.
- This was my first time teaching the course. After one time, I can better set the pace for the projects and lectures in the future. I can now adjust the number and complexity of projects for future offerings of this class.
- At the beginning of the semester, I found that our version of Timberline was missing key databases that are critical to the maximum usage of the software. These databases are similar to what commercial construction companies would use. It took time, but working with both Sage and our IT department, we were able to request, obtain and install these databases onto our computers. This class was able to benefit from the databases for only part of the class. But future classes will benefit from them from the beginning.

CONS 4700 - Construction Capstone
Instructor: Robert Austin

ACCE SLO	SLO 9
Rating	Average
Score	3

Improvements/recommendations (self-reflection) for next offering of course:
- Continue to reach out to AIC staff in search of advice of recommended references to better prepare students for the Safety portion of the AIC exam, which our students are underperforming.
- Further 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.
- Incorporation of materials learned in ASCE Teaching Workshop (specific lecture learning objectives, board notes and Lowman's 2D Model of Effective College Teaching) This SLO is principally measured through a group- and individual-assessment of student performance on a Project Based Assignment (PBA).
- Overall student performance this past semester surpassed that of earlier class sessions with a comparable AIC pass rate (~50%) and a marked improvement on the PBA assignment (i.e., three of five student presentations being a solid discussion of the a prospective project, exploring project costs, schedule, logistical concerns and project risks). Improvements are likely attributable to introducing additional interim PBA deliverables from the onset of the semester. Doing so, has offered an opportunity to complement and heighted students understanding of the component elements of pursuing a project in practice.

SUMMARY OF SCORE / AVERAGE PER ACCE SLO:

ACCE SLO	AVERAGE
1	3.5
2	-
3	4.0
4	5.0
5	4.0
6	4.0
7	4.0
8	4.0
9	3.0
10	4.0
11	-
12	5.0
13	4.5
14	3.0
15	3.0
16	3.0
17	4.0
18	3.0
19	-
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.