Haskell & Irene Lemon Construction Science Division

SLO Assessment Outcomes & Strategic Plan Progress

2019-2020 academic year

This document serves as the assessment report for the Bachelor of Science – Construction Science program for the 2019/2020 school year. This report is based on the undergraduate assessment and academic quality plan for the Construction Science Division, as approved by the CNS faculty in February 2018.

This document contains seven sections as follows:
1. **Student Leaning Outcomes Summary** – a summary of the results of the 20 ACCE SLOs assessed in the program.
2. **Faculty involved with the Program** – A listing of all courses taught, faculty teaching each course, and SLOs assessed in the courses
3. **Course Notebook**s – A listing of notebooks collected for the year and expected contents
4. **Direct Assessment of Student Learning Outcomes and Course Summaries** – A listing by course of grade distribution, SLOs assessed, the results of assessment, and any instructor anticipated changes or suggestions.
5. **Indirect Assessment of Student Learning Outcomes Via Student Exit Surveys** – Results of student exit surveys regarding SLOs.
6. **Indirect Assessment of Student Learning Outcomes Via Industry/Alumni Surveys** – Results of industry/alumni surveys regarding student competence with SLOs.
7. **Strategic Plan Progress** – Summary of progress towards strategic plan goals and objectives.

1. Student Learning Outcomes Summary

Instructors were asked to submit what they used to assess SLOs and the outcomes of that assessment. The Division of Construction Science Undergraduate Assessment and Academic Quality Plan (approved by faculty 2/2018) establishes a target of 70% or higher for all SLO assessments. The following are the direct and indirect assessment data for each SLO.

SLO #1: *Create written communications appropriate to the construction discipline*
- In CNS 4993, the instructor uses the final project to assess SLO #1. Out of 40 students the average grade for SLO #1 was 80%,
- An average score of 3.31 (82.75%) resulted from indirect assessment of students.
- An average score of 3.47 (86.75%) resulted from indirect assessment of industry professionals.

SLO#2: *Create oral presentations appropriate to the construction discipline*
- In CNS 3413, the instructor uses an oral presentation from project #2 to assess SLO #2. Out of 32 students the average grade on the presentation was 88%.
- An average score of 3.2 (79.75%) resulted from indirect assessment of students.
- An average score of 3.53 (88.25%) resulted from indirect assessment of industry professionals.

SLO#3: *Create a construction project safety plan*
- In CNS 3883, the instructor uses the final project to assess SLO #3. Out of 33 students the average score on the project was 82.94%.
- An average score of 3.23 (80.75%) resulted from indirect assessment of students.
- An average score of 3.21 (80.25%) resulted from indirect assessment of industry professionals.

SLO#4: *Create construction project cost estimates*
- In CNS 3512, the instructor uses question #11 on the final exam to assess SLO #4. Out of 34 students the average score was 60%.
- In CNS 4993, the instructor uses the estimate portion final project to assess SLO #4. Out of 40 students the average grade for the SLO #4 portion of the project was 80%.
- An average score of 3.08 (77%) resulted from indirect assessment of students.
- An average score of 3 (75%) resulted from indirect assessment of industry professionals.

SLO #5: Create construction project schedules
- In CNS 3812, the instructor uses the final exam to assess SLO #5. Out of 34 students the average grade was 74.5%.
- In CNS 4993, the instructor uses the schedule portion of the final project to assess SLO #5. Out of 40 students the average grade for the SLO #5 portion of the project was 79%.
- An average score of 3.12 (78%) resulted from indirect assessment of students.
- An average score of 3.21 (80.25%) resulted from indirect assessment of industry professionals.

SLO#6: Analyze professional decisions based on ethical principles
- In CNS 3512, the instructor uses two in class assignment to assess SLO #6. Out of 31 students the average grade was 80% & 90% respectively.
- An average score of 3.46 (86.5%) resulted from indirect assessment of students.
- An average score of 3.8 (95%) resulted from indirect assessment of industry professionals.

SLO#7 Analyze construction documents for planning and management of construction processes
- In CNS 2813 The instructor uses two exams (exam 1 and the final exam) to assess SLO #7. Out of 47 students, the average grade on the two exams was 79%, and 85% respectively.
- An average score of 3.31 (82.75%) resulted from indirect assessment of students.
- An average score of 3.53 (88.25%) resulted from indirect assessment of industry professionals.

SLO#8 Analyze methods, material and equipment used to construct projects
- In CNS 2812, The instructor uses material submittals, material spec sheets, shop drawing, and lab safety plans. to assess SLO #8. Out of 48 students enrolled in the course the average grade was 93%.
- In CNS 2833, the instructor uses questions from exam 1 to assess SLO #8. Out of 55 students the average score was 82%.
- An average score of 3.19 (79.75%) resulted from indirect assessment of students.
- An average score of 3.2 (80%) resulted from indirect assessment of industry professionals.

SLO#9 Apply construction management skills as a member of a multi-disciplinary team
- In CNS 4523, each student works with an Architecture student to provide them with a feasibility estimate of their semester design project. Out of 40 students, the average grade was 97.5%.
- An average score of 3.23 (80.75%) resulted from indirect assessment of students.
- An average score of 3.5 (87.5%) resulted from indirect assessment of industry professionals.

SLO #10 Apply electronic-based technology to manage the construction process
- In CNS 4133, the instructor uses the course exam and final project to assess SLO #10. Out of 40 students the average score on these two were 67% and 95% respectively averaging to 81%.
- An average score of 2.77 (69.25%) resulted from indirect assessment of students.
- An average score of 3.73 (93.25%) resulted from indirect assessment of industry professionals.

SLO #11 Apply basic surveying techniques for construction layout and control
- In CNS 3101, the instructor uses a combination of lab assignments and two exams to assess SLO #11. Out of 33 students the average score from these labs and exams was 90.67%.
- An average score of 3.04 (76%) resulted from indirect assessment of students.
- An average score of 2.93 (73.25%) resulted from indirect assessment of industry professionals.

SLO #12 Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
- In CNS 1111, the instructor uses quizzes 1, 5, and 12 to assess SLO #12. Out of 58 students, the average grade on the quizzes were: 60%, 63%, and 74% respectively (65.6% average).
- In CNS 4523, the instructor uses the mid-term exam to assess SLO #12. Out of 40 students the average mid-term grade was 75%.
- An average score of 3.27 (81.75%) resulted from indirect assessment of students.
- An average score of 3.31 (82.75%) resulted from indirect assessment of industry professionals.

SLO #13 Understand construction risk management
- In CNS 4523, the instructor uses the final exam to assess SLO #13 Out of 40 students 95% earned a 75% or higher on the exam.
- An average score of 3.23 (80.75%) resulted from indirect assessment of students.
- An average score of 2.92 (73%) resulted from indirect assessment of industry professionals.

SLO #14 Understand construction accounting and cost control
- In CNS 3823 The instructor uses a combination of homework and the final exam to assess SLO #14. Out of 33 students the average grade on these materials was 82.67%
- An average score of 2.73 (68.25%) resulted from indirect assessment of students.
- An average score of 3.08 (77%) resulted from indirect assessment of industry professionals.

SLO #15 Understand construction quality assurance and control
- In CNS 2812, the instructor uses a field work report to assess SLO #15. Out of 48 students the average grade was 81%.
- In CNS 4523, the instructor uses the final exam to assess SLO #15 Out of 40 students 95% earned a 75% or higher on the exam.
- An average score of 3.19 (79.75%) resulted from indirect assessment of students.
- An average score of 3.57 (89.25%) resulted from indirect assessment of industry professionals.

SLO #16 Understand construction project control processes
- In CNS 3823, the instructor uses exam #1 to assess SLO #16. Out of 33 students the average grade was 81.09%.
- An average score of 3.04 (76%) resulted from indirect assessment of students.
- An average score of 3.29 (82.25%) resulted from indirect assessment of industry professionals.

SLO #17 Understand the legal implications of contract, common and regulatory law to manage a construction project
- In CNS 4153, the instructor uses a combination of two exams (a midterm and a final) to assess SLO #17. Out of 41 students the average score on the two exams was 79.71%. With 82.9% earning a grade of 75% or above.
- An average score of 3.04 (76%) resulted from indirect assessment of students.
- An average score of 3.08 (77%) resulted from indirect assessment of industry professionals.

SLO #18 Understand the basic principles of sustainable construction
- In CNS 2211, the instructor uses quiz #4 to assess SLO #18. Out of 56 students, the average grade on the quiz was 94%.
- An average score of 3.04 (76%) resulted from indirect assessment of students.
- An average score of 3.38 (84.5%) resulted from indirect assessment of industry professionals.

SLO #19 Understand the basic principles of structural behavior
- In CNS 4193, the instructor uses all graded assignments in the course to assess SLO #19. Out of 30 students enrolled the average grade was 83.6%. 76.7% of students earned a 75% or higher.
- In CNS 4233, the instructor uses all graded assignments in the course to assess SLO #19. Out of 40 students enrolled the average grade was 82.6%. 87.5% of students earned a 75% or higher
- In CNS 4613, the instructor uses all graded assignments in the course to assess SLO #19. Out of 41 students enrolled the average grade was 91.8%.
- An average score of 2.88 (72%) resulted from indirect assessment of students.
- An average score of 3.46 (86.5%) resulted from indirect assessment of industry professionals.

SLO #20 Understand the basic principles of mechanical, electrical, and piping systems
- In CNS 2433 the instructor uses exam #2 to assess mechanical system knowledge under SLO #20. Out of 39 exams taken, the average grade was 91% and 92% of the class earned a 75% or higher.

- In CNS 2433 the instructor uses exam #3 to assess plumbing system knowledge under SLO #20. Out of 39 exams, the average grade was 87.8% and 92% of the class earned a 75% or higher.
- In CNS 3443, the instructor uses the mid-term exam to assess electrical system knowledge under SLO #20. Out of 33 students the average grade on the mi- term was 83.4% and 84% earned a 75% or higher.
- An average score of 3 (75%) resulted from indirect assessment of students.
- An average score of 3.36 (84%) resulted from indirect assessment of industry professionals.

Of the assessment data collected, no SLOs were below the target on more than one means of assessment. However, four SLOs were below the target of 70% in one measure of assessment.
- Direct assessment of SLO #4: *Create construction project cost estimates,* in CNS-3512 did not meet the target. The average student score was 60%.
  - This SLO is directly assessed in two different courses. The second direct assessment occurs in the course CNS-4993 (senior level, prior to graduation). In the second direct assessment location and in both indirect assessments the assessment target was met. As such missing the target in CNS-3512 is not a serious concern. However, the instructor plans to introduce students to multiple different projects during the semester and to hold a review session to improve student's ability to navigate unfamiliar documents.
- Indirect assessment of SLO #10 (by students): *Apply electronic-based technology to manage the construction process* had a score of 69.25%.
  - This SLO just barely missed the target of 70%. The direct assessment measure was 81% and the second indirect assessment was 93%. It is believed that the student's assessment is low due to their negative perceptions of the course CNS-1213. Changes have been implemented in that course since these students took it and should result in improved scores in coming years.
- Direct assessment of SLO #12: *Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process*s, in CNS-1111 did not meet the target. The average grade was 65.6%.
  - This SLO is directly assessed in two different courses. The second direct assessment occurs in the course CNS-4523 (senior year). In the second direct assessment location and in both indirect assessments the target was met. As such missing the target in CNS-1111 is not a serious concern. However, the instructor has revised the focus of multiple lectures in the course to better emphasize the different project delivery methods.
- Indirect assessment of SLO #14 (by students): *Understand construction accounting and cost control* had a score or 68.25%.
  - This SLO just missed the target of 70%. The direct assessment measure was 82.61% and the second indirect assessment was 77%. Student feedback on this issue was inconclusive in the exit survey, so it will be a subject of discussion in CNS faculty meetings in 2020-2021.

2. Faculty Involved with the Program

The following table lists the faculty teaching in the program in the 2019/2020 academic year, as well as the SLOs assessed in their courses.

Course	Name	Instructor	SLO assessed/Notes
Fall 2019			
CNS 1111	Introduction to Construction Mgmt.	Bigelow	12
CNS 2211	Sustainability	Bloom	18
CNS 2363	Materials and Forms	Bloom	9
CNS 3103	Construction Surveying	Reyes	11
CNS 3413	Construction Communication	McCuen	2
CNS 3443	Electrical Systems	Perrenoud	20
CNS 3512	Cost Estimating	Ghosh	4,6
CNS 3612	Project Controls Lab	Ghosh	No SLO assessed
CNS 3812	Project Planning & Scheduling	Ghosh	5
CNS 4133	BIM for Constructors	McCuen	10
CNS 4223	Structures II	Shadravan	19

CNS 4523	Pre-Construction Services	Perrenoud	12,13,15
CNS 4613	Soils & Foundations	Marakah	No SLO assessed
CNS 4970	Residential Construction	Bloom	No SLO assessed
Spring 2020			
CNS 1213	Computers in Construction	Gransberg	No SLO assessed
CNS 2133	Introduction to Housing	Bigelow	No SLO assessed
CNS 2433	Mechanical Systems	Perrenoud	20
CNS 2812	Construction Fundamentals Lab	Cleinfelter	8, 15
CNS 2813	Construction Docs & Quantity Survey	Ghosh	7
CNS 2833	Materials & Methods II	Bloom	8
CNS 3823	Project Controls Management	Reyes	14,16
CNS 3883	Construction Safety	Reyes	3
CNS 4153	Legal Issues in Construction	Laws	17
CNS 4193	Structures I	Shadravan	19
CNS 4213	Design Build Principles	McCuen	No SLO assessed
CNS 4303	Lean Construction Management	Ghosh	No SLO assessed
CNS 4403	Leadership	Perrenoud	No SLO assessed
CNS 4970	Heavy Civil Construction	Jones	No SLO assessed
CNS 4970	Design + Build	Bloom	No SLO assessed
CNS 4993	Construction Science Capstone	McCuen	1,4,5
Summer 2020			
CNS 2133	Introduction to Housing	Bigelow	No SLO assessed
CNS 3943	Field Work	Ghosh	No SLO assessed
CNS 4943	Field Work	Ghosh	No SLO assessed

3. Course Notebooks

A sample of course notebooks were collected in the 2019/20 academic year. Following is a summary of the notebooks collected.

    i.   Total number of course notebooks collected for the 2019/20 academic year: 24. Following is the list of courses for which course notebooks were collected:

    (1) Fall 2019: CNS 1111, CNS 2211, CNS 2363, CNS 3103, CNS 3413, CNS 3443, CNS 3512, CNS 3612, CNS 3812, CNS 4133, CNS 4233, CNS 4523, CNS 4970 (13 courses).

    (2) Spring 2020: CNS 2433, CNS 2812, CNS 2813, CNS 2833, CNS 3103, CNS 3823, CNS 3883, CNS 4153, CNS 4193, CNS 4213, CNS 4303, CNS 4993 (11 courses).

    ii.   Total number of courses for which course notebooks were _not_ collected for the 2019/2020 academic year: 5. The following is the list of courses:

    (1) Fall 2019: CNS 4613

    (2) Spring 2020: CNS 1213, CNS 2133, CNS 4403, CNS 4970 (4 courses)

    iii.   All course notebooks are available in electronic format.

(2) Each course notebook was expected to consist of the following materials:

    i.   Course Syllabus (following University of Oklahoma requirements)
    ii.   ACCE SLO Summary Form
    iii.   CNS Division Course Summary Form
    iv.   Course lectures or other presentation materials
    v.   Course assignments and tests with grading rubrics or keys
    vi.   1 example of student work for each assignment (student names removed)

vii. Any other materials the instructor deems appropriate to include

4. Direct Assessment of Student Learning Outcomes and Course Summaries

Instructors were asked to submit information to evaluate their courses and collect assessment data for SLOs. The following are the responses collected, organized by the course (Assessment information organized by SLO is provided in section 5):

(1) CNS 1111 – The instructor uses quizzes 1, 5, and 12 to assess SLO #12. Out of 58 students, the average grade on the quizzes was: 65.6%. The grade distribution in the course was: A – 14, B – 38, C – 5, D – 1, F – 5.
the instructor has revised the focus of multiple lectures in the course to better emphasize the different project delivery methods.

(2) CNS 1213 – SLOs are not assessed in this course. Out of 55 students enrolled, the grade distribution in the course was: A – 21, B – 11, C – 0, D – 0, F – 1, P – 10, NP - 6.
No suggestions for improvement were provided.

(3) CNS 2211 – The instructor uses quiz #4 to assess SLO #18. Out of 56 students, the average grade on the quiz was 94%. The grade distribution in the course was: A – 45, B – 5, C – 2, D – 0, F – 4.
- The course is being discontinued and assessment of SLO #18 will occur in CNS-2833

(4) CNS 2363 – No SLOs are assessed in CNS-2363. Out of 61 students, the grade distribution in the course was: A – 13, B – 36, C – 9, D – 1, F – 2.

(5) CNS 2433 – For SLO #20, the instructor uses exam #2 to assess mechanical system knowledge. Out of 47 exams taken, the average grade was 91%. The instructor used exam #3 to assess plumbing system knowledge. Out of 47 exams, the average grade was 87.8%. The grade distribution in the course was: A – 14, B – 22, C – 10, D – 01, F – 1.
The instructor suggested the following improvement for next year: Due to changes in the CNS Curriculum, the MEP courses have been reduced from 3 credits to 2 credits. This will require a review and revision of the course to ensure that the SLOs tested in this course are still meet with less hours.

(6) CNS 2812 – The instructor uses material submittals, material spec sheets, shop drawings, and lab safety plans. to assess SLO #8. Out of 48 students enrolled in the course the average grade was 93%. The instructor uses a field work report to assess SLO #15. Out of 48 students the average grade was 81%. The grade distribution in the course was: A – 31, B – 9, C – 5, D – 3, F – 0.
The instructor suggested the course would benefit from Decrease the amount of time spend with Students completing submittals and move this portion of the class into an HW format after the first lab. This would allow for an increasing amount of time in the lab setting or a decrease in the overall length of the class.

(7) CNS 2813 – The instructor uses two exams (exam 1 and the final exam) to assess SLO #7. Out of 47 students, the average grade on the two exams was 82%. The grade distribution in the course was: A – 7, B – 18, C – 9, D – 1, F – 0.
The instructor suggested the following improvement for next year:

1. Coordinate more with the Fundamentals Lab and have some of the QTO assignments tie with the lab assignments. This has been on my list for last couple of years. With the changing nature and location and the course structure, I have not been able to coordinate. However, it is more on me than the instructor of the Fundamentals lab.
2. Use more 3D navigable virtual environments to facilitate visualization of the students. May be arrange for one site visit if possible.

(8) CNS 2833 – The instructor used exam 1 questions to assess SLO #8. Out of 55 students the average score was 82%. The grade distribution in the course was: A – 19, B – 22, C – 0, D – 1, F – 0, P - 13.
The instructor suggested the following improvement for next year: This course would benefit from splitting content with Materials and Form.

(9) CNS 3103 – The instructor uses a combination of lab assignments and two exams to assess SLO #11. Out of 33 students the average score from these labs and exams was 90.67%. The grade distribution in the course was: A – 17, B – 13, C – 3, D – 0, F – 0.
The instructor suggested the following improvement for next year: The new schedule will allow for some more intense and dedicated lab time. I will incorporate real world items (benchmarks, control points, etc.) into the labs for a better connection to how surveyors use landmarks.

(10) CNS 3413 – The instructor uses the oral presentation from project #2 to assess SLO #2. Out of 32 students the average grade on the presentation was 88%. The grade distribution in the course was: A – 15, B – 164, C – 0, D – 1, F – 0. The instructor had no suggestion for next year:

(11) CNS 3443 – The instructor uses the mid-term exam to assess SLO #20. Out of 33 students the average grade on the mi- term was 91%. The grade distribution in the course was: A – 12, B – 20, C – 1, D – 0, F – 0.
The instructor suggested the following improvement for next year: Due to changes in the CNS Curriculum, the MEP courses have been reduced from 3 credits to 2 credits. This will require a review and revision of the course to ensure that the SLOs tested in this course are still meet with less hours.

(12) CNS 3512 – The instructor uses question #11 on the final exam to assess SLO #4. Out of 34 students the average score was 60%. The instructor uses two in class assignment to assess SLO #6. Out of 34 students, the average grade on these assignment was 85%. The grade distribution in the course was: A – 3, B – 21, C – 10, D – 0, F – 0.
The instructor suggested the following improvement for next year: Will increase the number of in-class activities to provide more practice to the students.

(13) CNS 3612 - SLOs are not assessed in this course. Out of 33 students enrolled, the grade distribution in the course was: A – 7, B – 20, C – 6, D – 0, F – 0.
The instructor suggested the following improvement for next year: I will keep doing the mock bid day before the final bid day simulation. In addition, I will share examples of subcontractor's quotes that student teams receive on the Bid Day so that the students can get more familiar with the Bid Day simulation.

(14) CNS 3812 - The instructor uses the final exam to assess SLO #5. Out of 34 students the average grade on the final exam was 74.5%. The grade distribution in the course was: A – 9, B – 18, C – 7, D – 0, F – 0.
The instructor suggested the following improvement for next year: Will increase the number of in-class activities to provide more practice to the students.

(15) CNS 3823 – The instructor uses a combination of homework and the final exam to assess SLO #14. Out of 33 students the average grade on these materials was 82.67%.
For SLO #16 the instructor uses exam #1 to assess SLO #16. Out of 33 students the average grade was 81.09%. The grade distribution in the course was: A – 4, B – 9, C – 15, D – 5, F – 0.
The instructor suggested the following improvement for next year: Expanded use of digital document and cost control tools (such as Procore)

(16) CNS 3883 – The instructor uses the final project to assess SLO #3. Out of 33 students the average score on the project was 82.94%.. The grade distribution in the course was: A – 16, B – 16, C – 1, D – 0, F – 0.

The instructor suggested the following improvement for next year:

(17) CNS 4133 – The instructor uses in class activities, homework, exams, and a final project to assess SLO #10. Out of 40 students the average score on these was 81%. The grade distribution in the course was: A – 12, B – 27, C – 1, D – 0, F – 0.
The instructor suggested the following improvement for next year: 1. The course could be improved if students had a broader understanding of construction processes and the information exchange processes between project team members.
2. Retention of fundamental Revit skills from previous course(s) would improve the students' experience and course outcomes for undergraduate students.

(18) CNS 4153 –The instructor uses a combination of two exams (a midterm and a final) to assess SLO #17. Out of 41 students the average score on the two exams was 79.71%. The grade distribution in the course was: A – 4, B – 14, C – 21, D – 0, F – 0, P – 2..
The instructor did not have suggestions for improvement for next year.

(19) CNS 4193 – The instructor uses all graded assignments in the course to assess SLO 19. Out of 30 students enrolled the average grade was 83.6%. The grade distribution in the course was: A – 11, B –8, C – 9, D – 2, F – 0.
The instructor did not have suggestions for improvement for next year.

(20) CNS 4213 - This course is an elective, as such SLOs are not assessed in this course. Out of 17 students enrolled, the grade distribution in the course was: A – 6, B –11, C – 0, D – 0, F – 0.
The instructor did not have suggestion for improvement for next year.

(21) CNS 4233 – The instructor uses all graded assignments in the course to assess SLO 19. Out of 30 students enrolled the average grade was 83.6%. The grade distribution in the course was: A – 11, B – 8, C – 9, D – 2, F – 0.
The instructor did not have suggestions for the course next year.

(22) CNS 4303 – This course is an elective, as such SLOs are not assessed in this course. Out of 13 students enrolled, the grade distribution in the course was: A – 3, B – 8, C – 2, D – 0, F – 0.
The instructor suggested the following improvement for next year: I redesigned a lot of the content, assignments, and overall approach to this course than last few years. I believe it was working well until I had to change course due to shifting to online delivery. I want to implement the full version of the redesigned course during Spring 2021 (keep everything I did this year and add the work sampling project and exit interview in place of the final exam). One modification I will do based on student feedback is to use case studies more in class before the midterm to familiarize the students with them.

(23) CNS 4403 – This course is an elective, as such SLOs are not assessed in this course. Out of 20 students enrolled, the grade distribution in the course was: A – 17, B – 2, C – 0, D – 0, F – 0, P - 1.
The instructor did not have suggestions for next year.

(24) CNS 4523 – The instructor uses a feasibility estimate assignment to assess SLO #9. Out of 40 students the average grade on the assignment was a 97.5%. The instructor uses the mid-term exam to assess SLO #12. Out of 40 students the average mid-term grade was 75%. The instructor uses the final exam to assess SLO #13 and SLO #15. Out of 40 students, the average grade on the final exam was 86%. The grade distribution in the course was: A – 4, B – 26, C – 10, D – 0, F – 0.
The instructor suggested the following for next year: Bring in additional professionals that can connect the instruction in class to reality.

(25) CNS 4613 – The instructor uses all graded assignments in the course to assess SLO #19. Out of 41 students enrolled the average grade was 91.8%. The grade distribution in the course was: A – 28, B –13, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(26) CNS 4970 (Residential)- This course is an elective, as such SLOs are not assessed in this course. Out of 14 students enrolled, the grade distribution in the course was: A – 14, B – 0, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(27) CNS 4970 (Heavy Civil) - This course is an elective, as such SLOs are not assessed in this course. Out of 4 students enrolled, the grade distribution in the course was: A – 4, B – 0, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(28) CNS 4970 (Design + Build) - This course is an elective, as such SLOs are not assessed in this course. Out of 8 students enrolled, the grade distribution in the course was: A – 7, B – 1, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(29) CNS 4993 – The instructor uses the capstone final project to assess SLOs #1, #4, & #5. The instructor uses the final project to assess SLO #1. Out of 40 students the average grade for SLO #1 was 80%, the average grade for the SLO #4 portion of the project was 80%. The average grade for the SLO #5 portion of the project was 79%. The grade distribution in the course was: A – 16, B – 17, C – 5, D – 2, F – 0.
The instructor suggested the following for the course: Students need a better understanding of the connection between the site logistics, project phase planning, and construction schedule. If you look at the students' performance in each of these areas as separate topics, their performance is good. However, the majority (95%) cannot connect the three topics together in a comprehensive and realistic manner. They schedule work in a linear fashion without considering their phase plan and site logistics for the project. It would help if students were aware of the connection and evaluated on putting it all together in courses prior to Capstone.

5. **Indirect Assessment of Student Learning Outcomes Via Student Exit Surveys**

Each graduating student was given a departmental exit survey, and was asked to fill it out online. Out of the 30 students who graduated in May 2019, 30 responses were collected. Accounting for a 100% response rate. Students were asked how confident they are in their ability to apply each SLO on a 4-point scale. The table below summarizes the student responses regarding each SLO. An average score out of 5 is provided as well as the number of responses for each level of confidence ("Very Confident", "Confident", "Somewhat Confident", and "Not Confident")

SLO	Average	Very Confident	Confident	Somewhat Confident	Not Confident
#1 Written Communication	3.31	10	14	2	0
#2 Oral Presentations	3.19	9	13	4	0
#3 Safety Plan	3.23	9	14	3	0
#4 Cost Estimates	3.08	5	18	3	0
#5 Project Schedules	3.12	7	15	4	0
#6 Ethics	3.46	13	12	1	0
#7 Documents	3.31	10	14	2	0
#8 Materials & Methods	3.19	9	13	4	0
#9 Multi-Disciplinary Team	3.23	10	12	4	0
#10 Electronic Technology	2.77	3	16	5	2
#11 Surveying	3.04	6	15	5	0
#12 Project Delivery	3.27	7	19	0	0
#13 Risk Management	3.23	9	14	3	0
#14 Acct. & Cost Control	2.73	4	12	9	1
#15 QA/QC	3.19	7	17	2	0
#16 Project Control	3.04	5	16	4	0
#17 Legal	3.04	7	14	4	1

#18 Sustainable	3.04	7	14	4	1
#19 Structural Principles	2.88	5	14	6	1
#20 MEP	3	7	12	7	0

6. Indirect Assessment of Student Learning Outcomes via Industry/Alumni Surveys

A sample of 15 industry representatives were surveyed. Representatives were asked to rate the performance of graduates they had hired on each of the 20 student learning outcomes. The table below summarizes the responses collected. An average score out of 4 is provided as well as the number of responses for each option ("Very good", "Good", "Poor", "Very Poor"). To avoid fatigue, the employer survey is conducted every 3 years. This data was collected in 2018.

SLO	Average	4- Very Good	3- Good	2- Poor	1- Very Poor
#1 Written Communication	3.47	7	7	1	0
#2 Oral Presentations	3.53	8	5	1	1
#3 Safety Plan	3.21	4	8	2	0
#4 Cost Estimates	3.00	5	5	4	0
#5 Project Schedules	3.21	5	8	1	0
#6 Ethics	3.80	12	1	1	1
#7 Documents	3.53	9	4	2	0
#8 Materials & Methods	3.20	5	7	3	0
#9 Multi-Disciplinary Team	3.50	8	4	2	0
#10 Electronic Technology	3.73	11	2	1	1
#11 Surveying	2.93	2	9	2	1
#12 Project Delivery	3.31	5	8	0	0
#13 Risk Management	2.92	1	9	3	0
#14 Acct. & Cost Control	3.08	3	9	1	0
#15 QA/QC	3.57	9	3	2	0
#16 Project Control	3.29	6	5	3	0
#17 Legal	3.08	3	8	1	1
#18 Sustainability	3.38	7	5	1	0
#19 Structural Principles	3.46	7	4	2	0
#20 MEP	3.36	6	8	0	0

7. Strategic Plan Progress

In May 2019 the Division approved a strategic plan, this summarizes the progress towards those efforts in the 2019/2020 year.

Division

Goal 1: We will focus on construction industry relevance and strong relationships, producing graduates that add value to their employers. *(3 Objectives)*

Objective 1: Ensure the long-term strength of the division through endowments that facilitate faculty and student success.
- *Strategy:* The Division Director with the Dean's office will facilitate the administration of a fund raising program that meets the operational needs of the division, faculty, and students.
  1. Fall 2019 - Create an inventory of operational and academic needs
  2. Fall 2019 – Set goals for new and existing endowments
  3. Spring & Summer 2020 - Identify potential contributors to endowments
  4. Fall 2020 - Publish the operational needs of the department to the slate of potential contributors.
- *Metrics:* By Spring 2025 the strategy items have been accomplished.

This objective has been partially met.
A complete inventory of operational needs has not been completed. This was due in large part to the departure of the College advancement (development) officer and the continued vacancy of that position. However, the highest priorities have been identified and are the current foci of development efforts in the division.

Objective 2:   Maintain an effective online presence to market our brand to current, former, and prospective students as well as construction companies and the public at large about the division.
   Strategy: The Division faculty, will facilitate and maintain an effective and up to date web-based presence for the department via the website and social media.
    1. At the beginning of each semester faculty will review the website for accuracy and necessary updates.
    2. Fall 2019 – All faculty will be given administrative access to division social media accounts so updates can be made by any faculty member.
    3. Spring 2020 – Faculty will determine if additional social media accounts should be established.
   Metrics: By Summer 2021 the department will be consistently evaluating the website, and making weekly social media posts.

This objective has been partially met.
Prior to the COVID-19 pandemic the objective was being met. However, since March its has only been partially met.

Objective 3:   Facilitate opportunities for students to interact with construction industry professionals, especially Professional Advisory Board (PAB) member companies.
   Strategy: The Director and faculty will plan and execute opportunities to engage construction industry professionals within the program.
    1. Continue hosting summer luncheons for PAB members in OKC and DFW.
    2. Continue hosting annual golf tournament in Norman & TopGolf in DFW for any construction industry professional.
    3. Continue hosting career fairs each semester.
    4. Include at least one guest speaker from the construction industry in 50% of CNS course each semester.
   Metrics: The PAB consistently has 20 dues-paying members.
     Every student will have at least 6 opportunities to interact with industry professionals each year.

This objective has been partially met.
Prior to the COVID-19 pandemic, this objective was being met. However, since March activities have been canceled and it is expected that they will be canceled for the foreseeable future. The Division is evaluating how these types of events can still occur given the current environment.

Undergraduate
Goal 2: We will provide an educational experience for students to develop the knowledge and skills to be a contributing construction professional. *(4 Objectives)*

Objective 1:   Maintain consistent teaching assignments for faculty
   Strategy: The Division Director will keep faculty teaching assignments consistent to facilitate the continued development and improvement of courses by faculty. Any changes in teaching assignments will include feedback from the faculty involved.
    1. Changes in teaching assignments will originate with discussion between all faculty affected
    2. The director will include discussion about teaching assignments in annual evaluation meetings
   Metrics: By Spring 2020 the division will have made any necessary curricular changes and teaching assignments made will be held consistent through 2024.

Overall this objective has been met.
The new curriculum is in place and will commence Fall of 2020. However, a change will also be required in 2020 due to changes in general education requirements from the university. Faculty teaching assignments were fixed, however with Dr. Perrenoud's departure changes may yet be required.

Objective 2:   Maintain accreditation, and submit annual OU assessment materials.
        Strategy: The Division Director will oversee the collection of assessment material to ensure appropriate data is available for the accreditation process.
1. Spring 2019 – submit reaccreditation self-study.
2. In Fall 2019 – reaccreditation visit.
3. In 2020 curricular changes will be assessed by the faculty and decisions made regarding changes deemed necessary.
4. Every Fall semester – Submit OU assessment report.
5. Respond with Interim Reports as required by accreditation body.
        Metrics: Accreditation is maintained and OU assessment metrics meet or exceed expectations in all categories.

To date this objective has been met.
Ongoing assessment reports to OU and ACCE are in process yearly.

Objective 3:   Introduce and apply currently used technology in the construction industry to our students.
        Strategy: The faculty will facilitate the integration of technology in their courses.
1. Ongoing - Facilitate professional development and provide technology support to faculty to ensure a baseline proficiency in technology.
2. 2020 - Each faculty will identify opportunities for technology integration and implementation in their courses.
        Metrics: Faculty will report back in subsequent faculty meetings what they did and their perception of the outcome.

This objective is in process and is being met.

Objective 4:   Continue to provide project-based courses within the curriculum, and encourage interdisciplinary collaboration.
        Strategy: An environment conducive to interdisciplinary collaboration and project-based courses will be maintained with the Director following up with faculty regarding collaboration and projects in their individual courses.
1. 3000 level and above CNS courses will be limited to 40 students.
2. GA/TA support will continue to be provided.
3. Faculty will maintain Industry involvement to secure projects
        Metrics: Students will have at least 6 project-based CNS courses.
    Students will have multiple points of interdisciplinary collaboration.

This objective is in process and is being met.

Research and Scholarly Activity
    Goal 3: We will advance the body of knowledge related to the AEC industry. *(2 Objectives)*

Objective 1:   Improve the scholarly output of graduate students.
        Strategy: An elevation of expectation for graduate student productivity will be prioritized.
1. Each Fall – New students will complete a research methods course and identify a potential topic for their thesis or special study project that is aligned with a faculty member's research interest.
2. Ongoing – Graduate student projects and/or thesis will be submitted to a peer reviewed publication.
        Metrics: Faculty meet at least half of their annual research expectations through their graduate student advising.

This objective is being met and is ongoing.

Objective 2:   Continue production of publications in peer-reviewed venues and regular submissions of proposals for external funding.
        Strategy: The Director will facilitate the administration of a more productive scholarship environment.
1. 2020 – Establish an incentive program for increased research productivity.

2. Yearly – The Director will meet with faculty to discuss their personal scholarship goals.
Metrics: Tenure/tenure-track faculty shall publish in peer reviewed journals on an annual basis.
Division will secure at least $100k/year in external funding.
This objective is being met, and is ongoing.

Service

Goal 4: We will engage with regional and national professional and academic organizations related to the construction industry. *(1 Objectives)*

Objective 1: Faculty will serve in leadership positions with professional and/or external academic organizations.
Strategy: Identify organizations with which to engage
1. Ongoing – Faculty engage with organizations through meeting and conference attendance
2. Ongoing – faculty serve on committees
3. Ongoing – faculty seek leadership roles on the committees in which they serve
4. Yearly – The director will meet with faculty to discuss their progress towards this goal
Metrics: Each year, at least one faculty member is serving in a leadership role on a committee or with an organization.
This objective has been met, and is ongoing.

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