Haskell & Irene Lemon Construction Science Division

SLO Assessment Outcomes & Strategic Plan Progress

2022-2023 academic year

This document serves as the assessment report for the Bachelor of Science – Construction Science program for the 2022/20232 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 2021. As of Fall 2022, the Division had 311 students, and in May of 2023 graduated 39 students. The Bachelor of Science in Construction Science's CIP code is: 522001

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 Materials** – A listing of courses for which assessment materials were submitted
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 a project to assess SLO #1. Out of 39 students the average student grades was 99%,
- Indirect assessment of students resulted in an average score of 3.74 (93.5%)
- Indirect assessment of industry professionals resulted in a score of 100%.

SLO#2: *Create oral presentations appropriate to the construction discipline*
- In CNS 3412, the instructor used two project presentations to assess SLO #8. Out of 40 students the average score was 92.5%.
- Indirect assessment of students resulted in an average score of 3.63 (90.75%).
- Indirect assessment of industry professionals resulted in a score of 87%.

SLO#3: *Create a construction project safety plan*
- In CNS 3883, the instructor used the final project to assess SLO #3. Out of 41 students the average score on the project was 91.22%.
- Indirect assessment of students resulted in an average score of 3.28 (82%).
- Indirect assessment of industry professionals resulted in a score of 73%.

SLO#4: *Create construction project cost estimates*
- In CNS 3512, the instructor used question #11 on the final exam to assess SLO #4. Out of 45 students the average score on this question was 77.5%.
- In CNS 4993, the instructor used a portion of a project to assess SLO #4. Out of 39 students

the average grade for that portion of the project was 97%.
- Indirect assessment of students resulted in an average score of 3.23 (80.75%).
- Indirect assessment of industry professionals resulted in a score of 67%.

SLO #5: *Create construction project schedules*
- In CNS 3812, the instructor uses question #15 on the final exam to assess SLO #5. Out of 41 students the average grade on that question was 78%.
- In CNS 4993, the instructor uses used a portion of a project to assess SLO #5. Out of 39 students the average grade for that portion of the project was 97%.
- Indirect assessment of students resulted in an average score of 3.03 (75.75%).
- Indirect assessment of industry professionals resulted in a score of 60%.

SLO#6: *Analyze professional decisions based on ethical principles*
- In CNS 3512, the instructor used a homework assignment and a quiz to assess SLO #6. Out of 45 students the average grades was 93%.
- Indirect assessment of students resulted in an average score of 3.62 (90.5%).
- Indirect assessment of industry professionals resulted in a score of 93%.

SLO#7 *Analyze construction documents for planning and management of construction processes*
- In CNS 2912 The instructor uses two exams (the midterm and the final exam) to assess SLO #7. Out of 53 students, the average grade on the two exams was 75.5%.
- Indirect assessment of students resulted in an average score of 3.46 (86.5%).
- Indirect assessment of industry professionals resulted in a score of 93%.

SLO#8 *Analyze methods, material and equipment used to construct projects*
- In CNS 2833, The instructor uses assignment 9 to assess SLO #8. Out of 82 students, the average grade was 85%.
- In CNS 2911, The instructor used two assignments to assess SLO #8. Out of 50 students the average grade was 86.47%.
- In CNS 3412, the instructor used a presentation and final to assess SLO #8. Out of 40 students the average score was 94%.
- Indirect assessment of students resulted in an average score of 3.46 (86.5%).
- Indirect assessment of industry professionals resulted in a score of 80%.

SLO#9 *Understand the role of the construction manager as a member of different multidisciplinary project teams*
- In CNS 4523, the instructor uses a collaboration exercise to assess SLO #9. Out of 39 students, the average grade on this collaboration exercise was 93.2%.
- Indirect assessment of students resulted in an average score of 3.56 (89%).
- Indirect assessment of industry professionals resulted in a score of 87%.

SLO #10 *Apply electronic-based technology to manage the construction process*
- In CNS 4133, the instructor uses in class activities, homework, and the final project to assess SLO #10. Out of 39 students the average score on the class activities and homework was 86%, the average score on the project was 89%. The overall average was 87.5%.
- Indirect assessment of students resulted in an average score of 3.41 (85.25%).
- Indirect assessment of industry professionals resulted in a score of 100%.

SLO #11 *Apply basic surveying techniques for construction layout and control*
- In CNS 3101, the instructor uses a combination of ten lab assignments and two exams to assess SLO #11. Out of 41 students the average score was 89.5%.
- Indirect assessment of students resulted in an average score of 3.08 (77%).
- Indirect assessment of industry professionals resulted in a score of 60%.

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 103 students, the average grade on the three quizzes was: 61%.
- In CNS 4523, the instructor uses the first exam and a collaboration exercise to assess SLO #12. Out of 39 students the average grade for these activities was 90%.
- Indirect assessment of students resulted in an average score of 3.44 (86%).
- Indirect assessment of industry professionals resulted in a score of 80%.

SLO #13 *Understand construction risk management*
- In CNS 4523, the instructor used exam #2 to assess SLO #13 Out of 39 students the average grade was 86.8%.
- Indirect assessment of students resulted in an average score of 3.38 (84.5%).
- Indirect assessment of industry professionals resulted in a score of 73%.

SLO #14 *Understand construction accounting and cost control*
- In CNS 3823 The instructor used a combination of homework and two exams to assess SLO #14. Out of 41 students the average grade on these materials was 88.9%
- Indirect assessment of students resulted in an average score of 3.08 (77%).
- Indirect assessment of industry professionals resulted in a score of 53%.

SLO #15 *Understand construction quality assurance and control*
- In CNS 2911, the instructor used daily field reports to assess SLO #15. Out of 50 students the average grade was 85.28%.
- In CNS 4523, the instructor uses exam 2 to assess SLO #15 Out of 39 students the average grade on these activities was 90%.
- Indirect assessment of students resulted in an average score of 3.59 (89.75%).
- Indirect assessment of industry professionals resulted in a score of 73%.

SLO #16 *Understand construction project control processes*
- In CNS 3823, the instructor used exam #1 and homework assignments to assess SLO #16. Out of 41 students the average grade on these activities was 91.7%.
- Indirect assessment of students resulted in an average score of 3.56 (89%).
- Indirect assessment of industry professionals resulted in a score of 73%.

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 40 students the average score on the two exams was 80.25%.
- Indirect assessment of students resulted in an average score of 3.13 (78.25%).
- Indirect assessment of industry professionals resulted in a score of 60%.

SLO #18 *Understand the basic principles of sustainable construction*
- In CNS 2363, the instructor used exam #1 to assess SLO #18. Out of 83 students the average grade on the exam was 77%.
- Indirect assessment of students resulted in an average score of 3.44 (86%).
- Indirect assessment of industry professionals resulted in a score of 93%.

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 44 students enrolled the average grade was 76.5%.
- In CNS 4512, the instructor uses all graded assignments in the course to assess SLO #19. Out

of 39 students enrolled the average grade was 87.4%.
- Indirect assessment of students resulted in an average score of 3.23 (80.75%).
- Indirect assessment of industry professionals resulted in a score of 87%.

SLO #20 *Understand the basic principles of mechanical, electrical, and piping systems*
- In CNS 2432 the instructor uses exam #1 & #2 to assess SLO #20. Out of 54 students, the average grade on the exams was 91%.
- In CNS 3442, the instructor uses the mid-term and final exams to assess SLO #20. Out of 41 students the average grade on these exams was 92.5%.
- Indirect assessment of students resulted in an average score of 3.24 (81%).
- Indirect assessment of industry professionals resulted in a score of 73%.

SLO assessment by direct methods did meet the benchmark established for all SLOs. While there was one instance (SLO #12) where direct assessment fell below the benchmark, it was an SLO that is assessed in two locations and in the second direct assessment location it met the benchmark. Because the direct assessment benchmark was met in another course, and because the direct assessment location that did not meet the benchmark was in the freshman year, no immediate action regarding this SLOs is anticipated.

SLO assessment by indirect methods resulted in five instances where assessment was below the benchmark, all were from the Industry Professionals Survey (The student survey did not result in any SLO's below the benchmark). The include:
- SLO #4: Create construction project cost estimates, IP survey score was 67% and student survey score was 68.25%
- SLO #5: Create construction project schedules, IP survey score was 60%
- SLO #11: Apply basic surveying techniques for construction layout and control, IP survey score was 60%
- SLO #14 Understand construction accounting and cost control, IP survey score was 53%
- SLO #17 Understand the legal implications of contract, common and regulatory law to manage a construction project, IP survey score was 60%

Industry professionals were hard in their evaluation of student preparedness in specific areas, but a subsequent question on the survey asked: "In general I am satisfied with the graduates my company has hired from the Construction Science program at the University of Oklahoma" and 14/15 indicated they "strongly agree". Because benchmarks were met in all other methods of assessment, no immediate action is planned. The industry survey is not collected every year to avoid fatigue and is scheduled to be done this year.

2. Faculty Involved with the Program

The following table lists the faculty teaching in the program in the 2022/2023 academic year, as well as the SLOs assessed in their courses.

Course	Name	Instructor	SLO assessed/Notes
Fall 2022			
CNS 1111	Introduction to Construction Mgmt.	Bigelow	12
CNS 1312	Computers in Construction	Gransberg	No SLO assessed
CNS 2363	Materials and Forms	Bloom	18
CNS 3103	Construction Surveying	Reyes	11
CNS 3442	MEP 2	Gaffney	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 3883	Construction Safety	Reyes	3
CNS 4133	BIM for Constructors	McCuen	10
CNS 4213	Design Build Principles	McCuen	No SLO assessed

CNS 4403	Leadership in the Construction Ind.	Gaffney	No SLO assessed
CNS 4503	Residential Construction	Bloom	No SLO assessed
CNS 4512	Soils & Foundations	Marakah	No SLO assessed
CNS 4523	Pre-Construction Services	Bloom	9, 12,13,15

Spring 2023			
CNS 2133	Introduction to Housing	Bigelow	No SLO assessed
CNS 2432	Mechanical Systems	Gaffney	20
CNS 2833	Materials & Methods II	Bloom	18
CNS 2911	Construction Fundamentals Lab	Clinefelter	8, 15
CNS 2912	Construction Docs & Quantity Survey	Gaffney	7
CNS 3412	Construction Communication	Fraley	2, 8
CNS 3823	Project Controls Management	Reyes	14,16
CNS 4153	Legal Issues in Construction	Laws	17
CNS 4193	Structures I	Shadravan	19
CNS 4303	Lean Construction Management	Ghosh	No SLO assessed
CNS 4603	Design + Build: Construction	Bloom	No SLO assessed
CNS 4853	Heavy Civil Construction	Gransberg	No SLO assessed
CNS 4993	Construction Science Capstone	Gaffney	1,4,5

Summer 2023			
CNS 2133	Introduction to Housing	Ghosh	No SLO assessed
CNS 3943	Field Work	Bloom	No SLO assessed
CNS 4940	Field Work	Bloom	No SLO assessed

3. Course Materials

Course materials are collected each year. The following is a summary of the materials collected in the 2022/23 academic year.

Course materials were collected from 24 courses in 2022/23. The following is the list of courses for which course materials were received:

Fall 2022: CNS 1111, CNS 2363, CNS 3103, CNS 3442, CNS 3512, CNS 3612, CNS 3812, CNS 3883, CNS 4133, CNS 4213, CNS 4403, CNS 4503, CNS 4523 (13 courses).

Spring 2023: CNS 2133, CNS 2432, CNS 2833, CNS 2911, CNS 2912, CNS 3112, CNS 3823, CNS 4003, CNS 4303, CNS 4603, CNS 4993, (11 courses).

Total number of courses for which course materials were not collected for the 2022/2023 academic year 5. That course was:

Fall 2022: CNS 1312,

Spring 2023:CNS 4512, CNS 4153, CNS 4193, CNS 4853

All course materials are available in electronic format. The following are typical course materials collected. If courses have not substantially changed, items iii through vii are not required each year.

ACCE SLO Summary Form
CNS Division Course Summary Form
Course Syllabus (following University of Oklahoma requirements)
Course lectures or other presentation materials
Course assignments and tests with grading rubrics or keys
1 example of student work for each assignment (student names removed)
Any other materials the instructor deems appropriate to include

- Page 5

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 1):

(1) CNS 1111 – The instructor uses quizzes 1, 5, and 12 to assess SLO #12. Out of 103 students, the average grade on the quizzes was: 61%. The grade distribution in the course was: A – 49, B – 39, C – 7, D – 3, F – 6.
The instructor did not have suggestions for improvement

(2) CNS 1312 – No SLOs are assessed in CNS-1312. Out of 60 students, the grade distribution in the course was: A – 40, B – 12, C – 2, D – 0, F – 2, W – 4.
No suggestions for improvement were provided.

(3) CNS 2133 – No SLOs are assessed in CNS-2133. Out of 121 students, the grade distribution in the course was: A – 62, B – 40, C – 8, D – 3, F – 8.
No suggestions for improvement were provided.

(4) CNS 2363 – For SLO #18, the instructor uses exam 1 to assess the SLO. Out of 83 students, the average exam grade was 77%. The grade distribution in the course was: A – 22, B – 39, C – 18, D – 1, F – 3.
No suggestions for improvement were provided.

(5) CNS 2432 – For SLO #20, the instructor uses the midterm and final exams to assess electrical and plumbing system knowledge. Out of 54 exams taken, the average grade was 91%. The grade distribution in the course was: A – 33, B – 15, C – 2, D – 4, F – 0.
The instructor suggested the following improvement for next year (same as previous year): Continue to engage electrical and plumbing systems professionals and leverage the information gathered to modify the course to reflect industry position(s).

(6) CNS 2911 – The instructor uses two assignments to assess SLO #8. Out of 50 students in the course the average grade was 86.47%. The instructor uses daily field reports to assess SLO #15. Out of 50 students the average grade was 85.28%. The grade distribution in the course was: A – 50, B – 0, C – 0, D – 0, F – 0.
The instructor suggested the following improvement for next year: Encourage students to take part in more industry-related events to grow their understanding of the people and industry they are entering. This can include events within the college as a whole but also those within the class in which industry personnel are present in class.

(7) CNS 2912 – The instructor uses two exams (the midterm and the final exam) to assess SLO #7. Out of 53 students, the average grade on the two exams was 75.5%. The grade distribution in the course was: A – 22, B – 24, C – 4, D – 1, F – 2.
The instructor suggested the following improvement for next year (same suggestion as last year): Coordinate more with CNS faculty to develop and/or modify course requirements to better facilitate the isometric drawing requirements and the QTO preparation.

(8) CNS 2833 – The instructor uses assignment 9 to assess SLO #8. Out of 82 students the average grade on exam #1 was 95% The grade distribution in the course was: A – 41, B – 38, C – 2, D – 0, F – 1,
No suggestions for improvement were provided.

(9) CNS 3103 – The instructor uses a combination of lab assignments and two exams to assess SLO #11. Out of 41 students the average score from these labs and exams was 89.5%. The grade distribution in the course was: A – 25, B – 14, C – 2, D – 0, F – 0.

The instructor suggested the following improvement for next year: The pace of the course requires substantial setup ahead of each session with very little time in between. Additional help with this will make the class sustainable.

(10) CNS 3412 – The instructor used two presentations to assess SLO #2 and a presentation and the final exam to assess SLO #8. The grade distribution in the course was: A – 40, B – 0, C – 0, D – 0, F – 0.
No suggestions for improvement were provided.

(11) CNS 3442 – The instructor uses the mid-term and final exam to assess SLO #20. Out of 41 students the average grade on the exams was 92.5%. The grade distribution in the course was: A – 25, B – 15, C – 1, D – 0, F – 0.
The instructor suggested the following improvement for next year (same as previous year): Continue to engage mechanical systems professionals and leverage the information gathered to modify course to reflect industry position(s).

(12) CNS 3512 – The instructor uses questions #11 on the final exam to assess SLO #4. Out of 45 students the average score was 77.5%. The instructor uses a homework assignment and a quiz to assess SLO #6. Out of 45 students, the average grade on these assignment was 93%. The grade distribution in the course was: A – 21, B – 23, C – 1, D – 0, F – 0.
The instructor suggested the following improvement for next year (same suggestion as last year): Doing more in-class activities is always helpful. This is more so as some of the concepts are completely new to them. So, working on them before being assigned homeworks are helpful. However, there is a limit to how much activities can be fitted in the scheduled times.

(13) CNS 3612 - SLOs are not assessed in this course. Out of 41 students enrolled, the grade distribution in the course was: A – 26, B – 15, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(14) CNS 3812 - The instructor uses the final exam question #15 to assess SLO #5. Out of 41 students the average grade on the final exam was 78%. The grade distribution in the course was: A – 13, B – 25, C – 3, D – 0, F – 0.
The instructor suggested the following improvement for next year: Doing more in-class activities is always helpful. This is more so as some of the concepts are completely new to them. So, working on them before being assigned homework is helpful. However, there is a limit to how many activities can be fitted in the scheduled times.

(15) CNS 3823 – The instructor uses a combination of homework and two exams to assess SLO #14. Out of 41 students the average grade on these materials was 88.9%.
For SLO #16 the instructor uses multiple homeworks and exam #1 to assess SLO #16. Out of 41 students the average grade was 91.7%. The grade distribution in the course was: A – 18, B – 20, C – 3, D – 0, F – 0.
The instructor suggested the following improvement for next year: Use some of the mobile technology features in Procore to mimic what they will do in the first several months of their time on site.

(16) CNS 3883 – The instructor uses the final project to assess SLO #3. Out of 41 students the average score on the project was 91.22%. The grade distribution in the course was: A – 30, B – 7, C – 4, D – 0, F – 0.
The instructor suggested the following improvement for next year: Moving the OSHA 30 outside of the class will allow for a lot more flexibility in how the safety plan is focused on.

(17) CNS 4003 (Residential)- This course is an elective, as such SLOs are not assessed in this course. Out of 30 students enrolled, the grade distribution in the course was: A – 30, B – 0, C – 0, D – 0, F – 0.

The instructor did not have suggestions for improvement for next year.

(18) CNS 4133 – The instructor uses in class activities, homework, and the final project to assess SLO #10. Out of 39 students the average score on the class activities and homework was 86%, the average score on the project was 89%. The overall average was 87.5%. The grade distribution in the course was: A – 12, B – 22, C – 5, D – 0, F – 0.
The instructor suggested the following improvement for next year (same as last year):
1-Increase student's knowledge about conceptual estimating
2-Increase emphasis on construction phasing and work sequencing
3-Redistribute major assignments over the entire semester

(19) CNS 4153 –The instructor uses a combination of two exams (a midterm and a final) to assess SLO #17. Out of 40 students the average score on the two exams was 80.25%. The grade distribution in the course was: A – 5, B – 11, C – 24, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(20) CNS 4193 – The instructor uses all graded assignments in the course to assess SLO 19. Out of 44 students enrolled the average grade was 76.5%. The grade distribution in the course was: A – 9 B – 18, C – 9 D – 1, F – 0.
The instructor did not have suggestions for improvement for next year.

(21) CNS 4213 - This course is an elective, as such SLOs are not assessed in this course. Out of 6 CNS students enrolled, the grade distribution in the course was: A – 0, B –4, C – 1, D – 1, F – 0.
The instructor suggested the following improvement for next year (Same as previous year): The DBIA course materials cannot be changed, however I would like to bring in one or two DBIA professionals to speak on topics that will support students in their final project assignments.

(22) CNS 4303 – This course is an elective, as such SLOs are not assessed in this course. Out of 22 students enrolled, the grade distribution in the course was: A – 15, B – 7, C – 0, D – 0, F - 0.
The instructor suggested the following improvement for next year: The small group projects were assigned to foster peer learning. What happened was one/two members doing all the work. Next time, I will assign more specific roles of the team members and form smaller teams (may be two members per team).

(23) CNS 4403 – 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 – 16, B – 0, C – 0, D – 0, F - 1.
The instructor suggested the following improvement for next year: Continue to research leadership and leverage the information gathered to modify course to reflect industry position(s).

(24) CNS 4523 – The instructor uses a collaboration exercise to assess SLO #9. Out of 39 students the average grade on these activities was 93.2%. The instructor uses the first exam and a collaboration exercise to assess SLO #12. Out of 39 students the average grade on these activities was 90%. The instructor uses the exam 2 to assess SLO #13 Out of 39 students the average grade on the exam was 86.8%. The instructor used exam 2 to assess SLO #15. Out of 39 students, the average grade on these was 90%. The grade distribution in the course was: A – 28, B – 11, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(25) CNS 4512 – The instructor uses all graded assignments in the course to assess SLO #19. Out of 39 students enrolled the average grade was 87.4%. The grade distribution in the course was: A – 23, B –11, C – 5, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(26) CNS 4853 – This course is an elective, as such SLOs are not assessed in this course. Out of 19 students enrolled, the grade distribution in the course was: A – 16, B – 3, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(27) CNS 4970 (Design + Build) - This course is an elective, as such SLOs are not assessed in this

course. Out of 15 students enrolled, the grade distribution in the course was: A – 15, B – 0, C – 0, D – 0, F – 0.
The instructor did not have suggestions for improvement for next year.

(28) CNS 4993 – The instructor uses portions of the three different projects to assess SLOs #1, #4, & #5. For SLO #1, out of 39 students the average grade was 99%. For SLO #4 the average grade was 97%. For SLO #5 the average grade was 97%. The grade distribution in the course was: A – 39, B – 0, C – 0, D – 0, F – 0.
Instructor offered the same suggestion for improvement as last year: Continue to research materials and leverage the information gathered to modify course to reflect industry position(s).

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

Each graduating student was given an online departmental exit survey. Out of the 39 students who graduated in May 2022, 39 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 4 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	3.74	29	10	0	0
#2 Oral Presentations	3.63	24	14	0	0
#3 Safety Plan	3.28	15	20	4	0
#4 Cost Estimates	3.23	16	16	7	0
#5 Project Schedules	3.03	11	18	10	0
#6 Ethics	3.62	24	15	0	0
#7 Documents	3.62	26	11	2	0
#8 Materials & Methods	3.46	22	13	4	0
#9 Multi-Disciplinary Team	3.56	24	13	2	0
#10 Electronic Technology	3.41	20	16	2	1
#11 Surveying	3.08	17	10	10	2
#12 Project Delivery	3.44	18	20	1	0
#13 Risk Management	3.38	17	20	2	0
#14 Acct. & Cost Control	3.08	13	17	8	1
#15 QA/QC	3.59	24	14	1	0
#16 Project Control	3.56	13	15	1	0
#17 Legal	3.13	12	20	7	0
#18 Sustainable	3.44	21	15	2	1
#19 Structural Principles	3.23	17	15	6	1
#20 MEP	3.24	15	18	4	1

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 2021.

SLO	Scores 3+	4- Very Good	3- Good	2- Poor	1- Very Poor
#1 Written Communication	100%	5	10	0	0

● Page 9

#2 Oral Presentations	87%	3	10	2	0
#3 Safety Plan	73%	0	11	4	0
#4 Cost Estimates	67%	1	9	5	0
#5 Project Schedules	60%	0	9	5	1
#6 Ethics	93%	6	8	1	0
#7 Documents	93%	6	8	1	0
#8 Materials & Methods	80%	3	9	3	0
#9 Multi-Disciplinary Team	87%	4	9	2	0
#10 Electronic Technology	100%	5	10	0	0
#11 Surveying	60%	1	8	5	1
#12 Project Delivery	80%	4	8	3	0
#13 Risk Management	73%	1	10	3	1
#14 Acct. & Cost Control	53%	0	8	6	1
#15 QA/QC	73%	1	10	3	1
#16 Project Control	73%	2	9	4	0
#17 Legal	60%	0	9	6	0
#18 Sustainability	93%	4	10	1	0
#19 Structural Principles	87%	1	12	2	0
#20 MEP	73%	0	11	4	0

Four assessment measures were below the 70% benchmark, however, representatives were also asked: In general are you satisfied with the graduates you have hired from our program? All respondents agreed, and 14 out of 15 (93%) "strongly agreed".

7.   Strategic Plan Progress

In February 2021 the strategic plan adopted in May 2019, by the Division, was revised. This summarizes the progress towards those efforts in the 2022/2023 year.

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

Objective 1.1: 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 only partially been met. The College hired an advancement officer (Josh Hall) in December of 2022. The division's fundraising priorities have been identified and shared with Josh. One new endowed scholarship has been funded, and a second is in the works totaling over $100,000. Approval for a pavilion to house the fundamentals lab and other courses is still being sought and funding to pay for that expense will be the immediate focus in 2023 and 2024.

Objective 2.1: 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, and is ongoing. The faculty has reviewed the website for updates as planned, and faculty with social media accounts have access to the division accounts. The faculty investigated adding additional social media accounts (Instagram, twitter, etc.) and decided our presences would be limited to facebook and Linkedin. In the last year 43 posts were made, so post have not been quite weekly.

Objective 3.1: 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 was partially met.
The PAB has 24 members however dues payments were taken over by staff and less than ½ of total dues were paid. Students had more than 6 opportunities to interact with industry.
Summer luncheons for the PAB were held in May of 2022. The Annual golf tournament was held at Jimmie Austin, The DFW TopGolf event was held, and a reception for students and PAB companies was held the evening before the career fair. Both career fairs were held in person. 32% of classes utilized a guest speaker, up from 20% the previous year, but not yet at the goal of 50%.

Objective 4.1: Advance Diversity Equity and Inclusion in the construction industry.

Strategy: The Director and faculty will incorporate materials focused on DEI in CNS courses
1. Introduce all students to the AGC Culture of Care Pledge.
2. Use the AGC's Culture of Care Toolbox series in multiple classes.
3. Produce "spotlights" on individuals from underrepresented groups in construction leadership positions to be displayed around Gould Hall.
4. At least 25% of guest speakers in CNS classes will be from underrepresented groups or Disadvantaged Business Enterprise (DBE) designated firms.

Metrics: All upper level CNS students are exposed to 3 modules of Diversity Equity and Inclusion instruction and/or discussion related to the construction industry in class as well as informally.

This objective has been partially met. The AGC Culture of Care is being introduced in CNS 1111. Spotlights have been created and are displayed in Gould Hall. 39% of guest speakers were from underrepresented groups, up from 33% last year, exceeding the goal.

Undergraduate (2)
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 1.2: 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.
1. Any changes in teaching assignments will include feedback from the faculty involved.
2. Changes in teaching assignments will originate with discussion between all faculty affected
3. 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 had been met. However, the division has implemented a growth plan that will result in multiple additional faculty which necessitated curricular changes and thus teaching assignment changes that are ongoing as the division grows. Most of these changes are reduction of course assignments and are being made with input and discussion from the faculty involved.

Objective 2.2: 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 have been submitted and are in process yearly (as evidenced by this report).

Objective 3.2: 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. In 2020 faculty reported back on their technology usage in class. Coordination of classes has been paused due to curriculum changes and in anticipation of new faculty hires.

Objective 4.2: 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. Upper level classes had 38-41 students, graduate assistants have been provided, and each faculty is uniquely engaged with the construction industry. This objective will not be met starting Fall of 2024 as we will begin admitting 60 students in 3000 level courses.

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

Objective 1.3: 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. The research methods course has been moved to Spring, but all graduate students are taking it and while a grad student projects and/or theses have not been submitted some have and have been published.

Objective 2.3: 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 partially met and ongoing. The incentive program was implemented in 2021. Approximately $61,000 was secured in external funding in 2022. With the departure of Dr. Perrenoud there is one less faculty engaged in research as such the goal of $100,000/year is

likely too high.

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

Objective 1.4:
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.

----- END OF REPORT -----