UNT UNIVERSITY OF NORTH TEXAS | CONSTRUCTION MANAGEMENT

Summary of ACCE Student Learning Outcome Direct Assessment of Student Achievement Result

No.	ACCE SLO	Direct Assessment Location(s)	Direct Assessment Tool/ Criterion	Data Collection Semester/Year	Direct Assessment Result	Conclusion	Action
1	Create written communications appropriate to the construction discipline.	CNET 4795	Senior Project – Project Report Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in the project.	SP 2024	5 out of 5 students or 100% of students achieved a grade of 70% or higher in the overall grade. >= 90%: 4/5 or 80% >= 70% to 89%: 1/5 or 20% <70%: 0/10 or 0%	Criterion Met	1. Continue to partner with the construction industry in order to provide mentoring as well as provide actual project sponsor to students. 2. Encourage students to utilize faculty office hours to ask for guidance, help, or advice. 3. Continue to add discussion board questions for the class to enhance written communication. 4. Continue to provide direction and guidance to group works to enhance social skills. 5. Encourage students to participate in career fairs to improve interview skills and increase confidence.
		CNET 4170	Assignment # 2 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in this exercise)	FL2023	10 out of 10 students or 100% of students achieved a grade of 70% or higher in the assignment. >= 90%: 10/10 or 100% >= 70% to 89%: 0/10 or 0% <70%: 0/10 or 0%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Continue to include writing or research assignments in the class requirement to harness student writing skills and ability. 3. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 4. Continue to update class assignment and exercises to be relevant to the construction industry. 5. Continue to provide and present real-world applications of illustrative problems in the lecture and in the laboratory component of the course to stimulate student's interests.
2	Create oral presentations appropriate to the construction discipline.	CNET 4795	Senior Project – Project Report Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in the project.	SP 2024	5 out of 5 students or 100% of students achieved a grade of 70% or higher in the individual term project. Excluded non-CM major and student who did not submit assignment. >= 90%: 4/5 or 80% >= 70% to 89%: 1/5 or 20% <70%: 0/10 or 0%	Criterion Met	1. Continue to partner with the construction industry in order to provide mentoring as well as provide actual project sponsor to students. 2. Encourage students to utilize faculty office hours to ask for guidance, help, or advice. 3. Continue to add discussion board questions for the class to enhance written communication. 4. Continue to provide direction and guidance to group works to enhance social skills. 5. Encourage students to participate in career fairs to improve interview skills and increase confidence.
3	Create a construction project safety plan.	CNET 3410	Individual Term Project Student Achievement: minimum acceptable	SP 2024	55 out of 56 students or 98.22% of students achieved a grade of 70% or higher in the individual term project. >= 90%: 31/56 or 55.36%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion.

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			achievement ≥70% of the class achieved a grade of 70% or higher in the term project.		>= 70% to 89%: 24/56 or 42.86% <70%: 1/56 or 1.79%		2. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 3. Continue to update class assignment and exercises to be relevant to the construction industry. 4. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 5. Encourage students to become members of the construction managements student association to create networking and camaraderie with other construction students that promote group learning and tutoring. 6. Encourage students to utilize faculty office hours to ask for guidance, help, or advice.
4	Create construction project cost estimates.	CNET 3160	Term Project Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in the term project.	FL 2023	29 out of 35 students or 82.8% of students achieved a grade of 70% or higher in the term project. >= 90%: 13/35 or 37.1% >= 70% to 89%: 16/35 or 45.7% <70%: 6/35 or 17.2%	Criterion Met	To further improve teaching and learning as well as delivery of the course materials the following are being taken into consideration: 1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Continue to provide real world construction project for the class term project. 3. Continue to provide and present real-world applications of illustrative problems in the lecture and in the laboratory component of the course to stimulate student's interests. 4. Encourage students to utilize faculty office hours to ask for guidance, help, or advice.
5	Create construction project schedules.	CNET 4170	Assignment #9 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in assignment #9.	SP 2024	10 out of 10 students or 100% of students achieved a grade of 70% or higher in the individual term project. >= 90%: 7/10 or 70% >= 70% to 89%: 3/10 or 30.0% <70%: 0/10 or 0%	Criterion Met	1. Continue to assign more practice problems to potentially increase the probability that all the students will achieve 70% or greater in the course. 2. Encourage students to seek help during office hours to minimize the probability that students will be in the less than 70% actual achievement group. 3. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 4. Continue to update class exercises to be relevant to the construction industry. 5. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests.
6	Analyze professional decisions based on ethical principles.	CNET 3410	Major Exam 1	FL 2023	55 out of 56 students or 98.21% of students achieved a grade of 70% or higher in Major Exam 1. >= 90%: 27/56 or 48.21%	Criterion Met	1. Continue to update information reflecting current ethical issues and professional regulations in dealing ethical dilemmas confronting Project Managers.

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			Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 1.		>= 70% to 89%: 28/56 or 50% <70%: 2/57 or 3.57%		2. Update OSHA regulations and facts regarding safety and health. 3. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 4. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 5. Continue to update class assignments and exercises to be relevant to the construction industry. 6. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 7. Encourage students to utilize faculty office hours to ask for guidance, help, or advice.
			Assignment #4 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in assignment #4.		54 out of 56 students or 96.43% of students achieved a grade of 70% or higher in Assignment No. 4. >= 90%: 47/56 or 83.93% >= 70% to 89%: 7/56 or 12.5% <70%: 2/56 or 3.57%	Criterion Met	Same as above (Since they are assessed in the same course).
7	Analyze methods, materials, and equipment used to construct projects.	CNET 2180	Midterm Exam Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in midterm exam.	SP 2024	40 out of 43 students or 93% of students achieved a grade of 70% or higher in the midterm exam. >= 90%: 3/43 or 7% >= 70% to 89%: 37/43 or 86% <70%: 3/43 or 7%	Criterion Met	1. Continue to assign more practice problems to increase the probability that more than 93% of all the students will achieve 70% or greater in the course. 2. Continue to encourage students to seek help during office hours to minimize the probability that students will be in the less than 70% actual achievement group. 3. Continue to provide review of mathematics for topics that require prior knowledge in math, physics, and lower-level construction courses to improve performance of students.
8	Apply electronic-based technology to manage the construction process.	CNET 3190	Lab Assignment Student Achievement: minimum acceptable achievement ≥70% of the class achieved a	SP 2024	**Lab Assignments**: 47 out of 47 students (100% of students) achieved a grade of 70% or higher in the lab assignments. >= 90%: 28/47 (60.0%) >= 80% to 89%: 19/47 (40.0%)	Criterion Met	To further improve teaching and learning as well as delivery of the course materials the following are being taken into consideration: 1. Get stronger technical support from Oracle. 2. Update Primavera software.

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			grade of 70% or higher in the lab assignment.		**Term Project**: 47 out of 47 students (100% of students) achieved a grade of 70% or higher in the Term Projects. >= 90%: 37/47 (78.7%) >= 80% to 89%: 5/47 (10.6%) >= 70% to 79%: 5/47 (10.6%)		
9	Apply basic surveying techniques for construction layout and control.	CNET 2200	Field Exercises Final Exam Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in field exercises and final exam.	SP 2024	45 out of 54 students or 84% of students achieved a grade of 70% or higher in the class. >= 90%: 17/54 or 32% >= 80% to 89%: 14/54 or 26% >= 70% to 79%: 14/54 or 26% <70%: 9/54 or 16%	Criterion Met	Suggested actions to continue success of the course: 1. Continue to develop supplementary lecture handouts or additional illustrative examples or practice problems to motivate student learning skills. 2. Encourage students to seek help during office hours to improve performance. 3. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 4. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion.
10	Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.	CNET 3150	Major Exam 1 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 1.	FL 2023	40 out of 42 students or 95.23% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 13/42 or 30.95% >= 70% to 89%: 27/42 or 64.29% <70%: 2/42 or 4.76%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Continue to provide real world examples on how project team must work together to achieve a successful project. 3. Provide actual project examples to illustrate the different delivery methods for the student to better understand the concept. 4. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 5. Continue to update class exercises to be relevant to the construction industry. 6. Encourage students to utilize faculty office hours to ask for guidance, help, or advice
		CNET 4170	Major Exam 1 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 1.	FL 2023	9 out of 10 students, or 90% of students achieved a grade of 70% or higher in Major Exam 1. >= 90%: 4/10 or 40% >= 70% to 89%: 5/10 or 50% <70%: 1/10 or 10%	Criterion Met	Suggested actions to continue success of the course: 1. Continue to develop supplementary lecture handouts or additional illustrative examples or practice problems to motivate student learning skills. 2. Encourage students to seek help during office hours to improve performance. 3. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 4. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading

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							of the materials prior to coming to class to facilitate dynamic discussion.
11	Understand construction accounting and cost control.	CNET 4170	Class Exercise Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in class exercise 1.	FL 2023	10 out of 10 students or 100% of students achieved a grade of 70% or higher in the Class Exercise. >= 90%: 9/10 or 90% >= 70% to 89%: 1/10 or 10% <70%: 0/10 or 0%	Criterion Met	Suggested actions to continue success of the course: 5. Continue to develop supplementary lecture handouts or additional illustrative examples or practice problems to motivate student learning skills. 6. Encourage students to seek help during office hours to improve performance. 7. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 8. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion.
		CNET 3150	Major Exam #2 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 2.	FL 2023	37 out of 42 students or 88.1% of students achieved a grade of 70% or higher in the Class Exercise. >= 90%: 16/42 or 38.1% >= 70% to 89%: 21/42 or 50% <70%: 5/42 or 11.9%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Continue to provide real world examples on how project team must work together to achieve a successful project. 3. Provide actual project examples to illustrate the different delivery methods for the student to better understand the concept. 4. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 5. Continue to update class exercises to be relevant to the construction industry. 6. Encourage students to utilize faculty office hours to ask for guidance, help, or advice
12	Understand construction quality assurance and control.	CNET 4190	Midterm Exam Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in midterm exam.	SP 2024	26 out of 28 students, or 92.9% of students achieved a grade of 70% or higher in the midterm exam. >= 90%: 7/28 or 25% >= 70% to 89%: 19/28 or 67.9% <70%: 2/28 or 7.1%	Criterion Met	1. Continue to assign more practice problems to increase the probability that more than 92.9% of all the students will achieve 70% or greater in the course. 2. Continue to encourage students to seek help during office hours to minimize the probability that students will be in the less than 70% actual achievement group. 3. Continue to provide review of quality management topics that require prior knowledge in lower-level construction courses to improve performance of students.

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13	Understand construction project control processes.	CNET 4170	Assignment 11 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in assignment 11.	FL 2023	10 out of 10 students, or 100% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 6/10 or 60% >= 70% to 89%: 4/10 or 40% <70%: 0/10 or 0%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 3. Continue to update class assignments and exams to be relevant to the construction industry. 4. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 5. Encourage students to become members of the construction managements student association to create networking and camaraderie with other construction students that promote group learning and tutoring. 6. Involve students with local or state professional organizations to expose them to the construction industry through symposium, seminars, trainings, or competition. 7. Encourage students to utilize faculty office hours to ask for guidance, help, or advice
			Assignment 12 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in assignment 12	FL 2023	10 out of 10 students, or 100% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 7/10 or 70% >= 70% to 89%: 3/10 or 30% <70%: 0/10 or 0%	Criterion Met	Same as above (Since they are assessed in the same course).
14	Understand the legal implications of contract, common, and regulatory law to manage a construction project.	CNET 3150	Major Exam 1 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 1.	FL 2023	40 out of 42 students or 95.23% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 13/42 or 30.95% >= 70% to 89%: 27/42 or 64.29% <70%: 2/42 or 4.76%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Continue to invite industry speakers to motivate students' interest and encourage class engagement by asking practical questions related to the construction industry. 3. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 4. Continue to update class exercises to be relevant to the construction industry.

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							5. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 6. Encourage students to become members of the construction managements student association to create networking and camaraderie with other construction students that promote group learning and tutoring. **7.** Encourage students to utilize faculty office hours to ask for guidance, help, or advice
			Major Exam 3 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 3.	FL 2023	40 out of 42 students or 95.23% of students achieved a grade of 70% or higher in Major Exam 1. >= 90%: 22/42 or 52.38% >= 70% to 89%: 18/42 or 42.86% <70%: 2/42 or 4.76%	Criterion Met	Same as above (Since they are as assessed in the same course).
15	Understand the basic principles of sustainable construction.	CNET 4630	Quiz #4 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in Quiz 4.	FL 2023	27 out of 33 students or 82% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 4/33 or 12.0% >= 70% to 89%: 23/33 or 70% <70%: 6/33 or 18%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Provide actual projects where sustainability was integrated and how it impacts its building behavior and project cost. 3. Share with students the knowledge and skills gained in professional development through seminars, conventions etc. by providing the latest trends in sustainable construction. 4. Show actual projects where the construction stage involves HVAC, electrical and plumbing activities to demonstrate how to coordinate and schedule subcontractors. 5. Continue to develop class exercises that encourage team working by pairing students with no prior construction background with students who have or are currently working in the construction industry to share experiences of their classmates. 6. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 7. Continue to update class exercises to be relevant to the construction industry. 8. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 9. Encourage students to utilize faculty office hours to ask for guidance, help, or advice

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16	Understand the basic principles of structural behavior.	CNET 3485	Final Exam Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in final exam.	Fl 2023	**Final Exam**: 24 out of 24 students (100% of students) achieved a grade of 70% or higher in the Final Exam. >= 90%: 9/72 (78.7%) >= 80% to 89%: 53/72 (10.6%) >= 70% to 79%: 10/72 (10.6%)	Criterion Met	To further improve teaching and learning as well as delivery of the course materials the following are being taken into consideration: Keep the quality of the class and encourage the learning momentum of students.
17	Understand the basic principles of HVAC, electrical and plumbing systems.	CNET 4630	Major Exam 2 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 2.	FL 2023	12 out of 12 students or 100% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 6/12 or 50.0% >= 70% to 89%: 6/12 or 50.0% <70%: 0/12 or 0%	Criterion Met	1. Class presentations using PowerPoint must continue to be uploaded to Canvas for easy access of students for them to have an advance reading of the materials prior to coming to class to facilitate dynamic discussion. 2. Show actual projects where the construction stage is about HVAC, electrical and plumbing sequence to demonstrate how to coordinate and schedule subcontractors. 3. Continue to develop class exercises that encourage team working by pairing students with no prior construction background with students who have or are currently working in the construction industry to share experiences of their classmates. 4. The class activities and exercises, major exams and solutions need to be constantly updated to reflect relevant current trends and innovations in the construction industry. 5. Continue to update class exercises to be relevant to the construction industry. 6. Continue to provide and present real-world applications of illustrative problems in the lecture to stimulate student's interests. 7. Encourage students to utilize faculty office hours to ask for guidance, help, or advice.
			Major Exam 3 Student Achievement: minimum acceptable achievement ≥70% of the class achieved a grade of 70% or higher in major exam 3.	FL 2023	11 out of 12 students or 91.67% of students achieved a grade of 70% or higher in the Major Exam 1. >= 90%: 8/12 or 66.67% >= 70% to 89%: 3/12 or 25.0% <70%: 1/12 or 8.33%	Criterion Met	Same as above (Since they are assessed in the same course).