



Civil Engineering Department
College of Engineering



Vision: Local and International Leadership in civil engineering education, innovative research, and knowledge dissemination.

Projects and Entrepreneurship Committee Guideline

Mission: Providing an outstanding education and scientific research in line with advances in the field of civil engineering in order to prepare competitive engineering graduates capable of solving industry and community problems.



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Table of Contents

Table of Contents	2
1. Introduction	3
2. General Guidelines.....	3
2.1 Project Topics	3
2.2 Responsibilities of the Graduation Project	5
2.2.2 Academic advisor/supervisor.....	5
2.2.3 Assessment committee.....	5
2.2.4 Graduation Projects Committee.....	5
2.3 Project Instructions and Deadlines.....	6
3. Project Evaluation.....	8
3.1 Graduation CE 496	9
3.2 Graduation CE 497	9
4. Report Format	10
5. Presentation Format	10
6. Plagiarism check.....	11

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1. Introduction

Civil engineering students are required to complete a Graduation Project to earn their BSc degree. This involves collaborating with an academic advisor and committee to develop and execute a significant project over the course of two consecutive semesters. To be eligible for Graduation Project registration, students must have completed 126 credit hours. The project consists of two phases, Graduation Project “CE 496” and Graduation Project “CE 497”, each worth two credit hours. Typically, students work in groups with the guidance of a supervisor, who may nominate a co-supervisor if necessary. Those who fail to form a group, select a project title, or appoint an advisor will be assigned a project coordinator for assessment purposes. The Graduation Project is a critical component of the students' future careers, offering them the opportunity to engage in research, experiment, and implement engineering standards and constraints within the context of a design challenge. Its essential outcomes include the ability to design a system and communicate results effectively to an audience.

While students will have access to different forms of assistance, ultimately, the responsibility for completing the Graduation Project lies with each individual student. The department of civil engineering has established guidelines to familiarize students with the regulations governing graduation projects and to facilitate the achievement of program objectives and student outcomes. These guidelines aim to support students in generating professional reports that effectively communicate their findings to readers.

2. General Guidelines

2.1 Project Topics

The Graduation Project represents a unique opportunity for students to showcase their intellectual, physical, and creative abilities beyond the scope of prescribed coursework. By conducting research in their chosen subject area and drawing on knowledge gained from previous years of coursework, students are challenged to go beyond what is expected in the

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educational program. The project allows students to express and demonstrate their abilities in a specific venue.

In addition to meeting program requirements, personal growth and satisfaction are key goals associated with the Graduation Project. By taking ownership of a body of work that reflects their unique interests and abilities, students derive a sense of accomplishment upon completion. The project presents opportunities to expand one's personal knowledge, explore potential career paths, and apply learning to real-life situations, all of which promote lifelong learning. Additionally, the project has the potential to benefit society by addressing existing problems and creating innovative solutions.

The project topic selection process will involve input from both the advisor and the student, taking into consideration their areas of interest and existing knowledge. In order for a project to be accepted, it must meet certain qualifications, including being independent of any class-related projects and involving some form of research. Additionally, the project must have measurable goals and well-defined deliverables that draw on the students' skills and knowledge gained from coursework. It must demonstrate the ability to analyze, synthesize, and apply information, as well as the ability to effectively present information. The project should be seen as a learning activity with the potential to benefit both the student and society as a whole.

The subject areas of a graduation project might be in of the following forms:

1. Design of a residential reinforced concrete structure
2. Experimental work for preparing and testing different types of green concrete
3. Design roads
4. Soil and foundation
5. Sustainable use of innovative materials
6. Acquiring knowledge and skills to utilize a computer program for simulating or resolving engineering or management challenges.

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7. Utilizing statistical analysis techniques to conduct data analysis.
8. Solving a theoretical problem through theoretical analysis.

2.2 Responsibilities of the Graduation Project

2.2.1 Student

The successful completion of the Graduation Project under department guidelines is the responsibility of the student. This includes preparing a report and presentation for the project.

2.2.2 Academic advisor/supervisor

The Academic Advisor will provide the student with essential guidelines to ensure the successful completion of the project. Regular academic advisement meetings will be held with the advisor to provide the necessary assistance and motivation. The advisor will monitor the progress of the project, evaluate the students individually and as a group, review and grade the final report and presentation, and approve the final report before submission to the committee.

2.2.3 Assessment committee

The Assessment Committee, which is chaired by the academic advisor, evaluates and reviews the graduation project report and oral presentation of the student. The committee comprises of at least three faculty members.

2.2.4 Graduation Projects Committee

The department designates a staff member as the Graduation Project Coordinator, who is responsible for managing logistics, scheduling, and providing assistance to academic advisors and students. The coordinator, in collaboration with the department head, is responsible for:

- Gathering and organizing proposed project titles and presenting them to the department board for approval.
- Help the students choose the academic staff members who will oversee the project.
- Assigning approved project titles to students and announcing the assignments.

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- Developing, updating, and maintaining project application forms, evaluation forms, and related documents.
- Establishing the project examination committees in consultation with the project supervisor and department members.
- Coordinating the presentation sessions.
- Gathering and reviewing evaluation forms from supervisors and committees to determine final grades.
- Maintaining a project database that includes both hard and soft copies of project reports, logbooks, posters, and presentations.
- Arranging for the recording of graduation project presentations on video, if required.

2.3 Project Instructions and Deadlines

Compliance with the following regulations and deadlines is expected of Graduation Project students. Failure to meet these requirements may result in a reduction in grade or potential withdrawal from the Graduation Project.

2.4.1 Graduation Project CE 496:

- The student will be formed about the selected graduation project title and group members' names by the end of the 1st week.
- Final groups will be announced before the end of the second week.
- Project planning and task definitions should be completed before the end of the second week.
- Literature reviews and preliminary project designs should be done by the end of the sixth week.
- Students should submit and discuss their Project proposal during the Milestone 1 in the eighth week of the semester.

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- Students should finish the comments of the committee members and supervisor that they received during the oral discussion in Milestone 1. In addition to finalized any missed information.
- Students should submit and discuss their modified Project proposal during the Milestone 2 in the fifteenth week of the semester. Convincingly providing the following information is an expectation for students:
 - Project background
 - Project motivation
 - Statement of problem
 - Project scope
 - Literature review
 - Project requirements
 - A solution or approach is chosen after identifying various alternatives and providing justification.
 - Expected results
 - A list of tasks and a rough schedule for implementing the project
 - Gant chart

2.4.2 Graduation Project CE 497:

Students are expected to develop the project that submitted for Graduation Project CE 496. Students should complete implementation of their project in this phase. Furthermore, Students are required to add the project implementation detail to the final project report including:

- Project background
- Project motivation
- Statement of problem
- Project scope

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- Literature review
- Detailed requirements for the project
- Identification of different answers and approaches, as well as the justification for choosing one
- Outcomes

The pre-final report of CE 497 should be submitted and discussed during Milestone 3 in the eighth week. Students should submit and discuss their modified final Project during the Milestone 4 in the fifteenth week of the semester. The presentation should be no longer than 30 minutes, followed by a 30–40-minute oral examination. The supervisor and committee members will evaluate the students and assign marks.

3. Project Evaluation

As part of the project evaluation process, evaluators use a set of predefined criteria to assess the student's high-level learning outcomes. Throughout all phases of evaluation, the student's ability to communicate effectively through the report and presentation, as well as their teamwork skills, including professionalism, cooperation, and ethical behavior, will be assessed. However, the scientific and technical aspects and achievements of the project will receive the most significant consideration in the evaluation process. The goal is to assess the student's overall performance and understanding of the subject matter while taking into account important teamwork and communication skills. The Graduation Projects Committee prepared an evaluation form for this purpose (Appendix I).

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3.1 Graduation CE 496

The Assessment Committee will assess the student's work in Graduation Milestone 1 and Milestone 2 by evaluating the required outcomes outlined in section 2.4.1 and assigning an appropriate grade. The Committee will then submit the grade to the Department Head for final evaluation. It is highly recommended that students take careful note of all the Assessment Committee's comments during the final proposal defense and incorporate them appropriately during the Project Implementation phase. The goal is to ensure that the project meets the established standards and students have a clear understanding of the Committee's expectations to enhance their performance and final grade. The grade is assigned based on the grades given by the committee members (80%) (40% for Milestone 1 and 40% for Milestone 2 and supervisor (20%) (10% for Milestone 1 and 10% for Milestone 2 per each student. The final grade is calculated.

3.2 Graduation CE 497

The evaluation process for Graduation Milestone 3 and Milestone 4 is based on the student's written report, presentation, and overall project work. While presentation of a paper or poster derived from the project is considered a bonus, the primary focus is for the student to demonstrate their ability to apply, analyze, synthesize and evaluate information, while effectively communicating significant knowledge and understanding. The student will defend their project in front of the committee members and must be prepared to answer all questions from the committee members and the audience. This requires thorough preparation to defend all aspects of the project material, as well as any material closely related to the project topic. The goal is to demonstrate the student's mastery of the subject matter and their ability to effectively communicate the findings and impacts of their research. The grade is assigned based on the grades given by the committee members (80%) (40% for Milestone 3 and 40% for Milestone 4 and supervisor (20%) (10% for Milestone 3 and 10% for Milestone 4 per each student. The final grade is calculated.

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4. Report Format

To ensure a successful evaluation, reports and presentations for each phase should be organized logically and presented professionally, with correct spelling, grammar, format, and style. It is recommended that students follow the recommended formatting and style in preparing their reports and presentations, as clear and effective communication is essential for highlighting their technical contributions and achievements. It is important to present technical content in a clear, precise, and comprehensive manner in order to demonstrate mastery of the subject matter. For Civil Engineering students, it is recommended to use the Graduation Project Report Template provided on the department's website to maintain consistency and clarity in their reports.

5. Presentation Format

In order to ensure effective communication of the content, presentations must be supported by slides that can be projected using data projectors. The presentation should cover a broad range of topics related to the subject matter, including, but not limited to, the following basic topics:

- Clearly state the problem being addressed
- Identify specific project objective(s)
- Provide a thorough literature review and background information on the topic
- Explain the chosen methodology for the study
- Present the results and discuss their implications
- Conclude with a summary of the project findings.

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6. Plagiarism check

The similarity ratio of each project report was checked by the competent committee with the help of a plagiarism checker. A plagiarism checker is a tool that uses sophisticated software to compare your text to existing texts and identify any matches. These tools are commonly used by universities to scan student assignments and ensure academic integrity. Commercial plagiarism checkers are also available to individuals, allowing them to check their own work for potential issues before submitting it for review. By using a plagiarism checker, one can ensure that the work is original and avoid any potential negative consequences of plagiarism. In the Civil Engineering department, UNICHECK software was used for this purpose. The percentage of similarity is determined so that it does not exceed 15% of a single research and does not exceed 30% in its entirety. If the student report violate this rule, the project committee return it again to the student to reduce the similarly percentage.

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Appendix I

Senior Design Project Evaluation (SDP00)

Group: No. 2 (Section 000)

Project Title: Green Concrete Production (Reduction of the Cement Proportion)

Student No.	Student Name	Individual 10	Presentation 15	Report 15	Total 40
436420683	Abdulmohsen Nahar Alotaibi				
438420075	Sadon Abdullah Alotaibi				
438420171	Rashid Saud Alotaibi				
436420017	Shjaa Al-Subaie				
438420680	Abdulrhan Mohammad Alotaibi				

Committee Member Name:

Signature:

Date: 00/00/0000

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Senior Design Project Evaluation (SDP00)

Group: No. 2 (Section 457)

Project Title: Green Concrete Production (Reduction of the Cement Proportion)

1- Group Presentation Assessment: 15 points

Evaluation Criteria	Max. point	Awarded point	Comments
1. Introduction/ Objectives/Expected Benefits	1.5		
2. Literature review	1.5		
3. Experiment work a) Lab preparation and purchase of material b) Concrete mix design c) Placement of concrete cubes for different mix ratios d) Curing (Starting)	3		
4. Final Results, Design, and Cost Estimation	5		
5. Gantt chart, Responsibility Assignment Matrix (RAM)	2		
6. Organization and Content 6.1 Information is presented in a logical order 6.2 References and Citation 6.3 Accuracy of information presented 6.4 Use of technical terms	2		

Committee Member Name:

Signature:

Date: 00/00/0000

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Senior Design Project Evaluation (SDP00)

Group: No. 2 (Section 457)

Project Title: Green Concrete Production (Reduction of the Cement Proportion)

1. Individual Presentation Assessment: 10 points

- C.1: Speakers use clear, audible voice (1 point)
- C.2: Eye contact with audience (1 point)
- C.3: Language skills (1 point)
- C.4: Information was well communication (1 point)
- C.5: Speakers appearance (1 point)
- C.6: Length of the presentation (1 point)
- C.7: Ability to answer the questions (4 points)

SU ID	Student Name	C.1 1 pt	C.2 1 pt	C.3 1 pt	C.4 1 pt	C.5 1 pt	C.6 1 pt	C.7 4 pts	Total 10 pt
436420683	Abdulmohsen Nahar Alotaibi								
438420075	Sadon Abdullah Alotaibi								
438420171	Rashid Saud Alotaibi								
436420017	Shjaa Al-Subaie								
438420680	Abdulrhan Mohammad Alotaibi								

Committee Member Name: Signature:

Date: 00/00/0000

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Senior Design Project Evaluation (SDP00)

Group: No. 2 (Section 457)

Project Title: Green Concrete Production (Reduction of the Cement Proportion)

2. Report: Group Assessment: 15 points

Evaluation Criteria	Max. point	Awarded point	Comments
1. Abstract, keywords, table of contents, list of figures, and list of table	1.5		
2. Introduction/ Objectives/Expected Benefits	1.5		
3. Literature review	1.5		
4. Experiment work a) Lab preparation and purchase of material b) Concrete mix design c) Placement of concrete cubes for different mix ratios d) Curing (Starting)	2		
5. Final Results, Design, and Cost Estimation	4		
6. Gantt chart, Responsibility Assignment Matrix (RAM)	1.5		
7. Organization and Content 6.1 Information is presented in a logical order 6.2 References and Citation 6.3 Accuracy of information presented 6.4 Use of technical terms	3		

Committee Member Name:

Signature:

Date: 00/00/0000

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