

CE 413

Applied Senior Design Project

Course Description:

The students undertake a civil engineering project under the supervision of a faculty member with the aim of achieving a comprehensive design experience through a coherent study of all applicable principles, strategies, and methodologies of design, including construction operation, and maintenance as and when applicable. The project should also take into consideration other appropriate factors such as *alternative designs, economic feasibility, and social and environmental impacts*. The student is required to make an oral and written presentation of the design project to an examining committee.

Prerequisites: CE351

Registration Procedure:

- 1- The student should register the course during the Early Registration period.
- 2- In the **first two** weeks of the following semester, the student must fill the project commitment form (**FORM B**) with the senior project coordinator in the department.
- 3- The student who fails to select a topic and submit the commitment form will have his registration for the course canceled.
- 4- The student must complete the project within the semester.

Final Report Structure

The report should consist of the following:

- Title Page that should include *Project Title, List of Team Members, Senior Project Advisor(s), Examiners, and Date of Submission*.
- Abstract
- Table of Contents
- List of Figures and List of Tables
- Acknowledgments
- Introduction
- Literature Review
- Objectives
- Methodology
- Results
- Discussion
- Summary, Conclusions, and Recommendations
- References
- Appendices (if applicable)

It may contain other components, as appropriate and needed.

It should be written in chapters/sections.

Presentation and Grading:

A committee of at least three faculty members (including the advisor) will be formed for the examination and grading. The student must present his work not later than the 14th week of the semester. The final grade will be according to the grade distribution summarized in **Form F**.

General Instructions:

- The student should follow the guidelines presented in **FORM A**.
- The student must select his topic and file the project commitment **FORM B** to the Coordinator in the *first two weeks* of the semester or his registration for the course will be cancelled.
- The student should select a topic related to his option.
- The student must arrange weekly meetings with his advisor for guidance and follow-up.
- The student must devote a minimum of 9 hours weekly for the project work.
- The student must submit his project report and present his work to the examining committee not later than the 14th week of the semester.

Guidelines
for

CE413
Applied Senior Design Project

Week #	Activity
1	<ul style="list-style-type: none"> • Select a topic (in the field of student specialty)¹
2	<ul style="list-style-type: none"> • Select or assign an advisor² • Submit the commitment form (FORM B)
3	Form an examining committee consisting of: project advisor and at least two faculty members <i>one</i> member should be in the field project specialty
4	Submit and present a draft proposal to the coordinator (After discussing it with the advisor)
5	First presentation of the proposal to the examining committee (FORM C)
6	
7	Submit progress report (no. 1) signed by the advisor to the coordinator
8	
9	Submit progress report (no. 2) signed by the advisor to the coordinator
10	
11	Submit progress report (no. 3) signed by the advisor to the coordinator
12	
13	Submit draft report signed by the senior project advisor to the coordinator and examining committee
14	Conduct final presentation to the examining committee (FORM D, FORM E, FORM F)
15	Submit the final report³

¹It is the responsibility of the *course coordinator* and the *advisor* to ensure that the student selects a multidisciplinary topic and it should fall within his specialty.

²Assignment of advisors and examining committees should be endorsed by the Chairman of the CEE Department.

³The senior project *advisor* must check the final report with “TURNITIN”.

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
CIVIL & ENVIRONMENTAL ENGINEERING DEPARTMENT

CE 413

Applied Senior Design Project Commitment

Student Name: _____ **I.D.#:** _____

Student Name: _____ **I.D.#:** _____

- CE Option:**
- Structures, materials and construction
 - Transportation and geotechnical engineering
 - Water resources and environmental engineering

Project Title:

Description of the Project:

Number of Students: one student two students

Prerequisite(s): _____

Comments: _____

Student
Name: _____ **Signature:** _____ **Date:** _____

Name: _____ **Signature:** _____ **Date:** _____

Advisor
Name: _____ **Signature:** _____ **Date:** _____

Coordinator
Name: _____ **Signature:** _____ **Date:** _____

Please return to Coordinator on next lecture time.

(This form must be filed with the course Coordinator in the first two weeks of the semester)

King Fahd University of Petroleum & Minerals
Civil & Environmental Engineering Department

CE 413

Applied Senior Design Project

Evaluation Form for Senior Design Project *Proposal* and First Progress Report & Oral Presentation*

Project Title: _____

Student Name: _____ **I.D. No.:** _____

		Item	Score	
Proposal and First Progress Report (To be filled before the oral presentation)	Abstract		Summary of the project and findings is clear	/10
	Body	Introduction	It covers background to problem and literature review, defines problem, states objectives and scope of work	/30
		Problem Design	It includes clear description of the design methodology, measurement, analysis, design alternatives, or other procedures and approach to design project	/35
		Discussion	It includes detailed and clear discussion of results with associated figures and tables	/25
	Total			/100
PRESENTATION	Presentation is clear and explains the project well		/25	
	Visuals aids used are well-prepared		/20	
	Responses to questions are appropriate and well addressed		/25	
	The presenter speaks clearly and uses appropriate terminology		/20	
	Teamwork is evident in the presentation, <i>if applicable</i>		/10	
	Total			/100

Comments: _____

Examiner
Name: _____ **Signature:** _____ **Date:** _____

*This form must be filled and submitted to the course coordinator immediately after the oral presentation.

King Fahd University of Petroleum & Minerals
Civil & Environmental Engineering Department

CE 413

Applied Senior Design Project

Evaluation Form for Senior Design Project Report & Oral Presentation*

Project Title: _____

Student Name: _____ **I.D. No.:** _____

		Item	Score
REPORT (To be filled <u>BEFORE</u> the oral presentation)	Abstract		Summary of the project and findings is clear /05
	Body	Introduction	It covers background to problem and literature review, defines problem, states objectives and scope of work /20
		Problem Design	It includes clear description of the design methodology, measurement, analysis, design alternatives, or other procedures and approach to design project /25
		Discussion	It includes detailed and clear discussion of results with associated figures and tables /20
	Conclusions & Recommendations		It presents a clear summary of the main findings and recommendations /10
	References		It cites and lists correctly the references when used in the report /10
	Appendices		It compiles the detailed calculations, results, specifications, maps, etc. /10
			Total
PRESENTATION	Presentation is clear and explains the project well		/25
	Visuals aids used are well-prepared		/20
	Responses to questions are appropriate and well addressed		/25
	The presenter speaks clearly and uses appropriate terminology		/20
	Teamwork is evident in the presentation, <i>if applicable</i>		/10
			Total

Examiner

Name: _____ **Signature:** _____ **Date:** _____

**This form must be filled and submitted to the course coordinator immediately after the oral presentation.*

FORM-D

King Fahd University of Petroleum & Minerals
Civil & Environmental Engineering Department

CE 413

Applied Senior Design Project

Evaluation Form for Senior Design Project Report & Oral Presentation*

Project Title: _____

Student Name: _____ **I.D. No.:** _____

		Item	Score
REPORT (To be filled BEFORE the oral presentation)	Abstract		Summary of the project and findings is clear /05
	Body	Introduction	It covers background to problem and literature review, defines problem, states objectives and scope of work /20
		Problem Design	It includes clear description of the design methodology, measurement, analysis, design alternatives, or other procedures and approach to design project /25
		Discussion	It includes detailed and clear discussion of results with associated figures and tables /20
	Conclusions & Recommendations		It presents a clear summary of the main findings and recommendations /10
	References		It cites and lists correctly the references when used in the report /10
	Appendices		It compiles the detailed calculations, results, specifications, maps, etc. /10
			Total
PRESENTATION	Presentation is clear and explains the project well		/25
	Visuals aids used are well-prepared		/20
	Responses to questions are appropriate and well addressed		/25
	The presenter speaks clearly and uses appropriate terminology		/20
	Teamwork is evident in the presentation, <i>if applicable</i>		/10
			Total

Progress Grade (by advisor): _____ / 25 (Out of 100 Total Course Grade)

Advisor

Name: _____ **Signature:** _____ **Date:** _____

**This form must be filled and submitted to the course coordinator immediately after the oral presentation.*

FORM-E

King Fahd University of Petroleum & Minerals
Civil & Environmental Engineering Department

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FINAL GRADE FORM

Name of the Student

Student I.D. #

TITLE: _____

Student Option: _____

Examining Committee: Advisor: _____

Member (1) _____

Member (2) _____

Member (3) _____

Member (4) _____

Grade Distribution:

#	Grade Distribution	Max.	Score
1	Progress grade (<i>by Coordinator</i>)	15%	
2	Progress grade (<i>by Advisor</i>)	25%	
3	Report grade (<i>by Advisor & Examining Committee</i>)	40%	
4	Presentation (<i>by Advisor & Examining Committee</i>)	20%	
Total ...		100%	

Standard Grade format:

A⁺ > 95; A > 90; B⁺ > 85; B > 80; C⁺ > 75; C > 70; D⁺ > 65; D > 60; F < 60.

Letter Grade: _____

Coordinator

Name: _____ **Signature:** _____ **Date:** _____