Department of Civil Engineering
Faculty of Engineering
Najran University

Graduation Project Handbook

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PREFACE

The Graduation Project Guidelines manual is officially prepared as a reference for graduating year students of Civil Engineering Department. The manual is considered as a supplementary instrument in achieving the goal of completing the Graduation Project (GP): to equip students with key academic knowledge theoretically and practically for their professional competency in the future working life.

It is a concise reference contains essential information for students to comply in order to fulfill the university academic and practical requirements to graduate with resourceful competency. The content clarifies in details about the Graduation Project in terms of its two (2) phases i.e. GP I & GP II, definition, aim, objectives, pre-requisites to register the course, ABET criteria for Students' Outcomes (SO), project categories, level & scope, list of roles & responsibilities for students, supervisor, assessment panel and GP committees and coordinators; deliverables, details of the courses like course registration, details of project weekly schedules, assessment & grading related information like details of Course Learning Outcomes (CLO), detailed measurement guidelines assisting assessment, GP-related forms, and related sample in appendices.

Following part is on how to prepare the final submission of the report, which includes page margins, formatting its content like citation and referencing styles, footnotes or endnotes, tables and appendices, bibliography/reference, plagiarism issue, and other standard academic practice applied elsewhere in general.

It is hoped that this manual will be beneficial reference to ease the graduating year students in successfully accomplishing their Graduating Project proposal and final report at international standard typically implemented at university level worldwide.

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CHAPTER 1: INTRODUCTION

Welcome to the Graduation Project Handbook. This handbook allows students to refer and give them a glimpse of the entire Graduation Project (GP) process since commencing towards completion. It is a graduating requirement for every student to conduct a project-mode course in the final academic year in order to successfully obtain the award of a Bachelor's degree offered at the Department of Civil Engineering, Faculty of Engineering, Najran University, Kingdom of Saudi Arabia.

GP is implemented in divisions of two semesters - 491CE-2 & 492CE-2 typically called GP I and GP II:

i) 491CE-2 (GP I): 2 (two) credit hours where student must prepare a feasible project proposal
ii) 492CE-2 (GP II): 2 (two) credit hours where the proposal is applied and in the end, a final report have to be submitted to the department on the announced datelines. Both proposal and report should be in accordance with the guidelines provided by the Najran University (the University).

These supplementary guidelines are prepared as the reference by all involved parties i.e. the students, supervisors, examiners and GP Committee in order to efficiently standardize the implementation of GP.

1.1 GP Definition

GP is an abbreviation given to Graduation Project (in full). It is a practical training and exposure to engineering research undertaken by every student semi-autonomously. He has to demonstrate the skills to systematically manage it due to the challenging transition the adolescence-adulthood era which is special to sprout freedom of creative thinking into exercising a real work with an adult's commitment. Since the exposure is at tender adulthood, the practical project will be under the supervision of the academicians throughout the two semesters allocated for GP. The project will focus on a particular topic of student's choice in the field of engineering knowledge, using certain selected principles and related concepts in applying suitable techniques on the project as an official establishment to deal with more complex engineering problems in the future working life.

1.2 GP Aim

The aim of GP is to train students to be able to apply theoretical knowledge gained throughout the previous years in the classes on a practical research project of their choice in order to acquire useful skills and experience during the learning process with the hope to produce skilled and competent engineering graduates.

1.3 GP Objectives

The objectives set for students undertaking the GP are:

- To independently work on students' initiative.
- To enthusiastically explore one or more areas of their program in depth.
- To thoroughly gather and manage information in a scientifically rigorous method.
- To competently process and integrate materials in a sustained exercise of intellectual ordering.
- To skillfully produce coherent, literate official documents.
- To constructively appreciate and incessantly involved in life-long learning.
- To initiate students their path of success in the future industrial careers.
- To design component or system in civil engineering discipline
- To consider sustainability, environmental, issues and determine optimum solution and design.

These objectives are relevant to the required criteria for the assessment of the final report (Refer Chapter 3).

1.4 Pre-requisite(s)

The Student should complete and pass at least 90 credit hours from the civil engineering program prior register GP. In addition, the department council could add any special requirement for certain projects.

1.5 Students Outcomes (SOs): ABET Criteria

Upon completing GP, student should acquire the Course learning outcomes which support all the student outcomes/ Program outcomes of civil engineering program known as a to k. A lit of civil engineering student outcomes are listed below.

1. Identify and apply knowledge of mathematics and sciences and engineering in Civil engineering problems. **(a)**
2. Design and conduct experiments, as well as to analyze and interpret data required for solving Civil engineering projects. **(b)**
3. Design an optimum Civil engineering system/component to meet desired needs with realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. **(c)**
4. Function effectively on multi-disciplinary Civil engineering teams. **(d)**
5. Identify, formulate, and solve Civil engineering problems and to evaluate and synthesize information in order to provide best alternative solutions. **(e)**
6. Act professionally and ethically and recognize the impact of liability issues in Civil engineering projects. **(f)**
7. Communicate effectively, prepare professionally written materials, graphical communications, and deliver professional oral and written presentations. **(g)**
8. Recognize the broad education necessary to understand the impact of engineering solutions in economic, environmental and societal context, and to improve the quality of life. **(h)**
9. Recognize the need for and ability to engage in life-long learning and continuing education of professional/engineering skills. **(i)**
10. Recognize the contemporary issues in Civil engineering disciplines. **(j)**
11. Use techniques, skills, and modern engineering tools necessary for Civil engineering practices. **(k)**

1.6 Project Categories

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Graduation Projet 491CE-2 and 492CE-2 should include design experience in one or more areas in civil engineering. Also, GP may be from either one or a combination of the following categories of projects:

1) **Research**: Research on a specific topic in the field of Civil Engineering. Students are required to use theory, collect data, design, analyze and discuss the results obtained.

2) **Case Study**: Specialized engineering studies, in which students are required to identify and solve problems, analyze data and recommend solutions to problems in the form of a framework and an action plan.

3) **Industrial Study**: Conduct relevant studies on a currently needed attention issue/matter either in research and industrial problems that can be explored to improve existing processes or systems.

4) **Software/Database Development**: The development of computer literacy programming, innovative improvements on software, and the production of models, designs, systems, etc. in accord to engineering disciplines.

1.6 Level and Scope

GP is meant for application and practical learning of the previously gained theoretical learning for students to get adequate exposure and imagination of the real design and research work. GP may embark on either a novel design, study or an extension idea from past research(es) without exhaustive analytical details as long as the students are capable of conducting an independent investigation as well as to critically evaluate the work while acquiring self-competency in carrying out the project.

However, if the idea found identical to any completed project either ever recorded in the Department or at other tertiary learning institutions, it will be nullified for assessment. In general, the scope of the project should be continuously consistent and specifically relevant to the field of Civil Engineering and reach a satisfactory level of a Bachelor's degree. Students also need to efficiently manage the time allocated to GP, which is 30 contact hours per semester for both GP I and GP II.

To meet the requirements of the level and scope of GP, several criteria should be followed:

- The research must be a feasible work for the allocation of 15 weeks for each semester (GP I and GP II).
- Each project must include reasonable and adequate objectives to be achieved.
- Each project must be carried out in accordance to/within the university adequacy of its required equipment to conduct the study.
- The length and size of the final report should be enough and suitable to cover and report all activities conducted through the project. Also, the report should include the necessary supporting information as appendices.

1.7 Roles and Responsibilities

The success of GP implementation is determined by the quality of the enthusiasm, commitment and cooperation from all parties involved towards their roles and responsibilities.

1.7.1 Student

In order to produce a GP that accomplishes the above conditions established, each student must perform the following responsibilities:

1) Register the GP I and GP II courses before the deadlines set by the University.
2) Choose your team member for the project – maximum is three members in a team.
3) Oblige to the GP work schedule set by the Department.
4) Choose a supervisor and propose a GP title along with a summary before the deadlines set by the Faculty.
5) Verify the originality of the GP work you proposed (either a novel work or an extension of a previously conducted research).
6) Meet the supervisor frequently to discuss anything arises about your GP.
7) Update your activities in the logbook. Bring it along when you meet the supervisor.
8) Systematically plan and manage the project to complete within the allocated time for the project.
9) Get ready to submit all items of assessment on time as incorporated into the Gantt chart timeline in accord with standard format.
10) Avoid anything considered as or related to plagiarism.

11) Present about your GP work at both GP I and GP II seminars.
12) Submit three (3) hard-bound copies of the GP final report.
13) Let your supervisor to certify all items of assessment and hard-bound copies of the final report.

1.7.2 Supervisor

A supervisor serves as a facilitator, mentor, observer and evaluator to the student under his supervision. The supervisees need constant monitoring, guidance, and evaluation. The roles and responsibilities of the supervisor include the following:

1) Have a carefree discussion about the GP title with the supervisee.
2) Approve the proposed title and summary of the GP that he will conduct.
3) Offer guidance and advise to the supervisee on conducting the GP research.
4) Maintain the level of supervisee's GP research within bachelor degree level as long as it does not overdo that level and scope of GP stipulated by the Department.
5) Certify the student's logbook and record their attendance of consultation visits.
6) Check and approve the supervisee's project proposal, draft of final report and hard-bound final report.
7) Endorse (if appropriate) GP forms submitted by the supervisee.
8) Evaluate the logbook, project proposal, and draft of final report reasonably and without any prejudice or bias.
9) Key-in the supervisee's marks into the CLOSO system before the dateline set by the Department.
10) Prepare a justification report if the supervisee has failed his GP.

1.7.3 Assessment Panel

The assessment panel comprises of three academicians other than the supervisor, which are appointed by the Department. The main function of the panel is to evaluate the items of assessment produced by the student. The roles and responsibilities of the assessment panel include the following:

1) Fairly evaluate the student's project proposal, draft of final report and oral presentation without any prejudice or bias.
2) Attend the GP seminar sessions that involve students assessed by the panel.
3) Share opinions and/or constructive criticism pertaining to the student's GP work.
4) Submit the student's marks to the department before the dateline set by the department.

1.7.4 GP Committee

The roles and responsibilities of the GP Committee include the following:

1) Prepare the activities for GP I and GP II planner calendar.
2) Effectively disseminate information related to the implementation of GP to all parties involved respectively.
3) Allocate all supervisors with a fair quota of GP supervisees.
4) Plan and conduct methodology seminars for GP students.
5) Manage the receiving end of project proposals, drafts of final report from students, and distribute them to the assessment panels.
6) Arrange properly the list of students who will queue to present at both GP I and GP II seminars.
7) Propose and approve names of academicians to be appointed as members of the assessment panels and prepare presentation schedules for the GP I and GP II seminars.
8) Organize and manage the GP I and GP II seminars, including the GP awards ceremony.

9) Ensure that the assessment of GP students is conducted according to the timeframe set by the Department and is managed systematically.
10) Key-in the distributed to parts of certain assessments and the final total into the University's student assessment system (CLOSO).
11) Analyze the overall performance of GP students at the end of each semester, identify problematic students and suggest suitable solutions.
12) Observe and cooperate the implementation of GP within the Faculty to establish its accomplishment by continuously improving the quality of delivery.

1.8 Deliverables

Continuous monitoring and evaluation are crucial in the implementation of GP. To facilitate this process, students are required to provide the following deliverables:

1.8.1 Logbook

The logbook is the Student's record of accomplished work during the GP. The supervisee should show the logbook to the supervisor every time he meets the supervisor, who will certify the records he made.

These records include:

- Title, objectives, scope and work plan.
- Important dates related to the implementation and evaluation of the project.
- Dates of meetings with the supervisor, and outcomes of the meetings such as discussions, advise and instructions.
- Preparations, problems that have arisen, proposed solutions and equipment that is needed.
- Raw data and/or results achieved to date.
- Sketching of all relevant diagrams.

1.8.2 Project Reports

During the course of GP, the student must provide two types of project reports in English language, which is the project proposal for GP I and the final report for GP II (refer to Chapter 4).

The student must prepare three (3) hard-bound copies of the final report. All hard-bound copies of the final report must comply with the University's report writing guidelines and must be endorsed by the supervisor. If any student failed to submit the hard-bound final report before the deadline assigned by the Department, he will be graded "F" (FAIL) for his entire GP.

CHAPTER 2: PROJECT SCHEDULE

2.1 Overview

In general the whole project comprises of two parts, namely Graduation Project I (GP I) and Graduation Project II (GP II), which are to be completed by the Year 4 students in their first and second semesters.

The students are expected to discuss project topics and scope of work with their respective supervisors before starting their work. Their supervisors are open for students' selection after the supervisors agreed together with the approval from the GP coordinator.

2.2 Graduation Project I (491CE-2)

GP I is concerned with developing the problem specification and design. The progress on these activities will be monitored through regular weekly meetings with your supervisor. By the second week of the semester, students must have a short, written description of the project. Then, for the next 13 weeks, a complete and precise problem statement needs to be developed, followed by the formal design of an experimental system that solves this problem. In addition, students must also prepare an implementation plan that will guide their activities in GP II, and build a working prototype that demonstrates the functionality of the students proposed work / software.

2.2.1 GP I Course Description

The graduation project is a culminating handy course work for which the students are expected to integrate and apply what they have learned through previous academic work and field experiences, with faculty supervision. These projects may be "new," continuation of work done in previous courses; or may be projects started in a previous course that become significantly expanded and enhanced for the thesis. It has two phases- to be taken in consecutive two semesters at senior level.

At the beginning of the semester, the students propose a topic on which they are supposed to work as a group. Project students meet in class weekly, discuss their research, and screen their progresses for peer and faculty critique and suggestions. At the end of the semester, students present their thesis projects to the supervising committee.

2.3 Graduation Project II (492CE-2)

GP II concerns with experiment or system implementation phase as well as the focus on the contribution of the research from the tentative project. Students' tasks are to realize the completed work in Phase GP I into its application of the working system that meets all specifications.
Students will again weekly meet their supervisors respectively to update about recent activities of the project in its detailed progress. Students have 14 weeks to accomplish the implementation of the previous approved proposal. In Week 15, the students are required to submit the final report and present the results and demonstrate the completed system or implementation in front of the supervisors, coordinators, examiners and fellow students.

2.3.1 GP II Course Description

This is the second phase of the capstone project, which, consists of two courses Graduation Project I and Graduation Project II. During this phase, students are expected to implement the proposed project as outlined in the report produced at the end of Graduation Project I. Each group of students is required to prepare a detailed

report together with a poster, and get ready to present the completed formally for another evaluation on their engineering design including verbal and communication skills.

2.4 Course Learning Outcomes (CLOs) of GP I and GP II

The graduation project committee proposed a new CLOs for graduation project I (491CE-2) and graduation project II (492CE-2). Civil engineering program council approved the new CLOs, new assessment plan, revised mapping of CLOs and SOs. The new plan will be implemented in semester 1 2016-2017. Tables 1and 2 presented the new CLOs for 491CE-2 and 492CE-2 respectively.

Table 1: CLOs for Graduation Project I (491CE-2)

Code	Course Learning Outcomes
CLO1	Identify and formulate and solve engineering problems in project of civil engineering
CLO2	Plan a project effectively using project planning techniques to ensure proper timing and budgeting.
CLO3	Review the available literature, methodology and testing in the project domain.
CLO4	Conduct proper design concept for all element in the project.
CLO5	Take into consideration all issues relating to public, safety and environment in project alternatives.
CLO6	Act on the professional and ethical way during conducting project tasks.
CLO7	Communicate effectively in writing engineering report and oral presentation.
CLO8	Work effectively as a member of the team and improve his self-learning.

Table 2. CLOs for Graduation Project II (492CE-2).

Code	**Course Learning Outcomes**
CLO1	Formulate and provide a solution for engineering problems in the project of civil Engineering
CLO2	Contribute and coordinate the project work with his teams and upgrade his ability for independent learning
CLO3	Conduct enough literature review and use tool in the project domain and design procedures related to project
CLO4	Design a system, component or process with defined constraints
CLO5	Consider all issues relating to public, safety and environment in project alternatives and Investigation of complex problems using proper techniques, tools and resources
CLO6	Carry out all project task in ethical and professional manner
CLO7	Collect and analyze data, and draw conclusions from experiments while testing a project
CLO8	Communicate effectively in written and oral forms, and achieve ethical aspects.

2.5 CLO-SO Matrix Mapping of GP I and GP II

Mapping the CLOs of the graduation project 491CE-1 and 492CE-2 with SOs is shown in Table 3 and 4 respectively.

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Table 3. Mapping of Graduation Project 1 CLOs with SOs.

CLO ID	A	b	C	d	E	f	g	h	i	j	k
CLO1	1	0	0	0	1	0	0	0	0	0	1
CLO2	0	0	0	0	1	0	0	0	0	0	1
CLO3	0	1	0	0	0	0	0	0	0	0	0
CLO4	0	0	1	0	0	0	0	0	0	0	0
CLO5	0	0	1	0	0	0	0	1	0	1	0
CLO6	0	0	0	0	0	1	0	0	0	0	0
CLO7	0	0	0	0	0	0	1	0	0	0	0
CLO8	0	0	0	1	0	0	0	0	1	0	0

Table 4: Mapping of Graduation Project 2 CLOs with SOs

CLO ID	A	b	c	d	E	f	G	h	i	J	K
CLO1	1	0	0	0	1	0	0	0	0	0	1
CLO2	0	0	0	1	0	0	0	0	1	0	0
CLO3	0	0	1	0	1	0	0	0	0	0	1
CLO4	0	0	1	0	0	0	0	0	0	0	1
CLO5	0	0	0	0	0	0	0	1	0	1	0
CLO6	0	0	0	0	0	1	0	0	0	0	0
CLO7	0	1	0	0	0	0	0	0	0	0	0
CLO8	0	0	0	0	0	0	1	0	0	0	0

2.6. Significant Activities for GP

2.6.1 Significant Activities for GP I

Following are the important tentative weekly schedules for GP I.

- ✓ **Week 1**
  - Students choose team member for the project – maximum is three members in a team.
  - Students view the list of available GP titles and information.
  - Students select the GP titles and approach respective supervisor.

- ✓ **Week 2**
  - Supervisor approves student(s) to commence project.
  - Students submit the GP Title Application Form to the Department office.
  - Students must attend GP briefing.

- ✓ **Week 1 - 12**
  - Students progressively fulfill GP activities e.g. from literature review to planning, analysis and design, interim report, etc.
  - Students regularly meet their supervisors at least once a week.
  - A meeting log must be completed by each student for each meeting.

- ✓ **Week 13**
  - Students submit the Interim Report and students must assure that their report precisely complies with all the formatting requirements (e.g. layout, font size, references, etc).
  - The GP Committee announces the list of queue for the presentation of project.
  - Students are informed about the presentation time slot and get it well-rehearsed with their supervisors.

- ✓ **Week 14 - 15**
  - Project presentation and demonstration of the prototype or research work.

2.6.2 Significant Activities for GP II

Following are the important tentative weekly schedules for GP II.

- ✓ **Week 1**
  - Students re-confirm the previous registration for GP II subject.

- ✓ **Week 1 - 12**
  - Students commence GP activities e.g. coding, testing, implementation, core results/findings of the project, final report and etc.
  - Students regularly meet their supervisors at least once a week.
  - A meeting log must be completed by each student for each meeting.

- ✓ **Week 13**
  - Students submit the final report (for evaluation) and make sure your report precisely complies with all the formatting requirements (e.g. layout, font size, references, etc).
  - The GP Committee announces the list of queue for the presentation of project.
  - Students are informed about the presentation time slot and get it well-rehearsed with their supervisors.

- ✓ **Week 13 - 14**
  - Project presentation and demonstration of the prototype or research works.

- ✓ **Week 15**
  - Submit the three (3) copies of the hard bound final report.

CHAPTER 3: GRADING AND ASSESSMENT

3.1 Assessment of Graduation Project

The Graduation Project (GP) assessment is based on the Student's accomplishment and capability to prepare a project proposal, project report, materials and poster for presentation, oral presentation during the seminars and effective use of the logbook. Assessment is done by the supervisor and assessment panel separately and discretely. The distribution of marks for the two components above is:

- Assessment Panel : 50% (used as final exam)
- Supervisor : 50% (used as course work)

The Graduation Project marks justification is shown in Table 5. The graduation project grading form process is provided in the graduation project guideline and all the forms could be downloaded from the department website. In addition, a brief explanation of the assessment procedures and marks allocation is presented below. The data will be used for input to the Graduation Project template of CLOSO software. CLOSO will calculate the final grade and the satisfaction of each CLO and SO.

Table 5. **GP Marks Justification**

Project / Examiners	Marks					
	Graduation Project I (491CE-2)			Graduation Project II (492CE-2)		
Supervisor	Logbook	Project Report	Total	Logbook	Final Report Draft	Total
	30	20	50	30	20	50
Assessment Panel	Presentation	Project Report	Total	Presentation and Poster	Final Report Draft	Total
	23	27	50	23	27	50
Total			100	Total		100

For each of the two semesters of Graduation Project, the project supervisor submits the assessment data using excel spreadsheet. The project supervisor needs just to enter the marks obtained by the students in the project group for each task. Tables 6 through 13 show the list of criteria for the Graduation Project 1 and 2. It also shows the relative weight of each criterion and the CLO it belongs to.

Table 6. **Supervisor Assessment for Logbook** of Graduation Project I and II.

Logbook Assessment (30 Marks)				
No.	Criteria	CLO		Weight
		Project I	Project II	
L1	Regularity and attendance	CO6	CO6	3
L2	Attitude and Ability to conduct project and team work	CO8	CO2	2
L3	Weekly activities	CO3	CO3	3
L4	Project planning, implementation chart and budgeting	CO2	CO3	2
L5	Contents	CO1	CO1	3
L6	Organization	CO7	CO7	2
L7	Use tools and software	CO2	CO5	2
L8	Testing and methodology	CO3	CO7	3
L9	Design elements and component	CO4	CO4	3
L10	Ethics	CO6	CO6	2
L11	Completeness and Accuracy	CO5	CO5	2
L12	Independence and self-learning	CO8	CO2	3
Total				**30**

Table 7. **Supervisor Assessment for Report** of Graduation Project I and II

Report Assessment (20 Marks)				
No.	Criteria	CLO		Weight
		Project I	Project II	
R1	Style and Format	CO7	CO8	2
R2	Language (Spelling, Wording, Grammar)	CO7	CO8	2
R3	Information Literacy	CO8	CO3	3
R4	Citations	CO6	CO6	1
R5	Organization	CO2	CO2	2
R6	Contents and Creativity	CO1	CO1	3
R7	Testing, methodology and use of tools and software	CO3	CO7	2
R8	Design elements and component	CO4	CO4	3
R9	Ethics	CO6	CO6	1
R10	Completeness and Accuracy	CO5	CO5	1
Total				**20**

Table 8: **Examination Panel Assessment for Presentation** of Graduation Project I and II.

Presentation Assessment (23 Marks)				
No.	Criteria	CLO		Weight
		Project 1	Project 2	
P1	Communication: Nonverbal Skills	CO7	CO8	1
P2	Communication: Grammar	CO7	CO8	2
P3	Time dedicated to project work	CO8	CO3	2
P4	Professional Attire	CO6	CO6	1
P5	Visual Aids	CO2	CO2	2
P6	Content: Main Idea	CO1	CO1	3
P7	Content: Organization	CO3	CO7	3
P8	Content: Support	CO4	CO4	3
P9	Self-Reflection	CO6	CO6	2
P10	Responses to Questions	CO5	CO5	4
Total				**23**

Table 9. **Examination Panel Assessment for Report** of Graduation Project I and II.

Report Assessment (27 Marks)				
No.	Criteria	CLO		Weight
		Project 1	Project 2	
R1	Style and Format	CO7	CO8	2
R2	Language (Spelling, Wording, Grammar)	CO7	CO8	3
R3	Information Literacy	CO8	CO3	3
R4	Citations	CO6	CO6	1
R5	Organization	CO2	CO2	2
R6	Contents and Creativity	CO1	CO1	4
R7	Testing, methodology and use of tools and software	CO3	CO7	3
R8	Design elements and component	CO4	CO4	5
R9	Ethics	CO6	CO6	2
R10	Completeness and Accuracy	CO5	CO5	2
Total				**27**

Rubric for Graduation Project Assessment

The Graduation Project Assessment done by the supervisor and examination panel as described in the above table can be assessed through different criteria. The supervisor tries to follow a guideline in the marking of these criteria according to the description rubrics are given below in different assessment methods like the logbook, presentation, and project report. Rubrics for assessment of graduation project 1 and 2 are given in Table 10 through Table 13.

Table 10. Rubric Design - **Supervisor Assessment for Logbook** of Graduation Project I and II.

ID	Scale / Performance Criteria	Mark Scale and Guide										Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
			1 Resubmission Necessary		2 Below Expectations		3 Meets Expectations		4 Above Expectations		5 Exceeds Expectations				
L1	**Regularity and attendance**		Rarely, the student meets the supervisor and many times do not submit the deliverables.		The student has a serious problem with keeping agreed to meet and deadlines. The supervisor has not been able to get a picture of the status of the work during the project.		The student has been late to meetings or in sending deliverables in a way that have hampered the process. The Supervisor had to prompt the students with questions about the status of the work.		The student has mostly sent deliverables on agreed dates. With only a few exceptions, student(s) have been on time to meetings and in reporting their progress.		Student has kept continuous contact during the work and has been on time both to meetings and in sending deliverables.		3	
L2	**Attitude and Ability to conduct project and team work**		Hardly shows enthusiasm towards the project with almost no initiative, inquisition, commitment and team spirit seen.		Less enthusiasm than the average where inquisition, commitment and teamwork spirit are all at a lower level or being more dependent on the supervisor than own initiative.		Lack of enthusiasm towards the project, which is seen in the lack of inquisition, commitment, and teamwork spirit.		Enthusiastic towards the project and seen in constant inquisition, full commitment, and functioning teamwork spirit		Very enthusiastic towards the project and obviously seen in striking inquisition, extraordinary commitment, and seamless teamwork spirit.		2	
L3	Weekly activities		The common activities lagged unacceptably behind and refused to adjust to any change.		The activities are all delayed longer than the planned and adjusting poorly to changes.		The activities are mostly slightly delayed compared to the planned and adjusting rather slowly to changes		Most of the activities are conducted in accord to plan and adjusting appropriately to changes		Activities progress earlier than planned as well as adjusting swiftly and creatively to changes		3	
L4	Project planning, implementation chart and budgeting		Almost ignorant and senseless. The project plan is not prepared in completion.		The project plan is ambitiously or not fully prepared with a lower level of organization, and less convincingly applicable.		The project plan is prepared but the lack of organization but seemed applicable.		Project plan is efficiently prepared, well-organized and convincingly applicable		The project proposal is very soundly prepared, neatly organized and affirmatively applicable.		2	
L5	**Contents**		Many materials not connected to the purpose		Material lacks the relevant content. Details lack a clear connection to the purpose. Everything seems as important as everything else.		Material content is Appropriate. Some details are present to support the main idea. Some of the significant points are identified		Material content is clear and appropriate. Some details are present to support the main idea. Significant points are identified		Material content is clear and concise. Accurate details are present to support the main idea.Significant points are well identified		3	

Continued Table 10. Rubric Design - **Supervisor Assessment for Logbook** of Graduation Project 1 and 2.

ID	Scale / Performance Criteria	Mark Scale and Guide										Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
			1 Resubmission Necessary		2 Below Expectations		3 Meets Expectations		4 Above Expectations		5 Exceeds Expectations				
L6	**Organization**		No progression of ideas is evident; does not use transitions.		Rarely provides a progression of ideas; rarely uses transitions.		Provides an adequate progression of related ideas with some transitions.		Provides an effective progression of related ideas with transitions.		Provides a sophisticated progression of related ideas with transitions.			2	
L7	**Use tools and software**		Do not Prepare and learn suitable and modern techniques and tools needed for the project		Prepare and learn few suitable and modern techniques and tools needed for the project		Prepare and learn some suitable and modern techniques and tools needed for the project		Prepare and learn most suitable and modern techniques and tools needed for the project		Prepare and learn all suitable and modern techniques and tools needed for the project			2	
L8	**Testing and methodology**		Collecting improper data, and testing according to specified standard. No use of modern tool and techniques in the field		Collecting limited necessary data, and analysis few testing according to specified standard. Use of very limited modern tool and techniques in the field		Collecting some necessary data, and analysis some testing according to specified standard. Use of few modern tool and techniques in the field		Collecting most necessary data, analysis and most testing according to specified standard. Use of some modern tool and techniques in the field		Collecting all necessary data, and analysis all testing according to specified standard. Use of modern tool and techniques in the field			3	
L9	**Design elements and component**		Week and mistakes in design.donot follow standard codes and improper integration of design and no alternatives were provided		Conduct limited design according to standard codes and integrate design and no alternatives were provided		Conduct some design according to standard codes and integrate design and provides few alternatives		Conduct most design according to standard codes and integrate design and provide some alternatives		Conduct all design according to standard codes and integrate design and provide many alternatives			3	
L10	**Ethics**		Does not use ethical standard in producing an original product.		Minimally demonstrates use of ethical standards in producing an original product.		Adequately demonstrates use of ethical standards in producing an original product.		Effectively demonstrates use of ethical standards in producing an original product.		Consistently demonstrates sophisticated use of ethical standards in producing an original product.			2	
L11	**Completeness and Accuracy**		No description of important outcomes		Incomplete, inaccurate description of important outcomes		Complete, inaccurate description of important outcomes		Incomplete, accurate description of important outcomes		Complete, accurate description of important outcomes			2	
L12	**Independence and self-learning**		Supervisor had to manage the project but the students also not follow and not carrying out the work.		Supervisor had to manage the project and direct the students in carrying out the work.		Supervisor has given a lot of help to the students in managing the project and carrying out the work.		The student has managed the project and carried out the work with some help from the supervisor.		Student has independently managed the project and carried out the work.			3	

Table 11. Rubric Design - **Supervisor Assessment for Report** of Graduation Project I and II.

ID	Scale / Performance Criteria	Mark Scale and Guide										Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
			1 Resubmission Necessary		2 Below Expectations		3 Meets Expectations		4 Above Expectations		5 Exceeds Expectations				
R1	**Style and Format**		Incomplete pages and improper format. Not follow the proposed guideline.		Preliminary pages are not as required. The improper caption of tables and figures. sometimes follow the guideline.		Preliminary pages are as required. The title of tables and figures can be improved. Generally follow guideline		Preliminary pages are as required. The tables and figures have the proper captions. Mostly follow guideline		Preliminary pages are as required. Tables and figures have the proper format and captions. Always follow guideline			2	
R2	**Language (Spelling, Wording, Grammar)**		The error on most pages and the level of writing is not accepted and need resubmit		Errors are serious and numerous. Reader must stop and reread and may struggle to discern the writer's intention. Multiple, serious errors.		Frequent errors that impede the flow of communication. Ok with <15 errors.		Occasional errors that have only minor impact on the flow of communication. Good with <10 errors		There are no errors that impair the flow of communication. Perfect with <5 errors			2	
R3	**Information Literacy**		No References or/and incorrect. No evidence of credible primary and secondary sources is		References are incomplete and incorrect. Rarely integrates credible primary or secondary sources.		References are given occasionally. Adequately integrates credible primary or secondary sources.		Adequate references are given. effectively integrates a variety of credible primary and secondary sources.		Complete references are given. Conscientiously and consistently integrates a variety of credible primary and secondary sources.			3	
R4	**Citations**		Does not demonstrate an understanding of how to use quotes, paraphrases, intext citations, or works cited.		Uses quotes, paraphrases, and in-text citations and follows most formatting rules for documentation and works cited.		Uses quotes, paraphrases, and in-text citations adequately and follows formatting rules for documentation and works cited.		Uses quotes, paraphrases, and in-text citations properly and follows formatting rules for documentation and works cited.		Uses quotes, paraphrases, and in-text citations in a refined manner and follows all formatting rules for documentation and works cited.			1	
R5	**Organization**		No progression of ideas is evident; does not use transitions.		Rarely provides a progression of ideas; rarely uses transitions.		Provides an adequate progression of related ideas with some transitions.		Provides an effective progression of related ideas with transitions.		Provides a sophisticated progression of related ideas with transitions.			2	

Continued Table 11. Rubric Design - **Supervisor Assessment for Report** of Graduation Project 1 and 2.

ID	Scale / Performance Criteria	Mark Scale and Guide									Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
			1 Resubmission Necessary		**2 Below Expectations**		**3 Meets Expectations**		**4 Above Expectations**		**5 Exceeds Expectations**				
R6	**Contents and Creativity**		The necessary and important material is not provided. Demonstrates no creative thinking, decision making, reasoning, and/or problem solving.		Material lacks the relevant content. Details lack a clear connection to the purpose. Everything seems as important as everything else. Demonstrates limited creative thinking, decision making, reasoning, and/or problem solving.		Material content is Appropriate. Some details are present to support the main idea. Some of the significant points are identified. Demonstrates Adequate creative thinking, decision making, reasoning, and/or problem solving.		Material content is clear and appropriate. Some details are present to support the main idea.Significant points are Identified. Demonstrates effective creative thinking, decision making, reasoning, and/or problem solving.		Material content is clear and concise. Accurate details are present to support the main idea. Significant points are well identified. Demonstrates sophisticated creative thinking, decision making, reasoning, and/or problem solving.			3	
R7	**Testing, methodology and use of tools and software**		Collecting improper data, and testing according to specified standard. No use of modern tool and techniques in the field		Collecting limited necessary data, and analysis few testing according to specified standard. Use of very limited modern tool and techniques in the field		Collecting some necessary data, and analysis some testing according to specified standard. Use of few modern tool and techniques in the field		Collecting most necessary data, analysis and most testing according to specified standard. Use of some modern tool and techniques in the field		Collecting all necessary data, and analysis all testing according to specified standard. Use of modern tool and techniques in the field			2	
R8	**Design elements and component**		Week and mistakes in design.donot follow standard codes and improper integration of design and no alternatives were provided		Conduct limited design according to standard codes and integrate design and no alternatives were provided		Conduct some design according to standard codes and integrate design and provides few alternatives		Conduct most design according to standard codes and integrate design and provide some alternatives		Conduct all design according to standard codes and integrate design and provide many alternatives			3	
R9	**Ethics**		Does not use ethical standard in producing an original product.		Minimally demonstrates use of ethical standards in producing an original product.		Adequately demonstrates use of ethical standards in producing an original product.		Effectively demonstrates use of ethical standards in producing an original product.		Consistently demonstrates sophisticated use of ethical standards in producing an original product.			1	
R10	**Completeness and Accuracy**		No description of the important outcomes		Incomplete, inaccurate description of important outcomes		Complete, inaccurate description of important outcomes		Incomplete, accurate description of important outcomes		Complete, accurate description of important outcomes			1	

Table 12. Rubric Design - **Examination Panel Assessment for Presentation** of Graduation Project I and II.

ID	Scale / Performance Criteria	Mark Scale and Guide										Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
			1 Resubmission Necessary		2 Below Expectations		3 Meets Expectations		4 Above Expectations		5 Exceeds Expectations			
P1	**Communication: Nonverbal Skills**		Does not employ nonverbal skills.		Employs few nonverbal skills.		Adequately employs nonverbal skills.		Effectively employs nonverbal skills.		Masterfully employs nonverbal skills.		1	
P2	**Communication: Grammar**		Does not employ proper grammar and articulation.		Rarely employs proper grammar and articulation.		Adequately employing proper grammar and articulation.		Effectively employs proper grammar and articulation.		Masterfully employs proper grammar and articulation.		2	
P3	**Time dedicated to project work**		Is off prescribed guidelines by more than 2 minutes.		Is off prescribed guidelines by 1-2 minutes.		Is off prescribed guidelines by 30-60 seconds.		Is off prescribed guidelines by 15-30 seconds.		Adheres to prescribed time guidelines.		2	
P4	**Professional Attire**				Does not wear appropriate attire.						Wears appropriate attire.		1	
P5	**Visual Aids**		Employs no visual aids.		Minimally employs visual aids.		Adequately employs visual aids that reinforce presentation.		Effectively employs visual aids that enrich or reinforce presentation.		Masterfully employs creative visual aids that enrich or reinforce presentation.		2	
P6	**Content: Main Idea**		No main idea is evident.		Presents a main idea with no connections to research or product.		Presents a main idea with adequate connection to research and product.		Presents an the effective main idea with strong and clear connections to research and product.		Presents an insightful main the idea with strong and clear connections to research and product.		3	
P7	**Content: Organization**		Does not employ an effective sequence.		Ineffectively sequences content.		Adequately employs a logical the sequence that the audience can follow.		Effectively employs a logical and engaging the sequence that the the audience can follow.		Masterfully employs a logical and engaging the sequence that the the audience can follow.		3	
P8	**Content: Support**		Does not demonstra*te use of supporting details.		Minimally demonstrates use of supporting details.		Adequately demonstrates use of supporting details.		Effectively demonstrates use of supporting details.		Masterfully demonstrates use of supporting details.		3	
P9	**Self-Reflection**		Does not reflect on process, successes, or challenges.		Reflects on The process, successes, and challenges with minimal insight.		Reflects on process, successes, and challenges with adequate insight.		Reflects on The process, successes, and challenges with effective insight and depth.		Reflects on The process, successes, and challenges with exceptional insight and depth.		2	
P10	**Responses to Questions**		Does not respond to questions.		Ineffectively responds to questions.		Politely responds to questions.		Politely, and Accurately responds to questions.		Confidentially, politely, and accurately responds to questions.		4	

Table 13. Rubric Design - **Examination Panel Assessment for Report** of Graduation Project I and II.

ID	Scale / Performance Criteria	Mark Scale and Guide									Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
			1 Resubmission Necessary		**2 Below Expectations**		**3 Meets Expectations**		**4 Above Expectations**		**5 Exceeds Expectations**				
R1	**Style and Format**		Incomplete pages and improper format. Not follow the proposed guideline.		Preliminary pages are not as required. The improper caption of tables and figures. sometimes follow the guideline.		Preliminary pages are as required. The title of tables and figures can be improved. Generally follow guideline		Preliminary pages are as required. The tables and figures have the proper captions. Mostly follow guideline		Preliminary pages are as required. Tables and figures have the proper format and captions. Always follow guideline			2	
R2	**Language (Spelling, Wording, Grammar)**		The error on most pages and the level of writing is not accepted and need resubmit		Errors are serious and numerous. Reader must stop and reread and may struggle to discern the writer's intention. Multiple, serious errors.		Frequent errors that impede the flow of communication. Ok with <15 errors.		Occasional errors that have only minor impact on the flow of communication. Good with <10 errors		There are no errors that impair the flow of communication. Perfect with <5 errors			3	
R3	**Information Literacy**		No References or/and incorrect. No evidence of credible primary and secondary sources is		References are incomplete and incorrect. Rarely integrates credible primary or secondary sources.		References are given occasionally. Adequately integrates credible primary or secondary sources.		Adequate references are given. effectively integrates a variety of credible primary and secondary sources.		Complete references are given. Conscientiously and consistently integrates a variety of credible primary and secondary sources.			3	
R4	**Citations**		Does not demonstrate an understanding of how to use quotes, paraphrases, intext citations, or works cited.		Uses quotes, paraphrases, and in-text citations and follows most formatting rules for documentation and works cited.		Uses quotes, paraphrases, and in-text citations adequately and follows formatting rules for documentation and works cited.		Uses quotes, paraphrases, and in-text citations properly and follows formatting rules for documentation and works cited.		Uses quotes, paraphrases, and in-text citations in a refined manner and follows all formatting rules for documentation and works cited.			1	
R5	**Organization**		No progression of ideas is evident; does not use transitions.		Rarely provides a progression of ideas; rarely uses transitions.		Provides an adequate progression of related ideas with some transitions.		Provides an effective progression of related ideas with transitions.		Provides a sophisticated progression of related ideas with transitions.			2	

Continued Table 13. Rubric Design - **Examination Panel Assessment for Report** of Graduation Project 1 and 2.

ID	Scale / Performance Criteria	Mark Scale and Guide									Row Mark (R)	Weight (W)	Final $\frac{R \times W}{5}$
		1 Resubmission Necessary		2 Below Expectations		3 Meets Expectations		4 Above Expectations		5 Exceeds Expectations			
R6	**Contents and Creativity**	The necessary and important material is not provided. Demonstrates no creative thinking, decision making, reasoning, and/or problem solving.		Material lacks the relevant content. Details lack a clear connection to the purpose. Everything seems as important as everything else. Demonstrates limited creative thinking, decision making, reasoning, and/or problem solving.		Material content is Appropriate. Some details are present to support the main idea. Some of the significant points are identified. Demonstrates Adequate creative thinking, decision making, reasoning, and/or problem solving.		Material content is clear and appropriate. Some details are present to support the main idea.Significant points are Identified. Demonstrates effective creative thinking, decision making, reasoning, and/or problem solving.		Material content is clear and concise. Accurate details are present to support the main idea. Significant points are well identified. Demonstrates sophisticated creative thinking, decision making, reasoning, and/or problem solving.			4	
R7	**Testing, methodology and use of tools and software**	Collecting improper data, and testing according to specified standard. No use of modern tool and techniques in the field		Collecting limited necessary data, and analysis few testing according to specified standard. Use of very limited modern tool and techniques in the field		Collecting some necessary data, and analysis some testing according to specified standard. Use of few modern tool and techniques in the field		Collecting most necessary data, analysis and most testing according to specified standard. Use of some modern tool and techniques in the field		Collecting all necessary data, and analysis all testing according to specified standard. Use of modern tool and techniques in the field			3	
R8	**Design elements and component**	Week and mistakes in design.donot follow standard codes and improper integration of design and no alternatives were provided		Conduct limited design according to standard codes and integrate design and no alternatives were provided		Conduct some design according to standard codes and integrate design and provides few alternatives		Conduct most design according to standard codes and integrate design and provide some alternatives		Conduct all design according to standard codes and integrate design and provide many alternatives			5	
R9	**Ethics**	Does not use ethical standard in producing an original product.		Minimally demonstrates use of ethical standards in producing an original product.		Adequately demonstrates use of ethical standards in producing an original product.		Effectively demonstrates use of ethical standards in producing an original product.		Consistently demonstrates sophisticated use of ethical standards in producing an original product.			2	
R10	**Completeness and Accuracy**	No description of the important outcomes		Incomplete, inaccurate description of important outcomes		Complete, inaccurate description of important outcomes		Incomplete, accurate description of important outcomes		Complete, accurate description of important outcomes			2	

3.2 Conditions for Passing GP

Students will pass their GP if they fulfill all of the following conditions ONLY:
Obtain at least 60 marks.

- ✓ Fulfill all of the following conditions of assessment:
  - Give presentations at both the GP I and GP II Seminars.
  - Submit all deliverables stated in section 1.8.
- ✓ Attend at least 80% of the weekly meetings with the supervisor allocated for each semester (GP I and GP II).
- ✓ It is important t assure that the writing and binding formats of the final report precisely comply with report writing guide of the University.
- ✓ The Final Report submitted in hard-bound format is considered as the property of the University.
- ✓ There is no element of plagiarism detected.

3.3 GP I & II Deferment

In the event of deferment by the University or withdrawal that is authorized by the Department, under provisions of the Academic Regulations, students may re-register their GP I or GP II in the following semester.

3.4 GP I & II and Failure

Students who have failed GPI or GP II must repeat it in the following semester.

CHAPTER 4: GENERAL REQUIREMENTS FOR GP REPORT

4.1 Introduction

This guide is intended to assist the Bachelor students of Civil Engineering Department, Faculty of Engineering, Najran University (henceforth the Department) in the preparation of their Graduation Project (henceforth GP) report in terms of formatting and writing regulations. Students must comply with the guidelines and seek clarification from the staff of the Department should any confusion arises.

4.2 Language

The GP report should be written in English. Language use should be consistent throughout the report, especially in terms of American or British spellings. The Roman alphabet should be used unless otherwise required by the discipline.

4.3 Technical Specifications

The GP report must only be printed on a letter-quality or laser printer. Only the original copy of the report or good and clean photocopies will be accepted. Copies with correcting liquid will not be accepted.

4.3.1 Report Title

The title of the GP report should not exceed 20 words.

4.3.2 Number of Pages

The number of pages depends on the nature of the project and should not exceed 120 pages (excluding tables, figures and appendices). Students must obtain written permission from the department of Civil Engineering before submitting a report longer than the prescribed length. Students should provide strong justifications to support their request.

4.3.3 Page Layout

The text should be presented in the portrait layout. The landscape layout may be used for figures and tables.

4.3.4 Type of Paper

A4 size (210mm x 297mm) paper (80g) or paper of equivalent quality should be used. Students must include an extra blank sheet for the front and back of the report. Photocopies of the report must be on similar quality paper.

4.3.5 Font Type and Font Size

The text of the report, including headings and page numbers, must be produced with the same font type. The font size should be **12** and should not be scripted or italicized except for scientific names and terms in a different language. Bold print may be used for headings. Footnotes and text in tables should not be less than **8**. Fonts appropriate for a report:

- Arial
- Times New Roman

4.3.6 Margins

The left margin should be at least 40 mm, and the right, top and bottom margins at least 25 mm. Margin specifications are meant to facilitate binding and trimming. All information (text headings, footnotes, and figures), including page numbers, must be within the text area (within page margins).

4.3.7 Spacing

The report should be 1.5-spaced, with two spaces between paragraphs and sections. The following, however, should be single-spaced:

- Footnotes or Endnotes (if absolutely necessary)
- Equations in a text box
- References or bibliography (except between entries)
- Multi-line captions (tables, figures)
- Appendices, such as questionnaires, letters
- Headings or subheadings

4.3.8 Pagination

All pages should be numbered consecutively throughout the report, including pages containing tables, figures and appendices. Page numbers should be centered either centrally or right flushed at either the top or bottom margins. Page numbers should appear by themselves and should not be placed in brackets, be hyphenated or be accompanied by decorative images. Text, tables and figures should be printed on **one (1)** side of each sheet only.

Preliminary pages preceding Chapter 1 must be numbered in lowercase Roman numerals (i, ii, iii etc). The title page should not be numbered although it is counted as page i. Page 1 is the first page of the Introduction (Chapter 4) but is not numbered.

4.3.9 Binding

Before making the required number of copies and binding the report, ensure that all the University requirements have been met and necessary signatures have been obtained. Check that all pages are in the correct order. The report should be bound with a **black** hard cover and the binding should be of a fixed kind in which pages are permanently secured. The following are requirements for the front cover.

a) Report Spine (refer to Appendix E for details**)**

The spine must be entirely lettered in gold, using a 20 font size and must contain the following:

1) Name of student
2) Degree of study
3) Year of submission

b) Front Cover

The front cover must be entirely lettered in gold using font size 18 gold block font and contain the following:

1) Najran University Logo
2) Title of report
3) Name of student(s)

4) Degree
5) Name of the University
6) Year of submission (in *Hijri* and *Gregorian* formats)

4.4 Submission

Any student, who intends to submit the report and the submission form to the department, has to do so before the departmental deadline expires to be valid for assessment procedure.

Students should then submit the following to department after the acceptance of report is notified:

- **One (1)** hardcopy of the report
- **One (1)** softcopy of the report on CD

Students are also required to submit a bound copy of the report to their respective supervisor.

CHAPTER 5: REPORT FORMAT

The following describes what is generally known as the conventional format of a GP report. A report generally consists of three main parts: preliminary pages; text or main body (usually divided into chapters and sections), and supporting pages, containing references and appendices.

The preliminary pages include the title page, dedication, abstract, acknowledgements, approval sheets, declaration form, table of contents, and list of tables, figures and abbreviations. The typical layout of a report is shown in Table 6.

Table 14: A Typical Layout of a Report

No.	Items	Remarks
1	Blank Page	-
2	Title Page	Not to be paginated but counted as (i.) See Section 5.1
3	Dedications (if any)	-
4	Abstract	See Section 5.2
5	Acknowledgements	See Section 5.3
6	Declaration Form	See Section 5.4
7	Table of Contents	See Section 5.5
8	List of Tables	See Section 5.6
9	List of Figures	See Section 5.7
10	List of Abbreviations	See Section 5.8
11	Body of Report	Numbered consecutively from 1 onwards. See Section 5.9
12	References	Continue with the consecutive numbering
13	Appendices	See Section 5.12
14	Blank Page	-

5.1 Title Page

The title should describe the content of the report accurately and concisely. The title page should include the following (refer to Appendix F):

1. Najran University logo
2. Full title of report
3. Full name of student(s)
4. Degree for which the report is submitted
5. Name of the University
6. Month and year of submission

5.2 Abstract

The abstract is a summary of the entire report and should be given the same careful attention as the main text. It should not include any reference. Abbreviations must be preceded by the full terms at the first use. An abstract should be between **200** and **300** words. It includes a brief statement of the problem and objectives of the study, a concise description of the research method and design, a summary of the major findings including their significance, and conclusions.

5.3 Acknowledgements

Acknowledgements are written expressions of appreciation for guidance and assistance received from individuals and institutions.

5.4 Declaration Form

The declaration form should be written as:

This report was written by (**name of student**) a student in the Department of Civil Engineering at Najran University. It has not been altered or corrected as a result of assessment and it may contain errors and omissions. The views expressed in it together with any recommendations are those of the student(s).

5.5 Table of Contents

The Table of Contents lists in sequence all relevant subdivisions of the report with their corresponding page numbers (refer to Appendix G).

5.6 List of Tables

The list shows the **exact titles or captions** of all tables in the text and appendices, together with the starting page number of each table, and must be listed in sequence.

5.7 List of Figures

Figures include graphs, maps, charts, engineering drawings, photographs (plates), sketches, printed images, and any other form of illustration that is not a table. The **exact titles or captions** and their corresponding page numbers must be listed in sequence. Figures, including any in the appendices, should be numbered consecutively throughout the report.

5.8 List of Abbreviations

If abbreviations and acronyms are used in the report, they should be explained in a List of Abbreviations, even though the full names are given at first use. This list should be the last item in the preliminary section. It serves as a ready reference to readers not familiar with the abbreviations used in the report.

5.9 Body of Report

The body of a report normally consists of sections which are organized as chapters. A chapter may be divided into major sections and subsections. Main or primary headings within chapters are to be centered while sub-headings are left justified.

The main sections and subsections of a chapter may be identified by numbers where the former are regarded as being the first level. For example, Sections 2.1 and 2.2 would denote two consecutive main sections in Chapter 2, and Sections 3.1 and 3.2 would denote two consecutive main sections in Chapter 3.

A subsection would be found in a major section of a chapter, and is regarded as the second level. It should be numbered 2.1.1., 2.1.2 etc. The numbering style should be consistent throughout the report and should be limited to 4 levels. Students are advised to discuss the usage of tables and figures with their supervisor before

their inclusion in the report, as different nature of projects may need different preferences. The way to format the chapters of a report is shown in Table 7.

Table 15: Chapters Layout of a Report

Chapter	Item
1	Introduction (including objectives)
2	Literature Review
3	Methodology
4	Data Analysis
5	Results and Discussion
6	Conclusion and Recommendations

Chapter 1: Introduction

Students should provide a brief introduction to the project prior stating the selected problem to be solved as indicated by the need of stakeholders (supervisor, industry sponsor or self-proposed). Project objectives and expectations of the need and constraints specified to the problem should be presented. It is important to remember that the research objectives stated in the report should match the findings of the project.

Chapter 2: Literature Review

A brief summary of the key literature that has been researched and used in the design effort should be presented. This can include books, manuals, textbooks, handbooks, journal papers, conference papers, technical papers, technical reports, web sources, codes and regulations. It should include a summarized comparison of similar designs, processes, or techniques where the strengths and weaknesses of your design compared to others are easily highlighted later in discussion section.

Chapter 3: Methodology

In this section, students should explain all methods, experiments, test, samples collected, standard used, method of analysis, software used to achieve, the stated objectives of the study carried out.

Chapter 4: Data Analysis

Students should list down the data collected or calculations that have been conducted in the project. Sample calculations can be used and the rest of the results should be presented.

Chapter 5: Results and Discussion

The section presents a complete account of the results obtained in the study in the form of text, figures or tables so that the key information is highlighted. Also, this section contains the analyses or interpretations of the results obtained, and the conclusions drawn.

Students should discuss these results in relation to the hypotheses or objectives set out in the Introduction, and how they fit into the existing or current body of knowledge. The significance and implications of the main findings should be made clear.

Chapter 6: Conclusion and Recommendations

This chapter is important since it illustrates the significance of the study and stresses the findings upon which a conclusion or conclusions are drawn in line with the objectives set, acknowledges the limitations, and suggests further research which may be carried out on the topic.

5.10 Equations

All equations are considered as text and numbered according to chapter. If detailed derivation is needed, it is to be placed in an appendix.

5.11 References

Students should list down all references used in their project (the references should be written in international standard format)

5.12 Appendices

Information or data that is too detailed for the main body of the report may be included as appendices. These are placed after the reference list. Appendices include original data, summary, sideline or preliminary tests, tabulations, tables that contain data of lesser importance, very lengthy quotations, supporting decisions, forms and documents, computer printouts, detailed engineering drawings and other pertinent documents.

Notes:

The students must be cautious regarding:

- Avoid plagiarism. Students should use their own English writing as much as possible. Direct copying from manuals or books is not allowed.
- Check the English grammar before submitting the report.
- Avoid redundancy. Be concise but coherent.
- The student may include tables, figures, pictures and technical drawings as needed.
- Figures and tables should be numbered with captions and they should be referred to in the text.

Appendix A: Assessment Forms for 491CE-2 Graduation Project Phase One (GP I)

491CE-2 GRADUATION PROJECT I
Supervisor Assessment for 491CE-2 Graduation Project I

PART 1: Details of Student(s)

Name of Student(s):	**Matric Card No.:**
Graduation Project II Title:	

PART 2: Supervisor Assessment for Logbook

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
L1	Regularity and attendance	CO6								3	
L2	Attitude and Ability to conduct project and team work	CO8								2	
L3	Weekly activities	CO3								3	
L4	Project planning, implementation chart and budgeting	CO2								2	
L5	Contents	CO1								3	
L6	Organization	CO7								2	
L7	Use tools and software	CO2								2	
L8	Testing and methodology	CO3								3	
L9	Design elements and component	CO4								3	
L10	Ethics	CO6								2	
L11	Completeness and Accuracy	CO5								2	
L12	Independence and self-learning	CO8								3	
Total Marks										**30**	

PART 3: Supervisor Assessment for Report

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
R1	Style and Format	CO7								2	
R2	Language (Spelling, Wording, Grammar)	CO7								2	
R3	Information Literacy	CO8								3	
R4	Citations	CO6								1	
R5	Organization	CO2								2	
R6	Contents and Creativity	CO1								3	
R7	Testing, methodology and use of tools and software	CO3								2	
R8	Design elements and component	CO4								3	
R9	Ethics	CO6								1	
R10	Completeness and Accuracy	CO5								1	
Total Marks										**20**	

PART 4: Summary of Supervisor Assessment

Overall Marks

Assessment Method	Full Marks	Marks Obtained
Log Book	**30**	
Report	**20**	
Total	**50**	

Approved by Supervisor:
Name:_____

Date:_____

_____
Signature

Remark:

Note: *Please use rubrics provided as the guidelines for evaluation of the Graduation Project.*

491CE-2 GRADUATION PROJECT I
Examination Panel Assessment for 491CE-2 Graduation Project I

PART 1: Details of Student(s)

Name of Student(s):	**Matric Card No.:**
Graduation Project II Title:	

PART 2: Examination Panel Assessment for Presentation

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
P1	Communication: Nonverbal Skills	CO7								1	
P2	Communication: Grammar	CO7								2	
P3	Time dedicated to project work	CO8								2	
P4	Professional Attire	CO6								1	
P5	Visual Aids	CO2								2	
P6	Content: Main Idea	CO1								3	
P7	Content: Organization	CO3								3	
P8	Content: Support	CO4								3	
P9	Self-Reflection	CO6								2	
P10	Responses to Questions	CO5								4	
Total Marks										**23**	

PART 3: Examination Panel Assessment for Report

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
R1	Style and Format	CO7								2	
R2	Language (Spelling, Wording, Grammar)	CO7								3	
R3	Information Literacy	CO8								3	
R4	Citations	CO6								1	
R5	Organization	CO2								2	
R6	Contents and Creativity	CO1								4	
R7	Testing, methodology and use of tools and software	CO3								3	
R8	Design elements and component	CO4								5	
R9	Ethics	CO6								2	
R10	Completeness and Accuracy	CO5								2	
Total Marks										**27**	

PART 4: Summary of Examination Panel Assessment

Overall Marks

Assessment Method	Full Marks	Marks Obtained
Presentation	**23**	
Report	**27**	
Total	**50**	

Approved by Examination Panel :

Name:_____

Date:_____

_____
Signature

Remark:

Note: *Please use rubrics provided as the guidelines for evaluation of the Graduation Project.*

491CE-2 GRADUATION PROJECT I
Summary and Average Marks from All Examination Panel Assessment

PART 1: Details of Student(s)

Name of Student(s):	**Matric Card No.:**
Graduation Project II Title:	

PART 2: Examination Panel Assessment for Presentation

ID	Performance Criteria	CO	Summary of Marks From Each Panel				Weight (W)	Average $=\frac{P1+P2+P3}{3}$
			Panel 1	Panel 2	Panel 2			
P1	Communication: Nonverbal Skills	CO7					1	
P2	Communication: Grammar	CO7					2	
P3	Time dedicated to project work	CO8					2	
P4	Professional Attire	CO6					1	
P5	Visual Aids	CO2					2	
P6	Content: Main Idea	CO1					3	
P7	Content: Organization	CO3					3	
P8	Content: Support	CO4					3	
P9	Self-Reflection	CO6					2	
P10	Responses to Questions	CO5					4	
Total Marks							**23**	

PART 3: Examination Panel Assessment for Report

ID	Performance Criteria	CO	Summary of Marks From Each Panel				Weight (W)	Average $=\frac{P1+P2+P3}{3}$
			Panel 1	Panel 2	Panel 2			
R1	Style and Format	CO7					2	
R2	Language (Spelling, Wording, Grammar)	CO7					3	
R3	Information Literacy	CO8					3	
R4	Citations	CO6					1	
R5	Organization	CO2					2	
R6	Contents and Creativity	CO1					4	
R7	Testing, methodology and use of tools and software	CO3					3	
R8	Design elements and component	CO4					5	
R9	Ethics	CO6					2	
R10	Completeness and Accuracy	CO5					2	
Total Marks							**27**	

PART 4: Summaryand Average of All Examination Panel Assessment

Overall Marks

Assessment Method	Full Marks	Marks Obtained
Presentation	**23**	
Report	**27**	
Total	**50**	

Approved by GP coordinator :

Name:_____

Date:_____

_____
Signature

Remark:

Note: *Please use rubrics provided as the guidelines for evaluation of the Graduation Project.*

Appendix B: Assessment Forms for 491CE-2 Graduation Project Phase One (GP I)

492CE-2 GRADUATION PROJECT II
Supervisor Assessment for 492CE-2 Graduation Project II

PART 1: Details of Student(s)

Name of Student(s):	**Matric Card No.:**
Graduation Project II Title:	

PART 2: Supervisor Assessment for Logbook

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
L1	Regularity and attendance	CO6								3	
L2	Attitude and Ability to conduct project and team work	CO2								2	
L3	Weekly activities	CO3								3	
L4	Project planning, implementation chart and budgeting	CO3								2	
L5	Contents	CO1								3	
L6	Organization	CO7								2	
L7	Use tools and software	CO5								2	
L8	Testing and methodology	CO7								3	
L9	Design elements and component	CO4								3	
L10	Ethics	CO6								2	
L11	Completeness and Accuracy	CO5								2	
L12	Independence and self-learning	CO2								3	
Total Marks										**30**	

PART 3: Supervisor Assessment for Report

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
R1	Style and Format	CO8								2	
R2	Language (Spelling, Wording, Grammar)	CO8								2	
R3	Information Literacy	CO3								3	
R4	Citations	CO6								1	
R5	Organization	CO2								2	
R6	Contents and Creativity	CO1								3	
R7	Testing, methodology and use of tools and software	CO7								2	
R8	Design elements and component	CO4								3	
R9	Ethics	CO6								1	
R10	Completeness and Accuracy	CO5								1	
Total Marks										**20**	

PART 4: Summary of Supervisor Assessment

Overall Marks

Assessment Method	Full Marks	Marks Obtained
Log Book	**30**	
Report	**20**	
Total	**50**	

Approved by Supervisor:
Name:_____

Date:_____

_____
Signature

Remark:

Note: *Please use rubrics provided as the guidelines for evaluation of the Graduation Project.*

492CE-2 GRADUATION PROJECT II
Examination Panel Assessment for 492CE-2 Graduation Project II

PART 1: Details of Student(s)

Name of Student(s):	**Matric Card No.:**
Graduation Project II Title:	

PART 2: Examination Panel Assessment for Presentation

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
P1	Communication: Nonverbal Skills	CO8								1	
P2	Communication: Grammar	CO8								2	
P3	Time dedicated to project work	CO3								2	
P4	Professional Attire	CO6								1	
P5	Visual Aids	CO2								2	
P6	Content: Main Idea	CO1								3	
P7	Content: Organization	CO7								3	
P8	Content: Support	CO4								3	
P9	Self-Reflection	CO6								2	
P10	Responses to Questions	CO5								4	
Total Marks										**23**	

PART 3: Examination Panel Assessment for Report

ID	Performance Criteria	CO	Scale						Row Mark (R)	Weight (W)	Final = $\frac{R \times W}{5}$
			0	1	2	3	4	5			
R1	Style and Format	CO8								2	
R2	Language (Spelling, Wording, Grammar)	CO8								3	
R3	Information Literacy	CO3								3	
R4	Citations	CO6								1	
R5	Organization	CO2								2	
R6	Contents and Creativity	CO1								4	
R7	Testing, methodology and use of tools and software	CO7								3	
R8	Design elements and component	CO4								5	
R9	Ethics	CO6								2	
R10	Completeness and Accuracy	CO5								2	
Total Marks										**27**	

PART 4: Summary of Examination Panel Assessment

Overall Marks

Assessment Method	Full Marks	Marks Obtained
Presentation	**23**	
Report	**27**	
Total	**50**	

Approved by Examination Panel:

Name:_____

Date:_____

_____
Signature

Remark:

Note: *Please use rubrics provided as the guidelines for evaluation of the Graduation Project.*

492CE-2 GRADUATION PROJECT II
Summary and Average Marks from All Examination Panel Assessment

PART 1: Details of Student(s)

Name of Student(s):	**Matric Card No.:**
Graduation Project II Title:	

PART 2: Examination Panel Assessment for Presentation

ID	Performance Criteria	CO	Summary of Marks From Each Panel				Weight (W)	Average $=\frac{P1+P2+P3}{3}$
			Panel 1	Panel 2	Panel 2			
P1	Communication: Nonverbal Skills	CO8					1	
P2	Communication: Grammar	CO8					2	
P3	Time dedicated to project work	CO3					2	
P4	Professional Attire	CO6					1	
P5	Visual Aids	CO2					2	
P6	Content: Main Idea	CO1					3	
P7	Content: Organization	CO7					3	
P8	Content: Support	CO4					3	
P9	Self-Reflection	CO6					2	
P10	Responses to Questions	CO5					4	
Total Marks							**23**	

PART 3: Examination Panel Assessment for Report

ID	Performance Criteria	CO	Summary of Marks From Each Panel				Weight (W)	Average $=\frac{P1+P2+P3}{3}$
			Panel 1	Panel 2	Panel 2			
R1	Style and Format	CO8					2	
R2	Language (Spelling, Wording, Grammar)	CO8					3	
R3	Information Literacy	CO3					3	
R4	Citations	CO6					1	
R5	Organization	CO2					2	
R6	Contents and Creativity	CO1					4	
R7	Testing, methodology and use of tools and software	CO7					3	
R8	Design elements and component	CO4					5	
R9	Ethics	CO6					2	
R10	Completeness and Accuracy	CO5					2	
Total Marks							**27**	

PART 4: Summaryand Average of All Examination Panel Assessment

Overall Marks

Assessment Method	Full Marks	Marks Obtained
Presentation	**23**	
Report	**27**	
Total	**50**	

Approved by GP coordinator :

Name:_____

Date:_____

_____
Signature

Remark:

Note: *Please use rubrics provided as the guidelines for evaluation of the Graduation Project.*

Appendix C: Example of the Spine and Cover of a GP Report

المملكة العربية السعودية
وزارة التعليم العالي
KINGDOM OF SAUDI ARABIA
Ministry of Higher Education

جامعة نجران
NAJRAN UNIVERSITY

Faculty of Engineering
Civil Engineering Department

CE491

Integrated Reinforced Concrete Structural Design

By

Ali Awadh Saleh Aldossari	33201523
Abdullah Salem Alnbdi	32214562
Ayman Abdulrhman Almutlaqa	32254154
Sultan Ahmad Alharthi	32215413
Hassan Abu Saaq	32124131

Supervisor
Assoc. Prof. Dr. Hashem Al-Mattarneh

Submitted in Partial Fulfillment of the Requirement for the B.Sc. Degree, Electrical Engineering Department, Faculty of Engineering, Najran University, Najran, Kingdom of Saudi Arabia

Safar 1434 (January 2016)

Appendix D: Table of Contents

(Note: below suggested chapters student should discuss with their supervisors to modify these chapters to suite their type of project)