

Kingdom of Saudi Arabia
Ministry of Education
Jazan University
College of Engineering
Electrical Engineering
Department



المملكة العربية السعودية
وزارة التعليم
جامعة جازان
كلية الهندسة
قسم الهندسة الكهربائية

Senior Design Project Guidelines

Table of Contents

1. General Introduction.....	1
2. Senior Design Project Objectives.....	2
3. Senior Project Outcomes.....	2
4. Senior Design Project Duration and Academic Year.....	3
5. Team Formation.....	3
6. Registration of the Senior Design Project.....	3
7. Senior Design Project Proposal.....	4
8. Project Supervision	4
9. Senior Design Project Coordinator.....	4
10. Evaluation of the senior design project.....	5
11. Final Project Delivery	6
12. Appendixes	6

1. General Introduction

The senior design project provides an integrated assessment of the students toward the desired electrical engineering competencies. The senior design project is the first step to transfer the students from the academic community to the industrial environment. The main target of the senior design project is to improve the students' technical skills, communication skills by integrating writing, presentation and teamwork opportunities. The senior design project is comprehensive and focuses on professional practice and includes a variety of non-technical issues such as professional and ethical responsibility, safety, reliability, and social impacts.

The senior design project is an independent study using a faculty advisor for guidance. The outcome of the student's work effort should be a coherent, logically organized senior project. As part of the senior project skills, the students will have the chance to demonstrate their capability to: manage the senior project, recognize the objectives, conduct the literature survey, perform the experiments and the relevant analysis, write the final senior project report, and deliver the main results. The project delivery might take the form of a report, simulation, prototype, or other type of specialized output.

The senior design project (EngE590) in the Electrical Engineering Department consists of two terms. Term one; students will have marks from 25 points. It is required a seminar for their project that contains a historical background, definitions, introduction, plan for next semester and the obtained results if any. Term two; students will have marks from 75. It's required a complete seminar for the whole projects, poster and project book with CD.

The senior design project courses are used to assess the seven ABET outcomes consisting of the ability to: apply of previous knowledge, design and conduct experiments, design a system, function on multi-disciplinary teams, identify, formulate, and solve engineering problems, adhere to professional and ethical responsibilities , communicate ,understand global and local impact of engineering solutions on society, engage in lifelong learning, have knowledge of contemporary issues ,and use modern engineering tools for engineering practice. Students' abilities in these outcomes are measured using outcome specific project related lectures and assignments given throughout the semesters.

2. Senior Design Project Objectives

The objectives of the Senior Design Project are:

- To use the skills acquired in the other courses to solve real engineering and technical problems.
- To enhance creativity of the students in analyzing and solving electrical engineering problems.
- Learn how to design and properly document a project based on technical requirements.
- To create an environment to promote cross disciplinary learning and team approach to problem solving.
- Communicate the project orally and in writing, using necessary supporting materials.
- To develop the ability of self-learning.
- To prepare students to be successful in their industrial careers.

3. Senior Project Outcomes

By the end of the senior project, the student should be able to:

- Prepare a project concept document.
- Define the major problems that they may face during their practical work.
- Generate the possible solutions and select one alternative solution based on criteria.
- Acquire the necessary skills to communicate, negotiate, and evaluate their strengths and weaknesses as members of a team.
- Write a technical requirement document.
- Create and maintain a project schedule.
- Seek learning opportunities outside the classroom environment.
- Develop detailed design documents.
- Make oral presentations.
- Maintain a project schedule.
- Develop a test plan for a project.
- Build a system component.
- Test the operation of a system to prove it meets the requirements.

The senior design project is used to assess the seven ABET outcomes:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics

2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

4. Senior Design Project Duration and Academic Year

Senior students expected to graduate by the end of the academic year must take the senior design project course which spans a two-semester. Passing at least 118 hours from 158 hours is the prerequisite of project registration.

5. Team Formation

One of the main project objectives is to develop the teamwork skills, which is very appreciated in most professional situations.

Team formation must satisfy the following requirements:

- All senior projects must be performed as groups.
- The size of a group is three to four students.
- Each group should contain different levels of students GPR.

6. Registration of the Senior Design Project

Students are expected to register for the senior project with a faculty member (s) whose specialty and interests are compatible with the preferred topic of his project. Students may find a senior project supervisor by meeting with individual faculty members prior to the beginning of the term

and receiving their approval as a supervisor. To assign a senior project, student(s)/faculty should go through the following steps:

1. Every Student must be signed on the sign off Form (Form1).
2. Supervisor Submit the senior project proposal (Form 2).
3. The proposal presented to the students by senior project coordinator for selection process.
4. Students may select one of the projects (Form 4).
5. Register the students with the selected faculty member.

7. Senior Design Project Proposal

The senior project proposals may come from a number of different sources including students and faculty. The project proposals will be subject to a screening process and must meet the ABET minimum requirements of senior design project (Form 3 and Form 7) in order to be accepted as a senior project. The proposal should be almost one page and should include the following:

- A clear and concise declaration of the problem.
- A plan of the general domain of the project work and an interim schedule.
- A list of any facilities, Engineering standards, and constraints that will be required.
- Descriptions of how the proposed project will satisfy ABET requirements for the senior project.

8. Project Supervision

A faculty member, will be assigned by the electrical engineering department to follow-up and guide the students in the development of the project. In the case of an external project is co-supervised by a faculty member and an engineer from the host company. The assigned faculty member is responsible for direct communication and coordination with the host company and the external supervisor. A senior project proposal should be submitted at the beginning of the course by the supervisor(s) for department approval. The supervisor is request to write a senior project status report.

9. Senior Design Project Coordinator

The functions of the coordinator are outlined below:

- Arrange and conduct the weekly common meeting hour.
- Spread the prospective proposal received from the faculty members.

- Encourage the student to discuss the prospective proposals with the pertinent faculty.
- Organize a meeting at beginning of the semester with advisors to assign students to projects.
- Arrange or give lectures to cover various relevant aspects that will provide students with:
 - Definition of the major problems that they may face during their practical work.
 - Brainstorming of alternative solutions of design problem.
 - Generating and maintaining a project schedule.
 - Writing a technical report.
 - Communication skills.
 - Professional and ethical.
 - Contemporary issues.
 - Engage in life-long learning.
 - Understanding the impact of engineering solutions.
- Arrange meeting with the advisors to discuss the state of the senior projects.
- Coordinate the evaluation of the project written reports and the presenters by the review panel members and then calculate the average for each student.

10. Evaluation of the senior design project

The senior design project is evaluated by the advisor and the evaluation committee. The advisor evaluation is based on different parameters include; student attendance (Form 5); Progress report (Form 6); awareness of ethics; understanding standards and constraints; team work, understanding of contemporary issues, life-long learning, etc. Whereas, the evaluation committee' grade involves both the written report and the oral presentation.

Written Report evaluation takes into account the overall organization and presentation of the report, language (grammar and spelling), the technical contents (Abstract, introduction, problem definition, design realistic constraints (such as technical, economic, safety, ethical, social,...etc), engineering standards (national and international standards such as Saudi standards, IEEE standards,...etc.), alternative solutions for the design problem, implementation, result evaluation and conclusions (Appendix III).

Oral Presentation evaluation is based on the clarity of purpose, problem identification, solution approach and level, presentation skills, discussion, demonstration of design functionalities.

11. Final Project Delivery

Before posting the final grade of EngE529, each group of students should submit the following to the Senior Design Project Coordinator:

- 2 copies of the corrected final report.
- The original copy of the final report that shows the comments/corrections of the examiners.
- CD/DVD that includes a soft copy of the final corrected report, presentation, developed programs, performed simulations.

12. Appendixes

Appendix I (Senior Design Project Assessment Rubrics)

Appendix II (Senior Design Project Forms)

Appendix III (Final Senior Project Report Style)

Appendix IV (Code of Ethics for Engineers)

Appendix I
(Senior Design Project
Assessment Rubrics)

Rubric for the Assessment of Project Work (Student evaluation by Project Advisor)

Indicator	Unsatisfactory 0.5 - 1	Developing 1.5 - 2 - 2.5	Satisfactory 3 - 3.5 - 4	Exemplary 4.5 - 5	KPI
Identification of the problem	Problem has not been stated clearly and lacks any supporting evidence.	The problem statement has weak support.	A problem statement has been stated.	The problem has been shown (not just stated) to exist with supporting factual evidence.	1.1
Research and information gathering	- Connection between references and what is written is not clear. - Little investigation has been done.	A complete review of existing solutions and research related to this problem is not presented.	- Existing solutions have been stated. - Additional discussion may be warranted in places.	Existing solutions to the problem, including their good and bad points, have been stated.	5.1 7.4
Definition of the project	- Expectations are not clear. - Expectations are not measurable.	- Expectations have been stated. - Most objectives are not measurable.	- Expectations have been stated. - Some objectives may not be measurable.	- There are clear expectations of the specific outputs or deliverables for the project. - A set of measurable performance requirements has been created.	2.1 4.4
Development of a plan	- A system block diagram has not been fully developed. - The problem has not been divided into manageable tasks and blocks.	- A system block diagram has not been fully developed. - A few blocks have been broken down.	- A system block diagram has been developed to assist the team in solving the design. - Not all blocks have been broken down to a manageable level.	- A system block diagram has been developed to assist the team in solving the design. - All blocks have been broken down to a manageable level.	2.2 4.5
Execution of the plan	None of the major project points were accomplished.	Few of the major project points were accomplished.	Most major project points were accomplished.	All major points of the project were completed.	2.3
Verification of the design	No verification of design was accomplished.	Little verification of design was accomplished.	The prototype has not been fully developed or tested.	The prototype has been tested against the performance requirements listed in the definition of the project.	2.4
Project Scheduling	Lack of planning is evident.	Few aspects of the plan have been developed.	Some aspects of the plan have not been fully developed.	A plan stating the cost, completion date, and required resources has been presented.	2.2

Indicator	Unsatisfactory 0.5 - 1	Developing 1.5 - 2 - 2.5	Satisfactory 3 - 3.5 - 4	Exemplary 4.5 - 5	KPI
Technical level of project	This project did not challenge the students to perform much research, as it relied mainly on information taught within the curriculum.	This project contains some research but mostly involves technical information taught at the junior and senior levels.	Several technical aspects were new to the students and required research.	A significant portion of this project involves technical information outside the scope of the undergraduate curriculum.	1.4 7.1
Discipline and attitude	- Does not abide to rules most of the time - Not motivated	- Sometimes abide to rules - Indifferent	- Abide to rules most of the Time - Industrious	- Abide to rules most of the Time - Highly Enthusiastic	4.1 7.2
Initiatives and dependability	- Not initiative. - Lacks confidence.	Confident, knows his way.	Requires minimum direction.	Highly motivated and fully dependable.	4.2 7.3
Quality of work	Below average	Average	Very good	Excellent	2.3
Attendance and punctuality	- Comes later or misses to attend the meetings. - Always misses the deadlines.	- Comes late sometimes - Misses the deadlines sometimes	- Always comes on time - Always meets the deadlines	- Always comes on time - Always ahead of the deadlines	4.3
Team work	Cannot get along with others easily	Gets along satisfactory	Works well with others	Exceptionally well	5.2 5.4
Communication skills	Not very good communicator	Needs help in explaining things	Makes himself reasonably	Clear about what he wants to say	3.3
Practice of safety regulation	- Safety procedures were ignored - Always needs assistance	Experiment is carried out with some attention to relevant safety procedures	Experiment is generally carried out with attention to relevant safety procedures	Experiment is carried out with full attention to relevant safety procedures	6.1

Rubric for the Assessment of Student Senior Project - Report -

Indicator	Unsatisfactory 0.5 - 1	Developing 1.5 - 2 - 2.5	Satisfactory 3 - 3.5 - 4	Exemplary 4.5 - 5	KPI
Introduction	Introduction is missing	Introduction is confusing	Introduction is adequate	Introduction provides background and a forecast of the document Problem or situation is defined clearly with orienting material for audience	3.1
Content	Most elements are missing or erroneous/not related	Some elements are missing or inadequately discussed	Most of the elements are adequately discussed	All of the elements are adequately discussed and supported with additional relevant information	3.1
Conclusion	Conclusions are missing	Conclusions are inadequate	Most but not all points contained in the conclusion	Clear and insightful conclusions	3.1
Use of references	<ul style="list-style-type: none"> - Little attempt is made to acknowledge the work of others. - Most references that are included are inaccurate or unclear. 	<ul style="list-style-type: none"> - On several instances, references are not stated when appropriate. - Bibliographical entries are not complete. 	<ul style="list-style-type: none"> - With an occasional oversight, prior work is acknowledged by referring to sources for theories, assumptions, quotations, and findings. - With some minor exceptions, references are exact with author, journal, volume number, page number, and year. 	<ul style="list-style-type: none"> - Prior work is acknowledged by referring to sources for theories, assumptions, quotations, and findings. - References are exact with author, journal, volume number, page number, and year. 	3.4
Visual Format and Organization	<ul style="list-style-type: none"> - The document is not visually appealing and there are few “cues” to help the reader navigate the document. - There is no apparent ordering of paragraphs, and thus there is no progressive flow of ideas. 	<ul style="list-style-type: none"> - Errors in the Table of Contents are present. - Within sections, the order in which ideas are presented is occasionally confusing. 	<ul style="list-style-type: none"> - The document is organized. - Use of white space and typography help the reader navigate the document, although the layout could be more effective. 	<ul style="list-style-type: none"> - The document is visually appealing and easily navigated. - Appropriate typography and usage of white space are used as appropriate to separate blocks of text and add emphasis. 	3.1

Indicator	Unsatisfactory 0.5 - 1	Developing 1.5 - 2 - 2.5	Satisfactory 3 - 3.5 - 4	Exemplary 4.5 - 5	KPI
Use of appendices	<ul style="list-style-type: none"> - Appendices were not utilized when appropriate. - There is unnecessary inclusion of detailed information in the main body of the text. 	<ul style="list-style-type: none"> - While appendices are present, material in appendix is not referred to properly in text. - Content in appendix is not complete. 	<ul style="list-style-type: none"> - Appendices are used when appropriate. - Selection and/or extent of material in appendix may not be optimal. 	<ul style="list-style-type: none"> - Information is placed appropriately in either the main text or an appendix. - Appendices are documented and referenced in the text. 	3.1
Language (Word Choice, Grammar)	<ul style="list-style-type: none"> - Errors in sentence structure and grammar frequently distract the reader and interfere with meaning. - There is unnecessary repetition of the same words and phrases. - There are many misspelled words. 	<ul style="list-style-type: none"> - In a few places, errors in sentence structure and grammar distract the reader and interfere with meaning. - Word choice could be improved. - There are a few misspelled words. 	<ul style="list-style-type: none"> - For the most part, sentences are complete and grammatical, and they flow together easily. Any errors are minor and do not distract the reader. - Repetition of words and phrases is mostly avoided. - There are one or two misspelled words. 	<ul style="list-style-type: none"> - Sentences are complete and grammatical. They flow together easily. - Words are chosen for their precise meaning. - No misspelled words are present. 	3.1
Equations, Numerical Usage, and Illustrations	<ul style="list-style-type: none"> - There may be inaccuracies within the equation. Little or no attempt is made to make it easy for the reader to understand the use of an equation or its derivation. - Figures, graphs, charts, and drawings are of poor quality, have numerous inaccuracies and mislabeling, or may be missing. - There is no corresponding explanatory text for included items. 	<ul style="list-style-type: none"> - Most equations are accurate. Too many variables are not defined. Discussion regarding the development and usage of the equation is unclear. - In some cases, illustrations are not conveying information clearly. - While items are labeled, references to these items are missing. 	<ul style="list-style-type: none"> - Most equations are accurate and clear. Most variables are defined and units specified. With some minor exceptions, adequate discussion regarding the equation development and usage has been stated. - For the most part, illustrations are accurate, consistent with the text, and of good quality. - All items are generally labeled in accordance with engineering standards and are referred to in the text. 	<ul style="list-style-type: none"> - All equations are clear, accurate, and labeled. All variables are defined and units specified. Discussion regarding the equation development and use has been stated. - All figures, graphs, charts, and drawings are accurate, consistent with the text, and of good quality. They enhance understanding of the text. - All items are labeled in accordance with engineering standards and are referred to in the text. 	3.1

Rubric for the Assessment of Student Senior Project - Presentation -

Indicator	Unsatisfactory 0.5 - 1	Developing 1.5 - 2 - 2.5	Satisfactory 3 - 3.5 - 4	Exemplary 4.5 - 5	KPI
Content	<ul style="list-style-type: none"> - Addresses few of the content areas. - Material does not support the topic. - Use of engineering terms and jargon does not match audience knowledge level. 	<ul style="list-style-type: none"> - Addresses some of the content areas. - Material minimally supports the topic. - Use of engineering terms and jargon minimally matches audience knowledge level. 	<ul style="list-style-type: none"> - Addresses most content areas. - Material sufficiently supports the topic. - Use of engineering terms and jargon mostly matches audience knowledge level. 	<ul style="list-style-type: none"> - Addresses all specified content areas. - Material abundantly supports the topic. - Use of engineering terms and jargon matches audience knowledge level. 	3.2
Visuals	<ul style="list-style-type: none"> - Text is not readable. - Graphics use does not support the presentation. - Slide composition format is clearly distracting, obscuring the presentation. 	<ul style="list-style-type: none"> - Text is readable with effort. - Graphics use rarely supports the presentation. - Slide composition sometimes distracts from the presentation. 	<ul style="list-style-type: none"> - Text is readable. - Graphics use mostly supports the presentation. - Slide composition is not visually appealing, but does not detract from the presentation. 	<ul style="list-style-type: none"> - Text is easily readable. - Graphics use constantly supports the presentation. - Slide composition has a professional look that enhances the presentation. 	3.2
Presentation Skills	<ul style="list-style-type: none"> - Inaudible; several awkward pauses. - Attitude indicates lack of confidence and/or disinterest in subject. - Audience attention is not maintained. 	<ul style="list-style-type: none"> - Difficult to hear and/or moments of awkwardness. - Attitude indicates some lack of confidence and/or disinterest in subject. - Audience attention is minimally maintained. 	<ul style="list-style-type: none"> - Clearly heard but not polished. - Attitude indicates confidence but not enthusiasm. - Audience attention is mostly maintained. 	<ul style="list-style-type: none"> - Clearly heard and polished. - Attitude indicates confidence and enthusiasm. - Audience attention is constantly maintained. 	3.3
Organization	<ul style="list-style-type: none"> - Information not presented a logical sequence; - Audience cannot understand presentation. 	<ul style="list-style-type: none"> - Information not always presented in a logical sequence - Audience has difficulty following presentation. 	<ul style="list-style-type: none"> - Information presented in a logical sequence. - Audience can follow the presentation. 	<ul style="list-style-type: none"> - Information presented in logical and interesting sequence. - The audience can easily follow the presentation. 	3.2
Handling of Questions	<ul style="list-style-type: none"> - Demonstrates an inability to answer expected questions. 	<ul style="list-style-type: none"> - Demonstrates difficulty answering expected questions beyond a rudimentary level. 	<ul style="list-style-type: none"> - Demonstrates sufficient knowledge of the material to answer expected questions. 	<ul style="list-style-type: none"> - Demonstrates full knowledge of the material; can explain and elaborate on expected questions. 	3.3

Rubric for the Assessment of Student Senior Project - Poster -

Indicator	Unsatisfactory 0.5 - 1	Developing 1.5 - 2 - 2.5	Satisfactory 3 - 3.5 - 4	Exemplary 4.5 - 5	KPI
Poster Mechanics	<ul style="list-style-type: none"> - The poster is distractingly messy or very poorly designed. It is not attractive. - Graphics do not relate to the topic. - There are more than two grammatical mistakes on the poster. 	<ul style="list-style-type: none"> - The poster is a bit messy. - Many graphics are not clear or are too small. - There are two grammatical mistakes. 	<ul style="list-style-type: none"> - The poster is acceptably attractive. - Most graphics are easily viewed and relate to the topic. - There is one grammatical mistake on the poster. 	<ul style="list-style-type: none"> - The poster is exceptionally attractive in terms of design, layout, and neatness. - Graphics are easily viewed and are related to the topic, making the material easier to understand. - There are no grammatical mistakes on the poster. 	3.2
Technical Details	<ul style="list-style-type: none"> - Significant amounts of technical detail are lacking or inadequate so that the audience cannot appreciate the progress that has been made. 	<ul style="list-style-type: none"> - In places, the information was too detailed or was lacking. 	<ul style="list-style-type: none"> - Sufficient technical detail is included to enable the audience to understand the nature of progress. 	<ul style="list-style-type: none"> - High level of relevant detail is presented to allow the audience to make judgments about the content. The details are not so elaborate that the presentation becomes tedious. 	3.2
Design Verification (experimental data)	<ul style="list-style-type: none"> - Conclusions are vague or unrelated. 	<ul style="list-style-type: none"> - Presentation does not include enough results to draw conclusions. 	<ul style="list-style-type: none"> - Presentation includes sufficient results to draw conclusions. 	<ul style="list-style-type: none"> - Presentation includes thorough description of empirical results and explains the importance of the results. 	3.2



Capstone Design Project

Evaluation of Student Senior Project (First Semester) (Total 25 Marks)

Project Title:

Project Advisor(s):

Evaluation Date:

	Student Name	Student ID	Project Work	Presentation	Total
			10%	15%	25%
1					
2					
3					
4					
5					
6					

Examination Committee		Signature
Member 1:	
Member 2:	
Member 3:	
Head Of Department		
Dr. Zuhair Allas		

**Rubric for the Assessment of Project Work (Student evaluation by Project Advisor)
-First Semester-**

Project Name:	
Project Advisor:	

	Student Name	Student ID
Student 1		
Student 2		
Student 3		
Student 4		
Student 5		
Student 6		

		Student 1	Student 2	Student 3	Student 4	Student 5	Student 6
1	Research and information gathering						
2	Development of a plan						
3	Discipline and attitude						
4	Initiatives and dependability						
5	Quality of work						
6	Attendance and punctuality						
7	Team work						
8	Communication skills						

**Rubric for the Assessment of Senior Student Project (Presentation)
-First Semester-**

Project Name:	
Member Name:	

	Student Name	Student ID
Student 1		
Student 2		
Student 3		
Student 4		
Student 5		
Student 6		

Assessment of Senior Student Project - Presentation -							
		Student 1	Student 2	Student 3	Student 4	Student 5	Student 6
1	Content						
2	Visuals						
3	Presentation Skills						
4	Organization						
5	Handling of Questions						



Capstone Design Project

Evaluation of Student Senior Project (Second Semester) (Total 100 Marks)

Project Title:

Project Advisor(s):

Evaluation Date:

	Student Name	Student ID	First Semester Assessment	Project Work	Presentation	Report	Poster	Sub Total	Total
			25%	40%	15%	16%	4%	75%	100%
1									
2									
3									
4									
5									
6									

Examination Committee		Signature
Member 1:	
Member 2:	
Member 3:	
Head Of Department		
Dr. Zuhair Allas		

Rubric for the Assessment of Project Work (Student evaluation by Project Advisor)

Project Name:	
Project Advisor:	

	Student Name	Student ID
Student 1		
Student 2		
Student 3		
Student 4		
Student 5		
Student 6		

		Student 1	Student 2	Student 3	Student 4	Student 5	Student 6
1	Identification of the problem						
2	Research and information gathering						
3	Definition of the project						
4	Development of a plan						
5	Execution of the plan						
6	Verification of the design						
7	Project Scheduling						
8	Technical level of project						
9	Discipline and attitude						
10	Initiatives and dependability						
11	Quality of work						
12	Attendance and punctuality						
13	Team work						
14	Communication skills						
15	Practice of safety regulation						

Rubric for the Assessment of Senior Student Project (Report and Poster)

Project Name:	
Member Name:	

Assessment of Senior Student Project - Report -											
		0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
1	Introduction										
2	Content										
3	Conclusion										
4	Use of references										
5	Visual Format and Organization										
6	Use of appendices										
7	Language (Word Choice, Grammar)										
8	Equations, Numerical Usage, and Illustrations										
Assessment of Senior Student Project - Poster -											
		0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
1	Poster Mechanics										
2	Technical Details										
3	Design Verification (experimental data)										

Rubric for the Assessment of Senior Student Project (Presentation)

Project Name:	
Member Name:	

	Student Name	Student ID
Student 1		
Student 2		
Student 3		
Student 4		
Student 5		
Student 6		

Assessment of Senior Student Project - Presentation -							
		Student 1	Student 2	Student 3	Student 4	Student 5	Student 6
1	Content						
2	Visuals						
3	Presentation Skills						
4	Organization						
5	Handling of Questions						

Appendix II (Senior Design Project Forms)

Form 1: Student Sign off Form

Form 2: Senior Project Proposal Form

Form 3: ABET Requirements for Senior Design

Form 4: Senior Design Project Selection Form

Form 5: Attendance Sheet

Form 6: Progress Report

Form 7: Senior Design Project Checklist



Form 1: Student Sign off Form Senior Design Project

Project Title:

Date:

Student Name:

Student ID:

I have read and understood all of the First Day Materials for the Course. *In particular, this includes:*

1. I am responsible for applying engineering code of ethics.
2. I am responsible for keeping up-to-date with announcements that I will receive from the course coordinator, academic advisor.
3. I am responsible for submitting tasks on or before the due date.
4. If I am caught cheating, I know that:
 - a) the consequences will be set by the Faculty of Engineering Policy on cheating,
 - b) the sanctions for cheating could be as high as expulsion with a grade of Ex, failure for cheating, recorded in my transcript, and
 - c) cheating includes *but is not limited to*:
 - i) leaking any confidential information;
 - ii) submitting work that is not my own or, for team work, not my team's;
 - iii) accepting unauthorized help from other students *or* providing unauthorized help to other students (for example, giving another team a copy of your team's work);
 - iv) using unauthorized materials; and
 - v) Accepting a grade or other credit for team work to which I have not made an appropriate contribution.

Signature _____



Form 2: Senior Project Proposal Form Senior Design Project

Project Title:	
Advisor:	

Description:

Objectives:

Special Requirements:

List of Engineering Standards to be incorporated in the project::
1. 2. 3.

List of Software intended to be used:
1. 2. 3.



Form 3: ABET Requirements for Senior Design

Requirements for Senior project		
Ensure Components	Task/Descriptions	✓ Confirm
Classification of Design of an Engineering Product	System/Component/Process	
Use of Engineering Standards	Provide a list of standards (IEEE, SCE, NSPE, etc.)	
Description of Design Component		
Meeting Societal Needs	High/Medium/Low	
Major Design Experience	Major/Minor	
Enough Realistic Constraints	Economic, safety, ethics, social impact, etc.	
Implementation Strategy	Case studies/lab experiments/other	
A physical Product or prototype will be built by the end of the project	Yes/No	

Project advisor

Signature



Form 4: Senior Design Project Selection Form

This form has to be completed by each student for selecting project. The selection depends on the student's cumulative GPA and his desire.

Student ID	Student Name	Signature
Mobile	GPA	Number of passed hours

Desire	Project Title	Code / Supervisor
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		
K		



Form 5: Attendance Sheet

Project Title:

Project Advisor:

Student Name:

Student ID:

No.	Date	Advisor Name	Advisor Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
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14			
15			



Form 7: Senior Design Project Checklist

Project Title:

Supervisor:

Student Name(s): 1.
2.
3.
4.

Item	Implemented		
	Yes	No	Indicate page(s) in the report for yes, cite reason(s) for no
Problem definition			
Alternative solutions			
Specifications and regulations			
Realistic constraints and Engineering standards			
Impact of engineering solutions			
Cost analysis			
Experiment result analysis			
Final product			

Appendix III (Final Senior Project Report Style)



Appendix III Senior Project Report Writing Guidelines

The format of the final report is detailed below. The report will be reviewed by the advisor and the evaluation committee, thus it should be organized and clear.

- 1. Title Page:** include project title, Students names, Advisor, Date
- 2. Abstract.** The abstract should contain a very short description of the report.
- 3. Introduction.** The introduction should be approximately two to three pages in length, and should contain the following information:
 - Problem Statement: State the problem to be solved.
 - Background or Related Work: State who else has worked on this problem or similar problems
 - Solution Statement: State your solution to the problem.
- 4. Literature Search.** Start with your library then search of all relevant online.
- 5. Solution.** This should be a conceptual description defining the solution to the problem.
- 6. Implementation and Results evaluation.** This section describes your implementation and analyzed the experimental results.
- 7. Conclusions:**
 1. Summarize what you did. This can be viewed as the evidence.
 2. State what you learned (the actual conclusions that you a drawing).
 3. List the advantages and disadvantages of your work.
 4. State future work and directions, and then list any open problems.
- 8. Acknowledgements.** Acknowledge any individuals who have helped you during the course of the project.

Kingdom of Saudi Arabia
Ministry of Education
Jazan University
College of Engineering
Electrical Engineering
Department



المملكة العربية السعودية
وزارة التعليم
جامعة جازان
كلية الهندسة
قسم الهندسة الكهربائية

9. References.

10. **Appendices.** Include brief code, and illustrations of results.

Appendix IV (Code of Ethics for Engineers)



Engineer Agreement

Preface

The engineering profession and the services provided by engineers depends significantly on the progress of civilization and the protection and harnessing of natural resources to serve the community and increase the standard of living. Thus, it becomes necessary for engineers to provide their professional services according to ethical standards and rules observing honesty, truthfulness and perfection.

Since the Saudi Council of Engineers is concerned with and aims to promote the profession of engineering and all that would develop and raise the level of the profession and its practitioners under its law promulgated by the Royal Decree No. 36 on 26/09/1423H, and since its vision is to "sophisticate the profession of engineering and enable engineers and institutions of engineering to reach optimal solutions, to improve performance level, and to encourage creativity and innovation to achieve a prestigious international position," the Council has opined to present these rules to engineers and technicians in various positions to serve as professional rules determining proper professional dealing among themselves and with others to serve society.

Since justice, integrity, honesty, truthfulness, keeping one's word, never exposing secrets, mutual advice, mastery of work, and getting away from hurting others are in their entirety the morals and values advocated by Islam that urges to stick to them and to abide by applying them in everyday life, the Saudi Council of Engineers has taken into account these foundations, principles and values when preparing the rules and ethics governing the practice of the profession. Thus, all engineers should abide by these rules in all their professional practices in accordance with the Engineer Agreement signed in this regard.

May Allah grant us all success to all that is good.

Rules and ethics of the practice of the engineering profession

General rules:

Rule One: Every engineer should build her/his professional reputation based on efficiency and proficiency of her/his services, and away from unfair competition with others.

Rule Two: Every engineer should seek to develop her/his personal abilities and efficiency, and should also provide professional development opportunities for engineers and technicians working under his supervision.

Rule Three: Every engineer should be committed to promoting the fundamental values and principles of the ethics of the engineering profession and should plant them within society. Regarding her/his conduct, every engineer should be s in ways that support and enhance the prestige and dignity of the profession and the secretariat of the locally and globally.

Rule Four: Regarding professional issues, Every engineer shall act as a careful agent to the employer, and shall avoid any conflict of interests.

Rule Five: When submitting her/his ideas, views and decisions, every engineer should be keen to be objective and honest and confined to her/his field of expertise and professional experience.

Rule Six: When providing professional services, every engineer seeks to apply the highest standards of safety and environmental protection in order to achieve the public interest of individuals and society.

Rule One:

Every engineer should build her/his professional reputation based on efficiency and proficiency of her/his services, and away from unfair competition with others.

1-1 It is obligatory on every engineer not to directly or indirectly pay or offer commissions, gifts or rewards for getting a job with the aim of influence its accreditation. In addition, it is obligatory on every engineer not to make concessions irrelevant to the profession that may be used to influence the other competitors.

1-2 It is obligatory on every engineer not to compete with any other engineer in contradiction with the regulatory rules in order to replace the latter in a particular job, whether after knowing that specific steps have been taken towards her/his appointment or after s/he has already been appointed.

1-3 It is obligatory on every engineer not to criticize the reputation or performance of other engineers inappropriately, whether through criticizing and mutilation directly or indirectly.

1-4 It is obligatory on every engineer neither to overestimate the degree of her/his responsibilities in previous work, to be dishonest in the presentation of her/his professional and academic qualifications and past achievements, whether regarding her/him or her/his workers, nor to be dishonest in the presentation of the facts concerning employers, colleagues or partners.

1-5 Every engineer shall review professional service contracts on the basis of competence, professional qualifications and experience, and volume and scope of work, taking into account the equity of appropriate compensations to other professionals and keeping on enhancing trust between all contracting parties.

1-6 Every engineer shall take into account the public interest in estimating the engineering services' cost.

1-7 Every engineer shall not undertake or agree to perform any engineering service for free in a way that may affect the professional level of the service provided.

1-8 No engineer shall unobjectively declare the engineering services as a means of propaganda. In addition, no engineer shall allow the use of her/his name in commercials by manufacturers, contractors and suppliers, unless the engineer has a real role in the advertisement.

Rule Two:

Every engineer shall continue the professional development by developing her/his personal efficiency and abilities, and shall provide professional development opportunities for engineers and technicians who work under his supervision.

2-1 An engineer shall work on developing his abilities in order to raise his professional level by every appropriate means, such as attending professional events, submitting specialized studies and researches, participating in meetings and activities of international professional bodies, and encouraging and urging his staff of engineers and technicians to do the same.

2-2 Every engineer shall give proper credit for engineering works to those to whom credit is due, and shall recognize the proprietary rights of others. Every engineer shall name the person(s) responsible for designs, inventions or accomplishments wherever possible.

2-3 Every engineer shall be fair in assigning works and tasks to other engineers, in proportion to the level of their expertise and training.

2-4 Every engineer shall provide all information regarding working conditions to engineers nominated for employment, and inform them of all matters relating to the proposed position. After hiring, he shall inform them of all changes that may happen and the commitment to the principle of estimating lucrative compensations, salaries and allowances for workers in the engineering field.

Rule Three:

Every engineer shall commit to promote the fundamental values and principles of the ethics of the engineering profession, and establish them in the society. In his behavior, he shall adhere to the techniques that support and promote the prestige, dignity and integrity of the profession locally and globally.

3-1 Every engineer shall commit to apply rules and ethics of the profession in all her/his professional practices, and participate in educational, training and professional activities in institutes, universities and business and professional institutions, in order to promote and establish professional concepts and raise the engineering awareness in society.

3-2 Every engineer shall assume his professional responsibility based on the rules respected by members of the community, and not contribute to any products that may be easy to use for unethical or banned purposes or result in immediate or long-term risks.

3-3 Every engineer shall refer to the Saudi Council of Engineers in case of disputes related to the ethics of the practice of the profession. In all cases, the priorities shall be determined according to the following order:

Government regulations and judicial decisions shall have the priority over professional regulations and laws.

Professional regulations and laws shall have the priority over contracts and individual interests.

3-4 Every engineer shall not participate in or allow the use of his name or the names of his partners on business by a person or an entity which he believes that it involved in a business or a professional practice based on fraud and cheating.

3-5 Every engineer shall not use the relationship, solidarity or participation with others as a means of covering up behaviors that are inappropriate to the profession.

Rule Four:

Regarding professional issues, Every engineer shall act as a careful agent to the employer, and shall avoid any conflict of interests.

4-1 Every engineer shall dedicate their technical knowledge and experience to the benefit of their employers/clients. Every engineer shall assume the responsibilities for their professional practices, and admit mistakes as it occurred, they shall avoid twisting or warping facts to justify wrong decisions.

4.2 Every engineer shall maintain the confidentiality of the information received by the same in the framework of the duties entrusted thereto and shall not disclose such information only after obtaining an approval to do so; with exception of the cases permitted by the regulations in force and appear to be in line with the applicable principles and code of ethics. Moreover, every engineer shall not use such information as a means to obtain personal gain only after obtaining the approval of the Employer. In any case it shall not be permissible to use such information if such use conflicts with the interests of the Employer or the society.

4-3 Every engineer shall deal with all parties with the utmost integrity and fairness whenever administrating any contracts or recruiting any personnel. Every engineer shall enter into an agreement before working for those parties to the extent that allows the same to make improvements, designs, innovations and other facilities that require keeping the rights thereof in writing or innovation; without resorting to deception as a means to induce others to work therewith.

4-4 Every engineer shall not perform any professional service for the account of any party outside of regular work hours only after informing the Employer of the same. Furthermore, every Engineer shall not use any equipment, materials, laboratories or office facilities pertaining to the Employer for personal purposes without obtaining the approval of the Employer on the same.

4-5 Every engineer shall not inspect the work of another engineer without informing the same or after the expiration of the contract relevant to such work; unless it is required by virtue of the nature of the job thereof.

4-6 Every engineer, working in the field of sales and manufacturing, is entitled to make comparisons between the products thereof and the products of other suppliers; taking into account not to offer or provide any engineering consultancy, designs or advice except as specifically related to the equipment, materials or systems sold thereby or displayed for sale.

4-7 Every engineer shall avoid any conflict with the Employer's interests and shall notify the Employer immediately after being aware of the existence of any relations, business interests or circumstances that may affect the decisions thereof or the quality of the services provided thereby. Moreover, every Engineer shall avoid performing any work appears to be in conflict with Employer's interests.

4-8 Every engineer shall not accept any remuneration paid by a party for the services provided thereby in the same project or in exchange for any services relating to the same work unless it is expressly agreed in advance between all concerned parties. Moreover, every engineer shall not request nor accept any rewards, whether in cash or in kind; including any free engineering designs provided by the suppliers of materials; further to any equipment, devices or systems used in the description or identification of the products of those suppliers in the work carried out by this engineer. Furthermore, every engineer shall not, directly or indirectly, request nor accept any gifts given by any party dealing with the Employer or relevant to the work entrusted to the same.

Rule Five:

When submitting the ideas, views and decisions thereof, every engineer should ensure that such ideas, views and decisions are objective, authentic and fall within the area of specialization and professional experience of the same.

5-1 Every engineer shall be objective, honest and independent in making any engineering decisions that exclusively fall within the field of the scientific and practical qualification; to the extent that such decisions are only made in accordance with scientific and professional considerations. Every engineer shall benefit from all available specialized expertise and ask the assistance of his colleagues in accomplishing any work falling outside the field of the engineer's specialization.

5.2 When the engineer appears before courts or official commissions as an expert or witness to provide a technical testimony, the engineer shall show the engineering standpoint of the same based on the experience, expertise and knowledge of facts bearing in mind the utmost integrity, honesty and honor of the profession.

5.3 Every engineer shall not issue any reports, statements or comments about engineering issues if such reports, statements or comments are issued for the purposes of serving the interests of any

party or parties unless a prior explicit statement identifying those parties acting on their own behalf is issued.

5.4 Every engineer shall be modest and moderate, while presenting his works and efficiency. Furthermore, the engineer shall avoid committing any act tending to promote his own interest at the expense of the profession's honesty, status and dignity.

5.5 In case of any conflict arising between the values and principles, and the professional services, engineers shall set their priorities as follows:

- Giving priority to human values over the nature's considerations.
- Giving priority to issues related to human rights over production and exploitation of technology.
- Giving priority to the society's general welfare over private interests.
- Giving priority to safety and security over functionality and material gains of technical solutions.

Rule Six:

When providing professional services, every engineer seeks to apply the highest standards of safety and environmental protection in order to achieve the public interest of individuals and society.

6.1 Every engineer shall comply with the approved standards of public safety and environmental protection, while preparing designs and schemes or upon approval and endorsement. The engineer shall also verify of such compliance, while making decisions and judgments, besides all relevant engineering practices. If the engineer has to provide engineering solutions that appear to cause threatening to public safety, health of environment or interest of society, the employer shall, in such case, be informed of all possible consequences.

6.2 Every engineer shall, as much as possible, provide brochures, including examining standards systems and quality control procedures, to the extent that allows the public to understand the degree of safety and security or the life span of designs, products and systems that he was responsible for.

6.3 Every engineer shall exert all efforts for the purpose of providing constructive services to the nation, in line with the applicable standards and values, promoting the society's interest and welfare, and complying with providing safety measures in all provided professional services.

6.4 When observing circumstances or conditions posing a threat to public safety, health of environment or interest of the society, the engineer shall notify the concerned entity of the available information, provide the required assistance and undertake the proper check to ensure safety and reliability of products or systems.

قواعد وأخلاقيات ممارسة مهنة الهندسة

القواعد العامة:

القاعدة الأولى : يبني المهندس سمعته المهنية على كفاءة وجدارة الخدمات التي يقدمها، كما يبتعد عن منافسة الآخرين بشكل غير عادل.

القاعدة الثانية : يسعى المهندس لتنمية قدراته وكفاءته الشخصية، كما يوفر فرص التطوير المهني للمهندسين و الفنيين العاملين تحت إشرافه.

القاعدة الثالثة : يلتزم المهندس بتعزيز القيم والمبادئ الأساسية لأخلاقيات مهنة الهندسة وترسيخها في المجتمع مع التزامه في تصرفاته بالأساليب التي تدعم وتعزز مكانة وأمانة وكرامة المهنة محليا و عالميا.

القاعدة الرابعة : يتصرف المهندس في المسائل المهنية كوكيل حريص لصاحب العمل ، وعليه أن يتجنب أي تعارض في المصالح.

القاعدة الخامسة : يحرص المهندس عند تقديم أفكاره و آراءه و قراراته أن تكون بطريقة موضوعية وصادقة وفي مجال تخصصه وخبراته المهنية.

القاعدة السادسة : يسعى المهندس عند تقديم خدماته المهنية إلى الأخذ بأعلى معايير السلامة وحماية البيئة تحقيقا للمصلحة العامة للفرد و المجتمع.

القاعدة الأولى:

يبني المهندس سمعته المهنية على كفاءة وجدارة الخدمات التي يقدمها، كما يبتعد عن منافسة الآخرين بشكل غير عادل

1-1 على المهندس عدم القيام بشكل مباشر أو غير مباشر بدفع أو عرض عمولات أو هدايا أو مكافآت للحصول على عمل يهدف التأثير على اعتماده، بالإضافة إلى ضرورة عدم تقديم تنازلات غير مهنية قد تستخدم في التأثير على المنافسين الآخرين.

1-2 على المهندس عدم مزاحمة مهندس آخر بشكل غير نظامي ليحل محله في وظيفة معينة سواء بعد أن علم أن خطوات محددة قد اتخذت نحو تعيينه أو بعد أن تم تعيينه فعلاً.

1-3 على المهندس عدم التعرض لسمعة أو أداء المهندسين الآخرين بشكل غير لائق مهنيًا سواء بالانتقاد والتشوية بصورة مباشرة أو غير مباشرة.

1-4 على المهندس عدم المبالغة في تقدير درجة مسؤولياته في الأعمال السابقة أو التضليل في عرض مؤهلاته المهنية والأكاديمية والإنجازات السابقة سواء بالنسبة له أو بالنسبة للعاملين لديه أو التضليل في عرض الحقائق المتعلقة بأصحاب العمل أو الزملاء أو الشركاء.

1-5 على المهندس دراسة عقود الخدمات المهنية على أساس الكفاءة والمؤهلات والخبرات المهنية وحجم ومجال العمل مع مراعاة عدالة التعويضات المناسبة للمهنيين الآخرين والحرص على تعزيز الثقة بين جميع أطراف العقد.

1-6 على المهندس أن يراعي المصلحة العامة في تقدير تكاليف الخدمات الهندسية.

1-7 على المهندس عدم الالتزام أو الموافقة على أداء أية خدمة هندسية على أساس مجان بشكل قد يؤثر على مستوى الخدمة المقدمة مهنيًا.

1-8 على المهندس عدم الإعلان عن الخدمات الهندسية بشكل غير موضوعي كوسيلة للدعاية بالإضافة إلى عدم السماح باستخدام أسائهم في الإعلانات التجارية بواسطة المصنعين والمقاولين والموردين ما لم يكن للمهندس دوراً حقيقياً يعكس الإعلان.

القاعدة الثانية:

يسعى المهندس لمواصلة التطور المهني من خلال تنمية قدراته وكفاءته الشخصية، كما يوفر فرص التطوير المهني للمهندسين و الفنيين العاملين تحت إشرافه.

1-2 على المهندس العمل على رفع قدراته في سبيل رفع مستواه المهني بكافة الوسائل المناسبة مثل حضور الفعاليات المهنية وتقديم الأبحاث والدراسات المتخصصة والمشاركة في اجتماعات و نشاطات الهيئات المهنية العالمية وتشجيع وحث موظفيه من المهندسين و الفنيين على ذلك.

2-2 على المهندس منح التقدير المناسب في الأعمال الهندسية لمستحقه وكذلك الاعتراف لهم بحقوق ملكيتها وعليه ذكر اسم أو أسماء الأشخاص المسؤولين عن التصميم و الاختراع و التأليف و الانجازات حيثما كان ذلك ممكناً.

3-2 على المهندس أن يكون عادلاً في إسناده الأعمال والمهام للمهندسين الآخرين بما يتناسب مع مستوى خبراتهم وتدريبهم.

4-2 على المهندس تقديم كافة المعلومات المتعلقة بظروف العمل للمهندسين المرشحين للتوظيف وإطلاعهم على كل ما يتعلق بالوظيفة المقترحة وعليه بعد التوظيف إطلاعهم على كل ما يحدث من تغييرات والإلتزام بمبدأ تقدير الرواتب و البدلات و التعويضات المجزية للعاملين في المجال الهندسي..

القاعدة الثالثة:

يلتزم المهندس بتعزيز القيم والمبادئ الأساسية لأخلاقيات مهنة الهندسة وترسيخها في المجتمع وأن يلتزم في تصرفاته بالأساليب التي تدعم وتعزز من مكانة وأمانة وكرامة المهنة محلياً و عالمياً.

1-3 على المهندس الالتزام بتطبيق قواعد وأخلاقيات المهنة في جميع ممارساته المهنية والمشاركة في الأنشطة التعليمية والتدريبية والمهنية بالمعاهد والجامعات والمؤسسات التجارية والمهنية من أجل تعزيز وترسيخ المفاهيم المهنية ونشر الوعي الهندسي في المجتمع.

2-3 على المهندس بناء مسؤولياته المهنية على القواعد التي يحترمها أفراد المجتمع و ينبغي عليه عدم الإسهام في أي منتجات يسهل استخدامها لأغراض غير أخلاقية أو محظورة أو قد يترتب عليها مخاطر آنية أو على المدى البعيد .

3-3 على المهندس اللجوء إلى الهيئة السعودية للمهندسين حال نشوء نزاعات تتعلق بأخلاقيات ممارسة المهنة وفي كل الأحوال تحدد الأولويات وفق الترتيب التالي:

تقدم الأنظمة الحكومية والأحكام القضائية على الأنظمة واللوائح المهنية.

تقدم الأنظمة واللوائح المهنية على العقود والمصالح الفردية.

4-3 على المهندس عدم الاشتراك أو السماح باستخدام اسمه أو أسماء شركائه في أعمال تجارية بواسطة شخص أو منشأة لديه أسباب للإعتقاد بأنهم متورطون في أعمال تجارية أو ممارسات مهنية مبنية على الاحتيال أو الغش.

3-5 على المهندس عدم استخدام العلاقة أو التضامن أو المشاركة مع الغير كوسيلة لحجب التصرفات غير اللائقة بالمهنة .

القاعدة الرابعة:

يتصرف المهندس في المسائل المهنية كوكيل حريص لصاحب العمل ، و عليه أن يتجنب أي تعارض في المصالح.

1-4 على المهندس تكريس خبراته ومهاراته الفنية وتسخيرها لصالح الجهة التي يعمل لحسابها، وتحمل مسؤولية سلامة الحلول الهندسية والعمليات الفنية التي يقوم بتصميمها أو تطويرها، و الاعتراف بالأخطاء وقبولها عند حدوثها والابتعاد عن كل ما يؤدي إلى تشويه أو تعديل الحقائق لتبرير القرارات الخاطئة.

2-4 على المهندس التعامل مع المعلومات التي ترد إليه في سياق عمله بسريّة تامة و عليه عدم الكشف عنها إلا بعد أخذ الموافقة بذلك باستثناء الحالات التي تسمح بها الأنظمة وتتوافق مع مجموعة المبادئ والاخلاقيات ، كما يجب عليه عدم استخدام هذه المعلومات كوسيلة للحصول على كسب شخصي إلا بموافقة صاحب العمل، وعلى أيه حال عليه عدم استخدامها إذا كان هذا الاستخدام يلحق الضرر بمصلحة صاحب العمل أو المجتمع.

3-4 على المهندس العمل بنزاهة و عدل مع جميع الأطراف عند إدارته لأي عقد من العقود، وكذلك عند قيامه بتوظيف الآخرين وإبرام إتفاق واضح قبل قيامه بالعمل لحساب تلك الأطراف وبما يمكنه من إجراء التحسينات و التصميمات و الاختراعات و التسهيلات الأخرى التي تتطلب حفظ حقوقه في التأليف أو الاختراع وألا يلجأ إلى التضليل في إغراء الآخرين للعمل معه.

4-4 على المهندس عدم القيام بخدمة مهنية لدى أي جهة خارج الوقت النظامي للعمل دون علم صاحب العمل، وكذلك عليه عدم استخدام المعدات و المواد و المختبرات و التسهيلات المكتبية لأصحاب العمل لأداء أعمال خارجية خاصة به دون موافقة صاحب العمل.

5-4 على المهندس عدم القيام بمراجعة عمل مهندس آخر إلا بمعرفته أو بعد انتهاء تكليفه أو انقضاء عقد إنجاز العمل، ما لم تتطلب ذلك طبيعة وظيفته.

6-4 للمهندس العامل في مجال المبيعات والصناعة الحق في إجراء مقارنات بين منتجاته ومنتجات الموردين الآخرين مع مراعاة عدم عرض أو تقديم استشارات هندسية أو تصاميم أو نصائح إلا فيما يتعلق تحديداً بالمعدات أو المواد أو الأنظمة التي قام ببيعها أو تلك التي يعرض ببيعها.

7-4 على المهندس أن يتجنب أي تعارض في المصالح لصاحب العمل و عليه إخطار صاحب العمل فوراً عن وجود أية علاقات أو مصالح تجارية أو ظروف قد تؤثر على أحكامه أو نوعية الخدمة التي يقدمها أو الالتزام بأعمال يدرك مسبقاً أنها قد تسبب تعارض في المصالح بينه وبين صاحب العمل.

8-4 على المهندس عدم قبول التعويض المادي أو غيره من طرف واحد نظير خدماته في نفس المشروع أو لقاء خدمات تتعلق بنفس العمل ما لم يكن ذلك واضحاً و باتفاق جميع الأطراف المعنية و عدم طلب أو قبول المكافآت المالية أو العينية، بما في ذلك التصاميم الهندسية المجانية من موردي المواد أو المعدات أو الأجهزة أو الأنظمة لتوصيف وتحديد منتجاتهم في الأعمال التي يقوم بها و عدم طلب أو قبول الهدايا بشكل مباشر أو غير مباشر من أي جهة تتعامل مع صاحب العمل ولها علاقة بالعمل المسؤول عنه.

القاعدة الخامسة:

يحرص المهندس عند تقديم أفكاره و آراءه و قراراته أن تكون بطريقة موضوعية وصادقة، وفي مجال تخصصه وخبراته المهنية

1-5 على مهندس أن يكون موضوعياً وصادقاً ومستقلاً في اتخاذ قراراته الهندسية في مجال تأهيله العلمي والعملي فقط، بحيث لا يلزمه في ذلك إلا الاعتبارات العلمية والمهنية مع الاستفادة من كافة الخبرات التخصصية المتوفرة والاستعانة بزملائه لانجاز الأعمال خارج مجال تخصصه.

2-5 على المهندس عند مثوله أمام المحاكم أو اللجان الرسمية كخبير أو لتقديم شهادة فنية أن يعرض وجهة نظره الهندسية مبنية على خبرة ودراية ومعرفة بالحقائق مراعيًا في ذلك النزاهة والصدق وشرف المهنة.

3-5 على المهندس عدم إصدار أية تقارير أو إنتقادات أو تعليقات حول موضوعات هندسية إذا كان ذلك بدافع مادي أو معنوي لحساب جهة أو جهات ذات مصلحة إلا إذا سبق ذلك تصريح واضح بالجهة أو الجهات التي يتحدث نيابة عنها.

4-5 على المهندس أن يتحلى بالثواضع والاعتدال عند عرضه لأعماله وكفاءته، وعليه تجذب أي تصرف يؤدي إلى تقديم مصلحته الخاصة على حساب أمانة ومكانة وكرامة المهنة.

5-5 في حال تعارض القيم والمبادئ مع الخدمات المهنية يحدد المهندسون أولوياتهم وفق التالي:

-تفضيل القيم الإنسانية على إعتبارات الطبيعة.

-تفضيل الموضوعات المتعلقة بحقوق الإنسان على إنتاج واستغلال التقنية.

-تفضيل الرفاهية العامة للمجتمع على المصالح الخاصة.

-تفضيل السلامة والأمن على الأداء الوظيفي والمكاسب المادية للحلول الفنية .

القاعدة السادسة:

يسعى المهندس عند تقديم خدماته المهنية إلى الأخذ بأعلى معايير السلامة وحماية البيئة تحقيقاً للمصلحة العامة للفرد و المجتمع.

1-6 على المهندس الأخذ بمعايير السلامة العامة وحماية البيئة المعتمدة عند إعداد التصاميم والمخططات أو عند الموافقة والتصديق كما عليه التحقق من ذلك عند اتخاذه الأحكام والقرارات وكافة الممارسات الهندسية المتعلقة بها وفي حالة تقديم المهندس لحلول هندية يعلم أنه قد ينتج عنها تهديداً للسلامة العامة أو صحة البيئة أو مصلحة المجتمع ، فعليه إخطار صاحب العمل بالعواقب المحتمله.

2-6 على المهندس العمل بقدر الإمكان على توفير مطبوعات تحوي المعايير وأنظمة الاختبار وإجراءات مراقبة الجودة بما يسمح للعامة بفهم درجة السلامة والأمان أو العمر الافتراضي للتصاميم و المنتجات و الأنظمة التي كان مسؤولاً عنها.

3-6 على المهندس العمل بكل ما في وسعه لتقديم خدمات بناءة للوطن تتوافق مع المعايير والقيم المعتربه وتعمل على تعزيز مصلحة ورفاهية المجتمع والالتزام بتوفير تدابير السلامة في جميع الخدمات المهنية التي يقدمها.

4-6 على المهندس عند ملاحظته لظروف أو أوضاع تمثل تهديداً للسلامة العامة أو صحة البيئة أو مصلحة المجتمع، عليه إخطار الجهة المختصة و موافاتها بالمعلومات المتوفرة وتقديم المساعدة المطلوبة و إجراء المراجعة المناسبة لسلامة وموثوقية المنتجات أو الأنظمة لتحقيق ذلك.