جامعة الإسراء
ISRA UNIVERSITY

Course Syllabus

According to JORDAN National Qualification Framework (JNQF)

Course Name: Ethics of Engineering Profession

Course Number: 04031202

General Course Information:

Course title	Ethics of Engineering Profession
Course number	04031202
Credit hours (theory, practical)	1 Hrs Theory
Contact hours (theory, practical)	17:00-18:00 Tuesday
Prerequisites/corequisites	-
Academic Program	Civil engineering
Program code	03
Awarding institution	Isra University
Faculty	Engineering
Department	Civil engineering
Level of course	-
Academic year /semester	second semester 2021/2022
Awarded qualification	B.Sc
Other department(s) involved in teaching the course	-
Language of instruction	English
Date of production/revision	22/6/2022

Course Coordinator:

Coordinator's Name: Dr. Hussein Saraireh
Office No.: 4308
Office Phone: 2502
Office Hours: 9 hours/ Sunday, Tuesday, Thursday: 13:00-14:30 and Monday, Wednesday: 10.00-11.00
Email: hussein.saraireh@iu.edu.jo

Other Instructors:

Instructor's Name:
Office No.:
Office Phone:
Office Hours:
Email:

Course Description *(English/Arabic)*:

This is a 1 credit hours course that introduces junior engineering students to definition of engineering profession, how it influences society by maximizing profits and reducing negative impacts of activities, and engineers' duties. The course covers several topics including research integrity, professional ethics, environment protections, intellectual property rights and engineering and sustainability.

Textbook: ***Author(s), Title, Publisher, Edition, Year, Book website.***

1. TBDL

References: ***Author(s), Title, Publisher, Edition, Year, Book website.***

Required book (s), assigned reading and audio-visuals:

1. Lecture Notes.
2. Jordan's Engineering profession practice by-law.

Course Educational Objectives (CEOs):

1.	Understand the nature of engineering profession.
2.	Understand and become aware of principles, laws and regulations related to engineering profession.
3.	Demonstrate an understanding of professional and ethical responsibility.
4.	Principles of research integrity, intellectual property and sustainable development.
5.	Work effectively in teams to analyze practical situations where critical thinking skills and professional judgment are employed.

Intended Learning Outcomes (ILO's):

1.	Subject Intended learning outcomes (ILOs) describe what students are expected to know and be able to do at the end of the course. These outcomes are related to the knowledge, skill and competence that students acquire:	**Relationship to CEOs**	**Contribution to PLOs**	**Bloom Taxonomy Levels***	**Descriptors****
2. A	Knowledge and Understanding:				
3. A1	Understand the nature of engineering profession and its implication on the public, society ...etc., Jordan's laws and regulations.	1,2	4		
4. A2	Be familiar with professional and ethical obligations in engineering profession.	3	4		
5. A3	Research integrity and adherence to practices of good quality research. Intellectual property rights.	4	4		
6. A4	Sustainable development, engineering and sustainability.	4	4		

7. B	Intellectual skills:				
8. B1	Application knowledge (skills)				
9. B2	To able specify				
10. B3					
11. C	Subject specific skills:				
12. C1	discuss, analyze, and draw conclusions of ethical problems, dilemmas, and areas of responsibility in engineering practices in the development, design, implementation. Commitment to ethics of engineering profession in the professional role.	5	3,4,5		
13. C2					
14. C3					
15. D	Transferable skills:				
16. D1					
17. D2					
18. D3					

***Bloom Taxonomy Levels**

Level #	1	2	3	4	5	6
Level Name	Knowledge	Comprehension	Application	Analysis	Evaluation	Synthesis

**** Descriptor (National Qualification Framework Descriptors): K: Knowledge, S: Skill, C: Competency.**

Program Learning Outcome (PLOs):

Program Learning Outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviours that students acquire as they progress through the program. A graduate of the (_____) program will demonstrate:	Descriptors**		
	K	S	C

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			
6.	An ability to develop and conduct appropriate experimentation, analyse 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			

**** Descriptors according to the national qualifications framework (K: knowledge, S: skill, C: Competency)**

Weekly Schedule *(please choose the type of teaching)*

✓ **Face to Face**

☐ **Hybrid** *(**2 Lectures** Face – To - Face **+1 Lecture** Asynchronous)*

☐ **Hybrid (***1 Lectures* Face – To - Face ***+1 Lecture*** *Asynchronous)*

☐ **Online** *(**2 Lectures** Synchronous **+1 lecture Asynchronous**)*

Week	First Lecture (……)	Second Lecture (……)	Third Lecture (……)	Ach. ILOs	Ach. PLOs	Descriptors**
1	What is Engineering?	19. 1		A1	4	
2	History of Engineering	20. 2		A1	4	
3	Engineering Profession Practice	21. 3		A1	4	
4	Jordan's Laws and Regulations	22. 4		A1	4	
5	Jordan's Laws and Regulations	23. 5		A1	4	
6	Engineering Ethics	24. 6		A2	4	
7	Engineering Ethics	25. 7		A2	4	
8	Engineering Ethics	26. 8		A2	4	
9	Research Integrity	27. 9		A3	4	
10	Intellectual Property Rights	28. 10		A3	4	
11	Engineering and Sustainability	29. 11		A4	4	
12	Engineering and Sustainability	30. 12		A4	4	

13	Ethical Elements in Engineering Decisions (Cases studies)	31. 13		C1	3,4,5	
14	Ethical Elements in Engineering Decisions (Cases studies)	32. 14		C1	3,4,5	
15	Ethical Elements in Engineering Decisions (Cases studies)	33. 15		C1	3,4,5	

* **K: Knowledge, S: Skills, C: Competency**

Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

- Interactive videos
- Discussion Forums
- Quizzes
- Other Interactive online activities
- Reports
- Lectures

Course Policies:

A- Attendance policies:

The maximum allowed absences is 15% of the lectures.

B- Absences from exams and handing in assignments on time:

Midterm exam can be retaken based on approval of excuse by the instructor's discretion.

Not handing assignment on time will incur penalties.

C- Academic Health and safety procedures

D- Honesty policy regarding cheating, plagiarism, and misbehaviour:

Cheating, plagiarism, misbehaviour will result in zero grade and further disciplinary actions may be taken.

E- Grading policy:

- All homework is to be posted online through the e-learning system.
- Exams will be marked within 72 hours and the marked exam papers will be handed to the students.
- Online Activities (Course Videos, Practice labs, Discussion Forums, Quizzes) **20%**
- Midterm **30%**
- Final Exam **50%**

F- Available university services that support achievement in the course: **Library**

Required equipment:

- PC / Laptop with webcam and mic
- Internet Connection
- Access to the IU E-Learning Platform at:

- E-learning plan
- Satisfaction questionnaires for online and face-to-face learning
- Software for e-learning
- Training

Assessment Tools implemented in the course:

- ☐ First Written Exam.
- ☐ Second Written Exam.
- ☐ Midterm Exam 30%.
- ☐ Final Written Exam 50%.
- ☐ Quizzes 10%.
- ☐ Homework.
- ☐ Integrative Projects.
- ☐ Case Study10%.
- ☐ Written Reports.
- ☐ Participation in Lecture.
- ☐ Practice in the Lab.
- ☐ Illustrative Presentations.
- ☐ Oral Exams.
- ☐ Others (identify):

Responsible Persons and their Signatures:

Course Coordinator	**Dr.Eng. Hussein Saraireh**	**Completed Date**	22/6/2022
		Signature	

Received by (Department Head)	**Dr. Ibrahim Varouqa**	**Received Date**	
		Signature	