

Course E-Syllabus

1	Course title	Human Factors and Work Measurement Lab
2	Course number	96482
3	Credit hours	One credit hour
	Contact hours (theory, practical)	Section: (1) Sunday 01:00-04:00, (2) Monday 01:00-04:00, (3) Tuesday 01:00-04:00 Human factors LAB and online lectures
4	Prerequisites/corequisites	96481 Human factors in engineering
5	Program title	B.Sc. Industrial Engineering
6	Program code	
7	Awarding institution	The University of Jordan
8	School	Engineering
9	Department	Industrial Engineering
10	Level of course	Third year
11	Year of study and semester (s)	Fall (1 st semester) 2020/2021
12	Final Qualification	
13	Other department (s) involved in teaching the course	
14	Language of Instruction	
15	Teaching methodology	<input checked="" type="checkbox"/> Blended <input type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	

18 Course Coordinator:

Name: Eng. Rawan Tarawneh Office number: Phone number: Email: rtarawneh@ju.edu.jo
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19 Other instructors:

20 Course Description:

The human factors and work measurement lab studies the human physical capacity considering anthropometry and applying the physical dimensions, proportions and composition of the human body in designing a computer work station. Studying the body strength and measuring human ability to perform a physical workload. Design jobs that will protect workers' safety, health and productivity, Using the RWL formula in manual material handling application. The course also study the learning curve phenomenon, eye-hand coordination as well as arm hand coordination and measuring the level of visual acuity in steadiness and aiming and the ability to detect and discriminate small objects in some work applications.

21 Course aims and outcomes:

CLO1	Understand the impacts of practicing human factors engineering on workplaces	
CLO2	Understand and use anthropometric data in design. To learn how to locate and describe reference points for taking anthropometric measurements.	2,6,5
CLO3	To learn how to use the measuring instruments. To determine an appropriate set of anthropometric measurements to be able to design a workplace, a product or a tool. To express anthropometric measures in percentiles of any similar population for which data are available.	2,6
CLO4	To learn how to measure the Grip strength and Estimate whole body strength due to the portability and practicality of grip dynamometry. To be able to measure general body strength and endurance limit of human body , analyze the factors affecting human strength.	2,6
CLO5	Capable of addressing job design through general rules including designing for manual material handling tasks, sitting and standing work, choosing the appropriate heights for work surfaces.	2,6
CLO6	Applying RWL formula to address high risks of job design and meet the requirements of health and safety needs.	1,2,6
CLO7	Know the specific ergonomics issues and able to apply principles of human factors engineering in use and selection of hand tools, manual material handling tasks, and office work	2
CLO8	To be able to work and function in teams and assigning responsibility according to skill set for the team members ,and to integrate the team input in order to get a conclusion of the task.	5

CLO9	To be able to defined the learning curve phenomenon, and to identify eye-hand coordination as well as arm hand coordination tasks , measuring the level of visual acuity in steadiness and aiming and the ability to detect and discriminate small objects in some work applications.	2,6
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22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Introduction	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
2	2.1	Anthropometry and Workspace design	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
3	3.1	Measuring body strength	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
4	4.1	Strength evaluation system	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
5	5.1	Strength evaluation system	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
6		Mid term exam	LM system	Online Exam	Lab Sheets
					Videos
					Reports
7	7.1	RWL from Psychophysical Data and NIOSH lifting equation.	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
8	8.1	RWL from Psychophysical Data and NIOSH lifting equation.	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
9	9.1	the learning	Microsoft teams	Experimental report	Lab Sheets

		curve phenomenon using the Mirror Tracing Apparatus			Videos
					Reports
10	10.1	Aiming and steadiness	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
11	11.1	Measuring physical workload	Microsoft teams	Experimental report	Lab Sheets
					Videos
					Reports
12		Final Exam	On campus	Exam	

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Period (Week)	Platform
Mid Exam	30%	All covered	Week 6	
Laboratory reports and quiz	25%			
Final Exam	40%	All covered	Week 12	

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

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25 Course Policies:

A- Attendance policies:

- B- Absences from exams and submitting assignments on time:
- C- Health and safety procedures:
- D- Honesty policy regarding cheating, plagiarism, misbehavior:
- E- Grading policy:
- F- Available university services that support achievement in the course:

26 References:

- A- Attendance policies:
Students are expected to attend every class session and they are responsible for all material, announcements, schedule changes, etc., discussed in class.
All cases of academic dishonesty will be handled in accordance with university policies and regulations. JU policy requires the faculty member to assign ZERO grade (F) if a student misses 15% of the classes that are not excused, and 20% of the classes that are excused
- B- Absences from exams and submitting assignments on time:
Students are expected to be ready to take a quiz any time they have a class. There will be no make-up quizzes or home works .students how has been found absent from the midterm exam without any excuse that is accepted from the course instructor will deserve a ZERO grad for the Mid-exam mark.
- C- Health and safety procedures:
- D- Honesty policy regarding cheating, plagiarism, misbehavior:
Don't Cheat; direct copying of others work will NOT be allowed or tolerated and will result in a reduction of grade. If you are found to be cheating in any way, on an exam or assignment, even signing the roll sheet for another student, you will be given an "F" for the course. There will be no exceptions.
- E- Grading policy:
- F- Available university services that support achievement in the course:

27 Additional information:

<i>The B.Sc. in industrial Engineering program enables students to achieve, by the time of graduation the following program learning outcome (SOs)</i>			
1	<i>an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</i>	6	<i>an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions</i>
2	<i>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</i>	7	<i>an ability to acquire and apply new knowledge as needed, using appropriate learning strategies</i>
3	<i>an ability to communicate effectively with a range of audiences</i>		

4	<i>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</i>			
5	<i>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</i>			

Name of Course Coordinator: -----Signature: ----- Date: -----

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----