Course Syllabus

1	**Course title**	Operation Research	
2	**Course number**	1601311	
3	**Credit hours**	3	
	Contact hours (theory, practical)		
4	**Prerequisites/corequisites**	Math for Business	
5	**Program title**	Business Administration	
6	**Program code**	010	
7	**Awarding institution**	The University of Jordan	
8	**School**	Business School	
9	**Department**	Business Administration	
10	**Course level**	Third year	
11	**Year of study and semester (s)**	2023-2024/ 1st Semester	
12	**Other department (s) involved in teaching the course**	-	
13	**Main teaching language**	English	
14	**Delivery method**	☐ Face to face learning ☒ Blended ☐Fully online	
15	**Online platforms(s)**	☒Moodle ☒Microsoft Teams ☐Skype ☐Zoom ☐Others…………	
16	**Issuing/Revision Date**	October 2023	

17 Course Coordinator:

Name: Prof. Rateb Sweis	Contact hours: Sundays and Tuesdays: 12:30- 2:00
Office number:	Phone number: 5355000- Ext: 24181
Email: r.sweis@ju.edu.jo	

18 Other instructors:

Name: Dr. Motasem Thnaibat

Office number:

Phone number:

Email: Motasem.Thneibat@ju.edu.jo

19 Course Description:

Operations research helps in solving problems in various environments that need decisions. Coverage is topical and will include fundamental decision theory models, decision trees, linear programming, transportation, assignments, and network models (PERT & CPM) .

20 Course aims and outcomes:

A- Aims:

The course aims at providing the students with the basic concepts of some quantitative methods in decision making with more emphasis on managerial decisions and practices.

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

SLOs / SLOs of the course	SLO (1) Examine the main concepts, principles and theories associated with business management and discuss a substantial body of subject-based knowledge of business.	SLO (2) Apply problem solving, critical thinking and decision making skills to solve problems related to business management and recommend further actions.	SLO (3) Design a clearly written, concise business model analyses, and deliver clear, well organized, persuasive oral presentations.	SLO (4)
1. Comprehend all basic concepts of Operations Research	*			
2. Employ analytical skills as appropriate during decision making.	*	*	*	
3. Solve operational problems according to the given data and situations.		*	*	
4. Know when to use a specific model.	*	*	*	
5. Realize the different models, their assumptions, advantages, and limitations.	*	*	*	
7. Determine earliest start, earliest finish, latest start, latest finish, and slack times for each activity, along every path of the schedule.		*		

21. Topic Outline and Schedule:

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Introduction to Quantitative Analysis	1	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	1.2	Introduction to Quantitative Analysis	1	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	1.3	Introduction to Quantitative Analysis	1	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
2	2.1	Introduction to Quantitative Analysis	1	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	2.2	Introduction to Quantitative Analysis	1	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	2.3	Introduction to Quantitative Analysis	1	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
3	3.1	Decision Analysis	2	Blended	Moodle and	2 /1	Mid Term Exam; Cases	Live Lectures; PowerPoint

					Microsoft Teams		discussions/ Assignments	Slides; Online Discussion
	3.2	Decision Analysis	2	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	3.3	Decision Analysis	2	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
4	4.1	Decision Analysis	2	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	4.2	Decision Analysis	2	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	4.3	Decision Analysis	2	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
5	5.1	Exercises	2	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	5.2	Linear Programming Models: Graphical and Computer Methods	3	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	5.3	Linear Programming Models: Graphical	3	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion

		and Computer Methods						
6	6.1	Linear Programming Models: Graphical and Computer Methods	3	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	6.2	Linear Programming Models: Graphical and Computer Methods	3	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	6.3	Linear Programming Models: Graphical and Computer Methods	3	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
7	7.1	Exercises on mid-term materials	3	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
	7.2	Mid-term exam	1- 4	Blended	On Campus			
	7.3	Transportation and Assignment Models	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion
8	8.1	Simplex Method	5		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments
	8.2	Simplex Method	5		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments

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	8.3	Simplex Method	5		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
9	9.1	Simplex Method	5		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
	9.2	Simplex Method	5		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
10	10.1	Simplex Method	5		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
	10.2	Transportation and Assignment Models	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	
	10.3	Transportation and Assignment Models	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	
11	11.1	Transportation and Assignment Models	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	
	11.2	Transportation and Assignment Models	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	

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Week	No	Topic							
	11.3	Transportation and Assignment Models	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	
12	12.1	Exercises on Transportation	4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	
	12.2	Exercises on Transportation	1-4	Blended	Moodle and Microsoft Teams	2 /1	Mid Term Exam; Cases discussions/ Assignments	Live Lectures; PowerPoint Slides; Online Discussion	
13	13.1	Project Management	6		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
	13.2	Project Management	6,7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
	13.3	Project Management	6,7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
14	14.1	Project Management	6,7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	
	14.2	Project Management	6,7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments	

	14.3	Project Management	6,7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments
15	15.1	Revision and Exercises	1-7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments
	15.2	Revision and Exercises	1-7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments
	15.3	Revision and Exercises	1-7		Blended	Moodle and Microsoft Teams	2 /1	Final Exam; Cases discussions/ Assignments

22 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	Period (Week)	SLOs	Platform
Assignments and Quizzes	30	Different	One assignment every week	Different	Moodle
Mid-Term Exam	30	Ch.1 + Ch2 +3 and 7	Week 7	1-3	Moodle
Final Exam	40	All covered topics	Week 16	1-7	Moodle

23 Course Requirements:

Students should have personal computers and/or smart phone in addition to the need to activate their JU accounts.

24 Course Policies:

A- Attendance policies:

Students should attend two classes every week at least during the semester. Failing to meet this requirement will be dealt with according to the university disciplinary rules.

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

Students should not miss their exam except under extreme circumstances. They are then asked and to produce evidence as an excuse for their absence signed by the assistant Dean for students' affairs.

Students should submit their assignments on dates set by their class Professor

C- Honesty policy regarding cheating, plagiarism, misbehavior:

All the assignments and work submitted by the student must be his or her own. All actions of academic dishonesty including cheating, plagiarism or helping other students in such actions will be dealt with strictly in accordance with the university regulations

D- Grading policy:

Based on the University's grading policy

E- Available university services that support achievement in the course:

Available university services.

25 References:

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

Barry Render Ralph M. Stair Jr., and Michael E. Hanna, Quantitative Analysis for Management, 13th edition, Pearson, 2017.

Uploaded   links to U-tube lectures on Moodle.

26 Additional information:

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Name of Course Coordinator: Prof. Rateb Sweis Signature: ----------------------- Date: Oct 2023	
Head of Curriculum Committee/Department: --------------------------- Signature: ----------------------------------	
Head of Department: -- Signature: ----------------------------	
Head of Curriculum Committee/Faculty: -------------------------------------- Signature: -------------------------	

Dean: --- Signature: ---