

Course Syllabus

1	Course title	Scientific Research Methodology
2	Course number	0906751
3	Credit hours	3
	Contact hours (theory, practical)	3 theory + 0 practical (3 hrs once a week -16 weeks)
4	Prerequisites/corequisites	None
5	Program title	Industrial Engineering
6	Program code	
7	Awarding institution	University of Jordan
8	School	School of Engineering
9	Department	Industrial Engineering
10	Level of course	Master level course
11	Year of study and semester (s)	2024-2025 First semester
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	none
14	Language of Instruction	English
15	Teaching methodology	Face to Face
16	Electronic platform(s)	<input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	28 Sep. 2025

18 Course Coordinator:

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19 Other instructors:

Name:
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Name:
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20 Course Description:

This course is designed to introduce postgraduate students to the necessary knowledge about the right approach of preparation and accomplishing their research work in a scientific and proper way. For this purpose, the main concepts of research starting from definitions of the necessary terms through the problem definition, collecting data, and ending with report writing will be demonstrated. Case studies will be given to support the knowledge.

21 Course aims and outcomes:

A- Aims:

Main objectives of this course are can be summerized in the following:

1. To enable researchers, irrespective of their dissipline, in developing the most appropriate methodology for their eresearch study.
2. To make them familiar with the art of using different research methods and techniques.

B- Intended Learning Outcomes (ILOs):

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

1. Enabling the student to understand the concept of research; its meaning, objectives, motivation, types and significance.
2. Enabling the student to define research problems and develop a research plan.
3. Enabling the student to collect data and process them in a proper way.
4. Enabling the student to present data in an understandable and proper way (report and paper writing)

22. Topic Outline and Schedule:

Week	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1-2	Introduction Course policy Objectives Learning outcomes Course content Knowledge evaluation	Face to Face	Quizzes, Assignments Project Exams	
3-4	Definition of Research Objectives of research Motivation of research Significance of research	Face to Face	Quizzes, Assignments Project Exams	
4-7	Types of research	Face to Face	Quizzes, Assignments Project Exams	
8-9	Research methods and methodology	Microsoft Team	Quizzes, Assignments Project Exams	All
10-11	Research process Problem definition Research Design Literature survey	Face to Face	Quizzes, Assignments Project Exams	
12-13	Writing of a proposal Main content UJ regulations Example	Face to Face	Quizzes, Assignments Project Exams	
14-15	Continuation of Research process items Sample design Data collection Execution of the study Analysis of data Hypothesis-testing Generalizations and interpretation	Face to Face	Quizzes, Assignments Project Exams	
16	Thesis or Dissertation Writing Manuscript or Research Paper Writing Problems Encountered by Researchers in Jordan	Face to Face		

- 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
midterm exam or Assignment	30%	Covers all topics	In due course	e-learning and Microsoft teams
Course project	20%			e-learning and Microsoft teams
Final exam	50%			e-learning and Microsoft teams

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

students should have:

1. a computer, internet connection, webcam, account on a specific software/platform
2. access to library (books and periodicals)

25 Course Policies:

All the following points should comply with the university regulations:

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- Required book(s), assigned reading and audio-visuals:
• Kothari, C.R., Research Methodology, methods and Techniques, New Age International Publishing Ltd. Publishers, 2004.
B- Recommended books, materials and media:
1. Research manuscripts

27 Additional information:

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Name of Course Coordinator: **Prof. Issam Jalham** Signature: *Issam* Date: 8 Oct. 2020

Head of Curriculum Committee/Department: **Prof. Issam Jalham** Signature: *Issam*

Head of Department: Signature: -----

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

Dean: Signature: -----