

Course E-Syllabus

1	Course title	Special Topics in Research Methods
2	Course number	5501494
3	Credit hours	3 credit hours
	Contact hours (theory, practical)	3 credit hours theory
4	Prerequisites/corequisites	--
5	Program title	General Biology
6	Program code	5501
7	Awarding institution	University of Jordan/Aqaba
8	School	School of Basic and Marine Sciences
9	Department	General Biology
10	Level of course	2 nd , 3 rd or 4 th years
11	Year of study and semester (s)	second semester 2019/2020
12	Final Qualification	Bachelor Degree
13	Other department (s) involved in teaching the course	--
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input checked="" type="checkbox"/> Others: Facebook, E-mail
17	Date of production/revision	

18 Course Coordinator:

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19 Other instructors:

Name:
Office number:
Phone number:
Email:

Name:
Office number:
Phone number:
Email:

20 Course Description:

Determine a specific scientific problem and solve it through the scientific process and write a scientific report. Understand the scientific thinking and experimental designing and data interpretation to represent a scientific research.

21 Course aims and outcomes:

A- Aims:

1. To enable students, researchers, irrespective of their discipline, in developing the most appropriate methodology for their research studies;
2. to make them familiar with the art of using different research methods and techniques.
3. To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as exploratory or formulative research studies);
4. To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as descriptive research studies);
5. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as diagnostic research studies);
6. To test a hypothesis of a causal relationship between variables (such studies are known as hypothesis-testing research studies).

B- Intended Learning Outcomes (ILOs):

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

1. Students should understand a general definition of research design.
2. Students should know why educational research is undertaken, and the audiences that profit from research studies.
3. Students should be able to identify the overall process of designing a research study from its inception to its report.
4. Students should be familiar with ethical issues in educational research, including those issues that arise in using quantitative and qualitative research.
5. Students should know the primary characteristics of quantitative research and qualitative research.
6. Students should be able to identify a research problem stated in a study.
7. Students should be familiar with how to write a good introduction to an educational research study and the components that comprise such an introduction.
8. Students should be familiar with conducting a literature review for a scholarly educational study.
9. Students should be able to distinguish a purpose statement, a research question or hypothesis, and a research objective.
10. Students should be able to define the meaning of a variable, and to be able to identify independent, dependent, and mediating variables.
11. Students should be able to distinguish between categorical and continuous measures.
12. Students should be able to define theory use in quantitative research.
13. Students should be able to design a good quantitative purpose statement and good quantitative research questions and hypotheses.
14. Students should be able to define a central phenomenon in qualitative research.
15. Students should be able to design a good qualitative purpose statement and a good central question in qualitative research.
16. Students should know the steps in the process of quantitative data collection.
17. Students should be able to distinguish between a population and a sample.
18. Students should know the various types of quantitative sampling and which ones present the most rigorous approach to use.
19. Students should understand the link between quantitative research questions and data collection and how research questions are operationalized in educational practice.
20. Students should be familiar with the steps involved in identifying and selecting a good instrument to use in a study.
21. Students should be familiar with current uses of the terms reliability and validity in educational research.
22. Students should know how to create a quantitative codebook for organizing their data.
23. Students should know the types of descriptive statistics typically reported in educational research studies.
24. Students should know how to conduct a statistical test of a hypothesis.
25. Students should know the criteria that can be used to select an appropriate statistical test to answer a research question or hypothesis.
26. Students should know the steps involved in qualitative data collection.
27. Students should know how sample size is determined in qualitative research.
28. Students should know the types of qualitative data typically collected in a qualitative study.
29. Students should be familiar with good practices in conducting a qualitative interview and observation.
30. Students should be able to describe the inductive nature of qualitative data analysis.

22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Research Methodology: An Introduction	Zoom. Messenger, Microsoft team, E-mail	Homework, Quiz, reports	Research Methodology: Methods and Techniques. Author: C. R. Kothari, University of Rajasthan, Jaipur (India). ISBN (13): 978-81-224-2488-1
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	1.3				
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	2.2				
	2.3				
3	3.1				
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	3.3				
4	4.1				
	4.2				
	4.3				
5	5.1	Ethics in Research	Zoom. Messenger, Microsoft team, E-mail	Homework, Quiz, reports	http://www.authorstream.com/Presentation/aSGuest1190071244700ethicsinresearch/
	5.2				
	5.3				
6	6.1	Scientific Report Writing	Zoom. Messenger, Microsoft team, E-mail	Homework, Quiz, reports	https://chancellorsc.eq.edu.au/Supportandresources/Formsanddocuments/Documents/policies/scientific-report-writing-guidebook.pdf
	6.2				
	6.3				
7	7.1				
	7.2				
	7.3				
8	8.1	Case Study: The proximal origin of SARS-CoV-2	Zoom. Messenger, Microsoft team, E-mail.	Report	Published: https://doi.org/10.1038/s41591-020-0820-9
	8.2				
	8.3				
9	9.1	Students' research (preparation, data collection, data analysis, writing, presentation, open discussion)	Zoom. Messenger, Microsoft team, E-mail	Scientific Report, presentation, discussion	Each students' group use references based on their research topic
	9.2				
	9.3				
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- 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
Quiz	5%	Topics in Research methods	3	Zoom. Microsoft team, Messenger, e-mail
Homework 1	5%	Topics in Research methods	6	Zoom. Microsoft team, Messenger, e-mail
Homework 2	5%	Topics in Research methods	8	Zoom. Microsoft team, Messenger, e-mail
Report 1	5%	Topics in Research methods	9	Zoom. Microsoft team, Messenger, e-mail
Report of Scientific research	20%	Each group has different research topic	11	Zoom. Microsoft team, Messenger, e-mail
Seminar and discussion	10%		13	Zoom. Microsoft team, Messenger, e-mail
Final exam	50%	All topics in the course	15	Zoom. Microsoft team, Messenger, e-mail

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

Computer/smart phone, internet

25 Course Policies:

A- Attendance policies:

As you will see below, attendance counts as a small portion of your final grade in this class. These are basically free points that I am offering as an incentive for you to learn the good habit of attending class. If you miss more than 5 classes, you must drop the course, or receive an F. A sign-in sheet or equivalent will be used at each class session and each student is responsible to sign in.

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

Failure to attend class on the day an assignment is given or due does not mean that you may turn it in late without penalty. There will be no makeup quizzes, though your lowest quiz score for the semester will be dropped. If you miss a scheduled test, then you will be given a 0 for that test unless you give an acceptable excuse within three days.

Heaven forbid that you have a catastrophe this semester that keeps you out of class, but if you do, please contact the office of the Associate Dean of Students to get it documented. After I am notified by the Dean's office I will make the final determination whether you get an excused absence or a zero for any late or missed material.

C- Honesty policy regarding cheating, plagiarism, misbehavior:

Cheating and plagiarism will not be tolerated at all. If any work you turn in is found not to be entirely your own, unless previously permitted, the work will not be accepted and no credit will be awarded for the work. A repeat offense will be considered for automatic failure. Cheating includes getting or giving unauthorized help for any class assignments, as well as "wondering eyes" – gazing at someone else's paper during a quiz or exam. Use of unauthorized notes during a test is also cheating. This calls attention to the use of some of the newer, high capacity alphanumeric memory calculators or of cell phones. If you use such a calculator, or any device of similar capability, activation of the alphanumeric memory in any form will be treated as cheating. Plagiarism is using material from any source, even the internet, without giving credit.

D- Grading policy:

- Reports and homeworks: 15 Marks
- Quizzes: 5 marks
- Scientific research report: 20 marks
- Seminar and discussion: 10 marks
- Final exam: 50 marks

Total: 100 marks

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

You can use other references available in the library or web sites to improve your personal skills in

26 References:

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

Research Methodology: Methods and Techniques. Author: C. R. Kothari, University of Rajasthan, Jaipur (India). ISBN (13): 978-81-224-2488-1

B- Recommended books, materials and media:

- http://www.authorstream.com/Presentation/aSGuest119007_1244700_ethics_in_research/
- <https://chancellorsc.eq.edu.au/Supportandresources/Formsanddocuments/Documents/policies/scientific-report-writing-guidebook.pdf>
- <https://doi.org/10.1038/s41591-020-0820-9>

27 Additional information:

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

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

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

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

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