



**The University of Jordan**

**Accreditation & Quality Assurance Center**

**COURSE Syllabus**

**Special Topics in Research Methods**

**(5501494)**

1	Course title	Special Topics in Research Methods
2	Course number	5501494
3	Credit hours (theory, practical)	3 credit hours
	Contact hours (theory, practical)	3 credit hours
4	Prerequisites/co-requisites	-----
5	Program title	Biology
6	Program code	5501
7	Awarding institution	University of Jordan/Aqaba
8	Faculty	Faculty of Basic and Marine Sciences
9	Department	Biology
10	Level of course	2 <sup>nd</sup> ,3 <sup>rd</sup> or 4 <sup>th</sup> 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	Biology
14	Language of Instruction	English
15	Date of production/revision	

#### 16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.  
 Office number: 348 or 338  
 Office hours: Sun. Mon, Tue (9:30-10:30)  
 Phone number (office): 03-2090450/35032, 35030  
 Email address: r.manasrah@ju.edu.jo

#### 17. Other instructors:

*Office numbers, office hours, phone numbers, and email addresses should be listed.*  
 Office number: 348 or 338  
 Office hours: Sun. Mon, Tue (9:30-10:30)  
 Phone number (office): 03-2090450/35032, 35030  
 Email address: r.manasrah@ju.edu.jo

#### 18. 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.

#### 19. 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.
30. Students should be able to state the steps involved in coding qualitative data.
31. Students should be able to describe why qualitative data analysis is considered to be "interpretive."
32. Students should know the various types of validity strategies typically used in good qualitative research.
33. Students should be able to distinguish between the writing structure used for a quantitative study and one used for a qualitative study.
34. Students should know the conventions with good APA style for scholarly writing.
35. Students should know the criteria that might be used to evaluate a quantitative study and a qualitative study.
36. Students should be familiar with mixed methods research

**20. Topic Outline and Schedule:**

Chapter	Content	Tentative number of Hours
1	Research Methodology: An Introduction	1.5
2	Defining the Research Problem	3
3	Research Design	1.5
4	Sampling Design	3
5	Measurement and Scaling Techniques	3
6	Methods of Data Collection	3
7	Processing and Analysis of Data	1.5
8	Sampling Fundamentals	3
9	Testing of Hypotheses-I (Parametric or Standard Tests of Hypotheses)	1.5
14	Interpretation and Report Writing	4.5
15	The Computer: Its Role in Research	6

**21. Teaching Methods and Assignments:**

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

Lecture by instructor, Class discussion conducted by the instructor, teaching with using data show, textbook assignments, use of whiteboard by instructor as aid in teaching, use of diagrams, tables, graphs, and charts by instructor in teaching, use computer software and videos.

**22. Evaluation Methods and Course Requirements:**

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

Exams, quizzes, homeworks and assignments

**23. 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:**

- **Attendance and Class participation:** 10 marks
- **Home works and quizzes:** 10 marks
- **Midterm exam:** 30 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 understanding and solving problems

**24. Required equipment:**

Whiteboard, Whiteboard marker, Data show, Computers

**25. References:****A- Required book (s), assigned reading and audio-visuals:**

- Textbook Title: 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:**

- Online Statistics Education: An Interactive Multimedia Course of Study. Developed by Rice University, University of Houston Clear Lake, and Tufts University.
- Step by Step Microsoft office Professional 2010. By Joyce Cox and Joan Lambert (Microsoft Press, 2010). ISBN 978-0-7356-2691-1
- Writing Guidelines for Engineering and Science. By: Michael Alley. Springer-Verlag New York. eBook ISBN: 978-1-4757-2482.

**26. Additional information:**

- Name of Course Coordinator: **Prof. Riyad Manasrah** Signature: -----  
Date: -----
- Head of curriculum committee/Department: ----- Signature: -----
- Head of Department: ----- Signature: -----
- Head of curriculum committee/Faculty: ..... Signature: -----
- Dean: **Prof. Riyad Manasrah** Signature: -----

Copy to:

Head of Department  
Assistant Dean for Quality Assurance  
Course File