



<b>Form: Course Syllabus</b>	<b>Form Number</b>	EXC-01-02-02A
	<b>Issue Number and Date</b>	2/3/24/2022/2963
	<b>Number and Date of Revision or Modification</b>	05/12/2022
	<b>Deans Council Approval Decision Number</b>	
	<b>The Date of the Deans Council Approval Decision</b>	2/3/24/2023
	<b>Number of Pages</b>	23/01/2023

1	<b>Course title</b>	Scientific Research and Statistical Methods
2	<b>Course number</b>	5701403
3	<b>Credit hours</b>	3 credit hours (Theory)
	<b>Contact hours (theory, practical)</b>	3 credit hours (Theory)
4	<b>Prerequisites/corequisites</b>	None
5	<b>Program title</b>	B.Sc. in Nursing
6	<b>Program code</b>	-----
7	<b>Awarding institution</b>	The University of Jordan
8	<b>School</b>	School of Nursing
9	<b>Department</b>	Nursing
10	<b>Course level</b>	Fourth Year Course
11	<b>Year of study and semester (s)</b>	2 <sup>nd</sup> 2022/2023
12	<b>Other department (s) involved in teaching the course</b>	B.Sc. in Nursing
13	<b>Main teaching language</b>	English
14	<b>Delivery method</b>	<input type="checkbox"/> Face to face learning <input checked="" type="checkbox"/> x Blended <input type="checkbox"/> Fully online



15	Online platforms(s)	<input type="checkbox"/> x Moodle <input type="checkbox"/> x Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others: Student tutorials
16	Issuing/Revision Date	2022

**17 Course Coordinator:**

Name: Mahmoud Al-Kalaldehy  
Office number:  
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Phone Ext: 36089  
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**18 Other instructors:**

Name:  
Office number:  
Office hours:  
Phone numbers:

**19 Course Description:**

As stated in the approved study plan.  
This course introduces students to the basic concepts of research, its nature, purposes, methods, literature review, data collection, analysis & utilization. It focuses on applying the scientific method in dealing with health problems and allows the student to prepare research projects.

**21. Program Intended Learning Outcomes:** (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

PLO's	*National Qualifications Framework Descriptors*		
	Competency (C)	Skills (B)	Knowledge (A)



1.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* Choose only one descriptor for each learning outcome of the program, whether knowledge, skill, or competency.

**22. Course Intended Learning Outcomes:** (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1. Identify the major steps of the scientific research process to participate in conducting research.
2. Judge unethical practices while participating and/or-conducting nursing as well as while encountering health research situation.
3. Demonstrate knowledge of the historical evolution of and future direction for nursing research at a national and international level.
4. Explain the role of research in the development of nursing knowledge.
5. Recognize current research priorities in nursing at the national and international levels.
6. Explain briefly the relationships among nursing theory, nursing research, and nursing practice.
7. Explain components to research process: problem statement, hypothesis, and review of literature, methods and designs, measurement, analysis of data, and utilization and presentation of research findings.
8. Analyze ethical issues involved in nursing research.
9. Distinguish the qualitative and quantitative approaches of scientific research.
10. Compare the need for using populations and samples in conducting research studies.
11. Compare and contrast the various types of data-collection methods
12. Demonstrate an understanding of descriptive and inferential statistics



**23. The matrix linking the intended learning outcomes of the course -CLO's with the intended learning outcomes of the program -PLOs:**

PLO's * CLO's	1	2	3	4	5	6	7	Descriptors**		
								K	S	C
1	*							✓		
2		*							✓	
3			*					✓		
4			*				*	✓		
5					*				✓	
6	*							✓		
7						*		✓		
8				*						✓
9						*				✓
10		*								✓
11				*						✓
12							*			✓

\*Linking each course learning outcome (CLO) to only one program outcome (PLO) as specified in the course matrix.

\*\*Descriptors are determined according to the program learning outcome (PLO) that was chosen and according to what was specified in the program learning outcomes matrix in clause (21).



## 24. Topic Outline and Schedule

**Table 1. Time table for sections 1&2- Sun/Tue/Thu**

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
<b>Unit 1: Introduction to Nursing Research</b>								
1 10/10	1.1	Course Overview	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 1
	1.2	Introduction to Nursing Research				S		
	1.3	Forming Students' groups and channels				A		
<b>Unit 4: Ethical Issues in Nursing Research</b>								
2 17/10	2.1	Development of Ethical Codes and Guidelines	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 4
	2.2	IRBs and Elements of Informed Consent				S		
	2.3	Online- activity				A		
<b>Unit 6: Identifying Nursing Research Problems</b>								
3 24/10	3.1	Sources and Research Problem Considerations	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 6
	3.2	Research Question Criteria and Format				S		
	3.3	Online- activity				A		
<b>Unit 8 and 9: Theory and Nursing Research, and Hypothesis</b>								



4 31/10	4.1	Theory terminology Types of reasoning in relation to research Theory testing Hypotheses	1-7	Face to Face	Class	S	Course Assignments,  Midterm and Final exams	Chapters: 8 and 9
	4.2					S		
	4.3	Online- activity				A		

Unit 7: Review of the Literature (ROL)								
5 7/11	5.1	Purposes of ROL	1-7	Face to Face	Class	S	Course Assignments,  Midterm and Final exams	Chapter: 7
	5.2	Sources and types of Literature  ROL Search Strategies and criteria for Writing ROL				S		
	5.3	Online- activity				A  *Graded		
Unit 10: Quantitative Research Designs								
6 14/11	6.1	Exploratory, descriptive and explanatory studies Experimental designs	1-7	Face to Face	Class	S	Course Assignments,  Midterm and Final exams	Chapter: 10
	6.2	Threats to internal and external validity				S		
	6.3	Online- activity				A		
7 21/11	7.1	Types of experimental designs		Face to Face	Class	S	Course Assignments,	



	7.2	Quasi experimental				S	Midterm and Final exams	
	7.3	None experimental				S		
<b>Unit 11: Qualitative and Mixed Methods Research Designs</b>								
8 28/11	8.1	Introduction to qualitative and Mixed research designs	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter: 11
	8.2	Types of Qualitative and Mixed research				S		

	8.3	Online- activity				A		
<b>Unit 12: Populations and Samples</b>								
9 5/12	9.1	Definitions Probability sampling methods	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter: 12
	9.2	Non-probability sampling methods Time frame for sampling, sample size Sampling error and sampling bias				S		
	9.3	Online- activity				A		
<b>Unit 13: Measurement &amp; Data Collection</b>								
10 12/12	10.1	Definitions Levels of measurement	1-7	Face to Face	Class	S	Course Assignments,	Chapter: 13



	10.2	Validity and reliability				S	Midterm and Final exams	
	10.3	Online- activity				A		
<b>Unit 14: Data collection methods</b>								
11 19/12	11.1	Discussion about various methods Pros and cons	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter: 14
	11.2	Data collection methods				S		
	11.3	Online- activity				A * Graded		
<b>Unit 17-18: Presentation and Discussion of Study Findings</b>								
12 26/12	12.1	Presentation and communicating findings of a research study	1-7	Face to Face	Class	S	Course Assignments,	Chapter 17&18

	12.2	Presentation of findings of a study				S	Midterm and Final exams	
	12.3	<b>Working groups: Project follow up</b>				A		Chapter 20
<b>Unit 15: Descriptive statistics</b>								
13 2/1/22	13.1	Descriptive statistics	1-7	Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter: 15
	13.2	Descriptive statistics				S		
	13.3	Online- activity				A		
<b>Unit 16: Inferential statistics</b>								
14	14.1	Inferential statistics	Face to Face			Class		
	14.2	Inferential statistics				S		





14.3	Online- activity	A	Course  Assignments, Chapter: Midterm <sup>16</sup> and Final exams
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Weeks 15- 18 - Final Exams

**Table 2. Time table for sections: 3 &4 - Mon/Wed**

Week	Lecture	Topic	Intended Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
<b>Unit 1: Introduction to Nursing Research</b>								
1 10/10	1.1	Course Overview Introduction to Nursing Research		Face to Face	Class	S	Course Assignments, Midterm and Final exam	<b>Chapter 1</b>
	1.2	Forming Students' groups and channels		Face to Face	Class	S		
<b>Unit 4: Ethical Issues in Nursing Research</b>								
2 17/10	2.1	Development of Ethical Codes and Guidelines		Face to Face	Class	S	Course Assignments,	<b>Chapter 4</b>
	2.2	IRBs and Elements of Informed Consent		Face to Face	Class	S	Midterm and Final exam	



Unit 6: Identifying Nursing Research Problems								
3 24/10	3.1	Sources and Research Problem Considerations Research Question Criteria and Format		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 6
	3.2	Online activity		Face to Face	Class	A		
Unit 8 and 9: Theory and Nursing Research, and Hypothesis								
4 31/10	4.1	Theory terminology Types of reasoning in relation to research Theory testing Hypotheses		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapters: 8 and 9
	4.2	Online activity		Face to Face	Class	A		
Unit 7. Review of the Literature								
5 7/11	5.1	Review of the Literature		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 7
	5.2	Online activity		Face to Face	Class	A Graded		
Unit 10: Quantitative Research Designs								
6 14/11	6.1	Exploratory, descriptive and explanatory studies Experimental designs		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 10
	6.2	Threats to internal and external validity		Face to Face	Class	A Recorded class		



7 21/11	7.1	Types of experimental designs		Face to Face	Class	S	Course Assignments,	
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	7.2	Quasi experimental None experimental		Face to Face	Class		Midterm and Final exams	
<b>Unit 11: Qualitative and Mixed methods Research Designs</b>								
8 28\11	8.1	Introduction to qualitative and mixed methods research designs		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter 11
	8.2	Types of Qualitative and mixed methods research design		Face to Face	Class	A		
<b>Unit 12: Populations and Samples</b>								
9 5/12	9.1	Definitions Probability sampling		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter: 12
	9.2	Non probability sampling, sample size, Sampling error and sampling bias		Face to Face	Class	A		
<b>Unit 13 &amp; 14: Measurement &amp; Data Collection</b>								
10 12/12	10.1	Definitions Levels of measurement		Face to Face	Class	S	Course Assignments, Midterm and Final exams	Chapter: 13
	10.2	Data collection process Validity and reliability		Face to Face	Class	A		





## 25 Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Midterm exam	30	As shown on the \ Topic Outline and Schedule table	1-7	28 /11/ 2021 At 12 pm	None
Research proposal group	20		1-7	Weeks: 5, 11, & 12	MT
Critique of research paper	10				
Final exam	40			19/1/2022	None

## 26 Course Requirements

students should have a computer, speakers internet connection, webcam, account on a Moodle and MTeams platform, official JU email

## 27 Course Policies:

Please refer to the **university policies** as published up-to-date in the link below:

<http://units.ju.edu.jo/ar/LegalAffairs/Lists/Regulations/DispForm.aspx?ID=246&ContentTypeId=0x0100C7850F392E786A439F935E088708707E>



## 28 References:

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

1. Nieswiadomy, R. M., & Bailey, C. (2018). *Foundations of Nursing Research- e-Book*. (7<sup>th</sup> ed.) Pearson.
2. Polit, D. F., & Beck, C. T. (2020). *Essentials of nursing research: Appraising evidence for nursing practice*. Lippincott Williams & Wilkins

For good research articles, please refer to the following journals: This list is non-conclusive.

1. Nursing Research
2. Applied Nursing Research
3. Clinical Nursing Research
4. Western Journal of Nursing Research
5. Educational Review- Researching Health Issues in Education
6. Advances in Nursing Science
7. Image: The Journal of Nursing Scholarship
8. International Journal of Nursing Studies
9. International Nursing Review
10. Scandinavian Journal of Caring sciences.

### A- Electronic resources

E-Libraray

E-learning (Moodle)

### Relevant Website and Journals

□ Database

<http://jdnr.ju.edu.jo/default.aspx>



29 Additional information:

<b>Appendix 1</b> <b>Group Assignment evaluation form</b>	
<b>The University of Jordan</b> <b>School of Nursing</b> <b>scientific Research and Statistical Methods</b> <b>0703307</b> <b>Written Course Assignment</b>	
Purpose	At the end of the final course project, the students are expected to develop the ability to <b>critically review, analyze, and critique the basic components</b> of updated nursing research studies.
Description	The students are expected to <b>work within collaborative small groups</b> (2-4 students/group) to critically review, analyze, and write a critique of a recent research report following the research critique guidelines provided in the course textbook.
Guidelines	<ol style="list-style-type: none"><li>1. Carefully read and review the assigned article</li><li>2. Analyze the basic components of the research report of the article, provide your answers using form number (1) of this assignment.</li><li>3. Follow the guidelines for research critique that are provided in <b>chapter 20</b> of your textbook (Nieswiadomy &amp; Bailey, 2018) to generate a critique the study.</li><li>4. Write your critique of the article items using form number (2) of this assignment.</li></ol>



Important Instructions	<ol style="list-style-type: none"><li>1. Use the structured forms (1 and 2) that are designed specifically for this assignment.</li><li>2. Apply professional writing skills in your written assignment.</li><li>3. Typewrite your answers, use font size 12, <i>Times Romans</i> font only and apply paper margins of no less than 2.5 cm on all sides.</li><li>4. When you use form (2), strict your answers to the space provided only. Be concise and direct to the point with no repetitions.</li><li>5. When you are done with writing your assignment, review your answers for misspellings and grammar editorial issues, grades will be subtracted for such editorial issues.</li><li>6. <b>Submit your assignment through your team leader on Microsoft Teams platform, in PDF format. It should be submitted on your group channel.</b></li><li>7. Assignments written on forms other than the assigned forms or those that do not adhere to these instructions will not be accepted.</li></ol>
	<ol style="list-style-type: none"><li>8. Adhere to the deadline of the submission date; marks will be subtracted for late submissions.</li><li>9. Paper will not be accepted after 2days from the deadline.</li></ol>
Deadline:	2/1/2022





The University of Jordan  
School of Nursing  
Scientific Research and Statistical Methods  
0703307  
Assignment 1 Evaluation

Research Components	Student/s Answer	Points
1. Citation (APA)		( /2)
2. General ideas of the literature review 5 – 6 POINTS.		( /2)
3. Research questions/ Hypothesis/ purpose and aims.		( /2)
4. Independent Variable(s)		( /2)
5. Dependent variable(s)		( /2)

6. Study design		( /2)
7. Sample		( /2)
8. Measures/tools used to collect data		( /2)
9. Summary of main results		( /2)
10. Limitation		( /2)

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<b>Total</b>		( /20)
<b>The University of Jordan School of Nursing Scientific Research and Statistical Methods 0703307 Form # 2 – Study Critique</b>		
<b>Research question/Study purpose and aims:</b>		( /1)
<b>Ethical Aspects:</b>		( /1)

<b>Theoretical framework/literature review:</b>		( /1)

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<b>Research Design: ( / 1.5)</b>	
<b>Study population and Sample:</b>	<b>( / 2)</b>
<b>Data collection methods:</b>	<b>( / 2)</b>

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<b>Presentation and discussion of the study findings:</b>			( / 1.5)
<b>Total</b>			( / 10)
<b>Students' Signatures</b>	<b>Date</b>	<b>Evaluator's Signature</b>	<b>Date</b>

Name of Course Coordinator: Dr. Mahmoud Al-Kalaldeh	Signature:
Date: 6 10 2021	
Head of Curriculum Committee/Department: -----	Signature: -----
Head of Department: : Dr. Mahmoud Al-Kalaldeh	Signature:
Head of Curriculum Committee/Faculty: -----	Signature: -----
Dean: -----	Signature: -----