



### **THE VISION OF THE UNIVERSITY OF JORDAN**

A university excelling in pedagogy, research, and innovation and advancing in global standing

### **THE MISSION OF THE UNIVERSITY OF JORDAN**

Providing students with fulfilling learning experiences, conducting knowledge-producing research, and building firm societal ties, within an environment conducive to creativity, innovation, and entrepreneurship: making efficient use of resources and forging fruitful partnerships.

### **THE VISION OF THE SCHOOL OF REHABILITATION SCIENCES**

Leadership in the creation and development of knowledge, and in the preparation of human resources aspiring for excellence regionally and internationally

### **THE MISSION OF THE SCHOOL OF REHABILITATION SCIENCES**

To excel in the preparation and training of model rehabilitation personnel, who participate in the health and community sector, and provide the local and regional community with appropriate rehabilitation services based on needs. Through educational curricula that facilitates the implementation of up to date rehabilitation services based on the best available evidence.

### **THE VISION OF THE DEPARTMENT OF PHYSIOTHERAPY**

To be recognized as an outstanding educational program with high quality faculty members, staff and students

### **THE MISSION OF THE DEPARTMENT OF PHYSIOTHERAPY**

To graduate professionals in the field of physical therapy who are to contribute to the health needs of society through education, scholarly activities, research, service and professional practice.

## Course Syllabus

1	<b>Course title</b>	Scientific Research Methods
2	<b>Course number</b>	1801703
3	<b>Credit hours</b>	3
	<b>Contact hours (theory, practical)</b>	3 (3, 0)
4	<b>Prerequisites/corequisites</b>	---
5	<b>Program title</b>	M.Sc. in Physiotherapy/ Neuromusculoskeletal M.Sc. in Athletic Therapy
6	<b>Program code</b>	018-01-7
7	<b>Awarding institution</b>	The University of Jordan
8	<b>School</b>	Rehabilitation Sciences
9	<b>Department</b>	Physiotherapy
10	<b>Course level</b>	Graduate
11	<b>Year of study and semester (s)</b>	MSc PT: First year – First semester MSc AT: Second year – First semester
12	<b>Other department (s) involved in teaching the course</b>	---
13	<b>Main teaching language</b>	English
14	<b>Delivery method</b>	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
15	<b>Online platforms(s)</b>	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....
16	<b>Issuing/Revision Date</b>	Oct, 2023

### 17 Course Coordinator:

Name: Maha Mohammad

Contact hours: S & T, 3:00 – 4:00

Office number: 320

Phone number: 23218

Email: [maha.tayseer@gmail.com](mailto:maha.tayseer@gmail.com)

Teams account: m\_mohammad

**18 Other instructors:**

None

**19 Course Description:**

This course will advance student's knowledge of design and research methods commonly used to inform physiotherapy practice. A focus of the course is on research training in different research methods used to explore aspects of interdisciplinary rehabilitation. Nature of scientific inquiry, hierarchy of evidence, and different research design and application of statistical techniques are also addressed. Students will have the opportunities to critically appraise qualitative and quantitative research methods and designs in Neuromusculoskeletal physiotherapy.

## 20 Course aims and outcomes:

### A- Aims:

- To advance the student knowledge of design and research methods commonly used to inform practice.
- To gain knowledge on hierarchy of evidence and different research designs.
- To critically appraise qualitative and quantitative research methods and designs.

### B- Students Learning Outcomes (SLOs):

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

SLOs	SLO (1)	SLO (2)	SLO (3)	SLO (4)	SLO (5)	SLO (6)	SLO (7)
SLOs of the course							
1 Understand and discuss strengths and weaknesses of different research designs.	X	X				X	
2 Appreciate ethical considerations when conducting research.					X	X	
3 Show good understanding of steps involved in conducting research studies.	X	X				X	

### Program Students Learning Outcomes:

1. Develop the skills needed to adopt the evidence-based practice in the field of physiotherapy for neurological and musculoskeletal disorders.
2. Utilize clinical reasoning knowledge and skills to guide assessment, measurement, and providing care to clients with neuromusculoskeletal conditions.
3. Criticize and adopt physiotherapy theories, approaches, and frameworks in the practice of physiotherapy.
4. Build the ability to work and communicate effectively with clients, peers, and healthcare providers.
5. Adhere to the ethical and professional standards in research and clinical practice according to the national and international standards of physiotherapy practice.
6. Develop critical thinking and problem-solving skills to implement research projects that improve clinical practices.
7. Engage in continuous professional development activities.

## 21. Topic Outline and Schedule:

#	Topic	SLO	Learning Methods (Face to Face/Blended/ Fully Online)	Synchronous / Asynchronous Lecturing*	Evaluation Methods	Resources
1	Framework for generating and applying evidence	1, 3	Face-to-face	Synch.	Mid Final	Portney, ch. 1
2	Defining the research question	3	Face-to-face	Synch.	Mid Project Final	Portney, ch. 3
3	Searching the literature	3	Face-to-face	Synch.	Mid Homework Final	Portney, ch. 6
4	Ethical issues in clinical research	2	Face-to-face	Synch.	Mid Final	Portney, ch. 7
5	Principles and concepts of measurement	1, 3	Face-to-face	Asynch.	Mid Homework Final	Portney, ch. 8 & 9 & 10
6	Choosing a sample	3	Face-to-face	Synch.	Mid Final	Portney, ch. 13
7	Principles of clinical trials Design validity	1, 3	Face-to-face	Synch.	Homework Final	Portney, ch. 14 & 15
8	Midterm exam	1 – 3	On-campus	---	---	All above
9	Experimental designs	1, 2	Face-to-face	Asynch.	Homework Final	Portney, ch. 16 & 17

	Quasi-experimental designs					
10	Exploratory research	1, 2	Face-to-face	Synch.	Final	Portney, ch. 19
11	Descriptive research	1, 2	Face-to-face	Synch.	Final	Portney, ch. 20
12	Qualitative research	1, 2	Face-to-face	Synch.	Final	Portney, ch. 21
13	Writing a research proposal	1 – 3	Face-to-face	Synch.	Final	Portney, ch. 35
14	Synthesizing literature: systematic reviews and meta-analyses	1, 3	Face-to-face	Asynch.	Final	Portney: ch. 37

This course will be taught on-campus via face-to-face lectures. All course materials will be posted on E-learning website, while Microsoft Teams group will be used to communicate announcements.

## 22 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	30	Weeks 1 – 7	1 – 4	Week 8	On-campus
Homework	10	Week 3	4	Week 4	Moodle
Written assignment	20	Weeks 1 – 11	1 – 3	Week 13	Moodle
Final exam	40	All material	1 – 3	Week 16	On-campus

**Homework:** students will be asked to submit a homework that shows their application of literature search skills. Each student is expected to formulate a research question relevant to their own practice and perform a literature search to obtain different types of evidence about this research question.

**Written assignment:** students will be asked to write a research proposal outline showing their thinking process while developing a real research proposal. This outline will be about a topic of the student's own choice. The goal of the outline could be to either answer a clinical question encountered in the students' practice or to prepare for the student's master thesis. Details of the proposal are provided in the appendix.

## 23 Course Requirements

Computer; internet connection; accounts on e-Learning and Microsoft Teams.

## 24 Course Policies:

### A- Attendance policies:

- Attendance will be taken on every class throughout the semester.
- Absence of more than 20% of all the number of classes requires that the student provides an official excuse to the instructor and the dean.
- If the excuse was accepted the student is required to withdraw from the module.
- If the excuse was rejected the student will fail the module and mark of zero will be assigned according to the regulations of The University of Jordan.

### B- Absences from exams and submitting assignments on time:

- Absence from exam should be discussed with the instructor as soon as possible.
- Makeup for the final exam may be arranged according to the regulations of The University of Jordan.

### C- Health and safety procedures:

- Students will not be in direct contact with patients during this course.
- Students are not expected to use any heavy tools that might impose health and safety issues during this course.

### D- Honesty policy regarding cheating, plagiarism, misbehavior:

- Students are expected to observe all University guidelines pertaining to academic misconduct.
- Any work submitted by a student for academic credit must be the student's own work. Submission of work taken directly from another source (e.g., book, journal, internet, or another student work) will be considered plagiarism and the student/group will get a zero grade on that homework. In addition, if copying occurred, both the student who copied the work and the student who gave material to be copied (if applicable) will receive a zero for the assignment.
- Students are expected to do work required for homeworks on their own. Asking other instructors at JU, staff, or other students to assist in or do any part of the assignment for them will negatively affect their grade on that assignment. The course instructor is the person the student needs to talk to if s/he has any difficulties pertaining to an assignment or project and is strongly encouraged to schedule an appointment with the instructor if such difficulties arise during the semester.
- Course materials prepared by the instructor, together with the content of all lectures and review sessions presented by the instructor are the property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited.
- Any forms of academic misconduct will be handled according to the University of Jordan guidelines.

### E- Grading policy:

- Grading for this course will be determined based upon the accumulation of points for variety of assignments and exams.



- All work will be evaluated on completeness, organization, clarity of information, and the integration and application of the material.

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

- The University of Jordan provides many services to support social, health, and mental well-being of students in general and students with disabilities in specific. Students are advised to visit the Deanship of Students Affairs to learn more about those services.
- If you are a student with a disability for which you may request accommodations, please notify the instructor as soon as possible (email is acceptable) so the appropriate accommodations for this course can be made. Also, notify the staff of Services for Student with Disabilities (Deanship of Students Affairs) as soon as possible.
- The University of Jordan provides internet access for students who request such services. Please contact the Assistant Dean for Student Affairs for such requests.

## 25 References:

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

Foundations of Clinical Research, 4<sup>th</sup> edition, Portney, L., 2020

Online course:

Ethical & Regulatory Aspects of Clinical Research

Online lecture:

2022 Statistics Lecture: The Anatomy of Personalized N-of-1 Trials

B- Recommended books, materials and media:

Rehabilitation Research: Principles and Applications, 5<sup>th</sup> edition, Carter et. al., 2015

Research Methods: A Framework for Evidence-Based Clinical Practice, 1<sup>st</sup> edition, Hurley W. et al, 2011

## 26 Additional information:

Course announcements will be posted on Teams.

All course materials including assigned readings, homeworks, etc. will be posted on elearning. It is the student's responsibility to regularly check the elearning page for course updates.

Teaching material for the course will also include readings from articles assigned by the course instructor.

While the instructor will try the utmost effort to reply to students' inquiries and messages in a timely manner, students should allow a 2-3-day window for the instructor to reply back to inquiries sent via email or teams.

The course instructor does not answer messages over the weekend.



Name of Course Coordinator: -----maha mohammad-- Signature: --mm-- Date: ---10/10/2023--
Head of Curriculum Committee/Department: Dr. Ibrahim Tobasi Signature: Ibrahim Tobasi
Head of Department: Dr. -Ibrahim Tobasi----- Signature: Ibrahim Tobasi-
Head of Curriculum Committee/Faculty: ---Prof. Kamal A. Hadidi-- Signature: -KAH-----
Dean: ---Prof. Kamal A. Hadidi-- Signature: -KAH-----

## Appendix

### Written assignment – research proposal outline

Each student is expected to prepare a short research proposal outline relevant to their practice or potential master thesis. The proposal should be 2 – 3 pages long and should include details about the research question, literature search strategy and summary of findings, a 200-word introduction, detailed methods section which includes sample, ethical considerations, outcome measures, and research design.

The assignment format should be: Times New Roman, font size 12, 1.5-line space, APA referencing, submission on time.

This assignment is worth 20 grades.

Grading rubric:

#	Criterion	Points	Excellent	Average	Weak
1	Research question	3	Well-defined question.	Question missing one component.	A question that specifies the problem but misses more than one component.
2	Literature search	6	Detailed search and summary of findings.	Detailed search but unclear summary of findings.	Insufficient details about the search strategy.
3	Introduction	4	200-word, clear and organized background.	200-word, poorly organized or unclear background.	Too short introduction with obvious gaps in flow.
4	Methods: sample	3	Sufficient details about sample inclusion/exclusion criteria.	Missing few inclusion/exclusion criteria.	Missing significant inclusion/exclusion criteria.
5	Methods: ethical considerations	3	Proper description of ethical considerations.	Unclear details about ethical considerations.	Poor description of ethical considerations.
6	Methods: outcome measure(s)	3	Choice of appropriate outcome measure with sufficient psychometrics.	Choice of appropriate outcome measure but no details about psychometrics.	Inappropriate outcome measure and/ or insufficient psychometrics.

7	Methods: research design	3	Choice of suitable research design and provision of enough details about it.	Choice of inappropriate research design and provision of enough details about it.	Inappropriate research design that lacks sufficient details.
8	References	3	Full adherence to format.	Format with 2 – 4 mistakes.	Format with several mistakes.
9	Format	2	Full adherence to format.	Missing 2 format requirements.	Missing more than 2 format requirements.