



### **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>	Biostatistics for Rehabilitation Student	
2	<b>Course number</b>	1801381	
3	<b>Credit hours</b>	2 Theory	
	<b>Contact hours (theory, practical)</b>	2 Theory	
4	<b>Prerequisites/corequisites</b>	.....	
5	<b>Program title</b>	Bachelor of science	
6	<b>Program code</b>	1801	
7	<b>Awarding institution</b>	The University of Jordan	
8	<b>School</b>	School of Rehabilitation Sciences	
9	<b>Department</b>	Physiotherapy	
10	<b>Course level</b>	Undergraduate	
11	<b>Year of study and semester (s)</b>	2023-2024 1 <sup>st</sup> 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>	1 <sup>st</sup> semester 2022	

### 17 Course Coordinator:

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### 18 Other instructors:

Name:

Office number:

Phone number:

Email:

Contact hours:

Name:

Office number:

Phone number:

Email:

Contact hours:

### 19 Course Description:

The course provides students with basic principles of statistical analysis. This course introduces the concepts of several statistical methods encountered in health-related research such as scales of measurement of variables, descriptive statistics, hypothesis testing, z-tests, t-tests, ANOVA, non-parametric tests, correlation, regression, and measures of disease risk. Students will be taught to perform several of the tests discussed and will be shown several examples of the use of these methods in recent research articles.

### 20 Course aims and outcomes:

A- Aims:

**By the end of this course student should be able to understand concepts, language, and methods of quantitative research**

B- Students Learning Outcomes (SLOs):

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

SLOs SLOs of the course	SLO (5) Evaluate the importance of and critically appraise research findings to inform evidence-based practice such that these skills could be utilized in continuing self-development.
1. Understand basic descriptive statistics	X
2. Understand and interpret different statistical procedures	X
3. Understand hypothesis testing	X
4. Understand and apply student t-test	X
5. Understand associations (correlations) between variables	X

### Program SLOs:

1. Recognize, critically analyze and apply the conceptual frameworks and theoretical models underpinning physiotherapy practice
2. Demonstrate comprehension of background knowledge that informs sound physiotherapy practice
3. Demonstrate the ability to use online resources and technologies in professional development
4. Display a professional commitment to ethical practice by adhering to codes of conduct and moral frameworks that govern the practice of physiotherapy
5. Evaluate the importance of and critically appraise research findings to inform evidence-based practice such that these skills could be utilized in continuing self-development
6. Implement clinical reasoning, reflection, decision-making, and skillful application of physiotherapy techniques to deliver optimum physiotherapy management
7. Adhere to the professional standards of physiotherapy practice in terms of assessment, management, outcome measurement, and documentation
8. Display a willingness to promote healthy lifestyle and convey health messages to clients
9. Value the willingness to exercise autonomy while appreciating the challenges associated with delivering physiotherapy services
10. Display the ability to practice in a safe, effective, non-discriminatory, inter- and multi-disciplinary manner
11. Demonstrate effective oral and written communication with clients, carers, and health professionals

### 21. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	Evaluation Methods	Resources
1	1.1	Introduction to statistics, types of research questions	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	1.2	Facets of research questions; design, measurement	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book

		nt and analysis						
	1.3							
2	2.1	Descriptive statistics: shape of distribution : frequency distribution table and group frequency distribution table	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	2.2	Descriptive statistics: shape of distribution : frequency distribution graphs (histogram, polygon and bar graph)	1	Face to face	Moodle and Teams	Synchronous	exam	Any statistical book
	2.3							
<b>Week</b>	<b>Lecture</b>	<b>Topic</b>	<b>Student Learning Outcome</b>	<b>Learning Methods (Face to Face/Blended/ Fully Online)</b>	<b>Platform</b>	<b>Synchronous / Asynchronous Lecturing</b>	<b>Evaluation Methods</b>	<b>Resources</b>
3	3.1	Descriptive statistics: shape of distribution : stem and leaf, symmetrical and skewed distribution	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book

		s, Cumulative frequency and percentage, percentile and percentile rank)						
	3.2	Descriptive statistics: central tendency measures; mean, median, mode	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	3.3							
4	4.1	Descriptive statistics: Variability; range and interquartile range	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	4.2	Descriptive statistics: Variability; variance and standard deviation	1	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	4.3							
5	5.1	Standardized scores	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	5.2	Probability	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book

	5.3							
6	6.1	Midterm exam						
	6.2	Normal distribution and normal distribution table	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	6.3							
7	7.1	Normal distribution and normal distribution table	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	7.2	Sampling distribution	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	7.3							
8	8.1	Sampling distribution	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	8.2	Hypothesis testing: Null and alternative hypotheses, Z test	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	8.3							
9	9.1	Hypothesis testing: Null and alternative hypotheses, Z test	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book



	9.2	Hypothesis testing: Null and alternative hypotheses, Z test	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	9.3							
10	10.1	Hypothesis testing: decision rules, statistical significance and effect size (clinical significance)	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	10.2	Hypothesis testing: decision rules, statistical significance and effect size (clinical significance)	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	10.3							
<b>Week</b>	<b>Lecture</b>	<b>Topic</b>	<b>Student Learning Outcome</b>	<b>Learning Methods (Face to Face/Blended/ Fully Online)</b>	<b>Platform</b>	<b>Synchronous / Asynchronous Lecturing</b>	<b>Evaluation Methods</b>	<b>Resources</b>
11	11.1	Hypothesis testing: uncertainty and errors in	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book

		hypothesis testing						
	11.2	Hypothesis testing: statistical power and factors affecting power	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	11.3							
12	12.1	Hypothesis testing: statistical power and factors affecting power	3	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	12.2	T-test: one sample T test, degrees of freedom	4	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	12.3							
13	13.1	Hypothesis testing using T-test and T distribution table	4	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	13.2	Concept of Independent sample T-test and Repeated sample T-test and concept of ANOVA and	2, 4	Face to face	Moodle and Teams	synchronous	exam	Any statistical book

		concept of Chi square						
	13.3							
14	14.1	Correlation : scatter plot, direction of relationship , linear and non-linear relationship , strength of relationship	5	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	14.2	Correlation : Pearson product moment and understanding correlation	5	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	14.3							
15	15.1	Correlation : Spearman rank, point biserial and Phi correlation	5	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	15.2	Concept of regression analysis	2	Face to face	Moodle and Teams	synchronous	exam	Any statistical book
	15.3							

## 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 exam	30%	First 5 weeks	1, 2	27/11-8/12/2022	At the University
2 <sup>nd</sup> exam	20%	First 8 weeks	1, 2, 3	Week 12 <sup>th</sup> December	At the University
Final Exam	50%	Comprehensive	1-5	According to University schedule	At the University

### 23 Course Requirements

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

### 24 Course Policies:

A- Attendance policies:

- Students are expected to be on time.
- Repeated tardiness or leaving early will not be accepted.
- Students who miss class (or any portion of class) are responsible for the content. All classes will be recorded and uploaded on Microsoft Stream. It is the student's responsibility to review the material of classes they missed.
- Attendance will be taken on every class throughout the semester.
- Absence of more than 15% of all the number of classes (which is equivalent to 5 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:

- The instructor will not do any make-up exams.

- Exceptions for make-up exams and late submission of class assignments will be made on a case-by-case basis for true personal emergencies that are described as accepted by the regulations of UJ (e.g., documented medical, personal, or family emergency).
- It is the student's responsibility to contact the instructor within 24 hours of the original exam time to schedule a make-up exam>
- Late submission of homework will result in deduction of 2 points for each day of delay
- 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.

#### 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 homework 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:

**There is no specific textbook to follow; any basic statistical book might be helpful for studying**

B- Recommended books, materials, and media:

## 26 Additional information:

Students with disabilities:

- If you are a student with disability, please contact the course coordinator at the beginning of the term to inform them of any needs or adjustments you might have.
- According to University regulations, some students with disabilities can be allowed additional time during exams. This extra time is granted by an official letter from the University administration. Please discuss with the course coordinator your need for such extra time at the start of the term.
- All information you provide to the course coordinator will be dealt with confidentially.

Course material and copy rights:

- All material prepared by the course coordinator for the purposes of this course are the intellectual property of the course coordinator. It is only intended for the personal use of students for their individual learning.
- Sharing of course content with other people or via different platforms other than those used by the course coordinator is prohibited. The permission of the course coordinator must be sought before sharing of content.



Name of Course Coordinator: ---Ibrahim Altubasi---Signature: -----IMA----- Date: 6/10/2023
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-----