



Jordan University of Science and Technology
Faculty of Applied Medical Sciences
Clinical Rehabilitation Science Department

CR793 Applied Biostatistics - JNQF Level: 9

Second Semester 2023-2024

Course Catalog

2 Credit Hours. The course is to develop knowledge and understanding of the methods to conduct scientific research in rehabilitation sciences. The students will gain knowledge about common statistical models used to analyze continuous and categorical data. Correlation, regression, Chi-square, t-test, ANOVA, and ANCOVA will be among the models discussed. The students will learn to identify the appropriate statistical methods to answer different research questions of cross-sectional and longitudinal designs.

Teaching Method: On Campus

Text Book

| | |
|--------------------------|----------------------|
| Title | SPSS Survival Manual |
| Author(s) | Julie Pallant |
| Edition | 4th Edition |
| Short Name | Reference 1 |
| Other Information | |

Instructor

| | |
|------------------------|---|
| Name | Prof. Mahmoud Alomari |
| Office Location | M5L-4#24 |
| Office Hours | Sun : 08:00 - 09:00 Mon : 10:00 - 12:00 Mon : 13:00 - 14:00 Wed : 10:00 - 12:00 Thu : 08:00 - 09:00 |
| Email | alomari@just.edu.jo |

Class Schedule & Room

Section 2:

Lecture Time: Wed : 12:30 - 14:30

Room: M4203

Tentative List of Topics Covered

| Weeks | Topic | References |
|-----------------|--|-------------------------|
| Week 1 | Introduction | From Reference 1 |
| Week 2 | Preliminary Analysis and Graphing | From Reference 1 |
| Week 2 | Graphing | From Reference 1 |
| Week 3 | Comparison statistics | From Reference 1 |
| Week 4 | 2-way ANOVA (i.e. factorial design) | From Reference 1 |
| Weeks 5, 6 | Special comparison statistics (ANCOVA) | From Reference 1 |
| Week 7 | Pearson and partial correlations | From Reference 1 |
| Week 8 | Pearson and partial correlations Alomari | From Reference 1 |
| Weeks 9, 10, 11 | Simple and multiple linear regression | From Reference 1 |
| Week 12 | Chi-Square Analysis of Frequency Data Spearman correlation | From Reference 1 |
| Week 13 | Logistic binary regression | From Reference 1 |
| Week 14 | Logistic multinomial regression | From Reference 1 |
| Week 15 | Validity and reliability tests | From Reference 1 |

| Mapping of Course Outcomes to Program Outcomes and NQF Outcomes | Course Outcome Weight (Out of 100%) | Assessment method |
|--|--|---|
| Understanding of basic research and statistical terminology [1PLO3] [1L9C4] | 25% | Homework 1, Homework 2, Homework 3, Homework 4, Homework 5, Homework 6, Homework 7, Homework 8, Homework 9, Homework 10 |
| Select the appropriate research design to answer research questions. [1PLO3] [1L9S2] | 25% | Homework 1, Homework 2, Homework 3, Homework 4, Homework 5, Homework 6, Homework 7, Homework 8, Homework 9, Homework 10 |
| Select the appropriate statistical model to answer research questions. [1PLO3] [1L9S2] | 25% | Homework 1, Homework 2, Homework 3, Homework 4, Homework 5, Homework 6, Homework 7, Homework 8, Homework 9, Homework 10 |
| Interpret and present the results of statistical analysis [1PLO3] [1L9C4] | 25% | Homework 1, Homework 2, Homework 3, Homework 4, Homework 5, Homework 6, Homework 7, Homework 8, Homework 9, Homework 10 |

| Relationship to Program Student Outcomes (Out of 100%) | | | | | | |
|--|------|------|------|------|------|------|
| PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 |
| | | 100 | | | | |

| Relationship to NQF Outcomes (Out of 100%) | |
|--|------|
| L9S2 | L9C4 |
| 50 | 50 |

| Evaluation | |
|-----------------|--------|
| Assessment Tool | Weight |
| Homework 1 | 10% |
| Homework 2 | 10% |
| Homework 3 | 10% |
| Homework 4 | 10% |
| Homework 5 | 10% |
| Homework 6 | 10% |
| Homework 7 | 10% |
| Homework 8 | 10% |
| Homework 9 | 10% |
| Homework 10 | 10% |

| Policy | |
|-------------------------------|--|
| Statement on Professionalism | Professional behavior is expected of students at all times. Attitude and professional behavior are a minimum criterion for passing this class. Repeated lack of professional behavior will result in failure of the course. Examples of unprofessional behavior include but are not limited to: missing classes (see attendance policy), tardiness, lack of attention for a speaker, talking to others during lecture, passing food during lecture, leaving a lecture prior to its completion without prior authorization of the instructor, working on other class material during class, inappropriate dress for labs, and sleeping during class |
| Attendance policy | ? Students are expected to attend more than 90% of lectures If absence is more than 10% student will be banned from the course after electronic notification from the university through student e-mail.. ? Each student is expected to sit in his numbered seat ? Empty seats will be counted as absent ? All absences will be entered electronically into the University site |
| Communication with instructor | Electronic-mail is the best way to reach me as I consistently check it. However, students still can use the above listed phone numbers. |
| Cell phones | Please do not use cell phones in class or labs. If you are depended upon for anticipated emergencies please put cell phones on vibration and answer the phone outside the classroom. I WILL KEEP MY CELL PHONE IN MY OFFICE OR ON VIBRATION MODE DURING CLASS TIME. Unfortunately, I have to remove the student from class in case the phone rings. |

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