

**Jerash University**

**Faculty of Computer Science and Information Technology**

**Computer Sciences Department**

**Semester**: Fall Semester 2018/2019

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| **Course symbol and number: 1001490** | **Course Name:** Research Methodology and Graduation Project2 |
| **Teaching Language:** English | **Prerequisites: 90 credits** . |
| **Credits:** 3 hours**.** | **Course Level:** 400 |

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| **Course Description**  |
| This is a core module which aims to equip the students with the necessary skills required for conducting research and writing a research report. This aim is performed by introducing student some of the theories and methods associated with educational research methodologies through a consideration of definitions and purposes of research, approaches to framing the enquiry, data collection and analysis, as well as results discussion. By the end of the course students are required to up the research report as well developing a software tool demonstrating a computer application. |

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| **Course Objectives**  |
| * Understand the research process cycle
* Learn how to conduct a literature review: strategy and structure
* Understand scientific and unscientific methods of Problem solving
* Learn about research methodology types.
* Understand the qualitative research methods
* Understand the quantitative research methods: experimental and correlation designs.
* Learn how to plan and design a questionnaire, interview and survey.
* Learn how to collect and analyze data, as well as draw findings
* Learn how to read a research reports and papers critically.
* Learn how to plan and write a research report.
* Understand how to present your references in APA style.
* Understand the importance of time management.
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| **Learning Outcomes**  |
| After completing the course, the student will be able to:1) Search the literature and identify existing project-relevant research.2) Form a research question with testable hypotheses and design a study to evaluate that researchquestion.3) Select appropriate items to construct a research questionnaire and to develop scales.4) Understand the concepts of reliability, validity, response biases, and the pros and cons of a variety ofsurvey administration techniques.5) Conduct data coding, cleaning and descriptive statistics using a computer software package.6) Understand Human Subjects concerns and IRB applications.7) Write a research report summarizing the study purpose, design and methods, and results. |

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|  | **Text Book(s)**  |
| **Title**  |  |
| **Author(s)**  |  |
| **Publisher**  |  |
| **Year**  |  |
| **Edition**  |  |

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|  | **References** |
| **Books**  | The textbook for the course is Research Methods in Health Promotion (2nd Edition) by Salazar, Crosby andDiClemente. The ISBN-10 for the paperback version is 111840906X. Supplemental and Optional Readings will also be available on the class website. |
| **Internet links**  | http://www.jpu.edu.jo/lms |
| **Course link**  |  |

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|  | **Instructors**  |
| **Instructor**  |  Dr.Ali Malkawi |
| **Office Location**  | الطابق السابع - 715 |
| **Office Phone**  |  |
| **E-mail**  | ali.amalkawi@jpu.edu.jo |

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| **Topics Covered**  |
| **Topics**  | **Chapters in Text**  | **Week number**  | **Teaching hours**  |
| **Introduction** DefinitionsLearning ObjectivesNeeds AssessmentLiterature Review | *Chapter 1* | *1* | *3* |
| **Theory, Research Question****and Ethics**TheoryResearch questionHypothesesEthicsIRB* HIPAA
 | *Chapter 2* | *2,3*  | *6* |
| **Designs Observational:**Exploratory/Descriptive/AnalyticCross-sectional studiesLongitudinal studiesCase-Control | *Chapter 3* | *4,5*  | *6* |
| **Sampling** PopulationSampleRecruitmentMeasurement MetricsScales vs IndexesReliability and Validity | *Chapter 6,7* | *6,7* | *6* |
| *Reference with Pointers* |  |  |  |
| **Data Collection** Types of data (archival,observation, survey, assay)RecruitmentResponse biasAttrition | *Chapter 9* | *7* | *3* |
| **Implementing Research RCT:** Registering, Randomizing,Comparisons, FidelityCBPR: CABs, collaboration, logicmodel, translationSurveys: Sampling frame,modality, sample size, MOP,response rate, pilot testing,weighting | *Chapter 10,11,13* | *8,9,10,11,12* | *15* |
| * testing
 |  | *13,14* | *6* |
| * submission
 |  | *15* | *6* |

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|  | ***Evaluation***  |  |
| **Assignment and Projects** |  | ***70%***  |
| Project  |  | **60%** |
| Presentation & Discussion |  | **10%** |
| **Individual Work** |  | *30%*  |
| Attendance, Participation, Home works and short report | Chapter Homework’s, Discussions, Short Presentations | **10%** |
| Quizzes | Unannounced Short quizzes |
| First Exam | Multiple Choice Questions worth 25% and Essay Questions worth 75% of exam grade. | **10%** |
| Second Exam | Multiple Choice Questions worth 25% of and Essay Questions worth 75% of exam grade. | **10%** |
| *total* |  | *100%* |

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|  | ***Policy***  |
| ***Attendance***  | *Attendance is very important for the course. In accordance with university policy, students missing more than the allowed absence rate of total classes are subject to failure. Penalties may be assessed without regard to the student's performance. Attendance will be recorded at the beginning or end of each class.*  |
| ***Exams***  | *All exams will be CLOSE-BOOK; necessary algorithms/equations/relations will be supplied as convenient.* |

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| **Class Schedule & Room**  |

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| **Office Hours**  |
|  Sun: 12 - 2  Mon: 8 - 11  Tues: 12 - 2 Wed: 8 - 11 |
|  | \* Or by an appointment through email |  |

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|  | **Teaching Assistant**  |
| To announced later on.  |  |

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|  | **Prerequisites**  |
| **Prerequisites by course** | 1001108  |