

The University of Jordan

Faculty: Pharmacy
 Department: Biopharmaceutics and Clinical Pharmacy
 Program: Pharmacy
 Academic Year/ SPRING Semester: 2015

Research Project (1203610)

Credit hours	1	Level	1st year	Pre-requisite	١٢.٣٥.٦
Coordinator/ Lecturer		Office number		Office phone	
Website	http://academic.ju.edu.jo/ /	E-mail	@ju.edu.jo	Place	

Office hours	
Dr.	
Dr.	

Course Description

The one credit hour course is directed to empower the research capacities of 6th year Pharm.D. students. The main purpose of this course is to introduce students to quantitative and qualitative methods for conducting meaningful inquiry and research. They will gain an overview of research intent and design, methodology and technique, format and presentation, and data management and analysis informed by commonly used statistical methods. The course will develop each student's ability to use this knowledge to become more effective as clinical pharmacists.

Learning objectives:

- Developing a hypothesis, a research problem and related questions
- Framing the problem with the correct research methodology
- Collecting data that accurately addresses the research problem
- Measuring the efficacy/safety of pharmacologic interventions
- Using data to make rationale clinical decisions
- Evaluating feasibility of research proposals
- Presenting data to support an intervention to physicians and or/patients

The course will provide an overview of the important concepts of research design, data collection, statistical and interpretative analysis, and final report presentation. The focus of this course is not on mastery of statistics but on the ability to use research the field of biopharmaceutics and clinical pharmacy.

Each week students will work individually or in groups and will be assigned pharmacotherapy-specific literature, research tasks and/or statistics-related concepts that bring to life examples of how the weekly task applies to pharmacy practice.

This will allow students to clearly understand how the course material relates to their jobs as researchers as well as health care professionals

Intended learning outcomes (ILOs):**A. Knowledge and Understanding:**

- A.1 The student should gain a solid knowledge about the design of research and understand different research designs, their advantages, and drawbacks.
- A.2 The student should be knowledgeable about research tools and data collection methods such as data bases, questionnaires, etc.

B. Intellectual skills:

- B.1 The student should be able to design a research question, develop a hypothesis, and choose the most appropriate research design (methods) and data collection tool for the question of interest.
- B.2 The student should be able to design a study and data collection tools.
- B.3 The student should be able to select evidence-based literature to answer his question.
- B.4 The student should be able to design data entry platform.

C. Subject-specific skills

- C.1 The student is to develop skills of sampling from population and sample size determination.
- C.2 The student is to develop techniques of patient interview.

D. Transferrable skills

Upon the completion of this course, the student should be able to:

- D.1 perform a critical systematic literature search
- D.2 design questionnaires
- D.3 enter data
- D.4 choose the most appropriate statistical test
- D.5 appropriately cite written documents.

ILOs: Learning and Evaluation Methods

ILO/s	Learning Methods	Evaluation Methods
A. Knowledge and Understanding and	<ul style="list-style-type: none"> • Assignments and weekly discussions • Self-reading articles • Textbooks 	Assignments
B. Intellectual skills (cognitive and analytical)	<ul style="list-style-type: none"> • Assignments and weekly discussions • Self-reading articles • Textbooks 	Assignments and written reports
C. Subject specific skills	<ul style="list-style-type: none"> • Assignments and weekly discussions • Self-reading articles • Textbooks 	Oral presentation, written report
D. Transferable skills	<ul style="list-style-type: none"> • Assignments and weekly discussions • Self-reading articles • Textbooks 	Written report

Assessment:

The following provides an *approximate* breakdown of how each assignment contributes to the overall performance in the class.

Evaluation	Point %
Weekly assignments	40
Oral presentation	10
Final research report	50

Timetable:

This course has general framework and objectives. However, the timetable is both project- and instructor-dependent. The following timetable represents *an example*:

Topic/Assignment	Week
Introduction: Development of specific research question, literature search	Week 1
Study design and methodologies in clinical research, design of data collection tools	Week 2
Data collection and entry	Weeks 3-5
Sample statistical analysis	Week 6
Written report submission	Week 7
Oral presentations	Week 8

Suggested references:

Bibliography is subject to change according to instructor/research topic. The following are recommended textbooks:

1. Hulley S. B., Cummings S. R., Browner W. S., *et al.* (2013). Designing Clinical Research. Fourth Edition. Pennsylvania, USA: Lippincott Williams & Wilkins.
2. Friedman L. M., Furberg C.D., DeMets, D. L., (2010). Fundamentals of Clinical Trials. Fourth edition. New York, USA. Springer.
- 3.
4. Selected Journal articles depending on the project.