

## Course E-Syllabus

1	<b>Course title</b>	Research Project
2	<b>Course number</b>	1203610
3	<b>Credit hours</b>	1 (practical)
	<b>Contact hours (theory, practical)</b>	1(practical)
4	<b>Prerequisites/corequisites</b>	1203506
5	<b>Program title</b>	PharmD
6	<b>Program code</b>	
7	<b>Awarding institution</b>	The University of Jordan
8	<b>School</b>	Pharmacy
9	<b>Department</b>	Biopharmaceutics & Clinical Pharmacy
10	<b>Level of course</b>	undergraduate
11	<b>Year of study and semester (s)</b>	First and second semester of the 6 <sup>th</sup> year
12	<b>Final Qualification</b>	PharmD
13	<b>Other department (s) involved in teaching the course</b>	None
14	<b>Language of Instruction</b>	English
15	<b>Teaching methodology</b>	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	<b>Electronic platform(s)</b>	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	<b>Date of production/revision</b>	14/10/ 2020

### 18 Course Coordinator:

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### 19 Other instructors: None

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#### • Course Description:

The one credit hour course is directed to empower the research capacities of 6<sup>th</sup> 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. 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

## 2.1 Course aims and outcomes:

### A- Aims:

- 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

**B- Course Intended Learning Outcomes (ILOs):** Upon successful completion of this course students will be able to:

#### 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 (e.g. questionnaires).

B.3 The student should be able to select evidence-based literature to answer question of interest.

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 to analyze certain set of data

D.5 present data

D.6 appropriately cite written documents.

Program Competencies Achieved:

### 5. Interpersonal and Communication

5.2 Prepare and deliver presentations effectively

5.3 Express ideas, instructions and information in a clear and comprehensible manner

5.4 Considers audience feedback to verify their proper understanding

5.5 Respond effectively to enquiries presented by other students and advisor

5.6 Exhibit negotiation and influencing skills to resolve conflicts

5.8 Acknowledge and respect cultural and religious differences among patients and colleagues

## ۲۲. Topic Outline and Schedule:

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

<b>Topic/Assignment</b>	<b>Week</b>
Introduction: Ethics in research	Week 1,2
Development of specific research question, literature search Study design and methodologies in clinical research, design of data collection tools	Week 3-5
Data collection and entry	Weeks 5-6
Sample statistical analysis	Week 7
Written report submission	Week 8
Oral presentations	Week 9

### 23. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

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

Learning skills:

Critical thinking  
Digital literacy  
Problem-solving skills  
Self-directed learning  
Team-based learning  
Scientific reasoning  
Communication skills

### 4 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

- Written report
- Oral Discussions
- Homework and assignments
- Presentation.

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

A- Attendance policies:

Being 15 minutes late for two days is considered as one absence

One absence is given first warning

Two absences merits dismissing student from class

E- Grading policy:

<b>Evaluation</b>	<b>Point %</b>
<b>Attitude and attendance</b>	<b>10</b>
<b>Weekly discussions</b>	<b>10</b>
<b>Final written report</b>	40
<b>Oral presentation</b>	40

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

Classrooms, internet connection, and data show, e-library

**¶6 Course Policies:**

A- Attendance policies:

B- Absences from exams and submitting assignments on time:

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

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

**¶7 References:**

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

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.

A- Re

B- Recommended books, materials, and media:

C-

Selected Journal articles depending on the project.

B- Re

**8 Additional information:**

None

Name of Course Coordinator: -Prof. Abla Albsoul--Signature: ----- Date: -----

Head of Curriculum Committee/Department: ----- Signature: -----  
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Head of Department: ----- Signature: -----  
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Head of Curriculum Committee/Faculty: ----- Signature: -----  
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