

## The University of Jordan

**Faculty: School of Pharmacy**

**Department: Biopharmaceutics and Clinical Pharmacy**

**BSc Pharmacy/ PharmD**

**Academic Year/ Semester: 2014/2015, 1<sup>st</sup> semester**

### Pharmacoeconomics (1203401)

|                              |                |                      |                    |                      |                |
|------------------------------|----------------|----------------------|--------------------|----------------------|----------------|
| <b>Credit hours</b>          | <b>2</b>       | <b>Level</b>         | <b>Year 4</b>      | <b>Pre-requisite</b> | <b>1203364</b> |
| <b>Coordinator/ Lecturer</b> | Dr Eman Hammad | <b>Office number</b> | 118                | <b>Office phone</b>  | 23364          |
| <b>Course website</b>        |                | <b>E-mail</b>        | e.hammad@ju.edu.jo | <b>Place</b>         | As bellow      |

Sections venues

| <b>Section #</b> | <b>Venue, Hall name</b>  | <b>Time</b>                      |
|------------------|--|----------------------------------|
| 1+2              | Hammad class room, 3 <sup>rd</sup> floor;<br>Faculty of Pharmacy | 12-1 (Mon-Wed)<br>1-2 (Mon- Wed) |
| 3                | Al-Hikma class room, ground floor;<br>Faculty of Pharmacy        | 8-9 (Sun-Tue)                    |

| <b>Office hours</b> |               |               |                |                  |                 |
|---------------------|---------------|---------------|----------------|------------------|-----------------|
| <b>Day/Time</b>     | <b>Sunday</b> | <b>Monday</b> | <b>Tuesday</b> | <b>Wednesday</b> | <b>Thursday</b> |
| 9-11                | ✓             |               | ✓              |                  |                 |
| 3-4                 |               | ✓             |                | ✓                |                 |

### **Course Description**

Pharmacoeconomics provides an introduction to the principles and tools of Pharmacoeconomics and health outcomes assessment that are commonly used to study the impact of pharmaceutical products and interventions on the healthcare of patients or communities. It aims to help the students to understand the basic concepts of Pharmacoeconomics and its application in informing health decisions.

## **Learning Objectives**

By the end of this course, student should be able to:

- To understand the basic concepts of Pharmacoeconomics and its distinctive role in analyzing the economic impact of health interventions
- To understand different types of health economic evaluations and technique of analysis
- To understand the use and application of Pharmacoeconomics and the way it would inform health commission decisions in healthcare systems

## **Intended Learning Outcomes (ILOs):**

Successful completion of the course should lead to the following outcomes:

### **A. Knowledge and Understanding:** Student is expected to

A1-Understand why Pharmacoeconomics distinguishes itself as a unique “toolbox” for use in analyzing the economic impact of pharmaceutical interventions on health care systems

A2-Understand how economic ideas and principles may be applied to health and health care

A3-Understand how the perspective of economic evaluation might influence decision analysis and costing of drugs and services.

A4-Understand of Jordanian pharmaceutical pricing system and the application of Pharmaco/Health economics in other countries

### **B. Intellectual Analytical and Cognitive Skills:** Student is expected to

B1-Develop skills to drive the relevant cost and revenue streams needed to conduct a Pharmacoeconomics analysis

B2-Develop an appreciation of the links between economic evaluation in health services research and decision making.

B3-Articulate the usefulness of economic analysis in promoting efficient and equitable health care systems

### **C. Subject-Specific Skills:** Student is expected to

C1-Analyze issues and problems in the funding, provision, utilization and evaluation of health services from an economic perspective

C2-Apply the concepts learnt in the analysis of existing health care policy and health commission

C3-be Able to find and critically appraise economic studies which are concerned with the allocation of scarce health care resources

**D. Transferable Key Skills:** Students is expected to

D1-Gain proper skills in evaluating/developing health research and interventions to ensure optimum use in care systems where resources are scarce

D2-Gain proper skills in responding to cost-effectiveness questions in Jordan market and day to day clinical and marketing practice

**ILOs: Learning and Evaluation Methods**

| <b>ILO/s</b>         | <b>Learning Methods</b>               | <b>Evaluation Methods</b>        |
|----------------------|---------------------------------------|----------------------------------|
| <b>A1-4,B1,C1,C2</b> | Lectures and class based discussions  | Exams                            |
| <b>D1-2</b>          | Assignments and workshops             | Class cases and group discussion |
| <b>B1-3,D1-2</b>     | Workshops and class based discussions | Class cases and group discussion |

**Course Contents**

| <b>Content</b>  | <b>Reference</b> | <b>Week</b> | <b>ILO/s</b>    |
|---|------------------|-------------|-----------------|
| Introduction to health/Pharmacoeconomics,   | 1                | <b>W1</b>   | <b>A1</b>       |
| Basic concepts and terminology in Pharmacoeconomics<br><ul style="list-style-type: none"><li>• Determination of cost and outcomes</li><li>• Perspectives of pharmacoeconomics evaluations</li></ul> | <b>1</b>         | <b>W2-3</b> | <b>A2-3, B1</b> |

| <b>Content</b>  | <b>Reference</b>                   | <b>Week</b> | <b>ILO/s</b>     |
|---|------------------------------------|-------------|------------------|
| Type of pharmacoeconomics evaluations <ul style="list-style-type: none"> <li>• Cost –minimization analysis (CMA)</li> <li>• Cost effectiveness analysis (CEA)</li> <li>• Cost utility analysis (CUA)</li> <li>• Cost benefit analysis (CBA)</li> <li>Budget Impact analysis (BIA)</li> <li>• Cost of illness</li> </ul> | 1<br><br><br><br><br><br><br>3,4,5 | W4-W6       | B1-2<br>C1-2, D1 |
| Workshop 1  | W7                                 |             |                  |
| Midterm   | W8                                 |             |                  |
| Techniques for the analysis of pharmacoeconomics <ul style="list-style-type: none"> <li>• Sensitivity analysis</li> <li>• Decision analysis and incremental cost analysis</li> <li>• Discounting in health costs</li> </ul>   | 1                                  | W9-W10      | B1, B3, C1       |
| Quiz 1  |                                    | W9-10       |                  |
| Workshop 2  | W9-10                              |             |                  |
| Critical appraisal of economic evaluations  | 1                                  | W11         | C3, D1-2         |
| Workshop 3  | W12                                |             |                  |
| Pharmacoeconomic guidelines worldwide   | 2,3                                | W13         | C1-2, D1-2       |
| The use of Pharmacoeconomic in policy making and informing health decision  | 2,3                                | W14         |                  |
| Applied pharmacoeconomics and JFDA pricing in Jordan  | 2,3                                | W14-15      | C1-2             |

### **Learning Methodology**

- 1) Lectures
- 2) Class discussion
- 3) Assignments

### **Projects and Assignments**

Will be agreed in class as appropriate

### **Workshop**

Three workshops are planned during this course. Workshop is a class exercise based on group work. Student will be given 1- 2 tasks with some reading materials and asked to work through them. This would be followed by feedback and class discussion. The tasks intended in this course will includes tasks on understanding, decision making, and critical appraisal of different type of health economic evaluations

### **Evaluation**

| <b>Evaluation</b>         | <b>Point %</b> | <b>Date</b> |
|---------------------------|----------------|-------------|
| <b>Midterm Exam</b>       | <b>40%</b>     | <b>tbc</b>  |
| <b>Quizzes+ workshops</b> | <b>10%</b>     | <b>tbc</b>  |
| <b>Final Exam</b>         | <b>50%</b>     | <b>tbc</b>  |

### **Main Reference/s:**

1. Methods for the economic evaluation of health care programs, Drummond, M.F., M.J. Sculpher, and G.W. Torrance, 2005: Oxford university press. ISBN-13: 978-0198529453
2. ISPOR, Health care cost, quality, and outcomes (ISPOR book of terms). 2003. ISBN-13: 978-0974328904
3. Essentials of Pharmacoeconomics, Rascati, KL. Second Edition Wolters-Kluwer - Lippincott, ISBN-13: 978-1451175936
4. Decision Modelling for Health Economic Evaluation, Briggs A, Claxton K, Sculpher M. 1<sup>st</sup> Edition. Oxford university press. ISBN-13: 978-0198526629
5. Health Economics for Non-Economists: An Introduction to the Concepts, Methods and Pitfalls of Health Economic Evaluations. Annemans L. Academia P., Gent : c2008. ISBN-13: 978-9038212746