**Course Description Form**

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| 1. Course Name:
 |
| Pharmacoeconomics  |
| 1. Course Code:
 |
| **563 GP** |
| 1. Semester / Year:
 |
| 2nd semester/ 5th year students |
| 1. Description Preparation Date:
 |
| Feb 19, 2024 |
| 1. Available Attendance Forms:
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| Class attendance (on-campus)  |
| 1. Number of Credit Hours (Total) / Number of Units (Total)
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| 2 hours/2 Units |
| 1. Course administrator's name (mention all, if more than one name)
 |
| Name of the First instructor of the Course: Dr. Ali Azeez Al-JumailiAcademic Rank: Associate Professor Degree: PhDE-mail: ali.baraak@copharm.uobaghdad.edu.iqName of the second instructor of the Course: Dr. Mohammed Yawuz JamalAcademic Rank: LecturerDegree: Board in Clinical PharmacyE-mail: mohammed.ahmed@copharm.uobaghdad.edu.iqName of the third: Ali Lateef JasimAcademic Rank: LecturerDegree: PhDE-mail: ali.jassem@copharm.uobaghdad.edu.iq |
| 1. Course Objectives
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| **Course Objectives** | **Course Objectives** |
| 1. Teaching and Learning Strategies
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| **Strategy** | **Strategy** |
| 1. Course Structure
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| **Week**  | **Hours**  | **Required Learning Outcomes**  | **Unit or subject name**  | **Learning method**  | **Evaluation method**  |
| 1 | 4 | 1. Introduce Pharmacoeconomic principles.
2. Demonstrate types of healthcare costs with examples
3. Learn about ECHO model for the 3 patient outcome types.
4. Explain and differentiate among the 4 methods of Pharmacoeconomic analyses.
 | Basic principle of Pharmacoeconomics | Interactive lectures and related articles | Simple quizzes |
| 2 | 4 | 1. Identifying costs
2. Types of costs (Direct Medical Costs, Direct Nonmedical Costs, Indirect costs, Intangible costs)
3. Incremental costs and marginal costs
4. Opportunity costs
5. How are costs valued?

Timing Adjustments for Costs | Cost analysis | Interactive lectures and related articles | Simple quizzes |
| 3 | 4 | 1. Understand the Cost-effectiveness analysis
2. Outcome measures in cost-effectiveness analysis
3. Knowing how to calculate Cost-effectiveness Ratios
 | Cost-minimizing analysis and Cost effectiveness analyses (CEA). | Interactive lectures and related articles | Simple quizzes |
| 4 | 4 | 1. Understand the Cost-Benefit Analysis method.
2. Knowing how to calculate the indirect cost of the disease and indirect benefit of the intervention/program using Human Capital Method (HCM).
3. Using HCM to calculate Daily wage rate and Missed days to find out the indirect benefit of the intervention/management.
4. Describe in details Willingness-to-Pay Method (WTP): Hypothetical Scenario & Bidding Vehicles
5. Formats for presenting Cost-Benefit Analysis (CBA)

When should we select Cost-Benefit or Cost-Effectiveness Analysis? | Cost-benefit analysis (CBA) | Interactive lectures and related articles | Simple quizzes |
| 5 | 4 | 1. Use of decision analysis to design economic evaluations
2. Decision Analysis Structure or tree
 | Critical assessment of economic evaluation | Interactive lectures and related articles | Simple quizzes |
| 6 | 4 | 1. Define Cost of illness
2. Knowing how to calculate Cost of illness
3. Understand the difference between healthcare costs and Cost of illness
 | Drug-focused versus disease-focused frame work for conductingPharmacoeconomic analyses. | Interactive lectures and related articles | Simple quizzes |
| 7 | 4 | the students should be able to: 1. define epidemiology, describe basic terminology and concepts of epidemiology.
2. identify types of data sources.
3. identify basic methods of data collection and interpretation.
 | Introduction to epidemiology. | Interactive lectures and related articles | Simple quizzes |
| 8 | 2 | Cost-Effectiveness project can be assigned to teach students how to understand the terminologies used in published Pharmacoeconomic studies. | **Project presentation.** |  | Presentation skills |
| 1. Course Evaluation
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| 5 points for quizzes, 5 points for assignments, 20 points for midterm exam and 70 points for the final exam |
| 1. Learning and Teaching Resources
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| Required textbooks (curricular books, if any) | Bootman JL, Townsend RJ, McGhan WF, (Eds.), Principles of Pharmacoeconomics, 2nd ed., Harvey Whitney Books Company, Cincinnati, Oh, latest editionRenée J.G. Arnold. Pharmacoeconomics From Theory to Practice. Second Edition, 2021. CRC Press, Boca Raton, FL, USA |
| Main references (sources) | Hasan Raid, **Ali Azeez Al-Jumaili,** Nizar Abdulateef Al Ani. Reference Infliximab (Remicade) compared to its biosimilar (Remsima) in patients with Ankylosing spondylitis: A Field-based Pharmacoeconomic study. Al-Kindy College Medical Journal. April 30, 2023:19 (1). <https://doi.org/10.47723/kcmj.v19i1.908>Hasan Raid Fadhil, **Ali Azeez Al-Jumaili,** and Nizar Abdulateef Al Ani. Cost-effectiveness Analysis of Reference Infliximab (Remicade) Compared to its Biosimilar (Remsima) in Iraqi Patients with Rheumatoid Arthritis. Iraqi J Pharm Sci, Vol.31(Suppl.) 2022. <https://doi.org/10.31351/vol31issSuppl.pp100-110> |
| Recommended books and references (scientific journals, reports...) | **Value in Health Journal**[Value in Health | Journal | ScienceDirect.com by Elsevier](https://www.sciencedirect.com/journal/value-in-health)**Value in Health Journal Regional Issues**[**https://www.valuehealthregionalissues.com/**](https://www.valuehealthregionalissues.com/) |
| Electronic References, Websites | Value **in Health Journal and Value in Health Journal Regional Issues** |