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| Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department | QF02/0408-4, E |
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| Study Plan No. | 2021/2022 | University Specialization | Bachelor of Pharmacy |
| Course No. | 0201381 | Course Name | Pharmacology (2) |
| Credit Hours | 3 | Prerequisite *Co-requisite | Pharmacology (1) |
| Course Type | <input type="checkbox"/> Mandatory University Requirement | <input type="checkbox"/> University Elective Requirement | <input type="checkbox"/> Faculty Mandatory Requirement |
| | | <input type="checkbox"/> Support course family requirements | <input checked="" type="checkbox"/> Mandatory Requirement |
| | | | <input type="checkbox"/> Elective Requirement |
| Teaching Style | <input type="checkbox"/> Full Online Learning | <input checked="" type="checkbox"/> Blended Learning | <input type="checkbox"/> Traditional Learning |
| Teaching Model | <input type="checkbox"/> 1 Synchronous: 1 Asynchronous | <input checked="" type="checkbox"/> 1 Face to Face: 1 Asynchronous | <input type="checkbox"/> 2 Traditional |

Faculty Member and Study Divisions Information (to be filled in each semester by the subject instructor)

| Faculty Member and Study Division Information (to be filled in each semester by the subject instructor) | | | | | |
|---|------------------------------|------------|-----------------------|---------------------|--------------------------------------|
| Name | Academic rank | Office No. | Phone No. | E-mail | |
| | | | | | |
| Office Hours (Days/Time) | Sunday, Tuesday, Thursday () | | Monday, Wednesday () | | |
| Division number | Time | Place | Number of Students | Teaching Style | Approved Model |
| | | | | Blended Learning | 1 Face to Face: 1 Asynchronous |

Brief Description

This course is designed to discuss the basic and clinical pharmacology of drugs for hyperlipidemia, anticoagulant and antiplatelet agents, and drugs affecting the central nervous system the endocrine system. It will cover the pharmacodynamics, pharmacokinetics, and the clinical uses of those drugs.

Learning Resources

| | |
|--|--|
| Course Book Information (Title, author, date of issue, publisher ... etc) | 1. Lippincott Illustrated Reviews – Pharmacology; K. Whalen, C. Field, and R. Radhakrishnan; 7th Edition; 2019; Wolters Kluwer |
| Supportive Learning Resources (Books, databases, periodicals, software, applications, others) | - Basic and Clinical Pharmacology, 15th Edition by Bertram Katzung and Anthony Trevor, McGraw-Hill Education. |
| Supporting Websites | https://elearning.zuj.edu.jo/login/index.php |
| The Physical Environment for Teaching | <input checked="" type="checkbox"/> Classroom |
| | <input type="checkbox"/> Labs |
| | <input checked="" type="checkbox"/> Virtual Educational Platform |
| | <input type="checkbox"/> Others |
| Necessary Equipment and Software | - PC/laptop with headphones and camera. - Microsoft Office. - Zoom. - Moodle. |
| Supporting People with Special Needs | |

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| For Technical Support | E-Learning & Open Educational Resources Center. Email: ellearning@zu.edu.jo ; Phone: +962 6 429 1511 ext. 425/362. |
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Course learning outcomes (K= Knowledge, S= Skills, C= Competencies)

| No. | Course Learning Outcomes | The Associated Program Learning Output Code |
|---------------------------------------|---|---|
| Knowledge | | |
| The student should be able to: | | |
| K1 | Identify the mechanism of action of drugs for hyperlipidemia, anticoagulant and antiplatelet agents, and drugs affecting the central nervous system and endocrine system. | MK3 |
| K2 | Recognize the adverse reactions of drugs covered in this course. | MK3 |
| K3 | Discuss the absorption, distribution, metabolism, and excretion (ADME) of drugs covered in this course. | MK3 |
| K4 | Outline the clinical uses of drugs covered in this course. | MK3 |
| Skills | | |
| The student should be able to: | | |
| S1 | Relate the pharmacodynamics of drugs covered in this course to the clinical uses. | MS2 |
| S2 | Predict drug-drug interactions based on the pharmacodynamics and pharmacokinetics of drugs covered in this course. | MS2 |
| Competencies | | |
| The student should be able to: | | |
| C1 | Develop his/her professional and personal performance by continuously following-up lectures, submitting tasks on time, and staying up to date with the latest drug information. | MC3 |

Mechanisms for Direct Evaluation of Learning Outcomes

| Type of Assessment / Learning Style | Fully Electronic Learning | Blended Learning | Traditional Learning (Theory Learning) | Traditional Learning (Practical Learning) |
|---|---------------------------|------------------|--|---|
| Midterm Exam | 30% | 30% | 30% | 0% |
| Participation / Practical Applications | 0% | 0% | 20% | 50% |
| Asynchronous Interactive Activities | 20% | 20% | 0% | 0% |
| Final Exam | 50% | 50% | 50% | 50% |

Note 1: Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, and work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

Note 2: According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).

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Schedule of Simultaneous / Face-to-Face Encounters and their Topics

| Week | Subject | Learning Style* | Reference ** (Course book pages) |
|------|--|-----------------|-------------------------------------|
| 1 | Drugs for Hyperlipidemia | Lecture | 287-300 |
| 2 | Anticoagulant and Antiplatelet agents | Lecture | 268-286 |
| 3 | Drugs for neurodegenerative diseases: Parkinson disease | Lecture | 105-111 |
| 4 | Drugs for neurodegenerative diseases: Alzheimer disease | Lecture | 111-113 |
| 5 | Anxiolytic and hypnotic drugs | Lecture | 116-125 |
| 6 | Anesthetics | Lecture | 161-177 |
| 7 | Antidepressants | Lecture | 128-136 |
| 8 | Antipsychotic drugs | Lecture | 139-145 |
| 9 | Drugs for Epilepsy Midterm Exam | Lecture | 148-158 |
| 10 | Opioids | Lecture | 180-191 |
| 11 | Hypothalamic and pituitary hormones | Lecture | 301-306 |
| 12 | Hypothalamic and pituitary hormones | Lecture | 301-306 |
| 13 | Adrenal hormones | Lecture | 340-346 |
| 14 | Drugs for diabetes mellitus | Lecture | 311-317 |
| 15 | Drugs for diabetes mellitus | Lecture | 317-323 |
| 16 | Final Exam | | |

* Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.

** Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.

Schedule of Asynchronous Interactive Activities (in the case of e-learning and blended learning)

| Week | Task / Activity | Reference | Expected Results |
|------|---|---------------------------------------|---|
| 1 | Watch a recorded lecture on dyslipidemia | Video on the E-learning platform | Answer questions embedded in the video |
| 2 | Watch a recorded lecture on blood coagulation | Video on the E-learning platform | Answer questions embedded in the video |
| 3 | Assigning groups and topics for the multimedia presentation | - | Students will be divided into groups and each group will work on a topic for the presentation |
| 4 | Assignment (1) – drugs still in the discovery pipeline of Alzheimer's disease | Assignment on the E-Learning platform | Assignment marked out of 5 |
| 5 | Watch a recorded lecture on anxiolytic sedative, hypnotic drugs | Video on the E-learning platform | Answer questions embedded in the video |
| 6 | Online meeting for student groups to work on the presentation | - | A group representative will report progress to the instructor |
| 7 | Watch a recorded lecture on | Video on the E-learning | Answer questions |

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| | antidepressant drugs | platform | embedded in the video |
|----|---|---|---|
| 8 | Online meeting for student groups to work on the presentation | - | A group representative will report progress to the instructor |
| 9 | Midterm Exam | - | - |
| 10 | Watch a recorded lecture Assignment (2) - Epilepsy | Video and assignment on the E-learning platform | Assignment marked out of 5 |
| 11 | Online meeting for student groups to work on the presentation | - | A group representative will report progress to the instructor |
| 12 | Online meeting for student groups to work on the presentation | - | A group representative will report progress to the instructor |
| 13 | Group presentations | - | Presentations marked out of 20 |
| 14 | Group presentations | - | Presentations marked out of 20 |
| 15 | Group presentations | - | Presentations marked out of 20 |
| 16 | Final Exam | | |