

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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Study Plan No.	2021/2022	University Specialization	Bachelor of Pharmacy
Course No.	0201455	Course Name	Selected Topics in Clinical Nutrition
Credit Hours	3	Prerequisite *Co-requisite	Clinical Biochemistry and Clinical Nutrition
Course Type	☐ Mandatory University Requirement ☐ University Elective Requirement	☐ Faculty Mandatory Requirement ☐ Support course family requirements	☐ Mandatory Requirement ☒ Elective Requirement
Teaching Style	☐ Full Online Learning	☒ Blended Learning	☐ Traditional Learning
Teaching Model	☐ 1 Synchronous: 1 Asynchronous	☒ 1 Face to Face: 1 Asynchronous	☐ 2 Traditional

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

Faculty of Education - Faculty					
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Brief Description

This course provides an overview of the principles of human nutrition, including macro- and micronutrients, their biological roles, dietary sources, requirements, and the consequences of deficiencies or toxicities. It also covers pharmacy-relevant topics such as dietary supplements and food-drug interactions. Additionally, the course emphasizes dietary recommendations and medical nutrition therapy for patients with chronic diseases, including diabetes mellitus, obesity, hypertension, gastrointestinal disorders, and chronic kidney disease.

Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	1. Krause and Mahan's Food & the Nutrition Care Process by Janice L. Raymond and Kelly Morrow, Saunders, 15th edition, 2021 2. Understanding Nutrition by Eleanor Noss Whitney and Sharon Rady Rolfes, Cengage, 15th edition, 2019 3. Understanding Normal and Clinical Nutrition by Sharon Rady Rolfes, Kathryn Pinna, and Ellie Whitney, Cengage, 8th edition, 2008
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	1. Advanced Nutrition and Human Metabolism by Sareen S. Gropper, Jack L. Smith, and Timothy P. Carr, Cengage Learning, 7th edition, 2016 2. Manual of Clinical Nutrition by Compass Group, 2013 3. Pocket Atlas of Nutrition by Hans Konrad Biesalski and Peter Grimm, Thieme, 8th edition, 2011 4. Pharmacotherapy: A Pathophysiologic Approach by Joseph T. DiPiro, Gary C. Yee, L. Michael Posey, Stuart T. Haines, Thomas D. Nolin, and Vicki Ellingrod, McGraw-Hill Education, 11th edition, 2020

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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Supporting Websites	https://www.osmosis.org/home/dashboard http://www.nationalacademies.org/hmd/~/media/Files/Activity%20Files/Nutrition/DRI-Tables/5Summary%20TableTables%2014.pdf?la=en			
The Physical Environment for Teaching	☒ Classroom	☐ Labs	☒ Virtual Educational Platform	☐ Others
Necessary Equipment and Software	- Microsoft Office. - Moodle			
Supporting People with Special Needs				
For Technical Support	E-Learning & Open Educational Resources Center. Email: elearning@zuj.edu.jo; Phone: +962 6 429 1511 ext. 425/362.			

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	Define recommended dietary allowance, adequate intake, estimated average requirement and tolerable upper intake level.	MK1
K2	Identify macronutrients (carbohydrates, lipids and proteins) in terms of structure, function, dietary sources and requirements, in addition to any special nutritional considerations.	MK1
K3	Identify micronutrients (vitamins and minerals) in terms of classification, function, dietary sources and requirements, deficiency and toxicity in addition to any special nutritional considerations including dietary supplements and antioxidants.	MK1
Skills		
The student should be able to:		
S1	Interpret food labels to extract nutritional information including macronutrients, micronutrients, and energy content.	MS1
S2	Provide dietary recommendations for patients with chronic diseases such as (diabetes mellitus, obesity and hypertension).	MS2
Competencies		
The student should be able to:		
C1	Advise individuals regarding healthy eating in terms of quality and quantity.	MC2

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%	30%	60%
Asynchronous	30%	30%	0%	0%

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
---	----------------

Interactive Activities				
Final Exam	40%	40%	40%	40%

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).

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

Week	Subject	Learning Style*	Reference **
1	Part I: Fundamentals of Nutrition Introduction to Nutrition (Key terms) Nutrition and Health Food safety	Lecture	Ch1: 3-11 Ch1: 26-28 Ch 19: 627-637 Whitney et al.
2	Dietary Reference Intake (DRI) and Nutritional Assessment. Food Labeling	Lecture	Ch 1: 18-22 Ch 1: 22-26 Ch 2: 56-63 Whitney et al.
3	Part II: Macronutrients Carbohydrates	Lecture	Ch 4: 99-133 Whitney et al.
4	Lipids	Lecture	Ch 5: 134-171 Whitney et al.
5	Proteins	Lecture	Ch 6: 171-194 Ch 10: 301-303 Whitney et al.
6	Part III: Micronutrients (Vitamins & Minerals) Fat-soluble vitamins (Vitamin D)	Lecture	Ch 11: 351-356 Whitney et al.
7	Fat-soluble vitamins (A, E, K)	Lecture	Ch 11: 344-349 Ch 11: 357-364 Whitney et al.
8	Part III.2.a) Major Minerals Major Minerals (Ca)	Lecture	Ch 12: 388-394 Whitney et al.
9	Part III.2.b) Trace Minerals Trace Minerals (Fe) Midterm Exam	Lecture	Ch 13 : 410-419 Whitney et al.
10	Part III.2.b) Trace Minerals Trace Minerals (Fe)	Exam	-
11	Trace Minerals (Zn, I and others)	Lecture	Ch 13 : 419-428 Whitney et al.
12	Obesity	Lecture	Ch 9: 265-274 Whitney et al.
13	Diet Therapy: gastrointestinal diseases	Lecture	Ch26 :655-660 Ch 27: 674-698

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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			Krause's et al.
14	Dietary recommendations post bariatric surgery	Lecture	B17- B32 Clinical Nutrition Management
15	Medical Nutrition Therapy for Chronic Kidney Disease/dialysis	Lecture	Ch19:367-381 Roth et al.
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	The Dietary Guidelines (Interactive video)	Ch2: 37-49 Whitney et al.	Watch the video and answer questions
2	Food Labeling (Interactive exercise -multiple choice &T/F)	Ch 2: 49-50 Whitney et al.	Answer questions on the E- exams portal/ Assignment
3	Diet Therapy : Diabetes Mellitus (Interactive video)	Ch 30: 586-618 Krause's et al.	Watch the video and answer questions
4	Diet Therapy :Cardiovascular disease (Interactive exercise -multiple choice &T/F)	Ch 32: 842-859 Ch 33: 646-676 Krause's et al.	Answer questions on the E- exams portal/ Assignment
5	Diet Therapy : Gout (Interactive video)	Ch 18: 404-600 Whitney et al. Krause's et al.	Watch the video and answer questions
6	Vit D deficiency and insufficiency (Interactive essay)	Ch 11: 351-356 Whitney et al.	Answer questions on the E- exams portal/ Assignment
7	Water-soluble vitamins (B vitamins and vitamin C) (Interactive video)	Ch 10: 302-335 Whitney et al.	Watch the video and answer questions
8	Major Minerals (P, Mg, S) (Interactive exercise -multiple choice &T/F)	Ch 12: 394-400 Whitney et al.	Answer questions on the E- exams portal/ Assignment
9	Diet Therapy – Iron deficiency anemia (Interactive essay)	Ch 118 : DiPiro	Answer questions on the E- exams portal/ Assignment

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
---	----------------

10	Diet Therapy – B12 deficiency anemia (Interactive essay)	Ch 118 : DiPiro	Answer questions on the E- exams portal/ Assignment
11	Antioxidants Dietary Supplement (Short essay)	Ch 11: 364-370 Ch 14 : 455-456 Whitney et al Krause's et al.	Answer questions on the E- exams portal/ Assignment
12	Obesity (Interactive essay)	Ch 9: 265-274 Ch 9: 274-300 Whitney et al.	Answer questions on the E- exams portal/ Assignment
13	Food and Drug Interaction (FADI) Herb and drug interaction (Interactive exercise -multiple choice &T/F)	Ch 19 :641-654 Sharon et al .	Answer questions on the E- exams portal/ Assignment
14	Ketogenic Diet (Interactive essay)	Ch 9:315-321 Sharon et al	Answer questions on the E- exams portal/ Assignment
15	Food Allergy / Celiac Disease (Interactive video)	Ch 24:755-782 Sharon et al	Watch the video and answer questions
16	Final Exam	-	-