

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	<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 type="checkbox"/> Mandatory Requirement <input checked="" 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 of Education (to be given 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

The course will provide an overview of bases of human nutrition which includes macro- and micronutrients in terms of biological role, dietary sources and requirements, consequences of deficiency and toxicity. In addition to pharmacy- related aspects such as dietary supplements and food-drug interactions. Moreover, it displays the dietary recommendations for patients with chronic diseases such as (diabetes mellitus, obesity and hypertension).

Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	1. Mahan, Kathleen and Raymond, Janice (2017). Krause's Food & the Nutrition Care Process. Saunders; 14th ed. 2. Whitney, Eleanor Noss and Rolfes, Sharon Rady (2016), Understanding Nutrition. Wadsworth Publishing; 14th ed. 3. understanding-normal-and-clinical-nutrition-8 th - Sharon et al .
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	1. Gropper, S., Smith, J. and Carr, T. (2017). Advanced Nutrition and Human Metabolism (MindTap Course List). Wadsworth Publishing; 7th Ed. 2. Manual of Clinical Nutrition, 2013. Compass Group: https://bscn2k15.weebly.com/uploads/1/2/9/2/12924787/manual_of_clinical_nutrition2013.pdf 3. Biesalski, K. and Grimm, P. (2011). Pocket Atlas of Nutrition. Thieme; 8th Ed. 4. Pharmacotherapy: A Pathophysiologic Approach, 11 ^e Joseph T. DiPiro, Gary C. Yee, L. Michael Posey, Stuart T. Haines, Thomas D. Nolin, Vicki Ellingrod
Supporting	https://www.osmosis.org/home/dashboard

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Websites	http://www.nationalacademies.org/hmd/~media/Files/Activity%20Files/Nutrition/DRI-Tables/5Summary%20TableTables%2014.pdf?la=en			
The Physical Environment for Teaching	<input checked="" type="checkbox"/> Class room	<input type="checkbox"/> Labs	<input checked="" type="checkbox"/> Virtual Educational Platform	<input type="checkbox"/> Others
Necessary Equipment and Software	<ul style="list-style-type: none"> - PC/laptop with headphones and camera. - Microsoft Office. 			
Supporting People with Special Needs				
For Technical Support	E-Learning & Open Educational Resources Center. Email: elarning@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 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
K4	Read and interpret the food labels.	MK3
Skills		
The student should be able to:		
S1	Provide a dietary recommendations for patients with chronic diseases such as (diabetes mellitus , obesity and hypertension).	MS1
Competencies		
The student should be able to:		
C1	Advise people 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%

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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).

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)	Lecture	Ch 13 : 410-419 Whitney et al.

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	Midterm Exam		
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 disease	Lecture	Ch26 :655-660 Ch 27: 674-698 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.	Describe the different approaches and tools used to plan diets and / or assess the nutritional status emphasizing the dietary guidelines (My Plate).
2	Food Labeling (Interactive exercise -multiple choice &T/F)	Ch 2: 49-50 Whitney et al.	Practice how to read and interpret the food labels.
3	Diet Therapy : Diabetes Mellitus (Interactive video)	Ch 30: 586-618 Krause's et al.	Recognize the dietary recommendations for diabetes mellitus
4	Diet Therapy :Cardiovascular disease (Interactive exercise -multiple choice &T/F)	Ch 32: 842-859 Ch 33: 646-676 Krause's et al.	Identify the dietary recommendations for cardiovascular disease
5	Diet Therapy : Gout	Ch 18: 404-600	Recognize the best &

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	(Interactive video)	Whitney et al. Krause's et al.	worst foods to eat with gout and the dietary recommendations to reduce the risk of gout attacks and hyperuricemia
6	Vit D deficiency and insufficiency (Interactive essay)	Ch 11: 351-356 Whitney et al.	Provide a full pharmaceutical care plan for vit d Vit D deficiency and insufficiency cases with education .
7	Water-soluble vitamins (B vitamins and vitamin C) (Interactive video)	Ch 10: 302-335 Whitney et al.	Recognize B vitamins and vitamin C roles ,deficiencies, toxicities and food sources.
8	Major Minerals (P, Mg, S) (Interactive exercise -multiple choice &T/F)	Ch 12: 394-400 Whitney et al.	Clarify the different classes of major minerals in terms of their structure, function, dietary sources and requirements, deficiency and toxicity in addition to any special nutritional considerations.
9	Diet Therapy – Iron deficiency anemia (Interactive essay)	Ch 118 : DiPiro	Provide a full pharmaceutical care plan for iron deficiency anemia case
10	Diet Therapy – B12 deficiency anemia (Interactive essay)	Ch 118 : DiPiro	Provide a full pharmaceutical care plan for B12 deficiency anemia case
11	Antioxidants Dietary Supplement (Short essay)	Ch 11: 364-370 Ch 14 : 455-456 Whitney et al Krause's et al.	Identify how antioxidant work and where to get them . Recognize the types of dietary supplements .
12	Obesity (Interactive essay)	Ch 9: 265-274 Ch 9: 274-300 Whitney et al.	Provide a full pharmaceutical care plan for obesity case
13	Food and Drug Interaction (FADI)	Ch 19 :641-654 Sharon et al .	Recognize the most

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	Herb and drug interaction (Interactive exercise -multiple choice &T/F)		common Food and Drug Interaction (FADI) Recognize the most common herb and drug interaction.
14	Ketogenic Diet (Interactive essay)	Ch 9:315-321 Sharon et al	Provide a brief summary for ketogenic diet .
15	Food Allergy / Celiac Disease (Interactive video)	Ch 24:755-782 Sharon et al	Identify the dietary recommendations for patient with celiac disease
16	Final Exam	-	-