Course Syllabus

1	**Course title**	Principles of Food and Nutrition
2	**Course number**	0603101
3	**Credit hours (theory, practical)**	3, 0
	Contact hours (theory, practical)	3, 0 / week
4	**Prerequisites/corequisites**	None
5	**Program title**	Food Science and Technology
6	**Program code**	042
7	**Awarding institution**	The University of Jordan
8	**School**	Agriculture
9	**Department**	Department of Nutrition and Food Technology
10	**Level of course**	2nd year
11	**Year of study and semester (s)**	2026, Spring
12	**Final Qualification**	BSc
13	**Other department (s) involved in teaching the course**	None
14	**Language of Instruction**	English
15	**Date of production/revision**	February, 2026

16. Course Coordinator:

Lana Alnimer (l_nemer@ju.edu.jo)
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17. Instructors:

Ms. Lana Al-Nimer
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Office hours:

18. Course Description:

Introduction to the nutrients with respect to classification; dietary sources, functions, and body requirements; the concept of balanced diet; the etiology and management of malnutrition. Introduction to types and causes of food spoilage, food preservation and food-borne diseases, emphasizing the status of nutrition and food industries in Jordan.

19. Course aims and outcomes:

A- Aims:

1. To acquire a basic knowledge of nutrition and food science and their relationship to human health.
2. To acquire a basic understanding of nutrients regarding chemical structure, food sources, functions, allowances, deficiency symptoms and their role in energy metabolism.
3. To be familiar with the concept of balanced diet, food groups and their nutritional significance and current dietary guidelines for healthy eating.
4. To develop an essential understanding of the scope of food science and technology, and identify and define the causes of food spoilage and why foods are processed.

CLOs for the Course	**PLOs**					
	1	**2**	**3**	**4**	**5**	**6**
K-Knowledge						
K1: An ability to explain the fundamental principles, objectives, and scope of food science and human nutrition.	**X**					
K2: An ability to describe the structure, composition, metabolism, Recommended Dietary Intakes (RDI), and nutritional value of macro- and micronutrients.	**X**		**X**			
K3: An ability to recognize the causes, symptoms, and prevention methods of food spoilage and food-borne diseases.	**X**				**X**	
K4: An ability to explain major food preservation techniques, including heat processing, low-temperature storage, water activity control, and the use of approved chemical preservatives.	**X**	**X**				
K5: An ability to demonstrate understanding of healthy eating principles, food groups, nutrition facts, and dietary planning.	**X**				**X**	
S- Skills						
S1: An ability to select the most appropriate preservation method for different types of foods based on scientific principles.	**X**	**X**				
S2: An ability to analyze how processing and preservation techniques affect food quality, safety, and nutritional value.	**X**		**X**			
S3: An ability to analyze how processing and preservation techniques affect food quality, safety, and nutritional value.	**X**		**X**			
S4: An ability to communicate scientific and nutritional information clearly and effectively.				**X**		
C- Competences						
C2: An ability to integrate knowledge of food science and nutrition to make informed decisions that promote food safety and healthy eating practices.	**X**	**X**			**X**	
C2: An ability to evaluate food quality using scientific and sensory methods and make responsible consumer choices.	**X**		**X**		**X**	
C3: An ability to work effectively in teams to plan, evaluate, and improve food handling or preservation processes.		**X**				**X**
C4: An ability to demonstrate professional responsibility by considering the environmental, economic, and societal impact of food and nutrition practices.					**X**	

B- Program SLOs: Student Learning Outcomes:

1. An ability to identify, formulate, and solve broadly-defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

20. Topic Outline and Schedule:

Topic	Week	Achieved ILOs	Reference
Introduction to Nutrition Definition of important terms and concepts	1	K1, C2	Whitney & Rolfs
Carbohydrates and Dietary Fiber -Chemical structure and food sources -Metabolism and role in energy release -Carbohydrates: Health related aspects -Allowances and body needs - Dietary fiber: Classification, functions, and health benefits	2	K1,K2, C1, C2 S4	Whitney & Rolfs
Proteins -Chemical structure and food-sources -Metabolism and functions -Protein-energy malnutrition -Protein quality and applications -Allowances and body needs	3	K1,K2, C1, C2 S4	Whitney & Rolfs
Lipids -Chemical structure and food sources -Metabolism and functions -Disorders of lipid metabolism -Allowances and body needs	4	K1,K2, C1, C2 S4	Whitney & Rolfs
Energy metabolism -Energy-releasing nutrients -Regulation and metabolism -Estimation of energy expenditure -Disorders of energy metabolism -Energy needs and recommendations	5	K1,K2, C1, C2 S4	Whitney & Rolfs
Mineral Elements and Water -Body water: Distribution, functions and balance -Electrolyte and acid- base balance -Macro-and-micro- elements: Classification, food sources, functions, metabolism and allowances -Disorders of water, electrolyte and mineral metabolism	6	K1,K2, C1, C2 S4	Whitney & Rolfs

Vitamins -Water-soluble and fat-soluble vitamins -Functions and metabolism -Food sources and allowances	7	K1,K2, C1, C2 S4	Whitney & Rolfs
Balanced Diet -The concept of balanced diet -Nutrition facts: Food labels -Food groups and their nutritional significance -Dietary guidelines for healthy eating	8	K1,K2, C1, C2 S4	Whitney & Rolfs
Midterm 24/11/2024	9		
Introduction to Food Science -Definition of important terms and concepts -The profession of food science and technology	9	K1, C2,	Vaclavik, Christian & Campbell
Food Spoilage -Types of food spoilage -Causes of food spoilage	10	K3, S2, C3	Vaclavik, Christian & Campbell
Food-borne Diseases -Causative agents and general symptoms -Management and control	11	K3, S2, C2, C3	Vaclavik, Christian & Campbell
Food preservation - heat applications - Low Temperature	12 &13	K4, S1,S3, C3	Vaclavik, Christian & Campbell
Water Activity and Food Preservation -Definition of water activity of foods -Role of water activity in food spoilage	14	K4, S1,S3, C1,C3	Vaclavik, Christian & Campbell
Food Preservation by Use of Chemicals	15	K4, S1,S3, C1,C3	Vaclavik, Christian & Campbell

21. Teaching Methods and Assignments:

Lectures and discussion with assignments strengthen through panel discussion. Creative thinking through questions given during lectures and ability of solving and analyzing problems related to each topic.

22. Evaluation Methods and Course Requirements:

Exams, quizzes and ability to analyze problems using on the spot questions or requirement of assignments.
Midterm Dec 5

23. Course Policies:

A- Attendance policies: Attendance sheet for each lecture.

B- Absences from exams and handing in assignments on time: Make up if there is an official excuse, assignment not accepted after specified date.

C- Health and safety procedures: Well-seated without any foods or drinks in class.

D- Honesty policy regarding cheating, plagiarism, misbehavior: Transferred to Students Issues committee

E- Grading policy: According to average and University policy

24. Required equipment: (Facilities, Tools, Labs, Training….)

Suitable lecture room well equipped lab with access to the internet.

25. References:

Main References:

1. Whitney E. & Rolfes SR. Understanding Nutrition. USA: Cengage learning, 2021.
2. Parker R & Pace M. Introduction to Food Science and Food Systems: Cengage Learning, 2017.
3. الموسوعة العربية للغذاء والتغذية تأليف نخبة من أساتذة الجامعات في الوطن العربي. ٢٠٠٩ أكاديميا بيروت لبنان

Other references:

1. مذكرات في مبادئ تغذية الإنسان. تأليف أ.د. حامد تكروري، أ.د. سلمى طوقان، و أ.د. حيدر الدومي. دار جليس الزمان. 2016
2. Vaclavik, Christian & Campbell. Essentials of food Science. Springers, 2021.
3. Lean, M., Fox & Cameron, Food Science, Nutrition and Health, 7th Ed., 2006
4. Weigly E.S. Mueller D.H. & Robinson C.H., Robinsons' Basic Nutrition & Diet Therapy, 8th Ed., 1996.
5. Murano P.S., Understanding Food Science & Technology, 1st Ed., 2002.

26. Additional information:

None

Name of Course Coordinator: Lana Alnimer. … Signature:……Date: ……..

Head of curriculum committee/Department:…….. Signature:

Head of Department:……Signature:

Head of curriculum committee/Faculty: ---------- Signature: ----------

Dean:---------- Signature: .....