In the Name of God

Hamadan University of Medical Sciences and Health Services
Educational Deputy of the University
Center for Studies and Development of Medical Sciences Education

Theory/Practical Lesson Plan Form

Dear Colleagues,

As the teaching-learning process is one that requires careful planning to achieve its objectives, the preparation of a lesson plan at the beginning of the educational process (as a map and guide for instructors and students) is essential. It serves as one of the main tools for the educational activities of instructors. Therefore, we kindly ask all instructors to pay utmost attention to completing the lesson plan.

Course and Instructor Details (Completing all items in this section is essential)

Course and Instructor Information

Item	Details
Course Title	Fundamentals of Human Nutrition
Instructor(s)	Dr. Ali Asghar Vahidinia; Dr. Emrullah Sharifi
Course Coordinator	Dr. Ali Asghar Vahidinia
Department Head	Dr. Ali Asghar Vahidinia
Credits (Theory / Practical)	Theory: 2 credits; Practical: 0 credits
Student Major & Level	B.Sc. in Nutrition Sciences
Semester Offered	Second Semester
Class Location	Faculty of Medicine

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Lesson Plan – Fundamentals of Human Nutrition

Session	Topic	Behavioral Objectives (By the end of the session, students should be able to…)	Learning Domain	Teaching Method	Duration	Teaching Aids	Evaluation Method
1	Overview of Nutrition and Health	Define nutrition; Define common terms in nutrition; Explain the importance of nutrition in disease prevention; Describe the role of nutrition in maintaining health; List factors affecting nutritional status; Explain the classification of malnutrition by cause; Explain the classification of malnutrition by form; Describe the general nutritional status in Iran and worldwide	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
2	Dietary Recommendations, Food Groups, and Diet Planning	Define DRI, AI, and UL; Explain the food groups in Iran; Define food units; Explain the food pyramid; Determine nutritional needs by food group; Define variety, balance, and proportion in diet; Define nutrient density	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
3	Carbohydrates (I)	Classify and describe the structure of carbohydrates; Name artificial sweeteners; Name sugar alcohols; Explain diseases caused by sugar	Cognitive	Lecture	90 min	Video projector,	Q&A

		consumption; State daily requirements; List dietary sources of sugars				whiteboard, PowerPoint	
4	Carbohydrates (II) – Fiber	Explain classification and structure of fibers; Name sources of soluble and insoluble fibers; Describe the relationship of fiber to diseases; State daily fiber requirements; State total carbohydrate requirements	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
5	Lipids (I)	Define lipids; Explain the role of lipids in human nutrition and physiology; Name types of fatty acids; Describe lipid structure; Classify fatty acids; Name dietary sources of fatty acids	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
6	Lipids (II)	Define phospholipids and explain their role; Describe types of sterols and lipid-like compounds; Explain cholesterol and its relation to serum lipids; Describe lipoproteins and their relation to dietary fat intake; Name diseases related to lipids; Determine daily fat requirements	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
7	Proteins	Describe chemical structure of proteins; Explain their nutritional importance; Classify proteins; Identify essential amino acids; Identify limiting amino acids; Determine protein quality; Name diseases from protein imbalance; State daily protein requirements; Describe dietary sources of protein	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
8	Energy	Define calorimetry and types; Explain respiratory quotient; Define and calculate basal metabolic rate (BMR); List factors affecting BMR; Explain energy needs by age and sex; Describe factors affecting energy needs; Define DIT; Identify energy components	Cognitive	Lecture	90 min	Video projector, whiteboard, PowerPoint	Q&A
9	Vitamins A and D	Describe chemical structure, food sources, absorption, transport, storage, excretion,	Cognitive	Lecture + Q&A	105 min	Projector	Q&A

		deficiency symptoms, and toxicity signs for vitamin A; Do the same for vitamin D					
10	Vitamins E and K	Describe as above for vitamins E and K	Cognitive	Lecture + Q&A	105 min	Projector	Q&A
11	Vitamin-like Compounds	Explain importance and necessity of non-vitamin bioactive compounds; Name dietary sources	Cognitive	Lecture + Q&A	105 min	Projector	Q&A
12	Water-Soluble Vitamins (I)	Describe for thiamine, riboflavin, niacin, pantothenic acid, and pyridoxine the structure, sources, absorption, transport, storage, excretion, deficiency symptoms, and toxicity signs	Cognitive	Lecture + Q&A	105 min	Projector	Q&A
13	Water-Soluble Vitamins (II)	Describe as above for folate, cobalamin, biotin, and vitamin C (ascorbic acid)	Cognitive	Lecture + Q&A	105 min	Projector	Q&A
14	Minerals (I)	Describe as above for folate, calcium, phosphorus, magnesium, iron, zinc, and copper	Cognitive	Lecture + Q&A	105 min	Projector	Q&A
15	Minerals (II)	Describe as above for sulfur, fluoride, iodine, selenium, and manganese	Cognitive	Lecture + Q&A	105 min	Projector	Q&A
16	Minerals (III)	Describe as above for chromium, molybdenum, boron, cobalt, and other trace elements	Cognitive	Lecture + Q&A	105 min	Projector	Q&A

Grading Scheme

Evaluation Type	Evaluation Tool	Points
Quiz	—	—
Project Presentation	—	—
Midterm Exam	—	—
Final Exam	MCQ	18
Other	Active and regular participation, adherence to class rules, engagement in discussions	2
Total	—	**20**

References

1. Krause's Fundamentals of Nutrition, latest edition
2. Modern Nutrition, latest edition