



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Nutritional Biochemistry							
Course Code		GMP616		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	8	Workload	200 (Hours)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		1. To ensure that students have a basic knowledge of the effects of nutrition on health by emphasizing the mechanisms of biochemical reactions and metabolism 2. Show the principles that are important to prevent nutrition-related diseases 3. Adapt knowledge about the relationship between nutrition and human metabolism to food systems							
Course Content		Regulation of digestion, absorption, energy metabolism; Carbohydrate, fat, protein metabolism; Vitamin, mineral, trace element metabolism, absorption, toxicity; Inorganic nutrients; Free radicals, oxidative stress, antioxidants, enzymes: molecular mechanism and health; Nutritional principles for different ages, gender, and occupational groups, anthropometric measures, infection and immune system, nutrition and cardiovascular disorders, effects of nutrition on cancer, congenital metabolic disorders; Basic metabolic problems and regulatory diets.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study					
Name of Lecturer(s)		Assoc. Prof. Olcay BOYACIOĞLU							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	50
Quiz	4	10
Attending Lectures	1	10

Recommended or Required Reading

1	Yildiz, F. 2010. Advances in food biochemistry. CRC Press, Boca Raton.
2	Costa, P.B. 2010. Nutrition management of patients with inherited metabolic disorders. Jones and Bartlett Publishers, Sudbury.
3	Brody, T. 1999. Nutritional Biochemistry. Academic Press, San Diego.

Week Weekly Detailed Course Contents & Teaching Methods

Week	Weekly Detailed Course Contents & Teaching Methods
1	Theoretical Introduction to nutrition biochemistry, classification of biological structures
2	Theoretical Digestion and absorption, digestion-resistant foods
3	Theoretical Energy intake and expenditure, regulation of energy metabolism
4	Theoretical Carbohydrate metabolism
5	Theoretical Fat metabolism
6	Theoretical Protein metabolism
7	Theoretical Vitamin, mineral and trace element metabolism and function, requirements, sources, absorption and toxicity
8	Theoretical Inorganic foods
9	Theoretical Free radicals, oxidative stress, antioxidants, antioxidant enzymes: molecular mechanism and health effects
10	Theoretical Nutritional principles for different age, gender, and occupational groups, anthropometric measures, infection and immune system
11	Theoretical Nutrition and cardiovascular diseases
12	Theoretical Effect of nutrition style on cancer
13	Theoretical Congenital metabolic disorders
14	Theoretical Basic metabolic problems and regulatory diets (osteoporosis, diabetes, rheumatism, kidney, digestive system, liver diseases)

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Assignment	2	28	2	60
Midterm Examination	1	29	1	30



Final Examination	1	39	1	40
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = ECTS	8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

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Programme Outcomes (Food Engineering Doctorate)

1	Developing and investigating the details of current and advanced knowledge in the field of Food Engineering by original thought and/or research on the level of expertise based on the graduate qualification and reaching to the original definitions that bring innovation to science.
2	Gain of ability of develop strategies, policies and implementation plans in the field of food engineering and evaluate the results within the framework of quality processes.
3	Gain of ability to perceive, design, evaluate and finish an original process by using and following the knowledge of the recent developments in the engineering fields.
4	Gain of ability of making critical analysis, synthesis and evaluation of ideas and development in food engineering field
5	Having advanced knowledge of food science and its applications based on doctoral level qualifications.

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5	L6	L7	L8	L9
P1	1			1	1		1		1
P2						2		3	
P3									3
P4		2	2						

