



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Food Chemistry and Analysis I							
Course Code		BDB207		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	94 (Hours)	Theory	2	Practice	0	Laboratory	2
Objectives of the Course		To teach the structural and chemical properties of macronutrients such as carbohydrates, proteins and fats, and other food compounds such as enzymes, pigments and aromatic compounds; including the chemical changes which undergo during the production-consumption period of foods							
Course Content		Solutions and colloidal systems, Structures, classifications and properties of carbohydrates, proteins and lipids, Structures and classifications of enzymes; their occurrence in foods and usage in food industry. Factors affecting enzymatic reactions, Functions and specifications of pigments, aroma and flavor compounds							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)		Lec. Ayçıl ÖZTURAN SİRİN, Lec. Duygu KAYA BİLECENOĞLU							

### Prerequisites & Co-requisites

Co-requisite	BDB115
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### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	70
Laboratory	1	20

### Recommended or Required Reading

1	Campbell-Platt G. Food Science and Technology. Wiley-Blackwell, Oxford UK, 2009
2	Belitz HD.,Grosch W. Food Chemistry. Springer-Verlag Berlin Heidelberg Germany, 1999.
3	Fennema OR. Food Chemistry. Third Ed. MarcelDekker, INC. New York, 1996

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to module
	Laboratory	Introduction laboratory work
2	Theoretical	Colloidal systems/Solutions
	Laboratory	Colloidal systems / Solutions practice
3	Theoretical	Carbohydrates I
	Laboratory	Carbohydrates practice -I
4	Theoretical	Carbohydrates II
	Laboratory	Carbohydrates practice -II
5	Theoretical	Proteins I
	Laboratory	Proteins practice - I
6	Theoretical	Proteins II
	Laboratory	Proteins practice - II



7	Intermediate Exam	Midterm Exam
8	Theoretical	Lipids I
	Laboratory	Lipids practice -I
9	Theoretical	Lipids II
	Laboratory	Lipids practice -II
10	Theoretical	Enzymes
	Laboratory	Enzymes practice
11	Laboratory	Laboratory Exam
12	Theoretical	Pigments
	Laboratory	Pigments practice
13	Theoretical	Organic flavor compounds
	Laboratory	Organic flavor compounds practice
14	Theoretical	General Repeatation
15	Final Exam	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	12	1	2	36
Laboratory	12	1	2	36
Midterm Examination	1	10	1	11
Final Examination	1	10	1	11
Total Workload (Hours)				94
[Total Workload (Hours) / 25*] = ECTS				4

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	Having sufficient knowledge on physical and chemical properties of macronutrients and other food components
2	Understanding the chemical and physical reactions that influence food quality
3	Comprehending the principles of basic food analysis
4	Understand the terms of food chemistry.
5	Understand the chemical reactions and functional structure of food components.

### Programme Outcomes (Nutrition and Dietetics)

1	Assess, apply and evaluate the accuracy, reliability and validity of basic knowledge and evidence based current scientific developments on nutrition and dietetics.
2	Assess scientifically the energy and nutrients need of individuals and develop nutrition plans and programs for the clients according to the principles of adequate and balanced nutrition and assessment of energy and nutrient requirements
3	Develop food and nutrition plans and policies for the prevention and promotion of healthy lifestyle applying the methods of nutritional assessment for the population.
4	Assess the nutritional status of the patients, evaluate the clinical symptoms, plan and apply individualized medical nutrition therapy for the patients.
5	Evaluate the factors affecting the quality of food consumed by the individuals and populations from production to consumption and implement the legal standards and legislations on food safety and food security.
6	Consider, interpret and apply the basic scientific knowledge on nutrition and dietetics especially have skills on critical thinking, problem solving and decision making and use effectively the appropriate current technologies and computer, demonstrate skills in preparing research manuscripts, project proposals, collecting and verifying data and writing report.
7	Assess, evaluate and interpret the nutritional status of the individuals and population groups using current knowledge, develop preventive measures, apply medical nutrition therapy, demonstrate active participation, teamwork and contributions with national and international stakeholders in health and social areas, in terms of ethical principles.



8	Plan menus in the institutional food service systems depending on the energy and nutrient requirements of target groups in the scope of nutrition and dietetic principles, take care of food safety in all settings from purchase of food to service, apply appropriate service using technological developments.
9	Develop and use effective strategies for the education, counseling and encouragement of individuals and population groups to facilitate behavior change and choose healthy and safety foods, prepare and update the related educational materials.
10	Apply laboratory work on product development, food analysis and related factors effecting food quality and interpret the results and evaluate them according to the legal arrangements.
11	Plan, manage, evaluate, monitor and report researches and programs to educate and increase and improve the knowledge and awareness of individuals and population groups on healthy nutrition during all lifecycle period, and lead such activities, support and take role in the preparation and implementation of national and international food and nutrition plans and policies.
12	Work and perform duties in the scope of occupational responsibilities and ethical principles, understand the importance of lifelong learning, follow the latest developments (innovations) in science, technology and health, demonstrate professional attributes for the enhancement of nutrition and dietetics profession.
13	Use, apply, discuss and share scientific and evidence based knowledge in nutrition and dietetics practice with team and team members, develop and demonstrate effective skills using oral, print, visual methods in communicating and expressing thoughts and ideas, communicate with all stakeholders within ethical principles. Develop and demonstrate effective communications skills using oral, print, visual, electronic and mass media methods
14	Plan, apply, monitor and evaluate individualized medical nutrition therapy within interdisciplinary approaches, considering the sociocultural, economical status of patients in various age groups and also contribute to clinical researches.

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

	L1	L2	L3
P1	2	3	3
P2	3	3	3
P3	2	2	2
P4	4	3	4
P5	2	2	2
P6	3	4	2
P7	2	2	1
P8	4	3	2
P9	4	2	3
P10	2	1	2
P11	3	2	4
P12	2	3	2
P13	3	2	3
P14	4	4	2

