Medical Biology and Genetic

Medical Biology and Genetic	Code	Term	Theory (hours/week)	Application (hours/week)	Laboratory (hours/week)	ECTS
	BDB102	2.semester/spring	2	0	0	3
Prerequisites	None					
Language of Instruction	Turkish					
Course Type	Compulsory					
Learning and Teaching Techniques of The Course	Expression					
Instructor(s)	Asst. Prof. Dr. Elif PALA Lecturer Deniz MIHÇIOĞLU					
Goal	Ability to have knowledge in molecular biology, cell biology and molecular genetics, and to adapt the knowledge to nutrition and dietetics					
Learning Outcomes	1. Define the cell and its general properties 2. Explain the forms and stages of cell division 3. To be able to describe similarities and differences between genomic and mitochondrial DNA, to be able to learn basic principles of inheritance 4. To be able to learn about normal cell differentiation and to define the mechanisms of cancer formation 5. To be able to learn about general genetics and explain Mendelian laws 6. To be able to learn about mutual effects of genes and to calculate deviations in Mendel's ratios 7. To be able to identify and list basic chromosomal abnormalities and mutation types 8. Describe and compare autosomal and gonosomal inheritance patterns 9. To be able to explain and explain the methods of examining genetic diseases 10. Understand the importance of genetics in nutritional disorders and biotechnological products					
References	1. Alberts, Bruce; Johnson, Alexander; Lewis, Julian; Raff, Martin; Roberts, Keith; Walter, Peter, Molecular Biology of the Cell, 2007					

Course Outline Weekly:

WEEKS	TOPİCS
1. Week	Introduction: Biology, the birth of molecular biology
2. Week	Small molecules Macromolecules
3. Week	Cell concept and components of the cell
4. Week	Cell structure and functions Cellular membranes
5. Week	Energy-enzyme and metabolism Chemical energy and metabolic pathways
6. Week	Mendelian genetics
7. Week	Genetic information: DNA structure, function and replication
8. Week	**MIDTERM EXAM**

9. Week	Genome organization: chromosome and chromatin structure
10. Week	Structure and function of RNA, types of RNA
11. Week	Genetic information flow: transcription
12. Week	Genetic information flow: protein synthesis
13. Week	Genotype phenotype associations
14. Week	Virus and bacterial genetics
15. Week	Virus and bacterial genetics

Student Work Load Table

Activities	**Number**	**Duration**	**Total Work Load**
Course Duration	14	2	28
Laboratory			
Practice			
Field Study			
Study Time Of Outside Of Class (Pre-Study, Practice, Etc.)	14	2	28
Presentations (Video shoot/Poster preparation/Oral presentation, Etc.)			
Seminars			
Project			
Case study			
Role playing, Dramatization			
Writing articles, Critique			
Time To Prepare For Midterm Exam	1	7	7
Final Exam Preparation Time	1	12	12
Total Work Load (hour) / 25(s)	**75/ 25=3**		
ECTS	**3**		

Evaluation System

Mid-Term Studies	**Number**	**Contribution**
Midterm exams	1	%100
Quiz		
Laboratory		
Practice		
Field Study		
Course Internship (If There Is)		
Homework's		
Presentation and Seminar		
Project		

Other evaluation methods		
Total Time To Activities For Midterm		100
Final works		
Final	1	%100
Homework		
Practice		
Laboratory		
Total Time To Activities For Midterm		100
Contribution Of Midterm Studies On Grades		%50
Contribution Of Final Exam On Grades		%50
Total		100

The relationship between learning outcomes and the program qualifications of the courses

Program Qualifications	**Learning outcomes**									
	L.O.1	**L.O. 2**	**L.O.3**	**L.O.4**	**L.O.5**	**L.O.6**	**L.O.7**	**L.O.8**	**L.O.9**	**L.O.10**
1. To acquire information in the basic and social sciences as the Dietitian as he profession entails and make use of it for life.										
2. To develop personalized diet and programme in accordance with the principles of adequate and balanced nutrition.										
3. To improve and develop the food and nutrition plans and policy for the development of individuals with the energy and nutrient element requirements with scientific method detection, health protection										
4. To determine and evaluate individual, the community and the patient's nutritional status by applying up-to-date information gained in the field of nutrition and dietetics. She/he can use the knowledge to raise the level of community health and the quality of life.										
5. Assess the nutritional status of the patients, evaluate the	4	4	4	4	4	4	4	4	4	4

	clinical symptoms, plan and apply individualized medical nutrition therapy for the patients.									
6.	The student can understand the basic values and culture of the society he/she is living in and gain the skill to transform him/herself in a positive way									
7.	Dietitian can improve products, make laboratory practice on elements affecting analysis and quality of nutrition, review and evaluate them regarding the legal regulations									
8.	The student embraces the concepts with regard to biological systems that form the basis of human health, Anatomy, Physiology, and the sustainability of them.	3	3	3	3	3	4	3	3	3	3
9.	The student can participate in Nutrition and Dietetics practices individually and/or within a team, 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	2	2	2	2	2	2	3	3	3	3
10.	Dietitian has knowledge to develop food and nutrition plans and policies for protection of health, in order to improvement and development by using methods for determining the nutritional status.									

Contribution to the level of proficiency: 1. Lowest, 2. Low / Medium, 3. Average, 4. High, 5. Excellent