

Dentistry			
Bachelor	TR-NQF-HE: Level 6	QF-EHEA: First Cycle	EQF-LLL: Level 6

Course Introduction and Application Information

Course Code:	DIS109		
Course Name:	Medical Biology and Genetics		
Semester:	Fall		
Course Credits:	<div>ECTS</div> <div>4</div>		
Language of instruction:	Turkish		
Course Condition:			
Does the Course Require Work Experience?:	No		
Type of course:	Compulsory Courses		
Course Level:	<div>Bachelor</div> <div>TR-NQF-HE:6. Master`s Degree</div> <div>QF-EHEA:First Cycle</div> <div>EQF-LLL:6. Master`s Degree</div>		
Mode of Delivery:	Face to face		
Course Coordinator:	Dr. Öğr. Üy. ÖYKÜ GÖNÜL GEYİK		
Course Lecturer(s):	Prof.Dr. Veysel Sabri HANÇER Dr.Öğr.Üyesi Süreyya BOZKURT Dr. Öğr. Üyesi Yemliha YILDIZ Dr.Öğr.Üyesi Öykü GÖNÜL GEYİK		
Course Assistants:			

Course Objective and Content

Course Objectives:	The aim of this course is to teach students cell structure and functioning at molecular and genetic level.
Course Content:	Learning the basic biology and genetics concepts, understanding the molecular and genetic mechanisms of the cell and evaluating the application of these concepts in the

Learning Outcomes

The students who have succeeded in this course;

- 1) Learn the structures of cells and explains the functions of organelles.
- 2) Explain the properties and functions of chromosome, DNA and RNA.
- 3) Explain DNA replication.
- 4) Define mitosis and meiosis.
- 5) Explain the cell cycle stages and control points.
- 6) Discuss transcription and its control.
- 7) Explain the genetic code and protein synthesis.
- 8) Indicate the relationship between mutations and DNA repair mechanisms.
- 9) Explain cell death and its mechanisms.

Course Flow Plan

Week	Subject	Related Preparation
1)	Meet & Greet Introduction of the syllabus and curriculum	-
2)	Structural and Common Properties of Prokaryotic and Eukaryotic Cells Cell Membrane	-
3)	Genome Structure Overview Human Genome and Organization	-
4)	Nucleus Structure and Organization General Structure and Functions of Chromosomes	-
5)	Structure and Function of the Endoplasmic Reticulum Structure and Function of Ribosome Structure and Function of Lysosome	-
6)	Structure and Function of Peroxisomes Structure and Function of Mitochondria Structure and Function of the Golgi Apparatus	-
7)	Cytoskeleton Cell-Cell Connections and Adhesion Molecules	-
8)	MIDTERM	-
9)	Transport of Molecules Between Nucleus and Cytosol Intracellular Molecule Transport	-
10)	Cell division: Mitosis-Meiosis Cell cycle and its control	-
11)	Structure and Properties of DNA and RNA, DNA Replication, Eukaryotic transcription, Genetic Code and Translation	-
12)	Epigenetic Mechanisms Control of Gene Expression	-
13)	Cell Death Intercellular Communication, Intracellular Messenger Systems Mutation and	-

values including patient privacy, communicates with patients and their relatives, knows all the characteristics of the patient, and recommends the most appropriate treatment with a patient-centered approach.	1	2	3	4	5	6	7	8	9
8) Follows technological developments, participates in national and international studies, and shares and presents own observations, experiences, and research to further advance dental practices.									
9) By adopting the principle of lifelong learning throughout the dentistry profession, follows current evidence-based dental knowledge and uses it during his professional practice.									
10) During dental practice, in cases such as abuse and addiction, performs the treatment by exhibiting the behaviors required by social ethics and legal rules, and collects and records the relevant data.									
11) Uses basic and current knowledge in the field of dentistry during professional practice for the benefit of society within the framework of national values and country realities.									
12) In natural disasters and emergency cases, takes the protective measures required by the dentistry profession; performs professional practices that benefit patients and society									
13) Generates ideas regarding health policy in dentistry, prioritizes individual and public health, and carries out preventive and therapeutic medical practices within the framework of scientific, ethical, and quality processes.									
14) Differentiates the signs and symptoms commonly encountered in the dentistry profession, makes a treatment plan and refers when necessary, and manages diseases and clinical situations regarding their urgency and patient priority.									
15) Can assume the leadership responsibility of the team he/she works for, manage it following scientific criteria, and support the professional development of the team.									

Course - Learning Outcome Relationship

No Effect	1 Lowest	2 Average	3 Highest

	Program Outcomes	Level of Contribution
1)	Has basic and up-to-date knowledge in the field of dentistry, follows scientific publications, and applies evidence-based data to his/her professional practice.	2
2)	Knows well and effectively uses devices, tools, and materials specific to diagnosis and treatment in the field of dentistry.	
3)	Evaluates the knowledge in the field of dentistry critically, integrates it with the knowledge of disciplines in the field of health, uses it by analyzing and synthesizing it.	2
4)	Produces projects related to the field of dentistry, can work with other health disciplines, takes part as a member of the research team and evaluates and reports the results obtained at a scientific level.	2
5)	Uses information that will contribute to the dentistry profession during practice, takes responsibility, and produces solutions in unforeseen situations.	2
6)	Shares, compares, and exchanges dental knowledge with professional colleagues in social and scientific environments in written, verbal, and visual forms.	
7)	Within the framework of social, scientific, and ethical values including patient privacy, communicates with patients and their relatives, knows all the characteristics of the patient, and recommends the most appropriate treatment with a patient-centered approach.	
8)	Follows technological developments, participates in national and international studies, and shares and presents own observations, experiences, and research to further advance dental practices.	
9)	By adopting the principle of lifelong learning throughout the dentistry profession, follows current evidence-based dental knowledge and uses it during his professional practice.	
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Assessment & Grading

Semester Requirements	Number of Activities	Level of Contribution
Midterms	1	% 40
Final	1	% 60
total		% 100
PERCENTAGE OF SEMESTER WORK		% 40
PERCENTAGE OF FINAL WORK		% 60
total		% 100

Workload and ECTS Credit Calculation

Activities	Number of Activities	Preparation for the Activity	Spent for the Activity Itself	Completing the Activity Requirements	Workload
Course Hours	26	2	1		78
Midterms	1	10	1		11
Final	1	10	1		11
Total Workload					100