

# TOROS ÜNİVERSİTESİ

Vocational School  
Medical Laboratory Techniques

## Course Information

MEDICAL BIOLOGY AND GENETICS					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
TLT112	Spring	2	2	3	4

<b>Prerequisites and co-requisites</b>	
<b>Language of instruction</b>	Turkish
<b>Type</b>	Required
<b>Level of Course</b>	Associate
<b>Lecturer</b>	Cem YALAZA
<b>Mode of Delivery</b>	Face to Face
<b>Suggested Subject</b>	
<b>Professional practise ( internship )</b>	None
<b>Objectives of the Course</b>	To educate students who can adjust themselves to the field of Medical Laboratory, with the accumulation of knowledge and information about cell biology, molecular genetics and tissue types.
<b>Contents of the Course</b>	In this course, the cell structure, function, and chemical composition of the tissue structure and types (epithelial tissue, connective tissue, blood tissue, muscle and nervous tissue) DNA structure, function and genetic Information flow, basic principles of heredity, definition and types of mutation, chromosome structure and analysis techniques will be studied.

## Learning Outcomes of Course

#	Learning Outcomes
1	Understand tissues that make up the cell structure, intracellular organelles and relationships between cells.
2	Learn the structural properties of the genetic material, replication mechanism and the genetic flow.
3	Have knowledge about the basic principles of heredity.
4	Understand the importance of the changes and properties in the genetic material.
5	Use the information learned about chromosome structure and analysis techniques. Examine samples with different karyotypes in laboratory practice.

## Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Cell structure, function, and chemical components	Lecture, discussion, presentation
2	Tissue structure and types	Lecture, discussion, presentation
3	Tissue structure and types	Lecture, discussion, presentation
4	DNA structure, function, genetic information flow	Lecture, discussion, presentation
5	DNA structure, function, genetic information flow	Lecture, discussion, presentation
6	Preparation for the exam	Lecture, discussion, presentation
7	Midterm	
8	Principles of basic genetic heredity	Lecture, discussion, presentation
9	Principles of basic genetic heredity	Lecture, discussion, presentation

10	Mutation and mutation types	Lecture, discussion, presentation
11	Chromosome structure	Lecture, discussion, presentation
12	Chromosome analysis techniques	Lecture, discussion, presentation
13	Laboratory-Chromosome structure and analysis techniques	Lecture, discussion, presentation
14	Laboratory-Chromosome structure and analysis techniques	Lecture, discussion, presentation
15	Preparation for the exam	Lecture, discussion, presentation
16	Final Exam	

## Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Course presentation document		

## Method of Assessment

#	Weight	Work Type	Work Title
1	40%	Mid-Term Exam	Mid-Term Exam
2	60%	Final Exam	Final Exam

## Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Understand tissues that make up the cell structure, intracellular organelles and relationships between cells.	7,10	1,2
2	Learn the structural properties of the genetic material, replication mechanism and the genetic flow.	1,2,5	1,2
3	Have knowledge about the basic principles of heredity.	5	1,2
4	Understand the importance of the changes and properties in the genetic material.	5,7,8	1,2
5	Use the information learned about chromosome structure and analysis techniques. Examine samples with different karyotypes in laboratory practice.	5,6,7,13	1,2

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

## Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	4	56
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	4	56
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0
7	Preparation for Midterm Exam	1	3	3
8	Midterm Exam	1	1	1
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0

15	Preparation for Final Exam	1	3	3
16	Final Exam	1	1	1
				<b>120</b>