

MOLECULAR PATHOLOGY TECHNIQUES

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
MOLECULAR PATHOLOGY TECHNIQUES	PLT2242550	Spring Semester	2+0	2	6
Prerequisites Courses					
Recommended Elective Courses	none				
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Required				
Course Coordinator	Lect. Merve ŞENTÜRK				
Name of Lecturer(s)	Assist.Prof. Neşe YELDİR, Lect. Merve ŞENTÜRK				
Assistant(s)	none				
Aim	It aims to provide knowledge and skills about molecular biology and pathology methods applied in the pathology laboratory.				
Course Content	This course contains; Structure and function of nucleus-nucleolus, Nucleic acids, structure and function, DNA replication, protein synthesis, Mitosis and meiosis, Molecular pathology terminology and techniques, Tissue DNA, RNA and protein extraction and purification, PCR and varieties, areas in pathology, Electrophoretic methods and blotting, Microarray technology, Cytogenetic, Mutations and mutagens, Molecular genetic pathology, DNA typing of the anatomic pathology, Tumorigenesis, tumor-related genes.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
Defines the relationship between routine pathology and molecular pathology.			16, 9	A	
Defines molecular biology and pathology techniques applied in the pathology laboratory.			16, 9	A	
Teaching Methods	16: Question - Answer Technique, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Structure and function of nucleus-nucleolus				
2	Nucleic acids, structure and function				
3	DNA replication, protein synthesis				
4	Mitosis and meiosis				
5	Molecular pathology terminology and techniques				
6	Tissue DNA, RNA and protein extraction and purification				
7	PCR and varieties, areas in pathology				
8	Electrophoretic methods and blotting				
9	Microarray technology				
10	Cytogenetic				
11	Mutations and mutagens				
12	Molecular genetic pathology				
13	DNA typing of the anatomic pathology				
14	Tumorigenesis, tumor-related genes				
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources
Lecturer's lecture notes Molecular biology of the cell, sixth edition Molecular Pathology - The Molecular Basis of Human Disease DIAGNOSTIC MOLECULAR PATHOLOGY - A Guide to Applied Molecular Testing none