

ATILIM UNIVERSITY
SCHOOL OF MEDICINE
2026-2027 Academic Year, Fall Term
Elective Course for Phase 3 Students
MED 325 Experimental Medicine
Instructor: Assist. Prof. Dr. Atakan TEVLEK

Lecture Dates Lecture Hall: C-001	TOPICS
17.09.2026 15:30-17:20	Introduction to Experimental Medicine: Definitions, Importance, and Scope
24.09.2026 15:30-17:20	Scientific Research Process and Principles of Experimental Design
01.10.2026 15:30-17:20	Ethical Principles in Preclinical Research and the 3R Rule
08.10.2026 15:30-17:20	Introduction to Cell Culture: Basic Principles
15.10.2026 15:30-17:20	<i>In Vitro</i> Cell Culture Models: Model Selection and Implementation Principles
22.10.2026 15:30-17:20	2D and 3D Cell Culture Models: Organoids and Spheroids
29.10.2026	REPUBLIC DAY – Official Holiday
05.11.2026 15:30-17:20	Application I: Evaluation of Apoptosis and Necrosis in Cell Culture Using Acridine Orange/Propidium Iodide (AO/PI) Dual Staining
12.11.2026 15:30-17:20	<i>In Vivo</i> Animal Models: Model Organism Selection and Implementation
19.11.2026 15:30-17:20	Genetically Modified Animal Models: Transgenic and Knock-out Models
26.11.2026 15:30-17:20	Genomic Techniques: DNA/RNA Isolation, PCR, RT-qPCR, Gene Expression, Gene Editing (CRISPR-Cas9), and NGS Applications
03.12.2026 15:30-17:20	Proteomic Techniques: Protein Isolation, Western Blot, ELISA, Mass Spectrometry (LC-MS/MS), and Data Interpretation

10.12.2026 15:30-17:20	Application II: Functional Analysis of a Gene, miRNA, or Protein Using NCBI or Ensembl Database
17.12.2026 15:30-17:20	Translational Medicine: From Bench to Bedside
24.12.2026 15:30-17:20	Experimental Designs and Current Advances in Experimental Medicine
31.12.2026 15:30-17:20	FINAL EXAM