

T.C.  
ATILIM UNIVERSITY FACULTY OF MEDICINE  
EDUCATION IN 2020-2021 ACADEMIC YEAR  
ACADEMIC CALENDAR

**\*\* Schedule for MED103 committee was revised and re-organized due to COVID-19 pandemic. Laboratory Practices listed below will be held at 2<sup>nd</sup> Semester. \*\***

**Laboratory Lessons:**

1. Cellular Adaptation (2 hours, Dr. Bodurođlu-Dr. Yurdakan)
2. Cellular injury and cell death (2 hours, Dr. Bodurođlu-Dr. Yurdakan)
3. Basic cultivation techniques (2 hours, Dr. Tülek)
4. Microscopy and cell structures (2 hours, Dr. Özalp)
5. DNA isolation from cell (4 hours, Dr. Özalp)
6. pH-meter (2 hours, Dr. Kılıç)
7. Spectrophotometer (2 hours, Dr. Kılıç)
8. Chromatography (2 hours, Dr. Kılıç)

COMMITTEE NAME	STARTING DATE	COMPLETION DATE
MED 101	05.10.2020	30.10.2020
MED 102	22.02.2021	02.04.2021
MED 103	02.11.2020	18.12.2020
MED 104	05.04.2021	14.05.2021
MED 105	21.12.2020	15.01.2021
MED 106	17.05.2021	11.06.2021

COMMITTEE NAME						
	MED 101	MED 102	MED 103	MED 104	MED 105	MED 106
ANATOMY PRACTICAL EXAM DATE			-			
HISTOLOGY AND EMBRYOLOGY PRACTICAL EXAM DATE			-			
COMMITTEE EXAM DATE			18.12.2020			

### MED103 THE CELL

<b>PHASE I COORDINATOR</b>	Prof. Dr. Veli Cengiz ÖZALP			
<b>PHASE I VICE COORDINATOR</b>	Asst. Prof. Dr. Nuriye Ezgi BEKTUR AYKANAT			
<b>CHAIRMAN OF THE MED 103 COMMITTEE</b>	Prof. Dr. Nedret Kılıç			
<b>MED 103 COMMITTEE DATE RANGE</b>	19.10.2020 - 04.12.2020			
<b>ACADEMIC STAFF AT THE MED 103 COMMITTEE</b>	Prof. Dr. Nedret KILIÇ - Biochemistry Prof. Dr. Necla TÜLEK - Microbiology Prof. Dr. Veli Cengiz ÖZALP - Medical Biology Prof. Dr. Gamze YURDAKAN - Pathology Assoc. Prof. Dr. Müge TECDER - Medical Pharmacology Assoc. Prof. Dr. Filiz KORKMAZ ÖZKAN - Biophysics Ass. Prof. Dr. Nuriye Ezgi BEKTUR AYKANAT - Histology and Embryology Ass. Prof. Dr Esin BODUROĞLU - Pathology Ass. Prof. Dr. Ali Doğan DURSUN - Physiology Ass. Prof. Dr. Sevil KÖSE - Medical Biology Instructor Dr. Badegül SARIKAYA - Physiology			
<b>ACADEMIC STAFF</b>	<b>THEORETICAL LECTURE TIME</b>	<b>PRACTICAL LECTURE TIME</b>	<b>INTERACTIVE EDUCATION TIME</b>	<b>TOTAL TIME</b>
<b>Histology and Embryology</b>	5	2	-	7
<b>Medical Microbiology</b>	14	7	-	21
<b>Medical Pharmacology</b>	4	-	-	4
<b>Medical Biochemistry</b>	16	8	-	24
<b>Medical Pathology</b>	6	4	-	10
<b>Physiology</b>	9	-	-	9
<b>Medical Biology</b>	21	6	2	29
<b>Biophysics</b>	6	-	-	6
<b>TOTAL</b>	81	25	2	110

<b>Office Hour</b>	-
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<b>CONTENT OF THE MED 103 COMMITTEE</b>
The basic cell structure, DNA and RNA structure, methods used in DNA isolation, cellular organelles, their structure and function, general overview to cell and cytoplasm, membranous and non-membranous organelles, cell nucleus, cellular secretion, cell skeleton, motor proteins, movement and polarisation in the cell, mechanics of cell division and cytokinesis, laboratory safety and basic principle of microscopy, tissue preparation techniques, intracellular structures, transition of drugs through the biological membrane, pharmacokinetics of drugs, amino acids, enzymes, introduction to microbiology, bacteria, viruses
<b>MED 103 COMMITTEE AIM</b>
To introduce basic biochemistry, genetics and microbiology in order to learn the normal structure, function and their pathological conditions. To be able to understand basic interaction techniques and medical applications.

## MED 103 COMMITTEE LEARNING OBJECTIVES

The students who succeeded in this course;

1. Understands the laboratory safety rules.
2. Describes the basics of cell structure and cytoskeleton; the intracellular communication pathways.
3. Explains the structure and function of DNA and RNA that store genetic information and interprets the relation between them; DNA isolation from cell.
4. Describes the structures and functions of organelles found in cell.
5. Describes the physiological features of homeostasis and properties of body fluid compartments.
6. Explains the transport system of substances through cell membrane.
7. Explains the electrical potential mechanisms and action potential in a neuron.
8. Understands the principle of intercellular signal transduction and its relation with secondary messenger systems.
9. Understands the mechanism of protein synthesis including transcription, translation, posttranscriptional and posttranslational modifications and intracellular protein trafficking.
10. Lists the cell structures of microorganisms.
11. Understands the classification and metabolism of bacteria; bacterial genetics.
12. Explains the mechanisms of bacterial pathogenesis.
13. Describes the classification, structure and replication of viruses; viral pathogenesis.
14. Describes the structure of a cell under microscope.
15. Applies basic cultivation techniques.
16. Describes the structures, reactions of amino acids, peptides and proteins.
17. Classifies amino acids and enzymes.
18. Understands the principles of enzyme kinetics.
19. Understands the structures of hydrocarbons and chemical bonds.
20. Understands how to calculate normality, molarity and percent volumes of solutions.
21. Understands how to prepare buffer solutions and measure pH.
22. Describes the principles of bioenergetics.
23. Explains cellular response to stress and noxious stimuli.
24. Describes cellular injury and cell death.
25. Describes the drug and routes and mechanism of drug administration.

26. Distinguishes cell membrane, nucleus, cytoplasm and organelles with histochemical dyes.
27. Examines and explains the parts of the microscope.
28. Sorts cell skeleton components and indicates their differences.

### RECOMMENDED BOOKS

1. Bailey & Scott's Diagnostic Microbiology (13th Edition); Patricia M. Tille; Elsevier Mosby, St. Louis, 2014.
2. Emery's Elements of Medical Genetics (15th Edition); Peter D. Turnpenny, Sian Ellard; Elsevier, Philadelphia, 2017.
3. Harper's Illustrated Biochemistry (31st Edition); Robert K. Murray, David A. Bender, Kathleen M. Botham, Peter J. Kennelly, Victor W. Rodwell, P. Anthony Weil McGrawHill-Lange, 2018
4. Jawetz, Melnick & Adelberg's Medical Microbiology (27th Edition); Karen C. Carroll, Stephen A. Morse, Timothy Mietzner, Steve Miller; McGraw-Hill, China, 2016.
5. Lippincott Illustrated Reviews: Biochemistry (7th Edition); Denise R. Ferrier; Lippincott Wilwims & Wilkins; Philadelphia, 2017.
6. Marks' Basic Medical Biochemistry A Clinical Approach (5th Edition); Michael Lieberman, Alisa Peet; Wolters Kluwer, Philadelphia, 2018.
7. Sherris Medical Microbiology (6th Edition); Kenneth Ryan, C. George Ray; McGraw-Hill, New York, 2014.
8. Teaching and Learning Communication Skills in Medicine (2nd Edition); Suzanne Kurtz, Juliet Draper, Jonathan Silverman; Radcliffe Publishing, Abingdon, 2005.
9. Thompson & Thompson Genetics in Medicine (8th Edition); Robert L. Nussbaum, Roderick R. McInnes, Huntington F. Willard; ; Elsevier, Philadelphia, 2016.
10. Histology and Cell Biology: An Introduction to Pathology (4th Edition); Abraham Kierszenbaum Laura Tres, Elsevier Saunders, Philadelphia, 2015.
11. Basic & Clinical Pharmacology (13th Edition); Bertram G. Katzung, Anthony J. Trevor; McGraw-Hill, 2015.
12. Robbins Basic Pathology (10th edition); 2018 [edited by] Vinay Kumar, Abul K. Abbas, Jon C. Aster
13. Cell and Molecular Biology (2nd edition); Nalini Chandar, PhD, Susan Viselli, PhD, Lipincot Williams & Wilkins, 2019.
14. Molecular Cell Biology (8th edition); Harvey Lodish, W.H.Freeman & Co Ltd, 2016.
15. Molecular Biology of the Cell (6th edition); Bruce Alberts, W. W. Norton & Company, 2015.
16. Jawetz, Melnick, & Adelberg's Medical Microbiology, 28e, McGraw-Hill Education, 2019.
17. Medical Microbiology (8th Edition); Murray, Rosenthal, Pfaller, 2016.
18. Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases (9th Edition); Bennett, JE, Dolin R, Blaser MJ. Elsevier, 2019.
19. Lehninger Principles of Biochemistry (7th Edition), David L. Nelson, Michael M. Cox W H Freeman & Co, 2017.
20. Textbook of Biochemistry with Clinical Correlations (7th Edition); Thomas M. Devlin (Editor) John Wiley & Sons, 2011.
21. Integrative Medical Biochemistry: Examination and Board Review, 1st Edition Michael W. King Mc Graw Hill

### MED 104 COMMITTEE EXAM WEEK

DATE	EXAM NAME	EXAM HOUR
18.12.2020	MED 103 Committee Exam	10:30-13:20
<b>Teaching Methods and Techniques</b>	<input checked="" type="checkbox"/> Lecture	<input type="checkbox"/> Case based learning
	<input type="checkbox"/> Case discussion	<input type="checkbox"/> Student presentation

	<input type="checkbox"/> Role playing	<input type="checkbox"/> Problem based learning	<input type="checkbox"/> Project	<input type="checkbox"/> Homework
	<input checked="" type="checkbox"/> Laboratory practice	<input type="checkbox"/> Team based learning	<input checked="" type="checkbox"/> Free Study	
<b>Evaluation Method</b>	Theoretical Exam (70%), Homework Assignment (30%)			
<b>Language of lectures, practicals and all other applications</b>	English			