**T.C.**

**ATILIM UNIVERSITY MEDICAL FACULTY**

**EDUCATION IN 2020-2021 ACADEMIC YEAR**

**ACADEMIC CALENDAR**

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| **COMMITTEE NAME** | **STARTING DATE** | **COMPLETION DATE** |
| **MED 202 Cardiovascular System** | 22.02.2021 | 30.04.2021 |

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|  | **MED 201** | **MED 202** | **MED 203** | **MED 204** |  |  |
| **ANATOMY PRACTICAL EXAM DATE** |  | 29.04.2021 |  |  |  |  |
| **HISTOLOGY AND EMBRYOLOGY PRACTICAL EXAM DATE** |  | 29.04.2021 |  |  |  |  |
| **PHYSIOLOGY PRACTICAL EXAM** |  | 29.04.2021 |  |  |  |  |
| **COMMITTEE EXAM DATE** |  | 30.04.2021 |  |  |  |  |

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| **PHASE II COORDINATOR** | Prof. Dr. Ali ACAR | | | |
| **PHASE II COORDINATOR ASSISTANT** | Instructor Dr. Badegül Sarıkaya | | | |
| **CHAIRMAN OF THE MED 202 COMMITTEE** | Asst. Prof. Dr. Ali Doğan DURSUN | | | |
| **MED 202 COMMITTEE DATE RANGE** | 22.02.2021 - 30.04.2021 | | | |
| **ACADEMIC STAFF AT THE MED 202 COMMITTEE** | Prof. Dr. Necla TÜLEK - Medical Microbiology  Prof. Dr. Nedret KILIÇ - Medical Biochemistry  Prof. Dr. Müge TECDER - Medical Pharmacology  Prof. Dr. Gamze YURDAKAN - Medical Pathology  Prof. Dr. Ali ACAR - Medical Microbiology  Prof. Dr. Veli Cengiz Özalp - Medical Biology  Prof. Dr. Siren SEZER - Internal Medicine  Prof. Dr. Suna EMİR - Pediatrics  Assoc. Prof. Dr. Hale ÖKTEM – Anatomy  Assoc. Prof. Dr. Hüseyin AYHAN – Cardiology  Assoc. Prof. Dr. Filiz KORKMAZ ÖZKAN – Biophysics  Asst. Prof. Dr. Bilge Duran KARADUMAN- Cardiology  Asst. Prof. Dr. Ali Doğan DURSUN – Physiology  Asst. Prof. Dr. Sevil KÖSE – Medical Biology  Asst. Prof. Dr. Esin BODUROĞLU - Medical Pathology  Asst. Prof. Dr. Nuriye Ezgi BEKTUR AYKANAT - Histology and Embryology  Asst. Prof. Dr. M.F. Tolga SOYAL- Cardiovascular Surgery  Asst. Prof. Dr. Ersin SARIÇAM - Cardiology  Instructor Dr. Badegül Sarıkaya - Physiology | | | |
| |  |  | | --- | --- | |  |  |   **ACADEMIC STAFF** | **TEORIC LESSON TİME** | **PRACTICAL LESSON TİME** | **INTERACTIVE EDUCATION**  **TIME** | **TOTAL TIME** |
| **Anatomy** | 6 | 3 | - | 9 |
| **Histology and Embryology** | 7 | 1 | - | 8 |
| **Medical Microbiology** | 22 | 2 | 2 | 26 |
| **Medical Pharmacology** | 20 | - | - | 20 |
| **Medical Biochemistry** | 4 | - | - | 4 |
| **Medical Pathology** | 21 | 1 | - | 22 |
| **Physiology** | 20 | 9 | - | 29 |
| **Medical Biology** | - | 2 | - | 2 |
| **Cardiology** | 15 | - | - | 15 |
| **Pediatrics** | 2 | - | - | 2 |
| **Cardiovascular Surgery** | 5 | - | - | 5 |
| **Internal Medicine** | 2 | - | - | 2 |
| **Biophysics** | 11 | - | - | 11 |
| **Communication skills** | 9 |  |  | 9 |
| **TOTAL** | 144 | 18 | 2 | 164 |

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| **CONTENT OF THE MED 202 COMMITTEE** | | |
| The thoracic wall, heart and pericardium anatomy; mediastinum; diaphragm; large vessels of the circulatory system; pharingeal arches, clefts, and pouches; bone marrow, development and histology of blood cells; development of heart and vessel, and conjenital malformations; heart and vessel histology; body fluids; components of blood; plasma and plasma proteins; hematopoiesis and its regulation; hemoglobin; erythrocyte, leukocyte and platelet functions; hemostatic mechanisms; heart muscle physiology; heart cycle; stimulation-transmission systems in the heart; electrocardiogram; cardiac output; arterial, capillary and venous circulation, control mechanisms of blood flow regulation and regulation of blood pressure; general physical properties of biophysical materials, solids and fluids; fluid properties of blood; basic principles of electrical potentials, heart dipole and ECG, Einthoven triangle, preload, afterload, stroke volume, heart volume-pressure relationship, oxygen consumption, circulation dynamics; anemia, polycythemia, neoplastic and nonneoplastic disorders of white cells, hypertensive and vascular disease; cardiac pathophysiology, arteriosclerosis, atherosclerosis; pathology of veins & lymphatic; vasculitis; staphylococcus and related gram positive cocci, streptococci, fungemia, blood parasites, Rickettsia spp. Coxiella Burnetii, Borrelia spp.; sepsis, endocarditis, viral myocarditis agents microorganisms diagnosis and treatment, catheter infections, vector borne diseases, Crimean Congo haemorrhagic fever, arboviruse, rodent-borne viruses; agents used in anemias and coagulation, hematopoietic growth factors; autonomic pharmacology; cardiac glycosides, drugs used in heart failure, renin-angiotensin-aldosterone pharmacology, diuretics; biochemistry of atherosclerosis, free radical metabolism and related diseases, diagnostic tests in heart diseases. | | |
| **MED 202 COMMITTEE AIM** | | |
| To understand the structure, components and functions of blood tissue, which has functions such as the transport of various substances between tissues, control of bleeding and coagulation; to learn the normal structure, function and hemodynamic properties of the circulatory system, the heart and the vascular system involved in pumping blood to tissues; to gain knowledge about the etiopathogenesis, pathology, symptoms and signs, prevention, diagnosis and treatment principles of disorders; to gain basic medical skills for the circulatory system. | | |
| **MED 202 COMMITTEE LEARNING OBJECTIVES** | | |
| The students who succeeded in this course;  Defines body fluid parts.  Explains the contents, proportions and differences of intracellular and extracellular sections.  Defines the components, physical and functional properties of blood.  Explains the structure and production of blood cells.  The organs that play a role in the making of blood define them from the prenatal period, respectively.  Describes the structure, content, functions and agents that mediate these functions, explains the functions of substances in plasma content.  Explains the structure of hemoproteins, defines the differences of myoglobin (Mb) and hemoglobin (Hb).  Describes the structure, types, properties, synthesis, destruction of the hemoglobin molecule and products formed as a result of destruction.  Describes the reactions entered by hemoglobin,  Explains the differences arising from the structure of hemoglobin and the clinical tables that may occur,  Explains hemolysis event and its causes, explains the steps of catabolism.  Explains the transportation, storage and metabolism of iron.  Explains the morphological features and functions of erythrocytes.  Defines the maturation steps of erythrocytes.  Defines the definition and normal values of the parameters belonging to erythrocytes.  Defines anemia and polycythemia, gives information about its causes and effects on circulation.  Explains how erythrocyte surface antigens constitute A B O blood typing and Rh factor, explains the differences between Rh system and ABO system.  Tells the structural features and related functions of platelets.  Describes hemostasis, explains its importance.  Explains hemostasis and coagulation mechanisms, defines extrinsic and intrinsic pathways, specifies the difference of plasma and serum in the coagulation pathway, mainly plasma proteins and their functions.  Refers to the temporary changes that platelets show in creating a temporary hemostatic plug, respectively.  Explains the fibrinolytic system and its regulation by Protein C.  Measures erythrocyte-reticulocyte count, hemoglobin, hematocrit, sedimentation and osmotic fragility,  Relates erythrocyte count, hematocrit and hemoglobin concentration.  Evaluates peripheral blood smear, leukocyte count, leukocyte formula,  Detects blood groups, measures bleeding-clotting time, applies and evaluates prothrombin time test.  Interprets the structure, electrical activity, electrophysiological features of the heart muscle and the relationship of these features with the heart's pump function.  Explains the contraction mechanisms of the heart muscle.  Explains the heart's excitation systems.  Explains the regulation of the heart study.  Describes heart sounds and foci.  Shows the cardiac cycle on the diagram, compares mechanical and electrical properties.  Defines the principles of electrocardiography recording, explains the normal electrocardiogram (ECG) components, explains the electrophysiological basis underlying the formation of the normal ECG pattern, recognizes the normal ECG wave, segment and intervals.  Draws ECG and calculates heart rate on ECG, evaluates heart rhythm and makes vector analysis.  Describes the functional properties of arteries, arterioles, capillaries, venules, veins and lymphatic systems.  Explains the organization of the circulatory system, systemic and pulmonary circulation.  Interprets the flow-pressure-resistance relationship in the circulatory system, explains the cooperation of the heart and vascular system, the pressure-flow relationship in the vascular system, and the control mechanisms of microcirculation in ensuring proper tissue perfusion.  Explains the neurogenic and hormonal mechanisms that function in the regulation of blood pressure.  Describes fetal circulation.  Explains the effect of exercise on the circulatory system.  Explains the physiological basis of blood pressure measurement, measures blood pressure.  Describes anatomical structures of heart and pericardium.  Names the branches of coronary arteries and explains clinical importance.  Describes the conducting system of heart.  Explains the cardiovascular system cross-sectional anatomy  Says the great vessels leaving & entering the heart.  Distinguishes histological features of blood cells.  Explains the embryological development of the heart and vessels.  Describes the histological features of the heart.  Identifies and compares histological features of different vessel types.  Explains the congenital malformations in the development of the cardiovascular system.  Describes the common causes of systemic infections  Defines Gram positive cocci, explains the how microbiological features contribute to the pathogenesis of the organism.  Defines the sepsis, explains the physiopathology and mechanisms of sepsis  Defines the biofilm and explains the development of biofilm, and how bacteria in a biofilm are often more resistant to host immune responses  Describes the vector borne, rhodent and arthropod borne systemic infectious agents  Describes the blood-borne parasitic diseases and explains the types and general features of plasmodium infections  Describes general information about coagulation systems and bleeding disorders  Explains the pathogenesis of atherosclerotic, hypertensive heart diseases  Defines cardiomyopathies  Defines vasculitides  Explains the cardiac, vascular, pericardial, lymphatic system neoplasms.  Explains general information about red blood cell disorders and non-tumor disorders of white blood cells.  Explains the distribution of body fluids and the etiopathogenesis of hemodynamic disorders.  Explains the biochemistry of atherosclerosis, free radical metabolism and related diseases.  Defines the diagnostic tests in heart diseases.  Defines sepsis and explains the mechanism of sepsis.  Describes the autonomic nervous system  Explain the neurotransmission in autonomic nervous system  Lists the drugs used in autonomic nervous system  Explains the mechanism of action, therapeutic applications, pharmacokinetics, pharmacodynamics and adverse effects of the drugs used in autonomic nervous system  Lists the drugs used in heart failure  Explains the mechanism of action, therapeutic applications, pharmacokinetics, pharmacodynamics and adverse effects of the drugs used in heart failure  Describes the drugs used in hypertension  Explains the mechanism of action, therapeutic applications, pharmacokinetics, pharmacodynamics and adverse effects of the drugs used in hypertension  Describes the drugs used in anemias and coagulation disorders  Explains the mechanism of action, therapeutic applications, pharmacokinetics, pharmacodynamics and adverse effects of the drugs used in anemias and coagulation disorders | | |
| 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 Wiliams & 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 202 COMMITTEE EXAM WEEK** | | |
| **DATE** | **EXAM NAME** | **EXAM HOUR** |
| 29.04.2021 | Practical Examination | 10:30 – 12:20 |
| 29.04.2021 | Practical Examination | 13:30-17:20 |
| 30.04.2021 | MED 202 Committee Exam | 09:30-12:20 |
| **Teaching Methods and Techniques** | |  |  |  |  | | --- | --- | --- | --- | | Lecture | Case based learning | Case discussion | Student presentation | | Discussion | Problem based learning | Project | Homework | | Role playing | Experiment | Report preparing | Self Learning | | Laboratory practice |  |  |  | | |
| **Evaluation Method** | Theoretical Exam (%80), Objective Structured Clinical Examination (20%) | |
| **Language of lectures, practicals and all other applications** | English | |