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| **C:\Users\Namariel\Downloads\TıpF (1)\TıpF\TıpF-2.png****MARMARA UNIVERSITY SCHOOL of MEDICINE** |
| **cardiovascular.gif**CARDIOVASCULAR SYSTEM AND RELATED DISORDERS YEAR 3 COURSE 1September 02 – October 18, 2019 |
| **Coordinator of the Course 3.1**Prof., Osman YEŞİLDAĞ  | **Coordinator of the Module 3.1**Assoc. Prof., Murat SÜNBÜL |
| **Year 3 Coordinators** Prof., Arzu İLKİ & Assoc. Prof., Pınar Mega TİBER |
| **Module Coordinator**Prof., Özlem SARIKAYA | **Introduction to Clinical Practice (ICP) Coordinator**Prof., Pemra ÜNALAN & Prof., Serap ÇİFÇİLİ |
|  **Coordinator of Multidisciplinary Students’ Lab**.Assoc. Prof., Betül KARADEMİR | **Coordinator of Clinical Skills Lab.**Assoc. Prof., Çiğdem APAYDIN |
|  **Coordinator of Assessment Unite**Assist. Prof., Cevdet NACAR | **Coordinator of Student Exchange Programs**Assist. Prof., Can ERZİK |
| **Vice-Chief Coordinators** |
| **Program**Prof., Oya ORUN | **Assessment** Assoc. Prof., Hasan R. YANANLI | **Students’ Affairs**Assist. Prof., Can ERZİK |
| **Chief Coordinator (Pre-Clinical Education)** Prof., Serap ŞİRVANCI | **Coordinator of Medical Education Program Evaluation and Development Commission**Prof. Dr., Harika ALPAY |
| **Vice Dean (Education)**Prof. Dr., Ümit Süleyman ŞEHİRLİ | **Dean** Prof., Hakan GÜNDÜZ |

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| MU MEDICAL SCHOOL PRE-CLINICAL EDUCATION PROGRAM |
| LEARNING OUTCOMES / COMPETENCIES1. Clinical Care: Qualified patient care and community oriented health care
2. Basic clinical skills
3. The organization and management of the patient and the patient care
4. The organization and the management of health care delivery services / system
5. Health promotion and disease prevention
6. Medical Knowledge and Evidence-Based Medicine
7. Appropriate information retrieval and management skills
8. The integration of knowledge, critical thinking and evidence-based decision making
9. Scientific methods and basic research skills
10. Professional Attitudes and Values
11. Communication skills and effective communication with patients / patient relatives
12. Interpersonal relationships and team working
13. Ethical and professional values, responsibilities
14. Individual, social and cultural values and responsibilities
15. Reflective practice and continuing development
16. Healthcare delivery systems, management and community oriented health care
17. Education and counseling
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| PHASE-1 LEARNING OBJECTIVES1. Understanding the normal structures and functions of human body
2. Correlating the basic concepts and principles to each other that define health and disease; applying basic concepts and principles to health and disease conditions
3. Developing clinical problem solving, clinical reasoning and evaluation skills by integrating biomedical, clinical, social and humanities knowledge
4. Gaining basic clinical skills by applications in simulated settings.
5. Awareness of the professional values in health and disease processes (professional, individual, societal) and acquisition necessary related skills
6. Evaluating critically and synthesizing all the medical evidence and perform respecting scientific, professional and ethical values
7. Acquisition skills in reflective thinking and practicing, being open to continuous individual / professional development.
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| PHASES – 1 THEMA/ORGAN SYSTEM-BASED COURSE PROGRAMSYear 1, Course 1: Introduction to Cell and Cellular ReplicationYear 1, Course 2: Cellular Metabolism and TransportYear 1, Course 3: Development and Organization of Human BodyYear 1, Course 4: Introduction to Nervous System and Human BehaviorYear 2, Course 1: Cell and Tissue Injury I Year 2, Course 2: Cell and Tissue Injury IIYear 2, Course 3: Hematopoietic System and Related DisordersYear 2, Course 4: Musculoskeletal, Integumentary Systems and Related DisordersYear 2, Course 5: Respiratory System and Related DisordersYear 3, Course 1: Cardiovascular System and Related DisordersYear 3, Course 2: Gastrointestinal System, Metabolism and Related DisordersYear 3, Course 3: Nervous System and Related DisordersYear 3, Course : Growth, Development, Mental Health and Related DisordersYear 3, Course 5: Urinary and Reproductive System and Related Disorders |

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| CARDIOVASCULAR SYSTEM AND RELATED DISORDERS |
| **AIM and LEARNING OBJECTIVES of COURSE** **Aim:** With an interdisciplinary approach, to learn about the morphology and functions of the cardiovascular system, about the principles of circulation and to correlate the pathophysiological mechanisms with the diseases of the cardiovascular system.**Learning Objectives:** * To learn the morphology of the heart and the vessels
* To describe the basic mechanisms of circulation
* To define and discuss the factors impairing the normal function of the cardiovascular system and their pathological reflections on the occurrence of the diseases
* To learn the major symptoms and signs of the cardiovascular diseases and the principles of therapeutic approaches
* To learn the methods of the prevention from the cardiovascular diseases and its epidemiological importance as related with the mortality and morbidity in the population
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| **ASSESSMENT SYSTEM**Module examination: Written exam at the end of module (10 % of final score)Practical examination: Practical exams at the end of courseCourse examination: Written exam at the end of course |  **PROGRAM EVALUATION** Evaluation at the end of the course, is done both orally and by using structured evaluation forms |
| **DEPARTMENTS PARTICIPATING IN COURSE-3.1 & MODULE-3.1** |
| * Anatomy
* Biochemistry
* Biophysics
* Cardiology
* Cardiovascular Surgery
* Clinical Pharmacology
* Family Medicine
* Histology and Embryology
 | * Nuclear Medicine
* Microbiology
* Pathology
* Pediatric Cardiology
* Physiology
* Public Health
* Radiology
 |
| **LECTURERS / TUTORS** |
| Koray AK, Professor of Cardiovascular SurgeryFigen AKALIN, Professor of Pediatric CardiologyAhmet AKICI, Professor of Clinical PharmacologyYaşar İnci ALİCAN, Professor of PhysiologySaime BATIREL, Assoc. Professor of BiochemistryZeliha Leyla CİNEL, Professor of PathologyNilgün ÇERİKÇİOĞLU, Professor of MicrobiologyŞule ÇETİNEL, Professor of Histology and EmbryologyAhmet Altuğ ÇİNÇİN, Assoc. Professor of Cardiologyİpek ERBARUT, Assist. Professor of PathologyOkan ERDOĞAN, Professor of CardiologyGünseli Ayşe GARİP İNHAN, Assoc. Professor of BiophysicsZafer GÖREN, Professor of PharmacologyAtila KARAALP, Professor of Clinical PharmacologyNesrin KARTAL ÖZER, Professor of BiochemistryÖzgür KASIMAY ÇAKIR, Assoc. Professor of PhysiologyÖzlem Tuğçe KAYA, Assist. Professor of Histology and EmbryologyAlper KEPEZ, Assoc. Professor of Cardiology | Hızır KURTEL, Professor of PhysiologyNimet Emel LÜLECİ, Professor of Public HealthBülent MUTLU, Professor of CardiologyFiliz ONAT, Professor of Clinical PharmacologyOya ORUN, Professor of BiophysicsBeste ÖZBEN SADIÇ, Professor of CardiologyNecmettin Ömer ÖZDOĞMUŞ, Assoc. Professor of AnatomyNurten SAYAR, Professor of CardiologyGüner SÖYLEDİR, Professor of MicrobiologyMehmet Ali SÖYLEMEZ, Lecturer of Medical GeneticsMurat SÜNBÜL, Assoc. Professor of CardiologyHalil Turgut TUROĞLU, Professor of Nuclear MedicineDerya TÜRELİ, Assoc. Professor of Radiology Hüseyin Kemal TÜRKÖZ, Assoc. Professor of PathologyArzu UZUNER, Professor of Family MedicineGülru Pemra ÜNALAN, Professor of Family MedicineAhmet Suha YALÇIN, Professor of BiochemistryBerrak YEGEN, Professor of PhysiologyOsman YEŞİLDAĞ, Professor of CardiologyAlper YILDIRIM, Assoc. Professor of Physiology |

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| **READING / STUDYING MATERIALS*** Pocket Guide to ECG Diagnosis, Edward K.Chung, First edition, Blackwell Science.
* Chou’s Electrocardiography in Clinical Practice, 6th edition, Surawicz, Kinilans, 2008, Saunders, Elsevier.
* Clinical Cardiology, Lange Medical Books, Melvin D. Cheitlin, Maurice Sokolow, Malcolm B. Mc Ilroy.
* Cardiac Imaging Secrets, Elsevier Neil J. Weissman MD, Gabriel A. Adelman MD, 2004.
* Clinical Electrocardiography, Ary L. Goldberger, Simplified Approach Mosby-Elsevier, 2008.
* Drugs for the Heart, Lionel H. Opie, Bernard J. Gersh 7th Edition, Saunders Elsevier.
* Current Diagnosis and Treatment in Cardiology, Michael Crawford Lange Medical Books, McGraw Hill, 2006.
* Clinical Skills, Bouchier and Morris, Saunders.
* Braunwald Heart Disease, 8th Edition, W. B. Saunders, Eugene Braunwald, Douglas P.Zipes, Peter Libby, 2012.
* **K**ardiyoloji, Editörler: İsfendiyar Candan, Derviş Oral, Ankara Üniversitesi, Tıp Fakültesi Yayınları.
* Klinik Kardiyoloji, Hasan Gök, Nobel Kitabevi, 2002.
* Lecture Notes on Cardiology, Huon H Gray, Keith H Dawkins, John M. Morgan, T. Simpson, 4th Edition Blackwell Science.
* Lecture Notes on Clinical Skills, Robert Turner, Roger Blackwood, 3rd Edition, Blackwell Science, 2003.
* Pathophysiology of Heart Disease, Leonard S. Lilly, Lea & Febiger, 2008.
* Manual of Cardiovascular Medicine, 3rd Edition, Brian P Griffin, Eric J. Topol, Lippincott Williams & Wilkins, 2004.
* Cardiovascular Diagnosis The Initial Examination, J. Willis Hurst Mosby Wolfe Medical Communication, 2004.
* Cardiac Drug Therapy, M. Gabriel Kahn, 6th Edition, Saunders.
* Handbook of Cardiovascular Emergencies, 2nd Edition, James W. Hoekstra, Lippincott Williams Wilkins.
* Hurst’s The Heart, Manual of Cardiology, 10th Edition, Robert A. O’Rourke, Valentin Fuster, R.Wayne Alexander.
* Cardiovascular Physiology Lange Physiology Series, David E. Rohrman, Louis J. Heller, 6th Edition, 2006.
* A Pocket Guide to Physical Examination and History Taking, Barbara Bates J. B., Lippincott.
* Kardiyoloji Modern Semiyoloji, Prof. Dr. Dinçer Uçak, Nobel Kitabevi, 2003.
* A Colour Atlas of Physical Signs in Cardiovascular Disease, L. M. Shapiro, K. M. Fox Wolfe Medical Publication.
* Netter’s Cardiology, Marschall S Runge, Magnus Ohman, Icon Learning Systems 2004.
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| SUMMARY OF THE COURSE  |
| **Discipline** | **Lecture & Group Discussion** | **Multidisciplinary Lab. & Clinical Skills Lab. Practice** | Total |
| Anatomy | 4 | 1 | 5 |
| Biochemistry | 10 |  | 9 |
| Biophysics | 11 |  | 11 |
| Cardiology | 28 |  | 28 |
| Cardiovascular Surgery | 1 |  | 1 |
| Clinical Pharmacology | 13 |  | 13 |
| Family Medicine | 2 |  | 2 |
| Histology and Embryology | 5 | 2 | 7 |
| Nuclear Medicine | 1 |  | 1 |
| Microbiology  | 3 |  | 3 |
| Pathology | 7 | 2 | 7 |
| Pediatric Cardiology | 5 |  | 5 |
| Physiology | 18 | 3 | 21 |
| Public Health | 2 |  | 2 |
| Radiology | 1 |  | 1 |
| Genetics | 1 |  | 1 |
| Subtotal | 112 | 8 | 120 |
| PBL Module | 10 |  | 10 |
| ICP-3: Basic Medical Practices, Clinical Skills Lab., Student Research Activity | 1 |  12 | 13 |
| **TOTAL** | **138** | **23** | **143** |

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| **SEVEN WEEK PROGRAM** |
|  | **THEORETICAL AND PRACTICAL SESSIONS** | **LECTURER(S)/TUTOR(S)** |
| **Week – 1 (02 September - 06 September 2019)** |
| **Monday** | **02 September** |   |
| 08:45-09:30 | Introduction to the course and opening lecture | Dr. Osman Yeşildağ |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Heart and pericardium | Dr. Necmettin Ömer Özdoğmuş |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Heart and pericardium | Dr. Necmettin Ömer Özdoğmuş |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Heart and pericardium | Dr. Necmettin Ömer Özdoğmuş |
| 12:30-12:35 | Discussion |   |
|   |  |   |
| 13:45-14:30 |   |   |
| 14:30-14:35 |   |   |
| 14:45-15:30 |   |   |
| 15:30-15:35 |   |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Tuesday** | **03 September** |  |
| 08:45-09:30 | Introduction to ICP-3 | ICP Lab. |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Histology of the heart | Dr. Özlem Tuğçe Kaya |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Histology of blood vessels | Dr. Özlem Tuğçe Kaya |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Histology of blood vessels | Dr. Özlem Tuğçe Kaya |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Physiological properties of the cardiac muscle | Dr. Yaşar İnci Alican |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Regulation of cardiac functions | Dr. Yaşar İnci Alican |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Cardiac cycle | Dr. Berrak Yegen |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Cardiac cycle | Dr. Berrak Yegen |
| 17:30-17:35 | Discussion |   |
|   |  |  |
| **Wednesday** | **04 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 | Anatomy of the vessels (arterial and venous system) | Dr. Necmettin Ömer Özdoğmuş |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Principles of ECG | Dr. Berrak Yegen |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Principles of ECG | Dr. Berrak Yegen |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Viscosity, laminar and turbulent flow | Dr. Oya Orun |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Viscosity, laminar and turbulent flow | Dr. Oya Orun |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Thursday** | **05 September** |  |
| 08:45-09:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 12:30-12:35 | Discussion |   |
|   |  |   |
| 13:45-14:30 | Electrical fields, potential at a point | Dr. Günseli Ayşe Garip İnhan |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Electrical fields, potential at a point | Dr. Günseli Ayşe Garip İnhan |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Heart sounds | Dr. Yaşar İnci Alican |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
|   |  |  |
| **Friday** | **06 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 | Vascular events | Dr. Nesrin Kartal Özer  |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Cardiac action potentials | Dr. Günseli Ayşe Garip İnhan |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 |   |   |
| 12:30-12:35 |   |   |
|   |   |   |
| 13:45-14:30 | Cardiac injury and markers | Dr. Ahmet Suha Yalçın |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Cardiac injury and markers | Dr. Ahmet Suha Yalçın |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Week – 2 (09 September - 13 September 2019)** |
| **Monday** | **09 September** |  |
| 08:45-09:30 | Histology LAB: Histology of heart, blood vessels-Group A | Multidisciplinary Lab. |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Histology LAB: Histology of heart, blood vessels-Group A | Multidisciplinary Lab. |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Anatomy LAB: Heart and pericardium-Group A | Anatomy Lab. |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Anatomy LAB: Heart and pericardium-Group B | Anatomy Lab. |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Principles of hemodynamics | Dr. Hızır Kurtel |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Principles of hemodynamics | Dr. Hızır Kurtel |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Tuesday** | **10 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 |   |   |
| 10:30-10:35 |   |   |
| 10:45-11:30 |   |   |
| 11:30-11:35 |   |   |
| 11:45-12:30 | Bernouilli's equation, the role of gravity in the circulation | Dr. Oya Orun |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Histology LAB: Histology of heart, blood vessels-Group B | Multidisciplinary Lab. |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Histology LAB: Histology of heart, blood vessels-Group B | Multidisciplinary Lab. |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Wednesday** | **11 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 | Approach to the patient with cardiovascular system disease | Dr. Beste Özben Sadıç |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Principal symptom and general signs in cardiovascular disease | Dr. Beste Özben Sadıç |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Principal symptom and general signs in cardiovascular disease | Dr. Beste Özben Sadıç |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Regulation of blood pressure | Dr. Hızır Kurtel |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Regulation of blood pressure | Dr. Hızır Kurtel |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Regulation of blood pressure | Dr. Hızır Kurtel |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Thursday** | **12 September** |  |
| 08:45-09:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 12:30-12:35 | Discussion |   |
|   |  |   |
| 13:45-14:30 | Principles of electrocardiography | Dr. Günseli Ayşe Garip İnhan |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Principles of electrocardiography | Dr. Günseli Ayşe Garip İnhan |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Friday** | **13 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 |   |   |
| 10:30-10:35 |   |   |
| 10:45-11:30 |   |   |
| 11:30-11:35 |   |   |
| 11:45-12:30 | Introduction to cardiovascular pharmacology | Dr. Zafer Gören |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Examination of the heart and vessels | Dr. Osman Yeşildağ |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Examination of the heart and vessels | Dr. Osman Yeşildağ |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 |   |   |
| 16:30-16:35 |   |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
|   |  |  |
| **Week – 3 (16 September - 20 September 2019)** |
| **Monday** | **16 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 |   |   |
| 10:30-10:35 |   |   |
| 10:45-11:30 | Development of the cardiovascular system | Dr. Şule Çetinel |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Development of the cardiovascular system | Dr. Şule Çetinel |
| 12:30-12:35 | Discussion |   |
|   |  |   |
| 13:45-14:30 | Clinical electrocardiography | Dr. Okan Erdoğan |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Clinical electrocardiography | Dr. Okan Erdoğan |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Diagnostic methods in cardiology | Dr. Murat Sünbül |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Diagnostic methods in cardiology | Dr. Murat Sünbül |
| 17:30-17:35 | Discussion |   |
|   |  |  |
| **Tuesday** | **17 September** |  |
| 08:45-09:30 | Arterial pulse | Dr. Özgür Kasımay Çakır |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Regulation of blood flow | Dr. Özgür Kasımay Çakır |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Valvular heart disease  | Dr. Bülent Mutlu |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Valvular heart disease  | Dr. Bülent Mutlu |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Principles of hemodynamics | Dr. Günseli Ayşe Garip İnhan |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Coronary circulation | Dr. Alper Yıldırım |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Atherosclerosis & hypertensive cardiovascular events | Dr. Zeliha Leyla Cinel |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Atherosclerosis & hypertensive cardiovascular events | Dr. Zeliha Leyla Cinel |
| 17:30-17:35 | Discussion |   |
|   |  |  |
| **Wednesday** | **18 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 | Syncope and sudden cardiac death | Dr. Alper Kepez |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Cardiac dysrhythmias  | Dr. Okan Erdoğan |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Cardiac dysrhythmias  | Dr. Okan Erdoğan |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Principles of hemodynamics | Dr. Günseli Ayşe Garip İnhan |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Congenital acyanotic heart disease with left to right shunt | Dr. Figen Akalın |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Congenital heart disease with valvular obstruction or stenosis | Dr. Figen Akalın |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Cardiac output | Dr. Alper Yıldırım |
| 17:30-17:35 | Discussion |   |
|   |  |  |
| **Thursday** | **19 September** |  |
| 08:45-09:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 12:30-12:35 | Discussion |   |
|   |   |   |
| 13:45-14:30 | Vasculitis | Dr. Zeliha Leyla Cinel |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | PBL-1 |   |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | PBL-1 |   |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Approach to thromboembolic disorders | Dr. Koray Ak |
| 17:30-17:35 | Discussion |   |
|   |  |  |
| **Friday** | **20 September** |  |
| 08:45-09:30 | Acute coronary syndrome | Dr. Ahmet Altuğ Çinçin |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Acute coronary syndrome | Dr. Ahmet Altuğ Çinçin |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Heart failure and cardiogenic shock | Dr. Nurten Sayar |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Heart failure and cardiogenic shock | Dr. Nurten Sayar |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 |   |   |
| 14:30-14:35 |   |   |
| 14:45-15:30 | ECG and its interpretation | Dr. Özgür Kasımay Çakır |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | ECG and its interpretation | Dr. Özgür Kasımay Çakır |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Week – 4 (23 September - 27 September 2019)** |
| **Monday** | **23 September** |  |
| 08:45-09:30 | Physiology LAB: ECG-1 | Computer Lab. |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Physiology LAB: ECG-1 | Computer Lab. |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Physiology LAB: ECG-1 | Computer Lab. |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Physiology LAB: ECG-1 | Computer Lab. |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | PBL STUDY TIME |   |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | PBL-2 |   |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | PBL-2 |   |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Tuesday** | **24 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 |   |   |
| 10:30-10:35 |   |   |
| 10:45-11:30 | Microbiological approach to cardiovascular infections | Dr. Güner Söyledir |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Microbiological approach to cardiovascular infections | Dr. Güner Söyledir |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Biochemical aspects of the metabolic syndrome | Dr. Nesrin Kartal Özer  |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Biochemical aspects of the metabolic syndrome | Dr. Nesrin Kartal Özer  |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Ischaemic heart disease | Dr. İpek Erbarut |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Ischaemic heart disease | Dr. İpek Erbarut |
| 17:30-17:35 | Discussion |   |
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| **Wednesday** | **25 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 | Lipoprotein metabolism | Dr. Saime Batırel |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Lipoprotein metabolism | Dr. Saime Batırel |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Lipoprotein metabolism | Dr. Saime Batırel |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Diseases of the aorta and the peripheral blood vessels | Dr. Ahmet Altuğ Çinçin |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Coronary artery disease | Dr. Nurten Sayar |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Coronary artery disease | Dr. Nurten Sayar |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Epidemiology of coronary heart disease | Dr. Nimet Emel Lüleci |
| 17:30-17:35 | Discussion |   |
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| **Thursday** | **26 September** |  |
| 08:45-09:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | PBL Study Time |   |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | PBL-3 |   |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | PBL-3 |   |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Friday** | **27 September** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 |  |  |
| 10:30-10:35 |  |  |
| 10:45-11:30 | Hyperlipidemias and atherosclerosis | Dr. Nesrin Kartal Özer  |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Hyperlipidemias and atherosclerosis | Dr. Nesrin Kartal Özer  |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 |   |   |
| 14:30-14:35 |   |   |
| 14:45-15:30 | Systemic hypertension and hypertensive heart disease | Dr. Osman Yeşildağ |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Systemic hypertension and hypertensive heart disease | Dr. Osman Yeşildağ |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Pericarditis | Dr. Murat Sünbül |
| 17:30-17:35 | Discussion |   |
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| **Week – 5 (30 September - 04 October 2019)** |
| **Monday** | **30 September** |  |
| 08:45-09:30 | Cardiomyopathies and myocarditis | Dr. Alper Kepez |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Pharmacotherapy of hypertension | Dr. Ahmet Akıcı |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Pharmacotherapy of hypertension | Dr. Ahmet Akıcı |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Pharmacotherapy of hypertension | Dr. Ahmet Akıcı |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | PBL Study Time |   |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | PBL-4 |   |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | PBL-4 |   |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 |   |   |
| 17:30-17:35 |   |   |
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| **Tuesday** | **01 October** |  |
| 08:45-09:30 | Physiology LAB: ECG-2 | Computer Lab. |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Physiology LAB: ECG-2 | Computer Lab. |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Physiology LAB: ECG-2 | Computer Lab. |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Physiology LAB: ECG-2 | Computer Lab. |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Pulmonary hypertension in cardiology | Dr. Bülent Mutlu |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Infective endocarditis | Dr. Bülent Mutlu |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Pharmacotherapy of heart failure | Dr. Atila Karaalp |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Pharmacotherapy of heart failure | Dr. Atila Karaalp |
| 17:30-17:35 | Discussion |   |
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| **Wednesday** | **02 October** |  |
| 08:45-09:30 | Principles of echocardiography | Dr. Günseli Ayşe Garip İnhan |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Adult patient with chest pain. Primary care approach | Dr. Arzu Uzuner |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Valvular diseases of the heart | Dr. Hüseyin Kemal Türköz |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Radiology of the cardiovascular system | Dr. Derya Türeli |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Physiology LAB: Blood pressure, heart sounds, pulse | ICP Lab. |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Physiology LAB: Blood pressure, heart sounds, pulse | ICP Lab. |
| 15:30-15:35 | Discussion |   |
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| **Thursday** | **03 October** |  |
| 08:45-09:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | ICP-3: Basic Medical Practice-Clinical Skills-Students Research Activity-3 |   |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | PBL Study Time |   |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | PBL-5 |   |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | PBL-5 |   |
| 16:30-16:35 | Discussion |   |
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| **Friday** | **04 October** |  |
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| **Week – 6 (07 October - 11 October 2019)** |
| **Monday** | **07 October** |  |
| 08:45-09:30 | Pathology LAB: Heart and valvular diseases-Group A | Multidisciplinary Lab. |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Pathology LAB: Heart and valvular diseases-Group B | Multidisciplinary Lab. |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Pathology LAB: Heart and valvular diseases-Group C | Multidisciplinary Lab. |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Pathology LAB: Heart and valvular diseases-Group D | Multidisciplinary Lab. |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Elective course |   |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Elective course |   |
| 15:30-15:35 | Discussion |   |
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| **Tuesday** | **08 October** |  |
| 08:45-09:30 |   |   |
| 09:30-09:35 |   |   |
| 09:45-10:30 | Pharmacotherapy of cardiac dysrhythmias | Dr. Atila Karaalp |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Pharmacotherapy of cardiac dysrhythmias | Dr. Atila Karaalp |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Pharmacotherapy of hyperlipidemias | Dr. Atila Karaalp |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Neoplastic diseases of the heart & blood vessels  | Dr. Hüseyin Kemal Türköz |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Nosocomial fungal infections | Dr. Nilgün Çerikçioğlu |
| 15:30-15:35 | Discussion |   |
| 15:45-16:30 | Acute rheumatic fever | Dr. Figen Akalın |
| 16:30-16:35 | Discussion |   |
| 16:45-17:30 | Acute rheumatic fever | Dr. Figen Akalın |
| 17:30-17:35 | Discussion |   |
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| **Wednesday** | **09 October** |  |
| 08:45-09:30 | Congenital cyanotic heart disease | Dr. Figen Akalın |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Genetic basis of the cardiovascular diseases | Dr. Mehmet Ali Söylemez |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Cardiovascular diseases in special population | Dr. Alper Kepez |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Epidemiology of hypertension and rheumatic fever | Dr. Nimet Emel Lüleci |
| 12:30-12:35 | Discussion |   |
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| **Thursday** | **10 October** |  |
| 08:45-09:30 | Elderly patient with leg pain: Primary care approach | Dr. Gülru Pemra Ünalan |
| 09:30-09:35 | Discussion |   |
| 09:45-10:30 | Myocardial scintigraphy and radionuclide ventriculography | Dr. Halil Turgut Turoğlu |
| 10:30-10:35 | Discussion |   |
| 10:45-11:30 | Pharmacotherapy in peripheral arterial occlusive diseases  | Dr. Filiz Onat |
| 11:30-11:35 | Discussion |   |
| 11:45-12:30 | Pharmacotherapy in venous thromboembolic disease | Dr. Filiz Onat |
| 12:30-12:35 | Discussion |   |
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| 13:45-14:30 | Pharmacotherapy of ischemic heart disease and MI | Dr. Ahmet Akıcı |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Pharmacotherapy of ischemic heart disease and MI | Dr. Ahmet Akıcı |
| 15:30-15:35 | Discussion |   |
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| **Friday** | **11 October** |  |
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| **Week – 7 (14 October - 18 October 2019)** |
| **Monday** | **14 October** |  |
| 08:45-09:30 | **PRACTICAL EXAMY3C1** |   |
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| 13:45-14:30 | Elective course |   |
| 14:30-14:35 | Discussion |   |
| 14:45-15:30 | Elective course |   |
| 15:30-15:35 | Discussion |   |
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| **Tuesday** | **15 October** |   |
| 08:45-09:30 | **PRACTICAL EXAMY3C1** |   |
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| **Wednesday** | **16 October** |  |
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| **Thursday** | **17 October** |  |
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| **Friday** | **18 October** |  |
| 08:45-09:30 | **Y3C1 THEORETICAL EXAM** |   |
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