



**CELLULAR METABOLISM AND TRANSPORT COURSE**  
**Year 1 Course 2**  
**December 14, 2020 –January 29, 2021**

<b>Year 1 Coordinators</b> Prof., Mustafa AKKİPRİK & Assoc. Prof., Dilek AKAKIN & Assist. Prof., Ergül MUTLU ALTUNDAĞ	
<b>PBL Module Coordinator</b> Prof., Özlem SARIKAYA Assist. Prof., Bülent SEZGİN	<b>Coordinator of Multidisciplinary Students' Lab.</b> Assoc. Prof., Betül KARADEMİR Assist. Prof., Mümtaz
<b>Coordinator of Clinical Skill Lab.</b> Prof., Pemra ÜNALAN Assoc. Prof., Nilüfer GÜZOĞLU	<b>Coordinator of ICS Res. Lab.</b> Prof., Pemra ÜNALAN Assist. Prof., İlke AKÇAY
<b>Vice-Chief Coordinators</b>	
<b>Assessment</b> Asist. Prof., Cevdet NACAR Assist. Prof., Halil Eren SAKALLI	<b>Student Affairs</b> Asist. Prof., Can ERZİK Inst. Yöneter MERAY
<b>Chief Coordinator</b> Assoc. Prof., Hasan YANANLI Assist. Prof., Mümtaz GÜRAN	<b>Coordinator of Medical Education Program Evaluation and Development Commission</b> Prof., Berrak Ç. YEĞEN
<b>Educational Consultant</b> Assoc. Prof., Mehmet Ali GÜLPINAR	
<b>Dean (EMU)</b> <b>Prof., Nahide GÖKÇORA</b>	<b>Dean (MU)</b> <b>Prof., Hakan GÜNDÜZ</b>

**LEARNING OUTCOMES / COMPETENCIES**

- A. Clinical Care: Qualified patient care and community oriented health care**
1. Basic clinical skills
  2. The organization and management of the patient and the patient care
  3. The organization and the management of health care delivery services / system
  4. Health promotion and disease prevention
- B. Medical Knowledge and Evidence-Based Medicine**
5. Appropriate information retrieval and management skills
  6. The integration of knowledge, critical thinking and evidence-based decision making
  7. Scientific methods and basic research skills
- C. Professional Attitudes and Values**
8. Communication skills and effective communication with patients / patient relatives
  9. Interpersonal relationships and team working
  10. Ethical and professional values, responsibilities
  11. Individual, social and cultural values and responsibilities
  12. Reflective practice and continuing development
  13. Healthcare delivery systems, management and community oriented healthcare
  14. Education and counseling

**PHASE-1 LEARNING OBJECTIVES**

1. 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.

**PHASES – 1 THEMA/ORGAN SYSTEM-BASED COURSE PROGRAMS**

Year 1, Course 1: Introduction to Cell and Cellular Replication

**Year 1, Course 2: Cellular Metabolism and Transport**

Year 1, Course 3: Development and Organization of Human Body

Year 1, Course 4: Introduction to Nervous System and Human Behavior

Year 2, Course 1: Cell and Tissue Injury I

Year 2, Course 2: Cell and Tissue Injury II

Year 2, Course 3: Hematopoietic System and Related Disorders

Year 2, Course 4: Musculoskeletal, Integumentary Systems and Related Disorders

Year 2, Course 5: Respiratory System and Related Disorders

Year 3, Course 1: Cardiovascular System and Related Disorders

Year 3, Course 2: Gastrointestinal System, Metabolism and Related Disorders

Year 3, Course 3: Nervous System and Related Disorders

Year 3, Course : Growth, Development, Mental and Endocrine Disorders

Year 3, Course 5: Urinary and Reproductive System and Related Disorders

## Cellular Metabolism and Transport

### AIM and LEARNING OBJECTIVES of COURSE

**Aim:** At the end of this committee, first year students will gain knowledge about the metabolic pathways within the cell, structure of the cell membrane and transport mechanisms.

**Learning Objectives:** At the end of this committee, students will,

1. acquire knowledge related to structural characteristics, functions and regulation of enzymes and coenzymes
2. understand the ATP synthesis and its effect on metabolic pathways
3. describe the constituents and reactions of metabolic pathways within the cell
4. understand membrane structure and its function, physical principles of transport and signaling mechanisms both within and among the cells
5. acquire skills necessary to perform experimental applications.

#### ASSESSMENT SYSTEM

**Module examination:** Written exam at the end of module (10 % of final score)

**Practical examination:** Practical exams at the end of course

**Course 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-1 & MODULE-2

- Biochemistry
- Biophysics
- Physiology

- Medical Biology
- Biostatistics

#### LECTURERS / TUTORS

Alper YILDIRIM, Assist. Prof., Physiology  
 Ayşe KOZANSOY, Instructor, Medical English  
 Berrak YEĞEN, Prof., Physiology  
 Betül KARADEMİR, Assoc. Prof., Biochemistry  
 Cemal GÜRKAN, Instructor, Forensic Sciences  
 Cevdet NACAR, Assist. Prof., Biophysics  
 Deren ÇEKER, Instructor, Medical Anthropology  
 Emine Özerinç, Instructor, Turkish Language  
 Ergül Mutlu ALTUNDAĞ, Assist. Prof., Biochemistry  
 Goncagül HAKLAR, Prof., Biochemistry  
 Günseli Ayşe Garip İNHAN, Assoc. Prof., Biophysics  
 Hülya CABADAK, Assoc. Prof., Biophysics

İlke AKÇAY, Assist. Prof., Biostatistics  
 Nazan DOĞRUER, Instructor, Medical English  
 Nurtane KARAGİL, Instructor, Arts and Crafts  
 Özgür KASIMAY, Assoc. Prof., Physiology  
 Özlem SARIKAYA, Prof., Medical Education  
 Saime BATIREL, Assist. Prof., Biochemistry  
 Sinem Yıldız İNANICI, Assist. Prof., Medical Education  
 Şerife Ç. SÖKMEZ, Instructor, Turkish Language  
 Şükrü TÜZMEN, Prof., Medical Biology  
 Turgay Bülent GÖKTÜRK, Assist. Prof., Atatürk's Principles and History of Modern Turkey  
 Yaşar İnci ALİCAN, Prof., Physiology

#### READING / STUDYING MATERIALS

- Biochemistry, Stryer, 4th Ed., Freeman
- Biochemistry, Zubay, 3rd Ed., WCB
- Biostatistics: Basic Concepts and Methodology for the Health Sciences, 10<sup>th</sup> Ed. Wayne W. Daniel, Chad L. Cross
- Harper's Biochemistry, Murray, Granner, 23rd Ed., Lange Interscience, New Jersey 2003
- Introduction to Biostatistics For Health Sciences, Micheal R. Chernick, Robert H. Friss, Willey
- Lehninger Principles of Biochemistry, Nelson, Cox, 3rd edition, Worth
- Medical Statistics at a Glance, Aviva Petrie, Caroline Sabin, Blackwell Science, London 2003
- Physics, Giancoli, 4th Ed., Prentice Hall
- Practical Statistics For Medical Research, Douglas Altman, Chapman & Hall, London 1995
- Principles of Physiology, Bern and Levy, 4th Ed.
- Temel Biyoistatistik, Mustafa Şenocak, Çağlayan Kitabevi, İstanbul 1990
- Textbook of Physiology, Guyton and Hall, 10th Ed.
- The Cell: A Molecular Approach, Cooper, 2nd Ed., ASM Press

<b>SUMMARY OF THE COURSE 1.2</b>			
<b>Discipline</b>	<b>Lecture &amp; Group Discussion</b>	<b>Multidisciplinary Lab. &amp; Clinical Skills Lab. Practice</b>	<b>Total</b>
Medical Biology	4		4
Biochemistry	28	4	32
Biostatistics	10		10
Physiology	8	2	10
Biophysics	20		20
<b>Subtotal</b>	<b>70</b>	<b>6</b>	<b>76</b>
PBL Module	8		8
ICS-1 Student Research Activity	12	4	16
ICS-1 Communication Skills Course	8	8	16
Medical English	12		12
Atatürk's Principles and History of Modern Turkey	12		12
TFMS101-Turkish for Medical Students-1 (for foreign students)	24		24
TFMS101-Turkish for Medical Students-1 (for foreign students)-Interactive Session	11		11
Electives	8		8
<b>TOTAL</b>	<b>165</b>	<b>18</b>	<b>183</b>

\* online lecture given through **MS Teams Application**

		THEORETICAL AND PRACTICAL SESSIONS	LECTURER/TUTOR
<b>1<sup>st</sup> Week (14-18 December 2020)</b>			
<b>Cyprus Local Time</b>	<b>Turkey Local Time</b>		
<b>Monday</b>		<b>14 December</b>	
<b>08:40-09:30</b>	<b>09:40-10:30</b>	Turkish for Medical Students-I (Foreign Students)	Inst. Şerife Ç. Sökmez*
<b>09:40-10:30</b>	<b>10:40-11:30</b>		
<b>10:40-11:30</b>	<b>11:40-12:30</b>		
<b>11:40-12:30</b>	<b>12:40-13:30</b>		
<b>13:40-14:30</b>	<b>14:40-15:30</b>	Medical English (Gr 1 & Gr 2)	Dr. Nazan Doğruer* Inst. Ayşe Kozansoy*
<b>14:40-15:30</b>	<b>15:40-16:30</b>		
<b>15:40-16:30</b>	<b>16:40-17:30</b>	Elective Courses (MDCN-181-Forensic Sciences) (MDCN-182-Art and Craft ) (MDCN-125-Medical Anthropology)	Dr. Cemal Gürkan* Inst. Nurtane Karagil* Dr. Deren Çeker*
<b>16:40-17:30</b>	<b>17:40-18:30</b>		
<b>Tuesday</b>		<b>15 December</b>	
<b>08:00-08:50</b>	<b>09:00-09:50</b>	Homeostasis	Dr. Berrak Yegen
<b>09:00-09:50</b>	<b>10:00-10:50</b>	Physical principles: Diffusion and facilitated transport	Dr. Hülya Cabadak
<b>10:00-10:50</b>	<b>11:00-11:50</b>	Physical principles: Diffusion and facilitated transport	Dr. Hülya Cabadak
<b>12:00-12:50</b>	<b>13:00-13:50</b>	STUDY TIME	
<b>13:00-13:50</b>	<b>14:00-14:50</b>	STUDY TIME	
<b>14:00-14:50</b>	<b>15:00-15:50</b>	Electrochemical potentials, Nernst potential	Dr. Günseli Ayşe Garip İhan
<b>16:30-18:30</b>	<b>17:30-19:30</b>	Atatürk İlke ve İnkılap tarihi	Dr. Turgay Bülent Göktürk*
<b>Wednesday</b>		<b>16 December</b>	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	<b>ICS-1 Research:</b> Critics with groups	Dr. İlke Akçay*
<b>10:00-10:50</b>	<b>11:00-11:50</b>	<b>ICS-1 Research:</b> Critics with groups	Dr. İlke Akçay*
<b>11:00-11:50</b>	<b>12:00-12:50</b>	<b>ICS-1 Research:</b> Critics with groups	Dr. İlke Akçay*
<b>13:00-13:50</b>	<b>14:00-14:50</b>	Transport of substances	Dr. Yaşar İnci Alican
<b>14:00-14:50</b>	<b>15:00-15:50</b>	Transport of substances	Dr. Yaşar İnci Alican
<b>15:00-15:50</b>	<b>16:00-16:50</b>	PBL-1	Dr. Mümtaz Güran*

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16:00-16:50	17:00-17:50	PBL-1	Dr. İlke Akçay* Dr. Maryam Norouzbahari* Inst. Gizem Şanlıtürk*
<b>Thursday</b>		<b>17 December</b>	
08:00-08:50	09:00-09:50	Active transport and secondary active transport	Dr. Hülya Cabadak
09:00-09:50	10:00-10:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
10:00-10:50	11:00-11:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
12:00-12:50	13:00-13:50	Introduction to bioelectricity-I	Dr. Cevdet Nacar
13:00-13:50	14:00-14:50	Introduction to bioelectricity-I	Dr. Cevdet Nacar
14:00-14:50	15:00-15:50	Intercellular communication	Dr. Alper Yıldırım
15:00-15:50	16:00-16:50	Signal transduction	Dr. Özgür Kasımay Çakır
<b>Friday</b>		<b>18 December</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	Introduction to bioelectricity-II	Dr. Cevdet Nacar
10:00-10:50	11:00-11:50	Introduction to bioelectricity-II	Dr. Cevdet Nacar
13:00-13:50	14:00-14:50	Introduction to metabolism and metabolic control	Dr. Betül Karademir
14:00-14:50	15:00-15:50	Introduction to metabolism and metabolic control	Dr. Betül Karademir
15:00-15:50	16:00-16:50	STUDY TIME	
<b>2<sup>nd</sup> Week (21-25 December 2020)</b>			
<b>Monday</b>		<b>21 December</b>	
09:00-10:00	10:00-11:00	Turkish for Medical Students-I (Foreign Students)- <b>EXAM (on moodle)</b>	Inst. Şerife Ç. Sökmez*
10:00-12:30	11:00-13:30	Turkish for Medical Students-I (Foreign Students)	Inst. Şerife Ç. Sökmez*
13:40-14:30	14:40-15:30	Medical English (Gr 1 & Gr 2)	Dr. Nazan Doğruer*
14:40-15:30	15:40-16:30		Inst. Ayşe Kozansoy*
15:40-16:30	16:40-17:30	STUDY TIME	
16:40-17:30	17:40-18:30	STUDY TIME	
<b>Tuesday</b>		<b>22 December</b>	
08:00-08:50	09:00-09:50	Bioelectric potentials	Dr. Berrak Yegen
09:00-09:50	10:00-10:50	Bioelectric potentials	Dr. Berrak Yegen

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10:00-10:50	11:00-11:50	Role of organelles in the metabolism	Dr. Betül Karademir
12:00-12:50	13:00-13:50	Overview of glycolysis	Dr. Betül Karademir
13:00-13:50	14:00-14:50	Reactions of glycolysis	Dr. Betül Karademir
14:00-14:50	15:00-15:50	Reactions of glycolysis	Dr. Betül Karademir
15:00-15:50	16:00-16:50	STUDY TIME	
16:30-18:30	17:30-19:30	Atatürk İlke ve İnkılap tarihi	Dr. Turgay Bülent Göktürk*
<b>Wednesday</b>		<b>23 December</b>	
09:00-09:50	10:00-10:50	<b>ICS-1 Research:</b> Contents in the Introduction part of a research study	Dr. İlke Akçay*
10:00-10:50	11:00-11:50	<b>ICS-1 Research:</b> Contents in the Introduction part of a research study	Dr. İlke Akçay*
11:00-11:50	12:00-12:50	<b>ICS-1 Research:</b> Contents in the Introduction part of a research study	Dr. İlke Akçay*
12:00-12:50	13:00-13:50	STUDY TIME	
13:00-13:50	14:00-14:50	Regulation of glycolysis	Dr. Betül Karademir
14:00-14:50	15:00-15:50	Regulation of glycolysis	Dr. Betül Karademir
15:00-15:50	16:00-16:50	PBL-2	Dr. Mümtaz Güran* Dr. İlke Akçay*
16:00-16:50	17:00-17:50	PBL-2	Dr. Maryam Norouzbahari* Inst. Gizem Şanlıtürk*
<b>Thursday</b>		<b>24 December</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	STUDY TIME	
10:00-10:50	11:00-11:50	What is probability and probability distribution?	Dr. İlke Akçay*
11:00-11:50	12:00-12:50	Bayes' Theorem	Dr. İlke Akçay*
12:00-12:50	13:00-13:50	Membrane potentials and action potential	Dr. Günseli Ayşe Garip İnan
13:00-13:50	14:00-14:50	Membrane potentials and action potential	Dr. Günseli Ayşe Garip İnan
14:00-14:50	15:00-15:50	Physical characteristics of membrane structure and function	Dr. Cevdet Nacar
15:00-15:50	16:00-16:50	Cell to cell adhesions	Dr. Özgür Kasımay Çakır
<b>Friday</b>		<b>25 December</b>	
08:00-08:50	09:00-09:50	<b>CHRISTMAS DAY</b>	
09:00-09:50	10:00-10:50		
10:00-10:50	11:00-11:50		
13:00-13:50	14:00-14:50		
14:00-14:50	15:00-15:50		
15:00-15:50	16:00-16:50		

3<sup>rd</sup> Week (28 December 2020-01 January 2021)

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<b>Monday</b>		<b>28 December</b>	
<b>08:40-09:30</b>	<b>09:40-10:30</b>	Turkish for Medical Students-I (Foreign Students)	Inst. Şerife Ç. Sökmez*
<b>09:40-10:30</b>	<b>10:40-11:30</b>		
<b>10:40-11:30</b>	<b>11:40-12:30</b>		
<b>11:40-12:30</b>	<b>12:40-13:30</b>		
<b>13:40-14:30</b>	<b>14:40-15:30</b>	Medical English (Gr 1 & Gr 2)	Dr. Nazan Doğruer* Inst. Ayşe Kozansoy*
<b>14:40-15:30</b>	<b>15:40-16:30</b>		
<b>15:40-16:30</b>	<b>16:40-17:30</b>	Elective Courses (MDCN-181-Forensic Sciences) (MDCN-182-Art and Craft ) (MDCN-125-Medical Anthropology)	Dr. Cemal Gürkan* Inst. Nurtane Karagil* Dr. Deren Çeker*
<b>16:40-17:30</b>	<b>17:40-18:30</b>		
<b>Tuesday</b>		<b>29 December</b>	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	Flow of energy in nature, first law of thermodynamics	Dr. Günseli Ayşe Garip İnan
<b>10:00-10:50</b>	<b>11:00-11:50</b>	Flow of energy in nature, first law of thermodynamics	Dr. Günseli Ayşe Garip İnan
<b>11:00-11:50</b>	<b>12:00-12:50</b>	STUDY TIME	
<b>12:00-12:50</b>	<b>13:00-13:50</b>	Membrane proteins	Dr. Cevdet Nacar
<b>13:00-13:50</b>	<b>14:00-14:50</b>	Tricarboxylic acid cycle and hexose monophosphate shunt	Dr. Goncagül Haklar
<b>14:00-14:50</b>	<b>15:00-15:50</b>	Tricarboxylic acid cycle and hexose monophosphate shunt	Dr. Goncagül Haklar
<b>16:30-18:30</b>	<b>17:30-19:30</b>	Atatürk İlke ve İnkılap tarihi	Dr. Turgay Bülent Göktürk*
<b>Wednesday</b>		<b>30 December</b>	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	<b>ICS-1 Research:</b> Contents in the Material and Methods part of a research study	Dr. İlke Akçay*
<b>10:00-10:50</b>	<b>11:00-11:50</b>	<b>ICS-1 Research:</b> Contents in the Material and Methods part of a research study	Dr. İlke Akçay*
<b>11:00-11:50</b>	<b>12:00-12:50</b>	<b>ICS-1 Research:</b> Contents in the Material and Methods part of a research study	Dr. İlke Akçay*
<b>12:00-12:50</b>	<b>13:00-13:50</b>	STUDY TIME	
<b>13:00-13:50</b>	<b>14:00-14:50</b>	The second law of thermodynamics, entropy, free energy	Dr. Günseli Ayşe Garip İnan
<b>14:00-14:50</b>	<b>15:00-15:50</b>	The second law of thermodynamics, entropy, free energy	Dr. Günseli Ayşe Garip İnan
<b>15:00-15:50</b>	<b>16:00-16:50</b>	PBL-3	Dr. Mümtaz Güran* Dr. İlke Akçay*
<b>16:00-16:50</b>	<b>17:00-17:50</b>	PBL-3	Dr. Maryam Norouzbahari* Inst. Gizem Şanlıtürk*
<b>Thursday</b>		<b>31 December</b>	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	STUDY TIME	
<b>10:00-10:50</b>	<b>11:00-11:50</b>	Principles of statistical analysis	Dr. İlke Akçay*
<b>11:00-11:50</b>	<b>12:00-12:50</b>	Elements of statistical inference	Dr. İlke Akçay*



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12:00-12:50	13:00-13:50	Coupling of biological reactions with high energy metabolite	Dr. Hülya Cabadak
13:00-13:50	14:00-14:50	Coupling of biological reactions with high energy metabolite	Dr. Hülya Cabadak
14:00-14:50	15:00-15:50	STUDY TIME	
15:00-15:50	16:00-16:50	STUDY TIME	
16:00-16:50	16:00-16:50	STUDY TIME	
<b>Friday</b>		<b>01 January</b>	
08:00-08:50	09:00-09:50	<b>NEW YEAR HOLIDAY</b>	
09:00-09:50	10:00-10:50		
10:00-10:50	11:00-11:50		
13:00-13:50	14:00-14:50		
14:00-14:50	15:00-15:50		
15:00-15:50	16:00-16:50		
<b>4<sup>th</sup> Week (04– 08 January 2021)</b>			
<b>Monday</b>		<b>04 January</b>	
08:40-09:30	09:40-10:30	Turkish for Medical Students-I (Foreign Students)	Inst. Şerife Ç. Sökmez*
09:40-10:30	10:40-11:30		
10:40-11:30	11:40-12:30		
11:40-12:30	12:40-13:30		
13:40-14:30	14:40-15:30	Medical English (Gr 1 & Gr 2)	Dr. Nazan Doğruer* Inst. Ayşe Kozansoy*
14:40-15:30	15:40-16:30		
15:40-16:30	16:40-17:30	Elective Courses (MDCN-181-Forensic Sciences) (MDCN-182-Art and Craft ) (MDCN-125-Medical Anthropology)	Dr. Cemal Gürkan* Inst. Nurtane Karagil* Dr. Deren Çeker*
16:40-17:30	17:40-18:30		
<b>Tuesday</b>		<b>05 January</b>	
09:00-09:50	10:00-10:50	Applications of recombinant DNA technology in medicine	Dr. Şükrü Tüzmen*
10:00-10:50	11:00-11:50	Applications of recombinant DNA technology in medicine	Dr. Şükrü Tüzmen*
11:00-11:50	12:00-12:50	STUDY TIME	
12:00-12:50	13:00-13:50	Free energy and thermodynamic properties of water	Dr. Günseli Ayşe Garip İnan
13:00-13:50	14:00-14:50	Tricarboxylic acid cycle and hexose monophosphate shunt	Dr. Goncagül Haklar
14:00-14:50	15:00-15:50	Tricarboxylic acid cycle and hexose monophosphate shunt	Dr. Goncagül Haklar
15:00-15:50	16:00-16:50	STUDY TIME	
16:30-18:30	17:30-19:30	Atatürk İlke ve İnkılap tarihi	Dr. Turgay Bülent Göktürk*

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<b>Wednesday</b>		<b>06 January</b>	
<b>08:00-08:50</b>	<b>09:00-09:50</b>	STUDY TIME	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
<b>10:00-10:50</b>	<b>11:00-11:50</b>	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
<b>12:00-12:50</b>	<b>13:00-13:50</b>	Introduction to statistical analysis	Dr. İlke Akçay*
<b>13:00-13:50</b>	<b>14:00-14:50</b>	Sampling, distribution and estimation	Dr. İlke Akçay*
<b>14:00-14:50</b>	<b>15:00-15:50</b>	STUDY TIME	
<b>15:00-15:50</b>	<b>16:00-16:50</b>	PBL-4	Dr. Mümtaz Güran* Dr. İlke Akçay*
<b>16:00-16:50</b>	<b>17:00-17:50</b>	PBL-4	Dr. Maryam Norouzbahari* Inst. Gizem Şanlıtürk*
<b>Thursday</b>		<b>07 January</b>	
<b>08:00-08:50</b>	<b>09:00-09:50</b>	STUDY TIME	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	STUDY TIME	
<b>10:00-10:50</b>	<b>11:00-11:50</b>	STUDY TIME	
<b>12:00-12:50</b>	<b>13:00-13:50</b>	Electron transport chain	Dr. Goncagül Haklar
<b>13:00-13:50</b>	<b>14:00-14:50</b>	Electron transport chain	Dr. Goncagül Haklar
<b>14:00-14:50</b>	<b>15:00-15:50</b>	Energetics of electron transport	Dr. Hülya Cabadak
<b>Friday</b>		<b>08 January</b>	
<b>08:00-08:50</b>	<b>09:00-09:50</b>	STUDY TIME	
<b>09:00-09:50</b>	<b>10:00-10:50</b>	Oxidative Phosphorylation	Dr. Goncagül Haklar
<b>10:00-10:50</b>	<b>11:00-11:50</b>	Oxidative Phosphorylation	Dr. Goncagül Haklar
<b>11:00-11:50</b>	<b>12:00-12:50</b>	STUDY TIME	
<b>13:00-13:50</b>	<b>14:00-14:50</b>	<b>ICS-1 Research:</b> Questionnaire as a data collection tool	Dr. İlke Akçay*
<b>14:00-14:50</b>	<b>15:00-15:50</b>	<b>ICS-1 Research:</b> Questionnaire design	Dr. İlke Akçay*
<b>15:00-15:50</b>	<b>16:00-16:50</b>	<b>ICS-1 Research:</b> Questionnaire design	Dr. İlke Akçay*
<b>5<sup>th</sup> Week (11-15 January 2021)</b>			
<b>Monday</b>		<b>11 January</b>	
<b>08:40-09:30</b>	<b>09:40-10:30</b>	Turkish for Medical Students-I (Foreign Students)	Inst. Şerife Ç. Sökmez*
<b>09:40-10:30</b>	<b>10:40-11:30</b>		
<b>10:40-11:30</b>	<b>11:40-12:30</b>		
<b>11:40-12:30</b>	<b>12:40-13:30</b>		
<b>13:40-14:30</b>	<b>14:40-15:30</b>	Medical English (Gr 1 & Gr 2)	Dr. Nazan Doğruer* Inst. Ayşe Kozansoy*
<b>14:40-15:30</b>	<b>15:40-16:30</b>		
<b>15:40-16:30</b>	<b>16:40-17:30</b>	Elective Courses (MDCN-181-Forensic Sciences) (MDCN-182-Art and Craft ) (MDCN-125-Medical Anthropology)	Dr. Cemal Gürkan* Inst. Nurtane Karagil* Dr. Deren Çeker*
<b>16:40-17:30</b>	<b>17:40-18:30</b>		
<b>Tuesday</b>		<b>12 January</b>	

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08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	Oxidation of lipids	Dr. Saime Batirel
10:00-10:50	11:00-11:50	Oxidation of lipids	Dr. Saime Batirel
12:00-12:50	13:00-13:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
13:00-13:50	14:00-14:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
14:00-14:50	15:00-15:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
16:30-18:30	17:30-19:30	Atatürk İlke ve İnkılap tarihi	Dr. Turgay Bülent Göktürk*
<b>Wednesday</b>		<b>13 January</b>	
09:00-09:50	10:00-10:50	Genome of mitochondria	Dr. Şükrü Tüzmen*
10:00-10:50	11:00-11:50	Importance of genome projects in medicine	Dr. Şükrü Tüzmen*
11:00-11:50	12:00-12:50	STUDY TIME	
13:00-13:50	14:00-14:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
14:00-14:50	15:00-15:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
15:00-15:50	16:00-16:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
16:00-16:50	17:00-17:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
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<b>Thursday</b>		<b>14 January</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	Testing statistical hypothesis	Dr. İlke Akçay*
10:00-10:50	11:00-11:50	Types of errors in statistical inference	Dr. İlke Akçay*
12:00-12:50	13:00-13:50	Biosynthesis of lipids	Dr. Saime Batirel*
13:00-13:50	14:00-14:50	Biosynthesis of lipids	Dr. Saime Batirel*
14:00-14:50	15:00-15:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
15:00-15:50	16:00-16:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
<b>Friday</b>		<b>15 January</b>	
09:00-09:50	10:00-10:50	Biosynthesis of lipids	Dr. Saime Batirel*
10:00-10:50	11:00-11:50	Biosynthesis of lipids	Dr. Saime Batirel*
11:00-11:50	12:00-12:50	STUDY TIME	
12:00-12:50	13:00-13:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
13:00-13:50	14:00-14:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı*

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			Dr. İlke Akçay*
14:00-14:50	15:00-15:50	ICS-1 Communication Skills Course	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
15:00-15:50	16:00-16:50	ICS-1 Communication Skills Course	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
<b>6<sup>th</sup> Week (18-22 January 2021)</b>			
<b>Monday</b>		<b>18 January</b>	
08:40-09:30	09:40-10:30	Turkish for Medical Students-I (Foreign Students)	Inst. Şerife Ç. Sökmez*
09:40-10:30	10:40-11:30		
10:40-11:30	11:40-12:30		
11:40-12:30	12:40-13:30		
13:40-14:30	14:40-15:30	Medical English (Gr 1 & Gr 2)	Dr. Nazan Doğruer* Inst. Ayşe Kozansoy*
14:40-15:30	15:40-16:30		
15:40-16:30	16:40-17:30	Elective Courses (MDCN-181-Forensic Sciences) (MDCN-182-Art and Craft ) (MDCN-125-Medical Anthropology)	Dr. Cemal Gürkan* Inst. Nurtane Karagil* Dr. Deren Çeker*
16:40-17:30	17:40-18:30		
<b>Tuesday</b>		<b>19 January</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	Gluconeogenesis and glycogen metabolism-1	Dr. Betül Karademir
10:00-10:50	11:00-11:50	Gluconeogenesis and glycogen metabolism-1	Dr. Betül Karademir
12:00-12:50	13:00-13:50	ICS-1 Research: Study population and Sample Size Calculation	Dr. İlke Akçay*
13:00-13:50	14:00-14:50	ICS-1 Research: Choosing appropriate Sampling method	Dr. İlke Akçay*
14:00-14:50	15:00-15:50	ICS-1 Research: Choosing appropriate Sampling method	Dr. İlke Akçay*
16:30-18:30	17:30-19:30	Atatürk İlke ve İnkılap tarihi	Dr. Turgay Bülent Göktürk*
<b>Wednesday</b>		<b>20 January</b>	
09:00-09:50	10:00-10:50	ICS-1 Communication Skills Course	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
10:00-10:50	11:00-11:50	ICS-1 Communication Skills Course	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
11:00-11:50	12:00-12:50	ICS-1 Communication Skills Course	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
12:00-12:50	13:00-13:50	ICS-1 Communication Skills Course	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*

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13:00-13:50	14:00-14:50	STUDY TIME	
14:00-14:50	15:00-15:50	STUDY TIME	
15:00-15:50	16:00-16:50	STUDY TIME	
<b>Thursday</b>		<b>21 January</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	Difference between parametric and nonparametric methods; Introduction to parametric methods	Dr. İlke Akçay*
10:00-10:50	11:00-11:50	One sample t-test, unpaired t-test and paired t-test	Dr. İlke Akçay*
12:00-13:50	13:00-13:50	Gluconeogenesis and glycogen metabolism-2	Dr. Betül Karademir
13:00-14:50	14:00-14:50	Gluconeogenesis and glycogen metabolism-2	Dr. Betül Karademir
14:00-15:50	15:00-15:50	<b>ICS-1 Research:</b> Putting all together, Design of a Research study	Dr. İlke Akçay*
<b>Friday</b>		<b>22 January</b>	
09:00-09:50	10:00-10:50	STUDY TIME	
10:00-10:50	11:00-11:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
11:00-11:50	12:00-12:50	Turkish For Medical Students-I ( <b>Interactive Session</b> for Foreign Students)	Inst. Emine Özerinç*
13:00-13:50	14:00-14:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
14:00-14:50	15:00-15:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
15:00-15:50	16:00-16:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
16:00-16:50	17:00-17:50	<b>ICS-1 Communication Skills Course</b>	Dr. Özlem Sarıkaya* Dr. Sinem Yıldız İnanıcı* Dr. İlke Akçay*
<b>Saturday</b>		<b>23 January</b>	
10:00-12:00	11:00-13:00	<b>TFMS101-EXAM (on moodle)</b>	Inst. Şerife Ç. Sökmez*
<b>7<sup>th</sup> Week (25-29 January 2021)</b>			
<b>Monday</b>		<b>25 January</b>	
08:40-09:30	09:40-10:30	STUDY TIME	
09:40-10:30	10:40-11:30	STUDY TIME	
10:40-11:30	11:40-12:30	STUDY TIME	
11:40-12:30	12:40-13:30	STUDY TIME	
13:40-14:30	14:40-15:30	STUDY TIME	
14:40-15:30	15:40-16:30	STUDY TIME	

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15:40-16:30	16:40-17:30	STUDY TIME	
16:40-17:30	17:40-18:30	STUDY TIME	
<b>Tuesday</b>		<b>26 January</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	Physiology LAB: Cell Physiology	Dr. Özgür Kasımay Çakır Dr. Alper Yıldırım
10:00-10:50	11:00-11:50	Physiology LAB: Cell Physiology	Dr. Özgür Kasımay Çakır Dr. Alper Yıldırım
12:00-12:50	13:00-13:50	Biochemistry LAB: Anaerobic Glycolysis	Dr. Ergül Mutlu Altundağ*
13:00-13:50	14:00-14:50	Biochemistry LAB: Anaerobic Glycolysis	Dr. Ergül Mutlu Altundağ*
14:00-14:50	15:00-15:50	STUDY TIME	
<b>Wednesday</b>		<b>27 January</b>	
09:00-09:50	10:00-10:50	Biochemistry LAB: Electron Transport Chain	Dr. Ergül Mutlu Altundağ*
10:00-10:50	11:00-11:50	Biochemistry LAB: Electron Transport Chain	Dr. Ergül Mutlu Altundağ*
11:00-11:50	12:00-12:50	STUDY TIME	
13:00-13:50	14:00-14:50	STUDY TIME	
14:00-14:50	15:00-15:50	STUDY TIME	
15:00-15:50	16:00-16:50	STUDY TIME	
<b>Thursday</b>		<b>28 January</b>	
08:00-08:50	09:00-09:50	STUDY TIME	
09:00-09:50	10:00-10:50	STUDY TIME	
10:00-10:50	11:00-11:50	STUDY TIME	
12:00-13:50	13:00-13:50	STUDY TIME	
13:00-14:50	14:00-14:50	STUDY TIME	
14:00-15:50	15:00-15:50	STUDY TIME	
<b>Friday</b>		<b>29 January</b>	
09:00-09:50	10:00-10:50	Y1C2 THEORETICAL EXAM	
10:00-10:50	11:00-11:50		
11:00-11:50	12:00-12:50		
13:00-13:50	14:00-14:50		
14:00-14:50	15:00-15:50		
15:00-15:50	16:00-16:50		