Timetable for Lectures in Normal Physiology for English-speaking Students
IV semester 2022/2023 academic year

№	Date	Topic
1	26.01.23	Blood, blood system, its functions. Blood content and volume. Main constants of the blood, their value and functional importance. Characteristics of RBC's and WBCs. Physiological leukocytosis, mechanisms. Blood cell's production, nerve and hormone regulation.
2	09.02.23	Protective functions of blood. Plasma proteins, their functions. Hemostasis. Mechanisms of the platelet plug formation and clotting. Intravascular anticoagulants and fibrinolysis system, their relations. Blood groups as immune characteristics of the blood. Blood groups and blood typing. Rh blood types in obstetrics and surgical clinics. Physiological base for blood transfusion.
3	23.02.23	Cardiovascular system, its functions. Properties of the heart muscle. Pumping function. Action potential in the heart muscle. Changes of excitability in the heart muscle, extra systole. Cardiac cycle, its phases. Rhythmical excitation of the heart (automatisms): nature, centers, gradient. Ion mechanisms of slow depolarization. Regulation of heart pumping. Nerve and hormone control of the heart activity.
4	09.03.23	Circulation, types of blood vessels. Basic theory of circulation, hydrodynamic laws explaining blood circulation. Nerve, hormone and myogenic regulation of vessel tone. Basal vessel tone, autoregulation. Vasomotor center, its structure. Blood pressure: systolic, diastolic, MBP. Factors that influence BP. Microcirculation and capillary system, its role in fluid and substance exchange between blood and tissues.
5	23.03.23	Respiration, stages of respiration. Mechanics of pulmonary ventilation. Transport of O_2 and CO_2 in the blood. Regulation of respiration. Respiratory center, neuronal organization. Reflex and chemical control of respiration. Regulation of respiration in different states of the organism.
6	06.04.23	Metabolism as the main factor of living process and homeostasis. Its stages and levels, characteristics. Energetic metabolism. Basal metabolic rate, diagnostic importance. Methods to study BMR. Energy required for different activities. TMR, overall energy requirement for daily activities. Nutrition, food caloric values. Organization of physiological nutrition. Dietary balances. Regulation of food intake: short-term regulation and long-term regulation.
7	20.04.23	Digestion, its importance for Homeostasis and organism's activities. Types and forms of digestion. Nerve and hormone control of GI functions. Role of enteric system in such regulation. Digestion in the mouth and the stomach. Phases of gastric juice secretion. Regulation of gastric secretion. Digestion in the duodenum. Role of the pancreatic juice and bile in digestion. Digestion in the large intestine, eubiosis, its role in normal digestion.
8	04.05.23	Excretion, organs of excretion, their functions in homeostasis. The kidneys are the main excretory organ. Multiple functions of the kidneys. Glomerular filtration, mechanism. Primary urine, comparison to blood plasma. Tubular reabsorption. Passive and active mechanisms of tubular reabsorption. Physiological control of glomerular filtration and renal blood flow. Tubular secretion, its mechanism. Filling of the urinary bladder. Micturition reflex.

The head of the
Normal physiology department, Professor L.D. Tsaturyan

Timetable for Classes in Normal Physiology for English-speaking Students

IV semester 2022/2023 academic year

№	Date	Topic
1	23.01 – 27.01.23	Blood system, its functions. Protective function of the blood, leucocytes.
2	30.01 – 03.02.23	Blood system. RBCs (erythrocytes). Hemoglobin.
3	06.02. – 10.02.23	Mechanism of blood coagulation. Blood groups. Physiological base for blood transfusion.
4	13.02 – 17.02.23	Cardio-vascular system physiology. Physiological properties of the heart muscle; regulation of heart pumping.
5	20.02 – 24.02.23	Cardio-vascular system physiology. Arterial and venous blood pressure, its regulation. Peripheral circulation
6	27.02 – 03.03.23	Cardio-vascular system physiology. Methods to study heart functions
7	06.03 – 10.03.23	Colloquium: Blood system. Cardio-vascular system physiology.
8	13.03 – 17.03.23	Respiration. Respiratory system. Gas transport. Gas exchange.
9	20.03 – 24.03.23	Regulation of respiration. Respiration in different states.
10	27.03 – 31.03.23	Metabolism. Energetic and metabolic rates. Dietary balances.
11	02.04 – 07.05.23	Colloquium: Respiration. Metabolism.
12	10.04 – 14.04.23	General principles of gastrointestinal functions; GIT functions and their regulation; digestion in the mouth and in the stomach.
13	17.04 – 21.04.23	Digestion in the small intestine and the colon; absorption in the small intestine. Eubiosis.
14.	24.04 – 28.04.23	Renal physiology and excretion. Urine formation by the kidneys. Micturition. Termoregulation.
15	01.05 – 05.05.23	Colloquium: Gastrointestinal physiology. Renal physiology and excretion.
16	08.05 – 12.05.23	Practical skills. Final tests.

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