THEMATIC PLAN OF INDEPENDENT WORK OF THE STUDENT IN THE DISCIPLINE «NORMAL PHYSIOLOGY – PHYSIOLOGY OF THE MAXILLOFACIAL REGION» FOR STUDENTS OF THE EDUCATIONAL PROGRAM SPECIALIST IN THE SPECIALTY 31.05.03 FOR THE 2025-2026 ACADEMIC YEAR

№	The topic of independent work	Hours (academic)
	2 semestr	
1	**Physiology of sensory systems[1].** General principles of analyzers structure. Main functions of the analyzers: detection, signal discrimination, signal conversion, encoding and conducting information, detection and identification of images. Visual analyzer: receptor, conductor, cortical departments. Optical system of the eye. Concept of refraction. Accommodative system of the eye. Accommodation and its mechanisms. Taste analyzer: receptor, conduction, cortical parts. Signal conversion and transmission mechanisms. Olfactory analyzer: receptor, conductor, cortical. Signal conversion and transmission mechanisms. Pain analyzer: receptor, conductor, cortical. Types of pain. Theories of pain. Conductors and central mechanisms of dental pain. Antinociceptive system: nervous and humoral mechanisms. Physiological basis and methods of anesthesia[2]	28
	3 semestr	
	Physiology of of blood. Hemostasis[1]. Blood functions. Blood composition. The amount of blood in the body, its relative constancy. Blood plasma, its quantity, composition. Electrolyte composition. Osmotic pressure. Osmotic resistance of erythrocytes. Regulation of constancy. Blood plasma proteins, their physiological role. Oncotic pressure, its role. Erythrocyte sedimentation rate (ESR). Mechanism, clinical significance, indicators. Blood pH. Blood buffer systems. Regulation of blood pH constancy. Red blood cells, structure and functions. Normal content in circulating blood. Hemolysis of erythrocytes, its types. Erythropoiesis, its regulation. Hemoglobin, physiological significance, types and compounds. Color index, clinical significance, magnitude. The role of white blood in the body. Leukocytes, their characteristics. Specific and nonspecific immunity. Its mechanisms. Leukopoiesis, its regulation. Leukocyte formula, clinical significance. Platelets. Structure and functions. The system for regulating thestate of blood aggregation (RAS), its main elements. Clinical and physiological role. The concept of hemostasis, the process of blood coagulation, its phases. Vascular-platelet hemostasis. Coagulation hemostasis. External and internal coagulation pathways. Anticoagulant blood system. Physiological anticoagulants. Their role is in maintaining the fluid state of the blood. Fibrinolysis, its phases. Blood groups. AB0 system. Rh	43

	factor, its significance for medical practice. Physiological and clinical basis of blood transfusion[2]	

[1] - subject
[2] - essential content

Considered at the meeting of the department of normal physiology
«20» мая 2025, protocol № 10

Head of the Department  С.В. Клаучек