

# Department of Histology, Cytology and Embryology M. Gorky Donetsk National Medical University

## TERM PLAN

of the lectures and classes for the students of the international medical faculty  
1st year, 2nd semester

Lectures	Classes
<b>MODULE 1</b>	<b>MODULE 1</b>
INTRODUCTION TO HISTOLOGY. CYTOLOGY	1. Introduction to histology, cytology and embryology. <b>Microscopy</b> and its methods. Using the microscope. Histological technique. The accident prevention and avoidance of accidents in histology department. 2. <b>Cytology</b> . Common cell structure. Plasma membrane. Intercellular junctions.
	3. <b>Cytology</b> . Cytoplasm. Hyaloplasm. Organelles. 4. <b>Cytology</b> . Inclusion. Cell nucleus. Interaction between the nucleus and cytoplasm. Cell reproduction. Ageing and death of the cell. Cell reactions on an altering factors.
<b>MODULE 2</b>	<b>MODULE 2</b>
TISSUE LEVEL OF THE LIVING ORGANISMS. EPITHELIA	5. <b>General Embryology</b> . Birds and mammals embryology. 6. <b>Human Embryology</b> . Fertilisation. Cleavage. Early stage of the Gastrulation. Embryo germ layers.
	7. <b>Human Embryology</b> . Late stage of the Gastrulation. Human extraembryonic organs. 8. <b>RESULTING TEST CONTROL ON MODULE 1</b> .
TISSUES OF THE INTERNAL ENVIRONMENT. BLOOD. HEMATOPOIESIS	<b>MODULE 2</b>
	9. Tissues. <b>Epithelial tissues</b> . Classification of the covering epithelia. Simple epithelia. 10. <b>Epithelial tissues</b> . Stratified epithelia. Glandular epithelium. Secretion cycle. Regeneration.
	11. <b>The tissues of the internal environment. Blood</b> . Plasma. Erythrocytes, structure and functions. Platelets (thrombocytes): structure and functions. 12. <b>Blood</b> . Leukocytes. Classification, structure and functions. Lymph.
CONNECTIVE TISSUES	13. <b>Hematopoiesis</b> . Embryonic hematopoiesis. Postembryonic development of the erythrocytes, platelets, granulocytes monocytes and lymphocytes. 14. <b>Connective tissues</b> . Classification. Loos connective tissue. Structure and functions of the cells.
	15. <b>Loos connective tissue</b> . Extracellular matrix, its structure and functions. 16. <b>Connective tissues</b> . Dense connective tissue. Connective tissues with special properties. Regeneration of the connective tissues.
MUSCULAR TISSUES	17. <b>Skeletal tissues</b> . Cartilage. Structure, functions and regeneration of the different types of the cartilage. Structure and functional features of the different types of the bone tissues. Joint structure. 18. <b>Bone tissues</b> . Histogenesis. Regeneration of the bone tissues.
	19. <b>Control of practical skills on content module "The common meaning tissues"</b> . 20. <b>Muscle Tissues</b> . Classification, development, structure and functions.
NERVOUS TISSUE	21. <b>Nerve Tissue</b> . Classification of Neurons and glial cells, their structure and functions. 22. <b>Nerve Tissue</b> . Nerve fibers and nerve endings. Classification and structure. Synapses.
	23. <b>Control of practical skills on Module 2 "General histology"</b> . 24. <b>RESULTING TEST CONTROL ON MODULE 2 "General histology"</b> .
<b>MODULE 3</b>	<b>MODULE 3</b>
CIRCULATORY SYSTEM	25. <b>Circulatory system</b> . General characteristic of blood vessels. Histophysiology, structure and functions of the arteries. 26. <b>Circulatory system</b> . Microcirculatory bed. Histophysiology of the microvessels.
	27. <b>Circulatory system</b> . Veins, lymphatic vessels. 28. <b>Circulatory system</b> . Heart. Development, structure and functions.
ENDOCRINE SYSTEM	29. <b>Endocrine system</b> . General morphological characteristic and functions. Hypothalamo-pituitary system. Development, structure and histophysiology. 30. <b>Endocrine system</b> . Pineal gland. Development, structure and functions. Adrenal glands. Development, structure and functions.
	31. <b>Endocrine system</b> . Thyroid glands. Development, structure and histophysiology. Secretion cycle. Parathyroid glands. 32. <b>Immune System and Lymphoid Organs</b> . Common morphological characteristic and functions. Central lymphoid organs (bone marrow, thymus). Structure and functions.
ORGANS OF THE HEMATOPOIESIS AND LYMPHOID ORGANS	33. <b>Immune System and Lymphoid Organs</b> . Spleen. Development, structure and functions. 34. <b>Immune System and Lymphoid Organs</b> . Lymph nodes, its development, structure and histophysiology.
	35. <b>Control of practical skills on content module "Circulatory system, endocrine system and immune system and lymphoid organs"</b> .
NERVOUS SYSTEM	

2st year, 3d semester

Lectures	Classes
<b>Module 3 (continuation)</b>	
DIGESTIVE SYSTEM	1. <b>Nervous system.</b> Histogenesis, structure and functions of the nerves, dorsal root ganglia and spinal cord. 2. <b>Nervous system.</b> Embryogenesis and morphofunctional characteristic of the brain stem. Cerebellum.
	3. <b>Nervous system.</b> Cerebral cortex. Structure and functions. Functional units of the cerebral cortex. 4. <b>Nervous system.</b> Autonomic nervous system. Structure and functions. Meninges. Blood-brain barrier.
DIGESTIVE GLANDS	5. <b>Special senses.</b> General characteristic. Development, structure and functions of the eye. 6. <b>Special senses.</b> Eye. Retina. Barriers.
	7. <b>Special senses.</b> Development, structure and histophysiology of the vestibulocochlear apparatus. 8. <b>Special senses.</b> Development and histophysiology of the taste, olfaction and touch.
RESPIRATORY SYSTEM	9. <b>Control of practical skills on 6-th content module.</b> 10. <b>Digestive system.</b> General structure. Mucosa. Oral cavity. Development, structure and functions of the tongue. Tonsills.
	11. <b>Digestive system.</b> Tooth development, structure and functions. 12. <b>Digestive system.</b> Development, structure and functions of salivary glands.
URINARY SYSTEM	13. <b>Digestive system. The general plan of digestive tract wall structure.</b> Development, structure and functions of pharynx and esophagus. 14. <b>Digestive system.</b> Development, structure and functions of stomach.
	15. <b>Digestive system.</b> Development, structure and functions of small intestine. APUD system of the alimentary canal. 16. <b>Digestive system.</b> Development, structure and functions of large intestine. Gut associated lymphoid system.
MALE REPRODUCTIVE SYSTEM	17. <b>Digestive system.</b> Development, structure and functions of the liver. 18. <b>Digestive system.</b> Development, structure and functions of the pancreas.
	19. <b>Respiratory system.</b> Development, structure and functions of the respiratory tract. 20. <b>Respiratory system.</b> Development, structure and functions of lungs.
FEMALE REPRODUCTIVE SYSTEM	21. <b>Skin and its derivatives.</b> Development, structure and fuctions. 22. <b>Urinary system.</b> Development, structure and functions of kidney.
	23. <b>Urinary system.</b> Endocrine apparatus of the kidney. Development, strucutre and functions of urinary tract. 24. <b>Control of practical skills on 7-th content module "Histology of systems which maintain homeostasis".</b>
FEMALE REPRODUCTIVE SYSTEM	25. <b>Male reproductive system</b> development and general plan of structure. Testis. Spermatogenesis. 26. <b>Male reproductive system.</b> Gonadal tract. Accessory glands.
	27. <b>Female reproductive system</b> development, structure and functions. Ovary. Ovogenesis. Ovarial cycle regulation. 28. <b>Female reproductive system.</b> Uterine tube. Uterine. Vagina. Menstrual cycle phases and regulation.
	29. <b>Placenta</b> development, structure and functions. "Mother-fetus" system. 30. <b>Mammary gland.</b> Development, structure and functions. Hystophysiology at different terms of ontogenesis.
	31. <b>Control of practical skills on 8-th content module "Histology of reproductive systems".</b> 32. <b>Resulting control of practical skills on module 3 "Special histology and embryology".</b>
	33. <b>RESULTING TEST CONTROL ON MODULE 3 "Special histology and embryology".</b>