TOPICS FOR ENTRANCE EXAMS
TO THE FACULTY OF HEALTH SCIENCES, PALACKY UNIVERSITY

Literature: 1. *Human biology,* MADER, Sylvia S., 6th ed., Boston: McGraw-Hill, 2000, xix, 514, [57] s. ISBN 0072419830.

2. *Barron's Mcat*, Third edition, Barrons Educational Series; 2017, 1128 p, ISBN-10: 1438077920, ISBN-13: 978-1438077925

Somatology

Recommended study topics

Cytology, genetics, organism evolution, classification of biological and medical disciplines
Classification of biological scientific disciplines
Classification of medical scientific disciplines
Origin of life on Earth
Basics of the biological evolution
Basics of human development
Cell – general structure of prokaryotic and eukaryotic cells
Cell division – mitosis and meiosis
Basics of genetics – chromosome structure, gene, gene expression, mutation
Most important hereditary disorders in humans

Functional anatomy of tissues
Epitheliums, connecting tissues, muscle tissue, nerve tissue

Body growth and orientation
Expressions used for body orientation

Locomotor system – bones
Human skeletal system
Types of bones, bone growth
Bone connections
Types of joints
Torso, head, limb skeleton

Locomotor system – muscles
Types of muscle tissue, its structure, innervation and function
Functional anatomy of muscles

Blood
Blood and blood plasma composition
Blood functions
Blood types
Basics of body immune reactions – antigen and antibody/ Specific and non-specific immunity

Blood circulation
Types of vessels, their structure and function
Structure and function of the heart
Blood circulation
Lymphatic system

Respiratory system
Internal and external respiration
Upper and lower respiratory tract
Structure and function of the lungs

Digestive system
Gastrointestinal tract, its components and functions
Metabolic function of the liver
Physiology of nutrition
Water, saccharides, proteins, fats – their function in the body
Vitamins/Minerals and their function
Thermoregulation
Temperature regulation in the body
Urinary tract
Structure and function of kidneys, their role in the body and regulation of their function
Production of urine, urinary duct, bladder function
Skin
Composition and function of the skin, skin derivatives
Metobolism
Endocrine glands, hormones and their functions
Neural Control
Functional structure of the nervous tissue
Reflexes
Central nervous system, peripheral nerves
Functions of the individual brain and spinal cord parts
Receptors
Types of receptors and their function
Sensory systems
Genital system
Genital system of a man, genital system of a woman - menstrual cycle, embryonic development
Postnatal development of a child
Development of the bone tissue and muscle system of a child
Development of the central nervous system, conditional and unconditional reflexes
Periods of human life