МЕДИЦИНСКИ УНИВЕРСИТЕТ - ВАРНА
„Проф. д-р Параскев Стоянов“
Ул.“Марин Дринов“ 55, Варна 9002, България
Тел. : 052/ 65 00 57, Факс: 052/ 65 00 19
e-mail: uni@mu-varna.bg, www.mu-varna.bg

MEDICAL UNIVERSITY - VARNA
“Prof. Dr. Paraskev Stoyanov”
55, Marin Drinov Str., 9002 Varna, Bulgaria
Tel.: +359 52/ 65 00 57, Fax: + 359 52/ 65 00 19
e-mail: uni@mu-varna.bg, www.mu-varna.bg

FACULTY OF MEDICINE

Approved:
Dean:
(Prof. Dr Yoto Yotov, MD, PhD)

SYLLABUS

IN
Human Anatomy and Histology

Specialty	**MEDICINE**
Educational - qualification degree	**master**
Organizational form of education	**full-time**
Auditorial activity (Lectures/Seminars)	**345 (120/225)**
Extra-auditorial activity	**555**
ECTS- credits	**30**
Discipline type	**mandatory**
Semester/s of education	**First, second, third and fourth**
Semester of examination	**fourth**
Developer(s) of the Syllabus:	**Prof. Anton Tonchev, MD, PhD, DSc** **Assoc. Prof. Stoyan P. Pavlov, MD, PhD** **Assoc. Prof. Meglena Angelova, MD, PhD** **Assoc. Prof. Desislava Marinova, MD, PhD** **Assoc. Prof. Blagovesta Mitkova, MD, PhD**

Varna, 2024

ANNOTATION

Aims of the course	The Anatomy and Histology course aims to provide medical students with basic knowledge of the macroscopic and microscopic structure of the human organism at its different levels of organization in close connection with the function, phylogenetic, ontogenetic development and environmental factors. The studying of the human body by systematic and topographic anatomical principle provides the possibility for easier understanding of the information from physiology, biochemistry, pathology, and with regard to relevant clinical projections. The natural connection between the macroscopic and microscopic characteristics of the organs that build the systems, the apparatuses and the organism itself and their relationships in topographic and anatomical terms is a prerequisite for the many aspects of the clinical preparation, the natural scientific worldview and the overall construction of the future physician as a professional and creative person. All this determines the significance the "Human Anatomy and Histology" as a fundamental medical-biological morphological discipline of substantial social significance.

Outcomes for students at the end of the course:	
Competences	
Competence group	1. **Patient Care** that is compassionate, appropriate, and effective for treating health problems and promoting health.
Knowledge	
Skills	
Competence group	2. **Medical Knowledge** about established and evolving biomedical, clinical, and cognate (eg, epidemio-logical and social-behavioral) sciences and the application of this knowledge to patient care.
Knowledge	▪ Principles of the construction of the human body at different levels of organization ▪ Patterns of prenatal and postnatal development ▪ Basic methods of anatomy, histology, and embryology ▪ Systematic knowledge of the structure of the healthy human body at all levels of organization: cellular, tissue, organ, and organismal ▪ Spatial relationships between the organs and structures of the healthy human body in a topographical-anatomical and imaging diagnostic aspect ▪ The most common forms of variation in the anatomical features of the healthy human body and the organs and structures that compose it ▪ Development of the human body and the structures that compose it during prenatal and postnatal development ▪ Age-related anatomical features and relationships between the organs and structures composing the human body ▪ Functional-anatomical dependencies and features of the organs and structures composing the human body at all levels of their organization
Skills	▪ *To describe and discuss the structure of the healthy human body at all levels of organization*

	▪ *To recognize organs, their structural parts, and features, including specific cells, tissues, supra-tissue complexes, and parts that compose them* ▪ *To make differential diagnoses between different (but similar) normal cells, tissues, organs, and structures that compose the human body* ▪ *To know and describe the surface relief and the main bony and soft tissue landmarks on the body surface* ▪ *To know and describe the boundaries of topographical-anatomical regions* ▪ *To know and describe the spatial relationships of organs and structures in specific topographical-anatomical regions* ▪ *To know and describe the projections of organs and structures that compose the human body onto the body surface* ▪ *To know the main imaging anatomical features of key organs, systems, and regions of the human body*
Competence group	**3. Practice-Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal, and assimilation of scientific evidence, and improvements in patient care.
Knowledge	▪ Basic methods of anatomy, histology, and embryology for studying the human body ▪ Knowledge of the systematic and regional approach to studying the human body ▪ Searching, selecting, and analyzing scientific and educational information
Skills	▪ *To use a light microscope and virtual microscopic slides for training and self-preparation.* ▪ *To extract, analyze, and sketch the main morphological features of cells, tissues, organs, structures, and regions that compose the human body.* ▪ *To know and use the basic dissection instruments appropriately.* ▪ *To perform anatomical dissection.* ▪ *To recognize, demonstrate, and describe the morphological features and spatial relationships of the organs and structures that compose the human body in a systematic, topographical-anatomical, and imaging-anatomical aspect.* ▪ *To search, select, and analyze relevant scientific and educational literature from specialized databases on a given topic in anatomy, histology, and embryology.* ▪ *To summarize scientific information on topics related to anatomy, histology, and embryology.*
Competence group	**4. Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals.
Knowledge	▪ International anatomical terminology ▪ International histological terminology ▪ International embryological terminology ▪ Methods for searching, selecting, analyzing, and summarizing scientific and educational information

Skills	▪ *To use precise, clear, and accurate terminology when describing the structure, development, and age-related features of the human body and the structures that compose it at all levels of organization* ▪ *To freely and appropriately use anatomical, histological, and embryological terminology when discussing anatomical and clinical cases* ▪ *To correctly recognize and interpret anatomical, histological, and embryological terminology in the context of pathology and clinical sciences* ▪ *To interpret anatomical, histological, and embryological terminology in a non-specialized and accessible language when communicating with non-specialists* ▪ *To analyze, synthesize, and summarize educational and/or scientific information on a given specialized topic in the field of anatomy, histology, and embryology*
Competence group	**5. Professionalism,** as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
Knowledge	▪ The procedure for donation, preservation, and use of deceased bodies for the needs of medical education and science ▪ Rules of conduct in the anatomical theater ▪ Care for the bodies of deceased donors
Skills	▪ *To maintain order in the dissection room and at their workplace* ▪ *To treat educational material of human origin with reverence and respect* ▪ *To care for the maintenance of educational material of human origin and protect it from damage* ▪ *To be aware of risks and protect themselves using appropriate personal protective equipment* ▪ *To work in a team on assigned tasks*
Competence group	**6. Systems-Based Practice,** as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.
Knowledge	
Skills	

Key competencies for lifelong learning[1], that the discipline develops:	
Literacy competence Literacy is the ability to identify, understand, express, create, and interpret concepts, feelings, facts and opinions in both oral and written forms, using visual, sound/audio and digital materials across disciplines and contexts. It implies the ability to communicate and connect effectively with others, in an appropriate and creative way.	**X**

[1] As defined in 2018 r. by the European Union Council (https://eur-lex.europa.eu/legal-content/BG/TXT/HTML/?uri=CELEX:32018H0604(01)&from=EN)

Multilingual competence This competence defines the ability to use different languages appropriately and effectively for communication. It broadly shares the main skill dimensions of literacy: it is based on the ability to understand, express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing) in an appropriate range of societal and cultural contexts according to one's wants or needs.	**X**
Mathematical competence and competence in science, technology, engineering A. Mathematical competence is the ability to develop and apply mathematical thinking and insight in order to solve a range of problems in everyday situations. Building on a sound mastery of numeracy, the emphasis is on process and activity, as well as knowledge. Mathematical competence involves, to different degrees, the ability and willingness to use mathematical modes of thought and presentation (formulas, models, constructs, graphs, charts). B. Competence in science refers to the ability and willingness to explain the natural world by making use of the body of knowledge and methodology employed, including observation and experimentation, in order to identify questions and to draw evidence-based conclusions. Competences in technology and engineering are applications of that knowledge and methodology in response to perceived human wants or needs. Competence in science, technology and engineering involves an understanding of the changes caused by human activity and responsibility as an individual citizen.	**X**
Digital competence Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking.	**X**
Personal, social and learning to learn competence Personal, social and learning to learn competence is the ability to reflect upon oneself, effectively manage time and information, work with others in a constructive way, remain resilient and manage one's own learning and career. It includes the ability to cope with uncertainty and complexity, learn to learn, support one's physical and emotional well-being, to maintain physical and mental health, and to be able to lead a health-conscious, future-oriented life, empathize and manage conflict in an inclusive and supportive context.	**X**
Citizenship competence the ability to act as responsible citizens and to fully participate in civic and social life, based on an understanding of social, economic, legal and political concepts and structures, as well as global developments and sustainability.	
Entrepreneurship competence Entrepreneurship competence refers to the capacity to act upon opportunities and ideas, and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking initiative and perseverance and the ability to work collaboratively in order to plan and manage projects that are of cultural, social or financial value.	
Cultural awareness and expression competence Competence in cultural awareness and expression involves having an understanding of and respect for how ideas and meaning are creatively expressed and communicated in different cultures and through a range of arts and other cultural forms. It involves being engaged in understanding, developing and expressing one's own ideas and sense of place or role in society in a variety of ways and contexts.	

Methods of education
▪ lectures ▪ seminars ▪ practicals and laboratory exercises ▪ practical and creative problem solving, case studies, presentations, anatomical pro-and dissection

Links with other courses from the curriculum of the specialty
▪ **Builds upon knowledge acquired in/Depends on:** o Cytology, General Histology and Embryology ▪ **Mandatory for learning:** o General and Clinical Pathology, Propedeutics of the Internal Diseases, General and Operative Surgery, Roentgenology and Radiology, ENT diseases, Ophthalmology,

Obstetrics and Gynecology, Nervous diseases (Neurology), Orthopedics and Traumatology

- **Other related disciplines:**
  - Human Physiology
  - Biochemistry
  - Pathophysiology