

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, DSc)



SYLLABUS IN *Roentgenology and radiology*

Specialty	MEDICINE
Educational - qualification degree	master
Organizational form of education	full-time
Auditorial activity (Lectures/Seminars)	105 (45/60)
Extra-auditorial activity	45
ECTS- credits	5
Discipline type	compulsory
Semester/s of education	Sixth and seventh
Semester of examination	seventh
Developer(s) of the Syllabus:	Assoc. prof. Chavdar Bachvarov

Varna, 2023

ANNOTATION

Aims of the course	The training in Diagnostic Imaging aims to qualify the students to a certain degree of knowledge about the methods of imaging diagnostics, such as conventional X –ray diagnostics, US, MRI diagnostics and interventional radiology, nuclear medicine and radiotherapy as well. The predominant part of imaging modalities use ionizing radiation, which requires some basic knowledge about the acquisition, nature and properties of the ionizing radiation, as well as about their biological effect on human body and radiation control to be mastered in the beginning of the course.
---------------------------	---

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	<ul style="list-style-type: none"> • Gather essential and accurate information about the patient • Counsel patients and family members • Recognize the indicators for procedures • Describe the procedure in appropriate language for patients and caretakers • Acknowledge the impact of the procedure on patient and family • Competently perform all medical procedures required for their scope of practice • Perform the procedure in a way that maximizes patient comfort • Make informed diagnostic and therapeutic decisions • Prescribe and perform essential medical procedures • Provide effective health management, maintenance, and prevention guidance
Skills	<ul style="list-style-type: none"> ▪ .. ▪ ..
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	<ul style="list-style-type: none"> • An investigative and analytical approach to clinical problem solving and knowledge acquisition • An ability to apply medical knowledge to clinical situations • An ability to teach others
Skills	<ul style="list-style-type: none"> ▪ .. ▪ ..

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	<ul style="list-style-type: none"> • investigate and evaluate patient care practices • appraise and assimilate scientific evidence, and • improve the practice of medicine.
Skills	<ul style="list-style-type: none"> ▪ .. ▪ ..
Competence group	4. Interpersonal and Communication Skills that result in effective information exchange and teaming with patients, their families, and other health professionals.
Knowledge	<ul style="list-style-type: none"> • Create and sustain a therapeutic relationship with patients and families • Work effectively as a member or leader of a health care team
Skills	<ul style="list-style-type: none"> ▪ .. ▪ ..
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	<ul style="list-style-type: none"> • Demonstrating Professional Conduct and Accountability • Demonstrating Humanism and Cultural Proficiency • Maintaining Emotional, Physical, and Mental Health, and Pursuing Continual Personal and Professional Growth
Skills	<ul style="list-style-type: none"> ▪ .. ▪ ..
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	<ul style="list-style-type: none"> • Work effectively in various health care delivery settings and systems relevant to their clinical specialty. • Coordinate patient care within the health care system relevant to their clinical specialty. • Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate. • Advocate for quality patient care and optimal patient care systems. • Work in interprofessional teams to enhance patient safety and improve patient care quality.

	<ul style="list-style-type: none"> Participate in identifying system errors and implementing potential systems solutions.
Skills	<ul style="list-style-type: none">

Key competencies for lifelong learning¹, 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.

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.

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.

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.

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.

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.

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](https://eur-lex.europa.eu/legal-content/BG/TXT/HTML/?uri=CELEX:32018H0604(01)&from=EN))

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, consultations, discussions, work with scientific literature, regulatory documents, databases, analyses, presentations, work with patients under observation, medical documentation,.....

Links with other courses from the curriculum of the specialty

- **Builds upon knowledge acquired in/Depends on:**
 -
- **Necessary for the following disciplines:**
 -
- **Other related disciplines:**
 -