**FACULTY OF MEDICINE**


**Approved:**
**Dean:**
**(Prof. Dr. Yoto Yotov, DS)**

# SYLLABUS

## *IN*

## *Neurosurgery*

| | |
|---|---|
| Specialty | **MEDICINE** |
| Educational - qualification degree | **master** |
| Organizational form of education | **full-time** |
| Auditorial activity (Lectures/Seminars) | **30(15/15)** |
| Extra-auditorial activity | **30** |
| ECTS- credits | **2** |
| Discipline type | **compulsory** |
| Semester/s of education | **eight** |
| Semester of examination | **eight** |
| Developer(s) of the Syllabus | Prof.Dr. Yavor Petkov Enchev MD, PhD, DSci |

**Varna, 2024**

## ANNOTATION

**Aim of the course:**
The theoretical and practical course in the speciality of Neurosurgery aims to introduce the medical students in the large spectrum of different pathologies of the central and peripheral nervous systems, as well as in the more specialized segments of neurosurgical practice. This course of education goals to prepare the student to the initial organization of the basic knowledge accessible and comprehensive. There are presented clinical cases in the main topics – degenerative diseases of the spinal column and spinal cord, neurooncology of the brain and spinal cord, essentials of the head and spinal trauma, brain and spinal cord vascular deseases, congenital malformations and parasitic and inflammatory diseases of the central nervous system. There are also discussed the contemporary diagnostic methods in the neurosurgical practice, various approaches of the surgical treatment and controversies in the neurosurgical field.

| **Outcomes for students at the end of the** | |
|---|---|
| **Knowledge** | • Theoretical and practical<br>• Basic knowledge in neuropathology<br>• Knowledge of the current diagnostic methods in neurosurgery<br>• Basic neurosurgical approaches |
| **Skills** | • Practical exercises in neurological and neurosurgical examination of patients under observation.<br>• Discussions of case studies and clinical presentations. |

| | |
|---|---|
| **Competences** | 1. **Patient Care** that is compassionate, appropriate, and effective for treating health problems and promoting health.<br>o *Neurological examination of patients*<br>o *Practical skils in the system of neurosurgical helth care*<br><br>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.<br><br>o *Knowladge of biomedical sience*<br>o *Anatomical considerations and basic anatomical points in the neurosurgical practis*<br><br>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.<br>• *Evidence based medicine*<br><br>4. **Interpersonal and Communication Skills** that result in effective information exchange and teaming with patients, their families, and other health professionals.<br><br>• *Interpersonal and professional skills in the medical care with neurosurgical patients* |

| | |
|---|---|
| | 5. **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.<br><br>• *Ethical aspects of medical practice and medical care of severe disabled patients.*<br><br>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.<br>• *Systemic approach in the using of the scientific literature and data base.* |

| Key competencies for lifelong learning[1], that the discipline develops: | |
|---|---|
| **Literacy competence**<br>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 the ability to communicate and connect effectively with others, in an appropriate and creative way. | X |
| **Multilingual competence**<br>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 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**<br>A. Mathematical competence is the ability to develop and apply mathematical thinking and insight in order to a range of problems in everyday situations. Building on a sound mastery of numeracy, the emphasis is on process 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).<br>B. Competence in science refers to the ability and willingness to explain the natural world by making use of 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 knowledge and methodology in response to perceived human wants or needs. Competence in science, technology engineering involves an understanding of the changes caused by human activity and responsibility as an individual citizen. | X |
| **Digital competence**<br>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**<br>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**<br>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**<br>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**<br>Competence in cultural awareness and expression involves having an understanding of and respect for how ideas meaning are creatively expressed and communicated in different cultures and through a range of arts and other 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 |
|---|

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

- lectures
- seminars
- practical and creative problem solving, case studies, discussions, presentations, medical documentation.

| **Links with other courses from the curriculum of the specialty** |
| --- |
| Anatomy, Physiology, Pathophysiology, Clinikal Pathoanatomy, Foreign medicine, ENT, Pediatrics, Surgery, Orthopedics, Roenthenology, Chemotherapy, Radiotherapy. |