UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN
Faculty of Medicine

Course sylabus – part A

USOS Code: 48SJ-NEUROCH
ECTS: 3.00
Cycle: 2026L

Neurochirurgia
Neurosurgery

SUBJECT MATTER CONTENT:

Seminar – 1. Post-traumatic damage to the Central Nervous System - damage mechanisms (contre coup), physical phenomena accompanying the injury (cavitation phenomenon, angular and linear acceleration, gravitational force and centrifugal force). Acute brain contusion with formation of an intracerebral hematoma. Acute and chronic supra and subdural hematomas. Hematomas of the posterior cranial cavity. Fractures of the skull base of the anterior and middle fossa - nasal and auricular rhinorrhea, intracranial air. Transverse and longitudinal fractures of the pyramid of the temporal bone. Late consequences of injuries - cerebrasthenia syndrome and Korsakoff's syndrome, late epilepsy. Reminder of the pathophysiological mechanisms of autoregulation of cerebral blood flow. 2. Post-traumatic injuries of the spine and peripheral nerves, including disc herniations, spinal bone fractures. Brachial plexus injury. 3. Subarachnoid hemorrhage, intracranial aneurysms and CNS vascular malformations, symptoms, methods procedures, including surgical treatment of the above-mentioned malformations by endovascular or surgical means exclusion of the aneurysm from the cerebral circulation. Differential diagnosis. 4. Functional neurosurgery. The concept of what it deals with and the treatment of: a) drug-resistant epilepsy b) diseases of the extrapyramidal system c) spasticity d) pain syndromes e) neuralgia f) torticollis. 5. CNS infections, including intracranial abscesses. Symptoms, methods of diagnosis, radiological diagnostics, elements of conservative and surgical therapy. Pathophysiological, microbiological and pathomorphological basis of CNS infection development.

Classes – Participation in the subjective and objective examination of the patient. Participation in briefings and celebrations. discussing research neuroradiologicznych. Passive participation in selected neurosurgery.

Lecture – 1. Scope of knowledge and skills, which is engaged in neurosurgery. What kind of patients a family doctors direct to a neurosurgeon? To which patients emergency medicine immediately calls neurosurgeon? What should I look for during examining a patient who may need the assistance of neurosurgery? Basics of pathophysiology of intracranial increasing narrowness. 2. Life threatening in neurosurgery. Cranio-cerebral and spinal trauma. 3. Life threatening in neurosurgery. Stroke and bleeding subarachnoid. 4. neurooncology. 5. Functional Neurosurgery.

TEACHING OBJECTIVE:

Acquisition of knowledge in the field of pathophysiology, diagnosis and treatment of disease processes (spontaneous and post-traumatic), causing intracranial compartmentalization,

Legal acts specifying learning outcomes: 672/2020;

Discipline: Medicine

Course status: Obligatory

Group of courses: B - major course

ISCED Code: 0912

Field of studies: Medicine

Field: Medicine

Learning profile: -

Form of studies: full-time

Level of studies: uniform master's studies

Year/Semester: 5th year 10th semester, Medicine

Classes types: Lecture; Seminar; Classes;

Classes: Lecture (10h); Seminar (10h); Classes (25h);

Language: POL

Introductory subject: anatomy, pathophysiology, physiology, radiology

Prerequisites: knowledge of anatomy, pathophysiology, physiology, neurology, as well as imaging and clinical signs of diseases of the nervous system

Organized by the unit:

Coordinators responsible for the course:

Mariusz Sowa, neurochirurgia@uwm.edu.pl

Additional notes:

intracranial bleeding, cranial spinal cord and damage to the central nervous system as a result of hematoma growth or action or compression external. Gaining knowledge about the proper conduct in a life-threatening situation or damage to the function of the CNS and peripheral nervous system due to the accumulation of the above disease processes. Gaining Skills appropriate qualification for urgent and planned further actions specialist, in the field of neurotraumatology, neuro-oncology, cerebrovascular diseases, diseases spine, surgical treatment of pain, including trigeminal neuralgia, drug-resistant epilepsy, dystonia, Parkinson's disease. Acquisition of the ability to carry out basic diagnostics and conservative treatment of pain syndromes related to degenerative changes in the spine and qualification for treatment disc herniation.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY

Symbols for outcomes related to the discipline:
M/NMA_P7S_KO+++++++, M/NMA_P7S_UW++++++++++++, M/NMA_P7S_WG+++, M/NM+++++++++

Symbols for outcomes related to the field of study:
K.1.+, K.2.+, K.3.+, K.4.+, K.5.+, KA7_KO1+, KA7_KR1+, B.U10.+, D.U12.++, C.U11.+, D.U13.+, D.U15.+, D.U4.+, D.U8.+, E.U1.+, E.U16.+, F.U21.+, F.U22.+, M/NM_E.W14.+, M/NM_D.W6.+, M/NM_E.W13.+, M/NM_E.W16.+

LEARNING OUTCOMES:

Knowledge (W1) –

Knowledge (W2) –

Knowledge (W3) –

Knowledge (W4) –

Skills (U1) –

Skills (U2) –

Skills (U3) –

Skills (U4) –

Skills (U5) –

Skills (U6) –

Skills (U7) –

Skills (U8) –

Skills (U9) –

Skills (U10) –

Skills (U11) –

Skills (U12) –

Social competences (K1) –

Social competences (K2) –

Social competences (K3) –

Social competences (K4) –

Social competences (K5) –

Social competences (K6) –

Social competences (K7) –

Symbols for outcomes related to the field of study:

Seminar – ['K1', 'K2', 'K3', 'K4', 'K5', 'K6', 'K7', 'U1', 'U12', 'W1', 'W2'] – Multimedia presentation

Classes – ['K1', 'U1', 'U2', 'U3', 'U4', 'U5', 'U6', 'U7', 'U8', 'U9', 'U10', 'U11', 'W1'] – Classes with assistants

Lecture – ['U1', 'W1', 'W2', 'W3', 'W4'] – Multimedia presentation

FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:

Seminar (Oral test) – ['K1', 'K2', 'K3', 'K4', 'K5', 'K6', 'K7', 'U1', 'U2', 'U3', 'U4', 'U5', 'U6', 'U7', 'U8', 'U9', 'U10', 'U11', 'U12', 'W1', 'W2'] – answer the questions

Classes (Oral test) – ['K1', 'K2', 'K3', 'K4', 'K5', 'K6', 'K7', 'U1', 'U2', 'U3', 'U4', 'U5', 'U6', 'U7', 'U8', 'U9', 'U10', 'U11', 'U12', 'W1', 'W2'] – discussion

Lecture (Written exam) – ['U1', 'W1', 'W3', 'W4'] – one choice test

REQUIRED LITERATURE:

1. **Neurochirurgia w zarysie**

   Wojciech Maksymowicz; PZWL; 1999; Pages: -; Tome: -;
2. **Neurochirurgia**

   Greenberg M. S., Zieliński P. (red.), Mielczarek M. (red.); PZWL; 2023; Pages: -; Tome: 1;

COMPLIMENTARY LITERATURE:

1. **Neurologia i Neurochirurgia**

   red. W. Kozubski, KW. Lindsay,; URBAN; 2006; Pages: -; Tome: -;
2. **World Health Organization Classification of Tumors of the Central Nervous System: a summary,**

   David N. Louis i inni; Acta Neuropathol; 2010; Pages: -; Tome: -;
3. **Zarys neurochirurgii**

Mirosław Ząbek; PZWL; 1999; Pages: -; Tome: -;

4. **World Health Organization Classification of Tumors of the Central Nervous System: a summary**

   David N. Louis i inni; Acta Neuropathol.; 2010; Pages: ; Tome: ;

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Logo UWM

Detailed description of ECTS credits awarded - part B

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Neurochirurgia
Neurosurgery

1. Contact hours with the academic teacher:

- participation in: Lecture	10 h
- participation in: Seminar	10 h
- participation in: Classes	25 h
- consultation	5 h
	Total: 50 h

Independent work of a student:

- self education	25.00 h
	Total: 25.00 h

contact hours + independent work of a student Total: 75.00 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS

ECTS Points = 75.00 h : 25 h/ECTS = 3.00 ECTS

Average: 3.00 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher - 2.00 ECTS pts

- including the number of ECTS credits for hours of independent work of a student - 1.00 ECTS pts