

Subject name Neurosurgery	ECTS Code																
Name of unit teaching the subject THE ZBIGNIEW RELIGA FACULTY OF MEDICAL SCIENCES IN ZABRZE, THE UNIVERSITY OF TECHNOLOGY IN KATOWICE																	
Studies <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 25%;">Field of study</th> <th style="width: 25%;">degree</th> <th style="width: 25%;">mode</th> <th style="width: 25%;">major</th> <th style="width: 25%;">specialization</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">medical</td> <td style="text-align: center;">Uniform Master's</td> <td style="text-align: center;">stationary</td> <td></td> <td></td> </tr> </tbody> </table>		Field of study	degree	mode	major	specialization	medical	Uniform Master's	stationary								
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Surname of instructor (instructors)																	
Type of class, method of implementation and specified number of hours A. Type of class <ul style="list-style-type: none"> • lecture, • exercise classes, • clinical exercise classes • seminars, • design classes • laboratories, • lectureship, • diploma seminar, • professional internship.* <p>* mark where applicable</p> B. Amount of hours in accordance with the approved curriculum Lecture – 20h Clinical classes – 20h	Amount of ECTS points Description of awarding ECTS points: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 70%;">Activity</th> <th style="width: 30%;">Student workload</th> </tr> </thead> <tbody> <tr> <td>Participation in lectures</td> <td style="text-align: center;">20 hours</td> </tr> <tr> <td>Participation in practical classes</td> <td style="text-align: center;">20 hours</td> </tr> <tr> <td>Preparation for practical classes and colloquiums</td> <td style="text-align: center;">10 hours</td> </tr> <tr> <td>Examination preparation</td> <td style="text-align: center;">5 hours</td> </tr> <tr> <td>Consultations</td> <td style="text-align: center;">5 hours</td> </tr> <tr> <td>Total number of hours</td> <td style="text-align: center;">60 hours / 30</td> </tr> <tr> <td>Amount of ECTS points per module</td> <td style="text-align: center;">2ETCS</td> </tr> </tbody> </table>	Activity	Student workload	Participation in lectures	20 hours	Participation in practical classes	20 hours	Preparation for practical classes and colloquiums	10 hours	Examination preparation	5 hours	Consultations	5 hours	Total number of hours	60 hours / 30	Amount of ECTS points per module	2ETCS
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Didactic cycle Semester 10																	
Subject status <ul style="list-style-type: none"> • mandatory / facultative 	Language of instruction Polish																
Didactic methods Lectures Demonstration of clinical cases Demonstrations with the use of a computer Demonstration with the use of a phantom Case analysis Situational method, staging Didactic discussion	Forms and methods of passing and general grading criteria or examination requirements A. Method of passing <ul style="list-style-type: none"> • examination • passing with a grade* <p>* mark where applicable</p> B. Forms of passing: <ul style="list-style-type: none"> • written examination: test / with open questions (exercises)/longer written statement • oral examination • oral test/colloquium • completion of a semester assignment: preparation of a design or presentation/conducting research and presenting its results(written/oral)/completion of a specified practical work • agreeing on a passing grade based on partial grades received during the course of the semester* <p>* mark where applicable</p>																

C. Basic grading criteria
Evaluating participation in exercise classes, evaluating preparation for classes, constant observation, partial credit, oral, written, receiving credit for practical classes, oral examination

Definition of preparatory subjects and initial requirements

Required knowledge in neurology – semester 09 and simultaneous topics from semester 10 as well as general surgery

Subject aim

The students will acquire abilities and competencies as far as neurological examination of adults and children, ability to diagnose and suggest a treatment. Students will become familiar with principles of qualifying a patient for surgery of disease of the central nervous system as well as principles of operative and postoperative behavior

Curriculum

A. Lecture content

History and the current state of neurosurgery, the scope of activity of a neurosurgeon
Neuro-oncology – intracranial tumors, brain tumors and tumors of the spinal canal
Deformations of the brain vessels and the brainstem. Methods of treatment
Craniocerebral injuries – reasons, diagnosis, treatment, complications
Spondyloarthritis – diagnosis and therapy. Role of operational treatment

B. Content of clinical classes

Neurological examination and medical interview in evaluation a patient with diseases of the central nervous system
Imaging diagnosis in neurosurgery – evaluating radiography, computed tomography, MRI, angiography
Neuropathology and its role in therapy planning, predicting the patient’s fate
Neuropsychology – basic aspects, definitions – whole-brain symptoms, focal symptoms, basis of neuropsychological rehabilitation
Craniocerebral injuries – symptomatology, diagnosis, principles of qualifying for surgery, surgical treatment,
Spondyloarthritis, discopathies – symptomatology, diagnosis, principles of qualifying for surgery, surgical treatment
Arterial and arteriovenous malformations of the brain vessels and the brainstem – diagnosis, principles of treatment, therapeutic methods
Neuro-oncology, cancers of the central nervous system, course, diagnosis, therapeutic treatment
Neuro-oncology, principles of qualifying for surgeries of patients with brain tumors, basic principles of neurosurgical treatment of these patients, surgical techniques

Literature

M. Ząbek, Zarys Neurochirurgii, PZWL
M. Ząbek, Urazy czaszkowo-mózgowe, PZWL
M. Schrimmer, Neurochirurgia, Urban & Partner
W. Maksymowicz, Neurochirurgia w zarysie, PZWL

Educational effects:

Effect no	Description of an educational effect	Reference to field of study related effects
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Knowledge:

W1	Knows and understands the causes of diseases and their symptoms, principles of diagnosis and therapeutic treatment as far as the most	F.W1
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	common diseases of the central nervous system requiring neurosurgical intervention, especially: a) brain diseases b) central nervous system injuries	
W2	Knows selected aspects of pediatric surgery including traumatology and otorhinolaryngology as well as the acquired defects and disease which are an indication for surgical treatment of children	F.W2
W3	Knows the principles of qualifying for basic surgical and invasive diagnostic and medicinal procedures, how to perform them and the most often occurring complications	F.W3
W4	Knows the most frequent complications of the above-mentioned neurosurgical procedures	F.W3
W5	Knows the principles of perioperative safety, preparing the patient for surgery, administering general and local anesthesia as well as controlled sedation	F.W4
W6	Knows the principles of postoperative treatment with analgesic therapy and postoperative monitoring	F.W5
W7	Knows the principles of implementing intensive therapy for neurosurgical patients	F.W6
W8	Has knowledge as far as the currently performed imaging examinations, especially is familiar with: a) radiological symptomatology of the basic diseases of the central nervous system b) instrumental methods and imaging techniques used to perform medicinal procedures in neurosurgery c) indications and contraindications in preparing patients for individual types of imaging examinations as well as the contraindications of using contrast agents	F.W10
W9	Knows and understands the causes, principles of diagnosis and therapeutic treatment as far as the most common diseases of the central nervous system with regards to: a) brain edema and its implications, paying special attention to sudden emergencies b) other types of intracranial pressure and its implications c) craniocerebral injuries d) vascular defects of the central nervous system e) cancerous tumors of the central nervous system f) disease of the spine and the spinal cord	F.W13
W10	Knows the principles of suspecting and recognizing brain death	F.W15
Abilities:		
U1	Follows the rules of asepticism and antisepticism	F.U3
U2	Can treat a simple wound, put on and take off a sterile bandage	F.U4
U3	Evaluates the results of radiological examinations as far as the most common types of fractures, especially when it comes to bones of the cranium and the spine	F.U7
U4	Can treat external bleeding	F.U9
U5	Can monitor the postoperative period based on basic life parameters	F.U12
U6	Recognizes the symptoms of increasing intracranial pressure	F.U21
Social competencies:		
K1	Recognizes his own diagnosis and treatment limitations, educational needs, plans his educational activities	
K2	Can work in a professional team, in a multi-cultural and multi-national environment	
K3	Implements principles of professional collegueship and collaboration	

	with representatives of other professions as far as healthcare				
K4	Protects patient confidentiality and patient rights				
Methods used in the verification of educational effects					
Educational effect	Type of grade				
	colloquiums	Solving problems during exercise classes	Solving problems in groups	Oral examination	Written examination
W01-10	X	X		X	X
W2	X	X		X	X
W3	X	X		X	X
U1		X		X	X
U2		X		X	X
U3		X		X	X
U4		X		X	
U5		X		X	
U6		X		X	

Criteria of evaluating educational effects					
Educational effect	For a grade of 3	For a grade of 3.5	For a grade of 4	For a grade of 4.5	For a grade of 5
W1-W10	Exhibits knowledge of the educational content on a level of 60%-69%	Exhibits knowledge of the educational content on a level of 70%-76%	Exhibits knowledge of the educational content on a level of 77%-84%	Exhibits knowledge of the educational content on a level of 85%-92%	Exhibits knowledge of the educational content on a level of 93%-100%
U1	Exhibits knowledge of the educational content on a level of 60%-69%	Exhibits knowledge of the educational content on a level of 70%-76%	Exhibits knowledge of the educational content on a level of 77%-84%	Exhibits knowledge of the educational content on a level of 85%-92%	Exhibits knowledge of the educational content on a level of 93%-100%
U2	Exhibits knowledge of the educational content on a level of 60%-69%	Exhibits knowledge of the educational content on a level of 70%-76%	Exhibits knowledge of the educational content on a level of 77%-84%	Exhibits knowledge of the educational content on a level of 85%-92%	Exhibits knowledge of the educational content on a level of 93%-100%
U3	Exhibits knowledge of the educational content on a level of 60%-69%	Exhibits knowledge of the educational content on a level of 70%-76%	Exhibits knowledge of the educational content on a level of 77%-84%	Exhibits knowledge of the educational content on a level of 85%-92%	Exhibits knowledge of the educational content on a level of 93%-100%
U4	Exhibits knowledge of	Exhibits knowledge of	Exhibits knowledge	Exhibits knowledge	Exhibits knowledge of the educational content

	the educational content on a level of 60%-69%	the educational content on a level of 70%-76%	of the educational content on a level of 77%-84%	of the educational content on a level of 85%-92%	on a level of 93%-100%
U5	Exhibits knowledge of the educational content on a level of 60%-69%	Exhibits knowledge of the educational content on a level of 70%-76%	Exhibits knowledge of the educational content on a level of 77%-84%	Exhibits knowledge of the educational content on a level of 85%-92%	Exhibits knowledge of the educational content on a level of 93%-100%
U6	Exhibits knowledge of the educational content on a level of 60%-69%	Exhibits knowledge of the educational content on a level of 70%-76%	Exhibits knowledge of the educational content on a level of 77%-84%	Exhibits knowledge of the educational content on a level of 85%-92%	Exhibits knowledge of the educational content on a level of 93%-100%