



Syllabus for 2022/2023 academic year Learning cycle: 2018/2019 – 2022/2023			
Description of the course			
Course	(in Polish)	Group of specific learning outcomes	
	Laseroterapia	Class group (group code) F	Group name Specialised Clinical Sciences (Interventional)
(in English)	Laser Therapy		
Faculty	English Division, Faculty of Dentistry		
Major	Faculty of Dentistry		
Level of studies	<input checked="" type="checkbox"/> uniform Master's degree studies <input type="checkbox"/> First-level <input type="checkbox"/> Second-level <input type="checkbox"/> Third-level <input type="checkbox"/> Postgraduate studies		
Mode of study	<input checked="" type="checkbox"/> full-time <input type="checkbox"/> part-time		
Year of studies	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6	Semester	<input type="checkbox"/> winter <input checked="" type="checkbox"/> summer
Type of course:	<input checked="" type="checkbox"/> mandatory <input type="checkbox"/> free choice / elective		
Language of instruction	<input type="checkbox"/> Polish <input checked="" type="checkbox"/> English		

Number of hours													
Course delivery method													
	Lectures (L)	Seminars (SE)	Auditorium classes (AC)	Major Non-clinical Classes (MC)	Clinical Classes (CC)	Laboratory Classes (LC)	Classes in Simulated Conditions (CSC)	Practical Classes with Patient (PCP)	Foreign Language Course (FLC)	Physical Education (PE)	Vocational Practice (VP)	Guided Self-directed Learning (GSL)	E-learning (EL)
Winter semester:													
Chair and Department of Oral Surgery													
Direct learning					25								
Remote learning													
Summer semester:													
Chair and Department of Oral Surgery													
Indirect learning													
Remote learning													

Total per year:													
Chair and Department of Oral Surgery													
Indirect learning					25								
Remote learning													

Educational objectives: (max. 6 items)			
C1. Learning the basics of operation and application of lasers in dentistry. Learning the physical basics and types of tissue reactions to laser light.			
C2. To familiarize students with the differences between devices, the differences between the wavelength, absorption by individual tissues, frequency in pulse work, power in a pulse and pulse length. To acquaint students with the properties of lasers in dental procedures and the principles of operation of low-, medium- and high-power lasers. Acquainting with the principles of safe work.			
C3. Keeping medical records. To familiarize students with the use of lasers in the prevention and diagnosis of caries, preparation of cavities in enamel and dentin, treatment of periodontal diseases, mucosa diseases, in the treatment of peri-implant inflammation and in endodontic treatment.			
C4. To acquaint students with the knowledge of the influence of laser radiation on cellular metabolism (photobiomodulation) and photodynamic therapy in dentistry.			
C5. To acquaint students with the instruments and techniques of working with a diode laser, CO2 laser, Nd: YAG laser, Er: YAG laser, Er, Cr: YSGG laser.			
Learning outcomes for the course in relation to methods of verifying the intended learning outcomes and the course delivery method:			
Number of the specific learning outcome	Student who completes the module/course knows/is able to	Methods of verification of intended learning outcomes	Form of teaching <i>* enter the symbol</i>
F. W4	In terms of knowledge the graduate knows and understands symptoms, course and management of specific oral, head and neck diseases, taking into account patient age groups	Test, oral answer	CC
F. W9	In terms of knowledge the graduate knows and understands periodontal tissue and oral cavity mucosa diagnosis and treatment methods	Test, oral answer	CC
F. W11	In terms of knowledge the graduate knows and understands indications and contraindications for cosmetic dentistry procedures	Test, oral answer	CC
F. W12	In terms of knowledge the graduate knows and understands causes of complications of stomatognathic system diseases and the principles of handling such complications	Test, oral answer	CC
F. U7	In terms of skills the graduate is able to determine indications and contraindications for performing specific dental procedures	Passing the clinical procedures	CC
F. U9	In terms of skills the graduate is able to handle local and systemic complications that may occur during and after dental procedures	Passing the clinical procedures	CC
F. U15	In terms of skills the graduate is able to plan treatment of diseases of the stomatognathic system tissues	Passing the clinical procedures	CC
<small>* L - Lecture; SE - Seminar; AC - Auditorium Classes; MC- Major Non-clinical Classes; CC - Clinical Classes; LC - Laboratory Classes; CS - Classes in Simulated Conditions; PP - Practical Classes with Patient; FLC - Foreign Language Course ; PE - Physical Education; VP - Vocational Practice; GSL - Guided Self-directed learning; EL - E-learning</small>			

Student' s amount of work (balance of ECTS points):	
Student's workload (class participation, activity, preparation etc.)	Student's hourly workload
1. Hours of direct learning:	25
2. Hours of remote learning:	

3. Hours of student's individual work:	10
4. Hours of self-directed learning:	
Summary of the student's workload:	35
Module/course ECTS value:	1,5

Course content: (please enter keywords describing the topic of each session, categorised by the form of teaching, making sure that it translates into the intended learning outcomes)
Lectures
Seminars
Practical classes
<p>1. Physical basics and principles of laser operation. The reaction of tissues to laser light (the phenomenon of reflection, absorption, scattering, transmission). Laser operation modes, photothermal, photoionization, photochemical, phototoxic, photomechanical and photostimulating effects. Classification of lasers used in dentistry (diode lasers, CO2 lasers, Nd: YAG lasers, Er: YAG lasers, Er, Cr: YSGG lasers). Beam diameter control, operating modes. Principles of safe work. (5 hours)</p> <p>2. Laser as a tool for caries diagnostics. The influence of laser radiation on the enamel. The use of laser in caries prophylaxis. The use of laser in the preparation of enamel and dentin cavities. Lasers in endodontic treatment. (5 hours)</p> <p>3. The use of lasers in the treatment of periodontal diseases and diseases of the oral mucosa. The use of lasers in dental surgery and implantology. (5 hours)</p> <p>4. Photodynamic therapy (mechanism of action, indications). The use of photoactive disinfection in the treatment of mucosal diseases, in the treatment of periodontal diseases, in the treatment of inflammation of the peri-implant tissues, in conservative and endodontic treatment. (5 hours)</p> <p>5. Laser biomodulation; the effect of radiation on cellular metabolism, application techniques, indications). (5 hours)</p>
Other
<p>Mandatory literature: (<i>mention according to significance, no more than 3 items</i>)</p> <ol style="list-style-type: none"> 1. Chiapasco M. Manual Of Oral Surgery. Third Edition. Edra, 2018 2. Peterson's Principles of Oral and Maxillofacial Surgery 2011 3. Fragiskos D.F. Oral surgery. Springer, 2007. <p>Additional literature and other materials (no more than 3 items)</p> <ol style="list-style-type: none"> 1. Stanley F. Malamed.: Handbook of local anesthesia. 2004, Elsevier Mosby 2. Pedlar J., Frame J.: Oral and Maxillofacial Surgery an objective-based textbook. 2007, Churchill Livingstone Elsevier 3. Wray D. [et al.]: Textbook of general and oral surgery. Churchill Livingstone
<p>Prerequisites/preliminary requirements: (<i>minimum conditions to be met by the student before taking the course</i>)</p> <p>Completion of the subjects in dental surgery and periodontology in the fourth year.</p>

Rules for awarding component grades in the course during the semester:
<p>Criteria for assessing colloquiums and tests:</p> <p>Very good (5.0) - 92 - 100% of possible points Over good (4.5) - 84 - 91 points possible Good (4.0) - 76 - 83 points possible Pretty good (3.5) - 68 - 75 points possible Satisfactory (3.0) - 60 - 67 possible points</p> <p>Oral response criteria:</p> <p>Very good (5.0) - composing and articulating an independent statement on a given topic in a way that demonstrates full understanding of the question and knowledge of the topic; thorough discussion of the issue; no content and</p>

terminological errors	
Over good (4.5) - composing and articulating an independent statement on a given topic in a way that demonstrates full understanding of the question and knowledge of the topic; full coverage of the issue; no content and terminological errors	
Good (4.0) composing and articulating an independent statement on a given topic in a way that demonstrates full understanding of the question and knowledge of the topic; full coverage of the issue; minor factual and / or terminological errors	
Fairly good (3.5) - attempting to compose and articulate an independent statement on a given topic in a way that proves that the question has been understood at least partially and that the topic is known; comprehensive, though superficial, discussion of the issue; minor factual and / or terminological errors	
Sufficient (3.0) - attempting to compose and articulate an independent statement on a given topic in a way that proves at least partial understanding of the question and knowledge of the topic; partial discussion of the issue; minor factual and / or terminological errors	
Insufficient (2.0) - failure to meet the appropriate criteria for the assessment: satisfactory (3.0)	
Passing practical procedures:	
Performing the procedures prescribed by the teacher, under his supervision, in the correct manner	
Requirements to pass the course:	
The condition for completing the course is obtaining positive grades from tests and oral answers during the semester.	
Grade:	Course credit evaluation criteria
Very good (5.0) [bardzo dobra]	
Good plus (4.5) [dobry plus]	
Good (4.0) [dobra]	
Satisfactory plus (3.5) [dostateczny]	
Satisfactory (3.0) [dostateczny]	
	Course credit evaluation criteria (no grade)
Credit	Obtaining at least 60% correct answers on the final final test in the subject
Grade:	Exam evaluation criteria
Very good (5.0) [bardzo dobra]	
Good plus (4.5) [dobry plus]	
Good (4.0) [dobra]	
Satisfactory plus (3.5) [dostateczny]	
Satisfactory (3.0) [dostateczny]	

Name(Name of the teaching unit)	Chair and Department of Oral Surgery – Wrocław Medical University
Head of the teaching unit:	26 Krakowska Street , 50-425 Wrocław
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Person responsible for the course:	prof. dr hab. Marzena Dominiak
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Course coordinator:	
Phone number:	
E-mail:	

CONSULTATIONS: detailed information on the dates and places of academic staff consultations is available on the websites of individual organizational units of the University conducting classes in a given subject and in showcases next to the secretariats.

Syllabus preparation date
20.08.2022