



**Medical University of Warsaw  
Faculty of Medicine - English Division  
61 Żwirki i Wigury Street  
02-091 Warsaw, Poland**

[http: // www.wum.edu.pl/](http://www.wum.edu.pl/)

**3<sup>rd</sup> YEAR CURRICULUM**

**6-year program**

**Warsaw, 2021/2022**

## **AUTHORITIES OF MEDICAL UNIVERSITY OF WARSAW – TERM 2020-2024**

**Rector** – Professor Zbigniew Gaciong, MD, PhD

**Vice Rector for Student Affairs and Education** – Professor Marek Kuch, MD, PhD

**Vice Rector for Science and Technology Transfer** – Professor Piotr Pruszczyk, MD, PhD

**Vice Rector for Human Resources** – Professor Agnieszka Cudnoch-Jedrzejewska, MD, PhD

**Vice Rector for Clinical Affairs and Investments** – Professor Wojciech Lisik, MD, PhD

**Vice Rector for International Relations, Development and Promotion** – Professor Paweł Włodarski, MD, PhD

## **FACULTY AUTHORITIES OF MEDICAL UNIVERSITY OF WARSAW – TERM: 2020-2024**

**Faculty of Medicine** – Professor Rafał Krenke MD, PhD

**English Division – Faculty of Medicine** – Assoc. Prof. Jacek Sieńko, MD, PhD.

## **DEAN'S OFFICE**

**Head of the Dean's Office** – Magdalena Kawałczewska, MA

**Student Administration Officer (1st, 2nd and 3rd -Year)** – Aleksandra Chilecka

**Student Administration Officer (4th, 5th, 6th -Year)** – Justyna Szczepaniuk, MA

## **STUDENT'S GOVERNMENT REPRESENTATIVE:**

**President** – Bartholomew Rzepa

**Vice President** – Jannush Nathan

**Secretary** – Mira Odeessa

**Student Rights** – Isabel Jaszewski

**Treasurer** – Chukwudum Igbokwe

**Social Media** – Olivia Gudziwski

**Event Coordinator** – Zoheir Boutaleb, Disha Keshwani

**www:** <https://edsgwum.wixsite.com/edsg>

## **CLASS REPRESENTATIVE:**

Aleksandra Pissa – 3 year

## SCHEDULE – ACADEMIC YEAR 2021/2022

### 6-year program

#### **WINTER SEMESTER – 01.10.2021 – 20.02.2022**

STUDENT'S ACADEMIC CLASSES:	01.10.2021 – 19.12.2021
	03.01.2022 – 30.01.2022
WINTER HOLIDAYS:	20.12.2021 – 02.01.2022
<b>EXAM SESSION:</b>	<b>31.01.2022 – 06.02.2022</b>
DAYS OFF BETWEEN SEMESTER:	07.02.2022 – 13.02.2022
RETAKE EXAM SESSION:	14.02.2022 – 20.02.2022

#### **SUMMER SEMESTER – 21.02.2022 – 30.09.2022**

STUDENT'S ACADEMIC CLASSES:	21.02.2022 – 15.04.2022
	25.04.2022 – 12.06.2022
EASTER HOLIDAYS:	16.04.2022 – 24.04.2022
DAYS OFF BEFORE EXAM SESSION	13.06.2022 – 19.06.2022
<b>EXAM SESSION:</b>	<b>20.06.2022 – 10.07.2022</b>
SUMMER HOLIDAYS:	11.07.2022 – 28.08.2022
RETAKE EXAM SESSION:	29.08.2022 – 04.09.2022
SUMMER HOLIDAYS:	05.09.2022 – 30.09.2022

Curriculum of 3<sup>rd</sup> year of 6-year 2021/2022 ED program and the list of contents

3rd year 2021\_2022 programme of study for ED 6-year pr

page	subject	form of credit	semester	Total no of hours	including				ECTS
					lecture	seminar	class	practical	
5	Genetics	exam	2	30	2	11	17		2
11	Microbiology	exam	1&2	80		10	70		6
17	Parasitology	exam	1	35		10	25		2
22	Pathomorphology	exam	1&2	187	60	20	107		17
27	Laboratory Diagnostics	exam	2	45	5	25	15		2
32	Radiology	exam	1	72	10	15	47		4
38	Polish for Medicine-Communication Skills In Medicine	exam	1&2	60			60		3
44	Oncogenetics	credit	2	13		10	3		1
49	Introduction to Internal Medicine	credit	1&2	100	10	20	70		5
54	Medical Psychology	credit	1	20		10	10		1
60	Medical Communication	credit	1	10			10		1
65	Pharmacology and Toxicology	credit	1&2	100	30	10	60		9
71	Pediatrics	credit	1&2	60		20	40		4
79	Nuclear Medicine	credit	1	30		7	23		2
84	Propedeutics of Stomatology	credit	2	18	18				1
	Vocational training	credit	2	140				140	4
	Optional course	credit	1&2	60		60			4
				1060	135	228	557	140	68



## GENETICS - CLINICAL

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	<b>Medical science</b>
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	Uniform MSc
<b>Form of studies</b>	<b>Full time studies</b>
<b>Type of module / course</b> (obligatory / non-compulsory)	<b>Obligatory</b>
<b>Form of verification of learning outcomes</b> (exam / completion)	<b>Exam</b>
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	Department of Medical Genetics 1WY Center for Biostructure Research, First Faculty of Medicine ul. Pawińskiego 3c, 02-106 Warszawa phone: +48 22 572 06 95, fax: +48 22 572 06 96 <a href="http://www.genetyka.wum.edu.pl">http://www.genetyka.wum.edu.pl</a> mail: <a href="mailto:krzysztof.szczaluba@wum.edu.pl">krzysztof.szczaluba@wum.edu.pl</a>

<b>Head of Educational Unit / Heads of Educational Units</b>	<b>Head of the Department: Rafał Płoski MD PhD</b>
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	<b>Krzysztof Szczaluba MD PhD</b> <b>krzysztof.szczaluba@wum.edu.pl</b> <b>tel. 22 572 06 95</b>
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	<b>Krzysztof Szczaluba MD PhD</b> <b>krzysztof.szczaluba@wum.edu.pl</b> <b>tel. 22 572 06 95</b>
<b>Teachers</b>	<b>Rafał Płoski MD PhD</b> <b>Andrzej Kochański MD PhD</b> <b>Krzysztof Szczaluba MD PhD</b> <b>Jennifer Castaneda MD PhD</b> <b>Weronika Rzepnikowska MSc</b> <b>Snir Boniel MSc</b>

## 2. BASIC INFORMATION

<b>Year and semester of studies</b>	3 <sup>rd</sup> year, 5 <sup>th</sup> semester	<b>Number of ECTS credits</b>	2.00
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)	2 (e-learning:2)	0.08	
Seminar (S)	11 (e-learning:11)	0.44	
Classes (C)	17 (live, contact classes:17)	0.68	
e-learning (e-L)	-	-	
Practical classes (PC)	-	-	
Work placement (WP)	-	-	
<b>Unassisted student's work</b>			
Preparation for classes and completions	5	0.8	

## 3. COURSE OBJECTIVES

O1	– knowledge of causes, symptoms, principles of diagnosis and therapeutic management within the scope of the most frequent genetic disorders in the population;
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	– basic information in genetics, such as modes of inheritance and classification of genetic disorders,
O2	- application of diagnostic tests – understanding cytogenetic and molecular tests results; – skills to communicate genetic information to patients and their families.
O3	- ability to verify indications for pre- and postnatal diagnostics; – ability to make a decision on the necessity of performing genetic tests and choosing appropriate tests; - ability to gather and analyze medical genetic history and draw pedigrees,

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th July 2019)</i>	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

C.W3	normal human karyotype and rules of sex determination
C.W7	chromosomal aberrations as causes of human disease
C.W9	basic rules of genetic and chromosomal mutation diagnosis
C.W42	basic directions of therapy development, in particular the possibility of cell therapy and gene therapy in specific diseases
E.W3 10)	causes, symptoms, principles of diagnosis and therapeutic treatment of the most common genetic syndromes in children
E.W5	basic methods of diagnosing and treating the foetus
E.W37	causes, symptoms, the rules of diagnosis and treatment of the most frequent inherited diseases

**Skills– Graduate\* is able to:**

C.U2	identify indications for prenatal testing
C.U3	make informed decisions about necessity to perform cytogenetic and molecular testing
D.U5	conduct an interview with an adult patient, a child and the family with empathy and listen actively; is able to discuss the patient's life situation
D.U6	inform a patient of the purpose, course and any risk of proposed diagnostic or treatment actions and obtain informed consent from the patient
D.U8	pass bad news to a patient and his/her family

E.U16	plan diagnostic, therapeutic and preventive treatment
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\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

<b>5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)</b>	
<b>Number of effect of learning</b>	<b>Effects of learning in time</b>
<b>Knowledge – Graduate knows and understands:</b>	
<b>Skills– Graduate is able to:</b>	
<b>Social Competencies – Graduate is ready for:</b>	
K1-K8	1 establishing and maintaining a deep and respectful contact with the patient, as well as showing understanding for worldview and cultural differences 2 be guided by the good of the patient 3 observance of medical confidentiality and patient's rights 4 taking actions towards the patient based on ethical principles, with the awareness of social conditions and limitations resulting from the disease 5 perceiving and recognizing own limitations and self-assessment of deficits and educational needs 6 promoting pro-health behavior 7 use of objective sources of information 8 formulating conclusions from own measurements or observations

<b>6. CLASSES</b>		
<b>Form of class</b>	<b>Class contents</b>	<b>Effects of Learning</b>
Lecture 1	‘Value of clinical evaluation in genetics - dysmorphology and more’ The lecture contains examples of more common genetically determined diseases along with the methods of their clinical diagnosis, both in the pre- and postnatal aspect  Format: e-learning (real-time) 45 mins	C.W9 E.W310) E.W5 E.W37 C.U2 C.U3 E.U16
Lecture 2	‘Diagnostics and discovery of new genetic diseases in the age of next generation sequencing (NGS)’ The lecture presents the diagnostic possibilities of the NGS technique on specific examples of new genetically determined diseases  Format: e-learning (real-time) 45 mins	C.W9 C.U3
Seminars and Practice	Reproductive genetics with elements of prenatal diagnosis Personalized pediatrics Practical cardiogenetics Sex determination disorders Familial hypercholesterolaemia	C.W3 C.W7 C.W9 C.W42 E.W3 10)



	Genetically conditioned diabetes Congenital malformations Dysmorphology Clinical cytogenetics Subtelomeric aberrations Neurogenetics with elements of gene therapy  Format of all seminars: e-learning (asynchronously)	E.W5 E.W37 C.U2 C.U3 D.U5 D.U6 D.U8 E.U16
Practice Classes	PC1 Cytogenetics and dysmorphology PC2. Tasks - clinical cases in pediatrics and prenatal diagnosis PC3. Quiz - questions and answers (the most common genetically conditioned diseases and methods of their diagnosis and therapy) PC4. Neurogenetics and Gene Therapies  All live classes in the room (contact exercises)	C.W7 C.W9 C.W42 E.W310) E.W37 E.W5 C.U2 C.U3 E.U16 D.U5 D.U6 D.U8 K1-K8
Additional materials	List of 28 genetic syndromes	E.W310) E.W37

## 7. LITERATURE

### Obligatory

Medical Genetics  
Jorde, Carey, Bamshad  
4th Edition  
Elsevier

### Supplementary

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## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning		Completion criterion
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>		<i>e.g. threshold number of points</i>
C.W3, C.W7, C.W9, C.W42, E.W3 10), E.W5, E.W37 and from 2nd yr syllabus: C.W1, C.W2, C.W4-6, C.W8 i B.W13, B.W14	Exam (test)	Answering correctly to more than 50% of questions	
	Participation in e-learning tasks on the platform	Verification of student's presence and activities	

C.U2, C.U3, D.U5, D.U6, D.U8, E.U16	Oral report on performed tasks	Correctly performer tasks
K1-K8	Observation of student's behavior and interactions	Command of social competencies

**9. ADDITIONAL INFORMATION** (*information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club*)

**Students are obliged to attend a lecture, as well as all seminars and classes. No absence is accepted during classes. An absence on classes and seminars will have to be covered with another group. Change of groups is possible only as an exchange with a person from another group. Being late for over 15 minutes counts as an absence.**

**Person responsible for students affairs: Krzysztof Szczaluba, MD, PhD [krzysztof.szczaluba@wum.edu.pl](mailto:krzysztof.szczaluba@wum.edu.pl)**

Evaluation criteria	
<b>Form of passing the course:</b> exam (test). The exam evaluates the abilities and knowledge gained during the Genetics course during the fourth and sixth semesters of the studies (2 <sup>nd</sup> and 3 <sup>rd</sup> years).	
Grade	Criteria
<b>2,0</b>	Not getting over 50% of points
<b>3,0</b>	Getting at least 51% of points
<b>3,5</b>	Getting at least 61% of points
<b>4,0 (good)</b>	Getting at least 71% of points
<b>4,5 (above good)</b>	Getting at least 81% of points
<b>5,0 (very good)</b>	Getting at least 91% of points



# MICROBIOLOGY

## 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	Medical science
<b>Study Profile</b> <i>(general academic / practical)</i>	General academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	Uniform MSc
<b>Form of studies</b>	Full-time studies
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	Obligatory
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	Exam
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Chair and Department of Medical Microbiology 5 Chałubińskiego Street 02-004 Warsaw, Poland (+4822) 628 27 39 <a href="http://mikrobiologia.wum.edu.pl/node/9">http://mikrobiologia.wum.edu.pl/node/9</a>

<b>Head of Educational Unit / Heads of Educational Units</b>	Prof. dr hab. Hanna Pituch (e-mail: hanna.pituch@wum.edu.pl)
<b>Course coordinator</b> (title, First Name, Last Name, contact)	Prof. dr hab. Hanna Pituch (e-mail: hanna.pituch@wum.edu.pl)
<b>Person responsible for syllabus</b> (First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported)	dr n. med. Robert Kuthan (e-mail: rkuthan@wum.edu.pl)
<b>Teachers</b>	prof. Grażyna Młynarczyk, prof. Hanna Pituch, dr hab. Tomasz Dzieciatkowski, dr hab. Dariusz Kawecki, dr hab. Anna Majewska, dr hab. Irena Niecwietajewa, dr hab. Maciej Przybylski, dr hab. Ksenia Szymanek-Majchrzak, dr Marta Kierzkowska, dr Robert Kuthan, dr Piotr Leszczyński, dr Beata Sokół-Leszczyńska, dr Szymon Walter de Walthoffen, dr Dorota Wultrańska, mgr Joanna Kądzielska

<b>2. BASIC INFORMATION</b>			
<b>Year and semester of studies</b>	3 <sup>rd</sup> year, semester V and VI	<b>Number of ECTS credits</b>	6
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)		-	-
Seminar (S)		10	0,5
Classes (C)		70	3,5
e-learning (e-L)		-	-
Practical classes (PC)		-	-
Work placement (WP)		-	-
<b>Unassisted student's work</b>			
Preparation for classes and completions		-	2,0

<b>3. COURSE OBJECTIVES</b>	
O1	Composition and role of human microbiome.

O2	Basic properties of pathogenic species of microorganisms.
O3	Laboratory diagnosis of infections in humans.
O4	Principles of antimicrobial treatment and prophylactic measures.
O5	Principles of rational chemotherapy.
O6	Basic laboratory techniques, operation of simple measuring instruments, assessment of the accuracy of performed measurements important for proper cooperation between doctor and microbiologist in diagnosis of infectious diseases.

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

G.K1/ C.W11	genetic mechanisms for the acquisition of drug resistance by microorganisms and tumor cells;
G.K2/ C.W12	classify microorganisms, with consideration of pathogenic and present in the physiological flora;
G.K3/ C.W13	epidemiology of infections with viruses and bacteria, fungi and parasites including geographical coverage of their distribution;
G.K4/ C.W14, C.W15	abiotic and biotic (viruses, bacteria) effects of the environmental factors on the human body and the population of people and the way of their entering the human body; consequences of exposure of the human body to various chemical and biological factors and the principle of prevention;
G.K5/ C.W16	invasive forms or developmental stages of selected parasitic fungi, protozoa, helminths, and arthropods, taking into account the geographical range of their occurrence;
G.K6/ C.W18	symptoms of iatrogenic infections, roads of their spread and pathogens causing changes in individual organs;
G.K7/ C.W19	basics of microbiological and parasitological diagnostics;
G.K8/ C.W20	basics of disinfection, sterilization and aseptic procedures;
G.K9/ C.W33	external and internal pathogens, modifiable and non-modifiable;
G.K10/ C.W40	understands the problem of drug resistance, including multi-drug resistance.

**Skills– Graduate\* is able to:**

G.S1/ C. U6	assesses environmental threats and uses basic methods allowing to detect the presence of harmful factors (biological and chemical) in the biosphere;
G.S2/ C. U9	formulates a microscopic preparation and recognizes pathogens under the microscope;
G.S3/ C. U10	interprets the result of microbiological tests;
G.S4/ C. U15	designs rational regiment of chemotherapy of infections, empirical and targeted;
G.S5/ B.U9	uses simple measuring instruments and assesses the accuracy of measurements
G.S6/ D.U17	critically analyzes medical literature including in English, and draws conclusions.

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

## 5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)

Number of effect of learning	Effects of learning i time
<b>Knowledge – Graduate knows and understands:</b>	
-	not applicable
<b>Skills– Graduate is able to:</b>	
-	not applicable
<b>Social Competencies – Graduate is ready for:</b>	
-	not applicable

## 6. CLASSES

Form of class	Class contents	Effects of Learning
Classes	1.Human microbiome. Pathogenic properties of microorganisms. Basics of diagnosis of bacterial infections (culture and microscopic methods).	G.K7, G.S1, G.S2,
	2. Sterilization and disinfection .	G.K8
	3. Gram-positive and Gram-negative cocci .	G.K2, G.K3, G.K4, G.K7, G.K9, G.S2, G.S5
	4. Gram-negative bacilli .	G.K2, G.K3, G.K4, G.K7, G.K9, G.S2, G.S5
	5. Strictly anaerobic bacteria .	G.K2, G.K3, G.K4, G.K7, G.K9, G.S2, G.S5
	6. Gram-positive bacilli and Mycobacteria .	G.K2, G.K3, G.K4, G.K7, G.K9, G.S2, G.S5

	7. Susceptibility of bacteria to antibacterial agents. Alarm pathogens detection.	G.K1, G.K10, G.S5
	8. Pathogenic fungi. Mycotoxins.	G.K2, G.K3, G.K5, G.K7, G.S2, G.S5
	9. Viruses pathogenic for humans and methods of microbiology laboratory diagnosis.	G.K1, G.K7, G.S3, G.S5
	10. DNA viruses.	G.K3, G.K4, G.K6, G.S1, G.S6
	11. RNA viruses.	G.K3, G.K4, G.K6, G.S1, G.S6
	12. Respiratory tract infections.	G.K6, G.K7, G.S1, G.S3, G.S4, G.S5
	13. Genitourinary tract infections.	G.K6, G.K7, G.S1, G.S2, G.S3, G.S4, G.S5,
	14. Gastrointestinal tract infections.	G.K6, G.K7, G.S1, G.S2, G.S3, G.S4, G.S5
	15. Skin infections and wounds.	G.K6, G.K7, G.S1, G.S2, G.S3, G.S4, G.S5
	16. Central nervous system infections.	G.K6, G.K7, G.S1, G.S2, G.S3, G.S4, G.S5
	17. Bloodstream infection. Hospital acquired infections.	G.K6, G.K7, G.S1, G.S2, G.S3, G.S4, G.S5
Seminars	Seminar 1. Atypical bacteria and intracellular. Prions.	G.K3, G.K4, G.K5, G.K7, G.K9, G.S1, G.S3, G.S6
	Seminar 2. Mechanisms of resistance of bacteria to antibiotics.	G.K1, G.K10, G.S4, G.S5,
	Seminar 3. Serological and genetic methods in diagnosis of infections. Laboratory diagnosis of hepatitis viruses.	G.K1, G.K7, G.S3

## 7. LITERATURE

### Obligatory

1. Medical Microbiology, Jawetz, Melnick, & Adelberg's Medical Microbiology, 28th ed. New York, McGraw-Hill, 2019.
2. Basic Medical Microbiology, Patrick R. Murray -1<sup>st</sup> ed., Elsevier- Health Sciences Division 2017
3. Textbook of Diagnostic Microbiology, C. R. Mahon, D. C. Lehman, 6<sup>th</sup> Ed., Elsevier 2019.
4. Medical Microbiology, P.R. Murray, K.S. Rosenthal and M.A. Pfaller. Elsevier. 9th ed. 2020

### Supplementary

1. Lippincott's Illustrated Review: Microbiology, M. Metzgar Hobbs, C. Nau Cornelissen, Lippincott Williams & Wilkins. Fourth ed., 2019
2. Review of Medical Microbiology and Immunology, W. Levinston. Lange 14<sup>th</sup> ed., McGraw-Hill Education, 2014

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
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G.K1	Credits 1 and 3	51%
G.K2	Credit 1	
G.K3	Credits 1-3	
G.K4	Credits 2, 3	
G.K5	Credits 1-3	
G.K6	Credit 3	
G.K7	Credits 1-3	
G.K8	Credits 1 and 3	
G.K9	Credits 1 and 3	
G.K10	Credit 3	
G.S1	Credits 1-3	
G.S2	Credits 1 and 3; Observation of student's work in the course of classes,	
G.S3	evaluation of ability for the independent work	
G.S4	Credit 3	
G.S5	Credit 3	
G.S6	Credit 3	
	Credit 2	

**9. ADDITIONAL INFORMATION** (information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)

*The laboratory classes are organized as practical activities. Students will be working with infectious material, therefore the following rules have to be observed: hands must be washed and / or disinfected after each class: outer coats must be left in the cloakroom downstairs, protective gowns must be used in the laboratory classes room (brought to the first laboratory class and stored at the Department of Medical Microbiology for the duration of the course).*





## Parasitology

<b>1. IMPRINT</b>	
<b>Academic Year</b>	2021/2022
<b>Faculty</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Medical science</b>
<b>Study Profile</b> <i>(general academic / practical)</i>	General academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	Uniform MSc
<b>Form of studies</b>	<b>Full time studies</b>
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	<b>Obligatory</b>
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	<b>Exam</b>
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Department of General Biology and Parasitology, 5 Chałubińskiego Str., 02-004 Warsaw, tel. (22) 6212607, e-mail: biologia@wum.edu.pl

<b>Head of Educational Unit / Heads of Educational Units</b>	<b>Ph.D., Professor, Daniel Młocicki</b>
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	<b>Ph.D., Associate Professor, Monika Dybicz, monika.dybicz@wum.edu.pl</b>
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	<b>Monika Dybicz, monika.dybicz@wum.edu.pl</b>
<b>Teachers</b>	<b>Monika Dybicz, Daniel Młocicki, Aleksandra Sędzikowska</b>

## 2. BASIC INFORMATION

Year and semester of studies	3 <sup>rd</sup> year, 5 <sup>th</sup> semester	Number of ECTS credits	2.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)		10	0.35
Classes (C)		25	0.65
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions		35	1.00

## 3. COURSE OBJECTIVES

O1	The main objective is to provide necessary information on the biology, physiology and morphology of medically important parasites invading the tissues, organs and systems of the human body.
O2	Transfer of knowledge about current problems of medical parasitology, environmental factors of parasite invasion and dispersion, opportunistic species, pathogenesis and course of parasitic diseases in the states of immunosuppression or immunological defects and epidemiology of parasitic invasions.

O3	Making the future doctor aware of the dangers of parasites occurring in Poland and in the world.
O4	Learning the rules for conducting a correct parasitological interview with the patient.
O5	Introduction of the methods of modern laboratory diagnostics.
O6	Acquiring the student's ability to correctly interpret diagnostic test results.

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> ( <i>in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019</i> )	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

C.W13	Epidemiology of parasitic infections, including the geographical range of their occurrence.
C.W16	Human invasive forms or developmental stages of selected parasitic fungi, protozoa, helminths and arthropods, considering the geographical range of their occurrence.
C.W17	Principle of the parasite system - host and basic disease symptoms caused by parasites.
C.W19	Basics of parasitological diagnostics.

**Skills– Graduate\* is able to:**

C.U6	Evaluate environmental threats and use the basic methods to detect the presence of harmful factors (biological and chemical) in the biosphere (in the field of parasitology).
C.U7	Recognize the most common human parasites on the basis of their structure, life cycles and disease symptoms.
C.U9	Prepare the preparation and recognize pathogens under the microscope (in the field of parasitology).

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (*non-compulsory*)

<b>Number of effect of learning</b>	<b>Effects of learning i time</b>
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**Knowledge – Graduate knows and understands:**

K1	Health education issues.
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K2	Rules of conducting the scientific research and disseminating their results.
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**Skills– Graduate is able to:**

S1	Carry out diagnostics of parasitic diseases, assess and describe the somatic and mental state of the patient.
S2	Critically evaluate the results of scientific research and properly justify the position.

**Social Competencies – Graduate is ready for:**

SC1	Transfer of knowledge in the society about parasitological threats in the country and during foreign travel, especially to tropical and endemic regions.
SC2	Use of objective sources of information.

C.W13, C.W16, C.W17, C.W19

6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminars and practical classes	<ol style="list-style-type: none"> <li>1. Introduction to parasitology. Host-parasite relationship. Protozoa of the digestive and urogenital system (<i>Giardia intestinalis</i>, <i>Entamoeba histolytica</i>/E. <i>dispar</i>, <i>E. coli</i>, <i>Endolimax nana</i>, <i>Iodamoeba butchlii</i>, <i>Balantidium coli</i>, <i>Blastocystis hominis</i>, <i>E. gingivalis</i>, <i>Trichomonas tenax</i>, <i>Pentatrichomonas hominis</i>, <i>T. vaginalis</i>).</li> <li>2. Cellular and tissue protozoans (<i>Plasmodium</i> spp., <i>Trypanosoma</i> spp., <i>Leishmania</i> spp., <i>Babesia</i> spp.).</li> <li>3. Opportunistic and facultative protozoans (<i>Toxoplasma gondii</i>, <i>Cryptosporidium parvum</i>, <i>Cyclospora cayetanensis</i>, <i>Isospora belli</i>, <i>Sarcocystis</i> spp., <i>Acanthamoeba</i> spp., <i>Naegleria</i> spp.).</li> <li>4. Flukes of the digestive and circulatory system (<i>Fasciola hepatica</i>, <i>Opisthorchis felinus</i>, <i>Dicrocoelium dendriticum</i>, <i>Fasciolopsis buski</i>, <i>Schistosoma</i> spp.).</li> <li>5. Intestinal tapeworms (<i>Taenia solium</i>, <i>T. saginata</i>, <i>Rodentolepis nana</i>, <i>Hymenolepis diminuta</i>, <i>Dipylidium caninum</i>, <i>Diphyllobothrium latum</i>, <i>Spirometra erinaceieuropaei</i>).</li> <li>6. Nematodes of the gastrointestinal tract (<i>Ascaris lumbricoides</i>, <i>Enterobius vermicularis</i>, <i>Trichuris trichiura</i>, <i>Ancylostoma duodenale</i>, <i>Necator americanus</i>, <i>Strongyloides stercoralis</i>).</li> <li>7. Helminths invading human tissues and organs (<i>Echinococcus granulosus</i>, <i>E. multilocularis</i>, <i>Toxocara canis</i>, <i>Anisakis</i> spp., <i>Trichinella</i> spp.).</li> <li>8. Filariae (<i>Loa loa</i>, <i>Onchocerca volvulus</i>, <i>Wuchereria bancrofti</i>, <i>Brugia malayi</i>, <i>Dirofilaria repens</i>, <i>Dracunculus medinensis</i>). Helminthotherapy of human autoimmune diseases.</li> <li>9. Parasitic arthropods and pathogen carriers.</li> <li>10. Laboratory diagnostics of parasitic diseases.</li> <li>11. Repetition. Discussing clinical cases.</li> <li>12. Preparation recognition.</li> </ol>	C.W13, C.W16, C.W17, C.W19

7. LITERATURE
Obligatory

1. Essentials of Medical Parasitology. Apurba Sankar Sastry, Sandhya Bhat K. JP Medical Ltd, 2014.
2. Diagnostic Medical Parasitology. Lynne S. Shore. ASM Press, 2007.
3. Workbook: Parasitology - materials for 3rd year students of English Division Medicine. Monika Pliszka, Bożenna Oleszczak, Monika Dybicz. Oficyna Wydawnicza WUM, Warszawa, 2020.

#### Supplementary

1. Markell and Voge's Medical Parasitology. David T. John, William A Petri. Elsevier Health Sciences, 2006.
4. Medical Parasitology. Rohela Mahmud, Yvonne Ai Lian Lim, Amirah Amir. Springer, 2018 .

### 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
C.W13, C.W16, C.W17, C.W19, C.U6, C.U7, C.U9	Question answer or quiz during classes.	The correct answer to the question.
C.W13, C.W16, C.W17, C.W19, C.U6, C.U7, C.U9	Colloquium at the end of the semester.	Obtaining over 55% points.
C.W13, C.W16, C.W17, C.W19, C.U6, C.U7, C.U9	Exam in the form of a multiple choice test.	Obtaining over 55% points.

### 9. ADDITIONAL INFORMATION *(information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)*

1. Students are required to prepare for the course, which will be verified by the student's answer or written test.
2. Students watch microscopic and macroscopic preparations of various forms of development of parasites and make drawings documenting the preparations.
3. Due to contact with invasive material during classes, hygiene instructions should be strictly followed.
4. Attendance at all classes is obligatory, attendance should be on time. Abandoned due to illness should be done with another group after prior agreement with the person responsible for the subject.
5. Students should have the workbook "Parasitology - materials for 3rd year students of English Division Medicine" - available for purchase at the WUM Publishing House (Oficyna Wydawnicza WUM, ul. Pawińskiego 3, 02-106 Warszawa).
6. Persons applying for transfer of the subject from previous years or from another university should write an application to the Head of the Department of General Biology and Parasitology and obtain permission of the Faculty Dean.

**Final exam:** February 03, 2022 at 9.00 a.m. Paszkiewicz Hall and Microscope room No. 1 at 5 Chałubińskiego Str.



## Pathomorphology

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Medical Science</b>
<b>Study Profile</b> <i>(general academic / practical)</i>	General academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	Uniform MSc
<b>Form of studies</b>	<b>Full time studies</b>
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	<b>obligatory</b>
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	<b>exam</b>
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Department of Pathology (1M11), 7 Pawińskiego St., 02-004 Warsaw phone 48 22 599-16-70 / fax 22 599-16-71 e-mail: patomorfologia@wum.edu.pl

<b>Head of Educational Unit / Heads of Educational Units</b>	Barbara Górnicka, MD, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	MD, PhD, Magdalena Bogdańska, magdalena.bogdanska@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Benedykt Szczepankiewicz, bszczepankiewicz@wum.edu.pl
<b>Teachers</b>	Magdalena Bogdańska MD, PhD Łukasz Koperski MD, PhD Benedykt Szczepankiewicz MD Paweł Pihowicz MD

## 2. BASIC INFORMATION

<b>Year and semester of studies</b>	3 <sup>rd</sup> year, 5 & 6 semester	<b>Number of ECTS credits</b>	17.00
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)		60	4
Seminar (S)		20	3
Classes (C)		107	7
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
<b>Unassisted student's work</b>			
Preparation for classes and completions		75	3

## 3. COURSE OBJECTIVES

O1	<i>Pathology focuses on determining the cause and nature of disease</i>
O2	<i>Students will be provided with basic knowledge about the mechanisms of the origin and development of disease and its manifestations in the form of molecular, chemical, physiological and morphological changes</i>

O3	<i>Students will be provided with basic knowledge about how human diseases can be diagnosed</i>
O4	<i>Students will be provided with basic knowledge about procedure and regulations for post-mortem examinations</i>
O5	<i>Students will become familiar with procedures and techniques commonly used by pathology laboratory</i>

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

C.W26	<i>pathomorphological terminology</i>
C.W27	<i>basic mechanisms of cell and tissue damage</i>
C.W28	<i>clinical course of inflammatory reactions and repair and the regeneration of tissue and organs</i>
C.W30	<i>aetiology of hemodynamic disorders, regressive and progressive changes</i>
C.W31	<i>detailed organ specific pathology, macroscopic and microscopic pictures, clinical features of pathological changes in particular organs</i>
C.W32	<i>consequences of pathological processes to surrounding organs</i>

**Skills– Graduate\* is able to:**

C.U11	<i>connect images of damages to tissues and organs with clinical symptoms of a disease, medical history and results of laboratory tests</i>

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (non-compulsory)

<b>Number of effect of learning</b>	<b>Effects of learning i time</b>
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**Knowledge – Graduate knows and understands:**



K1	
K2	
<b>Skills– Graduate is able to:</b>	
S1	
S2	
<b>Social Competencies – Graduate is ready for:</b>	
SC1	
SC2	

<b>6. CLASSES</b>		
<b>Form of class</b>	<b>Class contents</b>	<b>Effects of Learning</b>
Classes Lectures Seminars	<p><b>CLASSES</b></p> <ol style="list-style-type: none"> <li>1. Hemodynamic disorders-1</li> <li>2. Hemodynamic disorders, thrombosis, atherosclerosis</li> <li>3. Regressive lesions-1</li> <li>4. Regressive lesions-2</li> <li>5. Tissue repair, Neoplasms-1</li> <li>6. Neoplasms-2</li> <li>7. Neoplasms-3</li> <li>8. Neoplasms-4</li> <li>9. Neoplasms-5</li> <li>10. Inflammation-1</li> <li>11. Inflammation-2</li> <li>12. Endocrine system</li> <li>13. Heart and respiratory system</li> <li>14. Oral cavity and GI tract</li> <li>15. Liver, pancreas and gallbladder</li> <li>16. Genital system-1</li> <li>17. Genital system-2</li> <li>18. Genital system-3</li> <li>19. The Kidney</li> </ol> <p><b>LECTURES</b></p> <ol style="list-style-type: none"> <li>1. Pathology- history continues; Regressive lesions</li> <li>2. Neoplasms - introduction</li> <li>3. Soft tissue tumors-part 1, 4. Soft tissue tumors- part 2</li> <li>5. Lymphomas- an overview of some NHLs</li> <li>6. Tuberculosis</li> <li>7. Lung cancer</li> <li>8. Testicular tumors</li> <li>9. Cystic diseases of the kidney</li> </ol> <p><b>SEMINARS</b></p> <p>Glomerular diseases Tumors of the uterine corpus Gestational trophoblastic disease (GTD)</p>	C.W26, C.W27, C.W28, C.W30, C.W31, C.W32, C.U11

	GI tract, liver, pancreas and biliary tract pathology Genital system and kidney pathology Renal Cell Carcinoma (RCC) Diabetes mellitus Neurodegenerative diseases Salivary gland pathology Neoplasms of the stomach Environmental and nutritional pathology	
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<b>7. LITERATURE</b>
<b>Obligatory</b>
5. Robbins Basic Pathology, 10 <sup>th</sup> edition, Kumar, Abbas, Aster
<b>Supplementary</b>
1. Robbins and Cotran Review of Pathology, 4 <sup>th</sup> edition 2. Any other recent pathology textbook and atlas

8. VERIFYING THE EFFECT OF LEARNING		
Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>	<i>e.g. threshold number of points</i>
C.W26, C.W27, C.W28, C.W30, C.W31, C.W32, C.U11	Test MCQ	<60% fail ≥60% pass

<b>9. ADDITIONAL INFORMATION</b> ( <i>information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club</i> )



## Laboratory Diagnostics

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	Medical science
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	Uniform MSc
<b>Form of studies</b>	Full time studies
<b>Type of module / course</b> (obligatory / non-compulsory)	obligatory
<b>Form of verification of learning outcomes</b> (exam / completion)	Exam
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	Department of Laboratory Diagnostics and Clinical Immunology of Developmental Age (1WW) 63a Żwirki i Wigury St., 02-091 Warsaw (Pediatric Hospital) Block 2H, second floor +48 22 3179511, 317 95 05 e-mail: zdl@wum.edu.pl

<b>Head of Educational Unit / Heads of Educational Units</b>	Prof. Urszula Demkow
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	PhD Małgorzata Wachowska +48 22 317 95 05 malgorzata.wachowska@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Małgorzata Wachowska +48 22 317 95 05 malgorzata.wachowska@wum.edu.pl
<b>Teachers</b>	Prof. Urszula Demkow, PhD Małgorzata Wachowska, PhD Katarzyna Popko, PhD Aneta Manda-Handzlik, PhD Marzena Iwanowska, PhD Katarzyna Korniluk, MSc Agnieszka Polak, MSc Paweł Kozłowski, MSc Agnieszka Mroczek,

## 2. BASIC INFORMATION

Year and semester of studies	III year, 6 <sup>th</sup> semester (summer)	Number of ECTS credits	2.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)		5	0,2
Seminar (S)		25	1
Classes (C)		15	0,6
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions			0,2

## 3. COURSE OBJECTIVES

O1	Present basic knowledge on the organization of clinical laboratory, application of laboratory tests as well as practical aspects of simple procedures and functional tests.
O2	Revise existing knowledge on the biochemistry and physiology of the main organ systems of the human body and help students to transfer theoretical knowledge into practical laboratory medicine setting.

O3	Familiarize students with: proper use of laboratory tests in clinical settings, including point-of-care testing; medical consequences of disease on the major organ systems reflected in lab test results;
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**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> ( <i>in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019</i> )	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

E.W7	Student know causes, symptoms, principles of diagnosis and therapeutic management in relation to the most common internal diseases occurring in adults and their complications
E.W7(3)	Student knows characteristics of liver disorders, liver and pancreas disorders, and can perform differential diagnostics of jaundices
E.W7(4)	Student knows carbohydrate metabolism disorders, particularly diabetes, and know how to use laboratory parameters typically utilized in diagnostics and monitoring of patients with metabolic diseases
E.W7(5)	Student knows which laboratory test should be chosen to diagnose, monitor, and predict renal disorders and how to interpret the results
E.W7(6)	Student knows principles of hematopoietic system diseases, including bone marrow aplasia, anemia, granulocytopenia and agranulocytosis, thrombocytopenia, acute leukemias, myeloproliferative and myelodysplastic tumors
E.W7(8)	Student know causes, symptoms, principles of diagnosis allergic
E.W7(9)	Student knows principles of Acid-base balance and water-electrolyte balance disorders: states of dehydration, states of fluid overload, electrolyte disturbances, acidosis and alkalosis
E.W39	Student know types of biological materials used in laboratory diagnostics and principles of sampling for testing

**Skills– Graduate\* is able to:**

E.U24	Student can interpret laboratory tests results and identify causes of deviations
E.U28	Student can collect and protect the principles of blood, urine, CSF, and body fluids for laboratory testing and knows how to interpret the results
E.U29(9)	Student can perform basic medical procedures including dipstick-tests or capillary blood collection, and glucose measurement in blood

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (*non-compulsory*)

<b>Number of effect of learning</b>	<b>Effects of learning i time</b>
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**Knowledge – Graduate knows and understands:**

K1	the term: norm, range of reference values
K2	the term: diagnostic sensitivity, diagnostic specificity, diagnostic accuracy.
K3	types and characteristics of biological material, rules and methodology of collecting, transporting, storing and preparing it for analysis

**Skills– Graduate is able to:**

S1	determine the diagnostic usefulness of a laboratory test
S2	interpret ranges of reference values and assess the dynamics of changes in parameters laboratory

**Social Competencies – Graduate is ready for:**

SC1	Team-work
SC2	prove the ability and habit of self-education

**6. CLASSES**

Form of class	Class contents	Effects of Learning
Lecture	a) Laboratory diagnostic of allergy b) Interferences in laboratory tests c) Basic immunology laboratory techniques d) Cerebrospinal fluid	E.W7.
Seminar	a) Laboratory to laboratory diagnostics of hematological disorders (1) b) Laboratory to laboratory diagnostics of hematological disorders (2) c) Serology of blood groups. d) Laboratory aspects of transfusion medicine. e) Hemostasis in health and disease f) Analysis of urine and laboratory diagnostic of kidney diseases g) Acid-base balance and water-electrolyte balance h) Introduction to Toxicology: therapeutic drug monitoring and drug of abuse i) Introduction to clinical chemistry, proteins and cancer markers j) Laboratory diagnostics of liver diseases, diabetes and other metabolic disorders. Immunochemistry.	E.W7(3), E.W7(4), E.W7(5), E.W7(6), E.W7(9), E.W39, E.W41
Classes	a) Interpretation of laboratory tests and identification of causes deviations b) Analysis of urine c) Blood collection for analysis of ABB parameters c) Glucose measurement d) Laboratory diagnostic of coagulation disorders, INR determination e) Protein electropherogram analysis f) Blood collection, smear preparation and morphology g) Smear analysis h) Serology of blood groups	E.U12, E.U24, E.U28, E.U29(5), E.U29(9). E.W40

## 7. LITERATURE

### Obligatory

1. Clinical Chemistry, Bishop M., Fody E., Schoeff L., 2009, Wolters Kluwer
2. Laboratory Medicine: The Diagnosis of Disease in the Clinical Laboratory 2. edition, Laposata M., 2014, Mc Grow Hill Medical.

### Supplementary

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>	<i>e.g. threshold number of points</i>
G.K1-8, GS1-3	Colloquium - MCQ test	threshold number of points (15/25 points)
G.K1-8, GS1-3	Exam – MCQ test, open questions, interpretation of diagnostic results	threshold number of points (30/50 points)

## 9. ADDITIONAL INFORMATION (information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)

Student are obligated to wear labcoats and have shoes changed. All outer garments should be left in the student's cloakroom (hospital, -1 floor).

Signature of the Head of the Unit

Signature of the person responsible for syllabus

Prof. Urszula Demkow, M.D., PhD

Barbara Gierlikowska, PhD



## RADIOLOGY

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	Medical science
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	Uniform MSc
<b>Form of studies</b>	Full time studies
<b>Type of module / course</b> (obligatory / non-compulsory)	obligatory
<b>Form of verification of learning outcomes</b> (exam / completion)	exam
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	Department of Ultrasound Diagnostics Zakład Diagnostyki Ultrasonograficznej Wydział Medyczny Mazowiecki Szpital Bródnowski Sp. z o. o. 03-242 Warszawa, ul. Kondratowicza 8 tel./fax 22 326 58 10



<b>Head of Educational Unit / Heads of Educational Units</b>	Assoc Prof Rafał Słapa MD, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	Assoc Prof Bartosz Migda MD, PhD
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Assoc Prof Rafał Słapa MD, PhD
<b>Teachers</b>	Dr hab. n med. Rafał Słapa, Prof. dr hab. n med. Iwona Sudół-Szopińska, Prof. dr hab. n med. Wiesław Jakubowski, Dr hab. n med. Bartosz Migda, Lek. med. Maciej Jakuciński, Dr n. med. Anna Lewicka, Dr n. med. Andrzej Lewicki, Dr n. med. Ewa Białek, Lek. med. Dominika Jaguś, Lek. med. Dominik Nguyen, Lek. med. Remigiusz Krysiak, Lek. med. Maciej Jędrzejczyk.

## 2. BASIC INFORMATION

<b>Year and semester of studies</b>	III year winter semester	<b>Number of ECTS credits</b>	4.00
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)		10	1
Seminar (S)		15	1,4
Classes (C)		47	0,2
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
<b>Unassisted student's work</b>			
Preparation for classes and completions		33	1,4

## 3. COURSE OBJECTIVES

O1	To acquaint students with conventional X-ray and ultrasound examinations.
O2	To acquaint students with modern advanced imaging techniques MR, CT.
O3	To teach students the basic skills to perform ultrasound which is the stethoscope of contemporary physician.

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

**Code and number of effect of learning in accordance with standards of learning**  
(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)

**Effects in time**

**Knowledge – Graduate\* knows and understands:**

G.K1 – B.W8	<b>Physical rudiments of non-invasive imaging methods</b>
G.K2 – F.W10	<b>Issues concerning contemporary applied imaging tests, particularly:</b> 1) Radiological symptomatology of basic diseases, 2) Instrumental methods and imaging techniques applied for medical procedures, 3) Indications, contraindications and preparation of the patient for individual types of imaging examinations and contraindications for contrast agents application;

**Skills– Graduate\* is able to:**

G.S1 – A.U4	<b>Deduce on the relation between the anatomical structures on the basis of in vivo diagnostic tests, particularly in the scope of radiology (ultrasound, x-ray, imaging with contrast agents, computed tomography and magnetic resonance imaging)</b>
G.S2 – B.U2	<b>To evaluate the harmfulness of ionizing radiation dose and apply the radiation protection rules</b>
G.S3 – F.U7	<b>Evaluate the result of imaging examination in regard to the most common types of fractures, especially fractures of long bones;</b>
G.S4	<b>Getting acquainted with the issues concerning contemporary applied imaging tests, acquires the basic of practical skill to use the contemporary stethoscope – ultrasonography.</b>

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (*non-compulsory*)

**Number of effect of learning**

**Effects of learning i time**

**Knowledge – Graduate knows and understands:**

K1	
K2	

**Skills– Graduate is able to:**

S1	
S2	

**Social Competencies – Graduate is ready for:**

SC1	
SC2	

6. CLASSES		
Form of class	Class contents	Effects of Learning
<p>e-L, C</p> <p>Effects of Learning: G.K1, G.K2, G.S1, G.S2, G.S3, G.S4</p>	<p><b>SEMINARS (e-learning)</b></p> <p>S1: Introduction to medical imaging (Physics!) Hazards and precautions in medical imaging (contrast media, radiation hazards, MRI issues)</p> <p>S2: Cardiovascular system. Emergencies in cardiovascular system</p> <p>S3: Head and Neck (soft tissues, glands in the neck, cervical spine).</p> <p>S4: Breast imaging (US, Mammography, MRI)</p> <p>S5: Central nervous system + spinal cord. Emergencies in CNS</p> <p>S6: Radiological Anatomy (abdominal cavity in CT, MRI). Pathologies in abdominal cavity in CT, MRI</p> <p>S7: Female reproductive system. Emergencies in female reproductive system</p> <p>S8: How to read abdomen X-ray. Gastrointestinal tract. Acute abdomen. Emergencies in GI tract</p> <p>S9: Musculoskeletal system. Skeletal trauma</p> <p>S10: How to read chest X-ray. Diagnostic of the chest. Emergencies in the chest</p> <p>S11: Urinary tract and the male reproductive system. Emergencies in urinary tract and male reproductive system</p> <p>S12: Diagnostic algorithm in oncology</p> <p>S13: Vascular System (peripheral arteries and veins, thoracic and abdominal aorta in US, CT, MRI). Emergencies in vascular diseases</p> <p>S14: Radiological anatomy (abdominal cavity in US). Pathologies in abdominal cavity in US</p> <p>S15: Multiorgan Trauma</p>	

	<p><b>WORKSHOPS (e-learning &amp; in the Bródnowski hospital)</b></p> <p>W1: Workshop ultrasound 1: scanner, settings, types of images and artefacts</p> <p>W2: Workshop ultrasound 2: Cases</p> <p>W3: Workshop CT</p> <p>W4: Workshop MRI</p> <p><b>LECTURES (e-learning)</b></p> <p>L1: Imaging in Rheumatology</p> <p>L2: Imaging of Respiratory System</p> <p>L3: Imaging of Endocrine Glands - selected issues -</p> <p>L4: Imaging of Genito-urinary System</p> <p>L5: Imaging of the Breasts</p>	
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<b>7. LITERATURE</b>
<b>Obligatory</b>
<ol style="list-style-type: none"> <li>1. D. Lisle Imaging for Students. Hodder Education, 2007.</li> <li>2. Gibson R, et al.: Essential Medical Imaging. Cambridge University Press, 2009.</li> <li>3. Brant William E., Helms Clyde A.; Fundamentals of diagnostic radiology; Lippincott Williams &amp; Wilkins, 2006.</li> </ol>
<b>Supplementary</b>
<ol style="list-style-type: none"> <li>1. Daffner R., et al.: Clinical Radiology. Lippincott Williams &amp; Wilkins, 2007.</li> <li>2. Vilensky J. et al.: Medical Imaging of Normal and Pathologic Anatomy. WB Saunders Company, 2010.</li> <li>3. Suetens P.: Fundamentals of Medical Imaging, Cambridge University Press, 2009.</li> </ol>

8. VERIFYING THE EFFECT OF LEARNING		
Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
G.K1, G.K2, G.S1, G.S2, G.S3, G.S4	test	pass an exam, >59%

**9. ADDITIONAL INFORMATION** (*information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club*)

- 1) The final exam consists of multiple choice questions (only one answer correct).
- 2) Students who failed the Final Exam are obliged to retake the test.
- 3) The final scores of the final exam are not changeable.
- 4) The scores of the failed final exam and the retake will be confirmed by a signature in the Student Book as two separated scores but not as the mean of these two.



## POLISH FOR MEDICINE – COMMUNICATION SKILLS IN MEDICINE

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Medical science</b>
<b>Study Profile</b> <i>(general academic / practical)</i>	<b>General academic</b>
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	<b>Uniform MSc</b>
<b>Form of studies</b>	<b>Full-time studies</b>
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	<b>Obligatory</b>
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	<b>Credit</b>
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Foreign Language Department The Didactic Center, ul. Trojdena 2a., 02-109 Warsaw <a href="mailto:sjosekretariat@wum.edu.pl">sjosekretariat@wum.edu.pl</a> , tel. 22 5720863 <a href="http://www.sjo.wum.edu.pl/">www.sjo.wum.edu.pl/</a>

<b>Head of Educational Unit / Heads of Educational Units</b>	Maciej Ganczar, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	<b>Anna Maczkowska, MA</b> amaczkowska@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	<b>Anna Maczkowska, MA</b> amaczkowska@wum.edu.pl
<b>Teachers</b>	<b>Anna Maczkowska, MA</b> <b>Urszula Swoboda-Rydz, PhD</b>

## 2. BASIC INFORMATION

Year and semester of studies	3 <sup>rd</sup> , winter and summer semester	Number of ECTS credits	3.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)			
Classes (C)		60	2
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions		120	1

## 3. COURSE OBJECTIVES

O1	The third year Polish language course is designed to improve the students' command of the medical language skills and practise history taking and giving instructions to the patient in definite clinical situations.
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**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

G.K1	
G.K2	

**Skills– Graduate\* is able to:**

D.U18	Communicate in basic and specialist Polish
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\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (*non-compulsory*)

<b>Number of effect of learning</b>	<b>Effects of learning in time</b>
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**Knowledge – Graduate knows and understands:**

K1	The names of the most common diseases and their symptoms in Polish language
K2	

**Skills– Graduate is able to:**

S1	conduct a 'basic' bedside conversation and a more detailed conversation with patients affected by the diseases discussed during the III year Polish language course (i.e. ask and answer questions during the medical interview (pertaining to personal history, history of the presenting complaint, past history, family history, drug history, social history, systemic inquiry)
S2	give instructions for the clinical examination of adult and paediatric patients and explain the doctor's intentions;
S3	inform the patient as to what diagnostic investigations need to be done.

**Social Competencies – Graduate is ready for:**

SC1	
SC2	



6. CLASSES		
Form of class	Class contents	Effects of Learning
C 1/2	Discussing the syllabus (the course content, learning outcomes and the methods of their verification; rules and regulations; credit receiving criteria).  Instructions for the clinical examination of adults and children (revision) • Explaining the doctor's intentions to the patient (revision) • The medical interview: personal history, chief complaint, past history, family history, drug history, social history, systemic inquiry (revision)	D.U.18 K1 S1, S2, S3
C 3/4	Diseases of the cardiovascular system: symptoms and signs • Diagnostic investigations • The <i>trzeba/można</i> + infinitive construction; the doctor's questions and the patient's answers pertaining to the diseases of the cardiovascular system • Pain: location, radiation, onset (timing, setting), previous similar pain, duration, character, severity, aggravating and relieving factors, associated symptoms • Physical examination	D.U.18 K1 S1, S2, S3
C 5	Ischaemic heart disease and myocardial infarction: taking history / physical examination (dialogues)	D.U.18 K1 S1, S2, S3
C 6	Hypertension: taking a history / physical examination (dialogues) /Revision (diseases of the cardiovascular system)	D.U.18 K1 S1, S2, S3
C 7/8	• Diseases of the respiratory system: symptoms and signs • case taking: the doctor's questions and the patient's answers pertaining to the diseases of the respiratory system • Diagnostic investigations • Physical examination Pneumonia: taking a history / physical examination (dialogues)	D.U.18 K1 S1, S2, S3
C 9/10	Asthma: taking a history / physical examination (dialogues) Revision (diseases of the respiratory system. Intermediate test 1	D.U.18 K1 S1, S2, S3
C 11/12	Diseases of the digestive system: symptoms and signs • doctor's questions and the patient's answers pertaining to the diseases of the digestive system • Diagnostic investigations • Physical examination Peptic ulcers: taking a history / physical examination (dialogues)	D.U.18 K1 S1, S2, S3
C 13/14	Cholelithiasis: taking a history / physical examination (dialogues) Appendicitis: case description.	D.U.18 K1 S1, S2, S3
C 15	Revision: diseases of the digestive system. Intermediate test 2.	D.U.18 K1 S1, S2, S3
C 16/17	Diseases of the urinary system: symptoms and signs • doctor's questions and the patient's answers pertaining to the diseases of the urinary system • Diagnostic investigations • Physical examination Nephrolithiasis: taking a history / physical examination (dialogues)	D.U.18 K1 S1, S2, S3
C 18/19	Cystitis: taking history / physical examination (dialogues) Revision (diseases of the urinary system) • Diseases of the male reproductive system: symptoms and signs • doctor's questions and the patient's answers pertaining to the diseases of the reproductive system • Diagnostic investigations • Physical examination	D.U.18 K1 S1, S2, S3

C 20/21	Benign prostatic hyperplasia: taking a history / physical examination (dialogues). Intermediate test 3.	D.U.18 K1 S1, S2, S3
C 22/23	The female reproductive system: symptoms and signs • doctor's questions and the patient's answers pertaining to the diseases of the reproductive system. Breast cancer and endometrial hyperplasia: taking a history / physical examination (dialogues)	D.U.18 K1 S1, S2, S3
C 24/25	Diseases of the nervous system: symptoms and signs • The medical interview: the doctor's questions and the patient's answers pertaining to the diseases of the nervous system • Diagnostic investigations • Physical examination	D.U.18 K1 S1, S2, S3
C 26/27	Stroke: taking a history / physical examination (dialogues). Diseases of the nervous system: revision.	D.U.18 K1 S1, S2, S3
C 28/29	Diseases of the locomotor system: symptoms and signs • doctor's questions and the patient's answers pertaining to the diseases of the locomotor system. Fracture of the neck of the femur: taking a history / physical examination (dialogue). General revision	D.U.18 K1 S1, S2, S3
C 30	Intermediate test 4	D.U.18 K1 S1, S2, S3

## 7. LITERATURE

### Obligatory

Maria Janowska, Świetlana Sikorska "Proszę oddychać! Część III Warszawski Uniwersytet Medyczny  
Handouts prepared by the teachers

### Supplementary

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>	<i>e.g. threshold number of points</i>
D.U18	<p><b>Written and oral tests (covering the III year coursework)</b></p> <p><b>Written and oral examination (covering the I, II and III year coursework)</b></p>	<p>To successfully complete the Polish language course, a student needs to obtain credit for the III year coursework and pass the final examination covering the I, II and III year coursework.</p> <p>To obtain credit for the III year Polish language course, a student is required to:</p> <ul style="list-style-type: none"> <li>attend all classes (min. 13 out of 15 in a semester)</li> </ul> <p>A student who misses more than 2 classes per semester</p>

		<p>without a valid excuse will not receive course credits.</p> <p>Absences due to illness will be excused on presentation of a valid medical note within one week of return to study. In the case of two or more excused absences per semester the student must make up the missed classes. If a student misses a class, she/he must catch up on the missed material. It is the student's responsibility to communicate with the class teacher as soon as possible about any attendance issues.</p> <ul style="list-style-type: none"><li>• come to classes punctually</li></ul> <p>If a student arrives less than 15 minutes late three times per semester, it will count as one absence. Arriving to class more than 15 minutes late is counted as an absence.</p> <ul style="list-style-type: none"><li>• actively participate in each class</li><li>• complete all the assignments by the due date</li><li>• pass the progress tests</li></ul> <p>A student who misses a scheduled test will receive a score of 0 unless she/he notifies the class teacher of the reason for her/his failure to take the test within three days of the scheduled test date and makes up the missed test if the reason is justified at the date set by the class teacher.</p> <p>A student who fails any of the tests at the third attempt needs to repeat the course.</p> <p>After obtaining credit for the III year coursework, a student is eligible to take the final examination consisting of a written and oral part in the summer examination period. A minimum score of 60% must be received for each part to pass the examination. The final examination grade is the average (arithmetic mean) of the two (written and oral) examination grades (percentage scores).</p> <p>The dates of the final written and oral parts of the examination are set by the Course Coordinator and the Dean's Office.</p> <p>The document 'Rules of Studies of the Medical University of Warsaw' describes the examination rules and procedures (especially paragraphs 22 and 23) which will apply to the Polish final examination.</p> <p>The scale of grades is as follows:</p> <table><tr><td>2.0 (failed)</td><td>Below 60%</td></tr><tr><td>3.0 (satisfactory)</td><td>60-69%</td></tr><tr><td>3.5 (rather good)</td><td>70-79%</td></tr><tr><td>4.0 (good)</td><td>80-85%</td></tr><tr><td>4.5 (more than good)</td><td>86-90%</td></tr><tr><td>5.0 (very good)</td><td>91-100%</td></tr></table>	2.0 (failed)	Below 60%	3.0 (satisfactory)	60-69%	3.5 (rather good)	70-79%	4.0 (good)	80-85%	4.5 (more than good)	86-90%	5.0 (very good)	91-100%
2.0 (failed)	Below 60%													
3.0 (satisfactory)	60-69%													
3.5 (rather good)	70-79%													
4.0 (good)	80-85%													
4.5 (more than good)	86-90%													
5.0 (very good)	91-100%													

**9. ADDITIONAL INFORMATION** *(information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)*

Rules and regulations of the Foreign Language Department <https://sjo.wum.edu.pl/content/regulamin-sjo>



## ONCOGENETICS

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	Medical science
<b>Study Profile</b> <i>(general academic / practical)</i>	General academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	Uniform MSc
<b>Form of studies</b>	Full time studies
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	Obligatory
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	Credit
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Department of Tumor Biology and Genetics Medical University of Warsaw Pawińskiego 7 02-106 Warsaw, Poland Email: <a href="mailto:onkogenetyka@wum.edu.pl">onkogenetyka@wum.edu.pl</a> Phone: (4822) 599-1670

<b>Head of Educational Unit / Heads of Educational Units</b>	Prof. Tomasz Stokłosa, MD, PhD <a href="mailto:tomasz.stoklosa@wum.edu.pl">tomasz.stoklosa@wum.edu.pl</a>
<b>Course coordinator</b> (title, First Name, Last Name, contact)	Prof. Tomasz Stokłosa, MD, PhD <a href="mailto:tomasz.stoklosa@wum.edu.pl">tomasz.stoklosa@wum.edu.pl</a>
<b>Person responsible for syllabus</b> (First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported)	Prof. Tomasz Stokłosa, MD, PhD <a href="mailto:tomasz.stoklosa@wum.edu.pl">tomasz.stoklosa@wum.edu.pl</a>
<b>Teachers</b>	Prof. Tomasz Stokłosa, MD, PhD <a href="mailto:tomasz.stoklosa@wum.edu.pl">tomasz.stoklosa@wum.edu.pl</a> , Iwona Solarska, PhD <a href="mailto:isolarska@wum.edu.pl">isolarska@wum.edu.pl</a> , Albert Moskowitz, MSc <a href="mailto:amoskowitz@wum.edu.pl">amoskowitz@wum.edu.pl</a> , Marcin Machnicki, MSc <a href="mailto:mmachnicki@wum.edu.pl">mmachnicki@wum.edu.pl</a>

## 2. BASIC INFORMATION

Year and semester of studies	III year, 5 semester	Number of ECTS credits	1.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)		10; including 2 seminars conducted via e-learning	0,4
Classes (C)		3	0,2
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions		12	0,4

## 3. COURSE OBJECTIVES

O1	Students will be provided with basic knowledge of the role of genetic research in modern oncology and molecularly targeted therapy
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O2	Students will be provided with general knowledge about modern methods of genetic research used in oncology and hemato-oncology
O3	Students will be provided with competence in the selection of an appropriate molecular technique and commissioning an appropriate genetic test to search for a genetic defect

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> (in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)	C.W4 C.W7 C.W9 C.U3
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**Knowledge – Graduate\* knows and understands:**

C.W4	The graduate knows and understands the structure of chromosomes and the molecular basis of mutagenesis
C.W7	The graduate knows and understands aberrations of autosomes and heterosomes, which are the cause of diseases, including oncogenesis and cancer
C.W9	The graduate knows and understands the basic methods of genetic diagnostics of point and large mutations, implicated in cancer

**Skills– Graduate\* is able to:**

C.U3	The graduate is able to make decisions about the need to perform cytogenetic and molecular tests
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\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (*non-compulsory*)

<b>Number of effect of learning</b>	
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**Knowledge – Graduate knows and understands:**

K1	The graduate knows and understands the basics of early cancer detection and the principles of screening in oncology
K2	The graduate knows and understands the principles of collecting material for toxicological and hemogenetic tests

**Skills– Graduate is able to:**

S1	The graduate is able to use databases, including the Internet, and search for the necessary information with the available tools
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**Social Competencies – Graduate is ready for:**

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<b>6. CLASSES</b>		
<b>Form of class</b>	<b>Class contents</b>	<b>Effects of Learning</b>
Seminars	Seminar 1 (e-learning platform) - Introduction to oncogenetics. Carcinogenesis, oncogenes and suppressor genes.	CW4
	Seminar 2 - The most important advances in cancer genetic research in the last decade. A brief history of cancer genetics research from Rous sarcoma virus to targeted therapy and personalized oncology. Precision medicine, actionable mutations and "moonshot" in oncology.	C.W4; C.W7
	Seminar 3- Hereditary cancers: genetic predisposition to cancer development; recommendations for diagnostics and prevention. Selected cases and genetic testing revealing the genetic basis of hereditary cancers.	C.W7; C.W9; K1
	Seminar 4- Sporadic cancers: molecular targets for personalized medicine and application of high-throughput analyses. Integration of molecular data in diagnostics, tumors classification and targeted treatment.	C.W7; C.W9; K2
	Seminar 5 - The importance of genetic tests in modern hematooncological diagnostics on the example of selected myeloid and lymphoid neoplasms. Analysis of test results on clinical examples, interpretation of the obtained results with the use of available databases.	C.W9; C.U3
Practical classes	1. Diagnosis of hematologic malignancies based on molecular techniques. From blood smear/ bone marrow smear to single gene analysis in differential diagnosis of hematologic malignancies. 2. Basic methods in molecular biology used in hemato-oncology: blood/bone marrow collection, extraction of nucleic acids, RT-PCR, RT-qPCR, fragment analysis, Sanger sequencing, ddPCR. 3. Monitoring of fusion genes to assess the effectiveness of targeted therapy based on Chronic Myeloid Leukemia example	C.W9; C.U3

<b>7. LITERATURE</b>
<b>Obligatory</b>
The molecular basis of cancer, Hahn WC, Weinberg, RA, 2015 (selected chapters)
<b>Supplementary</b>
Selected publications and guidelines articles available in the e-learning platform as an integral part of the course

<b>8. VERIFYING THE EFFECT OF LEARNING</b>		
<b>Code of the course effect of learning</b>	<b>Ways of verifying the effect of learning</b>	<b>Completion criterion</b>
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>	<i>e.g. threshold number of points</i>

<b>C.W4</b> <b>C.W7</b> <b>C.W9</b> <b>C.U3</b>	Checking the preparation for the seminars and practical classes. Getting familiar with the content posted on the e-learning platform.	Passing modules with short questions and quizzes on the e-learning platform.
	Active participation in seminars and practical classes.	Positive evaluation by the teacher.
	MCQ test (1 <sup>st</sup> term), 2 <sup>nd</sup> term to be dependent on the results of first term (written or oral)	Passing threshold: <60% fail ≥60% pass

**9. ADDITIONAL INFORMATION** (*information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club*)

The subject is closely related to genetic research conducted at the Medical University of Warsaw and diagnostically to the UCK Medical University of Warsaw. The presented clinical cases are examples from our own research and diagnostics activity.

Classes are held in weekly blocks from Monday to Friday.

The course's detailed rules and the detail plan will be available on the website:

[onkogenetyka@wum.edu.pl/en](mailto:onkogenetyka@wum.edu.pl/en)

in the beginning of the new academic year.

The colloquium is planned to be arranged with the use of computer rooms of the Teaching Center. The test consists of 20 MCQ questions..

In case of failure to obtain credit in two terms, the student has the option of applying for a commission term (with the consent of the Head of the Department). The commission colloquium is oral and held in accordance with the rules of examinations and credits of the Medical University of Warsaw

CONSULTATIONS are possible after making an appointment with the teacher via e-mail.





## Introduction to Internal Medicine

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	<b>Medical science</b>
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	uniform MSc
<b>Form of studies</b>	<b>full-time studies</b>
<b>Type of module / course</b> (obligatory / non-compulsory)	<b>Obligatory</b>
<b>Form of verification of learning outcomes</b> (exam / completion)	<b>credit</b>
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	Department of Endocrinology, Diabetology and Internal Diseases; Mazovian Brodnowski Hospital, Kondratowicza 8, 03-242 Warsaw

<b>Head of Educational Unit / Heads of Educational Units</b>	Przemysław Witek, MD, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	Paweł Kuca, pawel.kuca@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Paweł Kuca, pawel.kuca@wum.edu.pl
<b>Teachers</b>	Przemysław Witek, MD, PhD Marek Kowrach, MD, PhD Paweł Kuca, MD, PhD Roman Kuczerowski, MD, PhD Patrycja Adamek, MD Olga Gajek-Daszczyńska, MD Joanna Kuczerowska, MD Agnieszka Maksymiuk-Kłós, MD Anna Mehlich, MD Justyna Nowak, MD Małgorzata Sikora-Polak, MD Joanna Sobolewska, MD Aleksandra Stasiewicz, MD Katarzyna Wolder, MD Zuzanna Żak, MD

## 2. BASIC INFORMATION

<b>Year and semester of studies</b>	III year, 5 & 6 winter/summer semester	<b>Number of ECTS credits</b>	5.00
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)		10	1
Seminar (S)		20	1
Classes (C)		70	1.5
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
<b>Unassisted student's work</b>			
Preparation for classes and completions		40	1.5

<b>3. COURSE OBJECTIVES</b>	
O1	Ability to take medical history and perform effective physical examination.
O2	Ability to conduct differential diagnosis and to use proper diagnostic path.
O3	Interpretation of basic laboratory results and imaging studies.

<b>4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING</b> <i>(concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study)</i>	
<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	E.W1, E.W7 points: 1, 2, 3, 4, 5, 6, 7, 8, 9, E.W40, E.W41, E.U1, E.U3, E.U7, E.U12, E.U13, E.U14, E.U16, E.U18, E.U24, E.U38
<b>Knowledge – Graduate* knows and understands:</b>	
G.K1	knows and understands principles of history taking and physical examination (E.W7 points: 1, 2, 3, 4, 5, 6, 7, 8, 9)
G.K2	knows the typical, common symptoms and signs which are the cause of consultation and admissions to the internal wards, knows how to obtain a proper diagnosis (E.W1, E.W7 points: 1, 2, 3, 4, 5, 6, 7, 8, 9)
G.K3	knows and understands interpretation of laboratory values and others basic tests (E.W7 points 4, 6, 9, E.W40, E.W41)
<b>Skills– Graduate* is able to:</b>	
G.S1	take history and perform physical examination of patients admitted to the internal wards (E.U1, E.U3, E.U7, E.U13)
G.S2	interpret laboratory tests and imaging studies (E.U24)
G.S3	provide differential diagnosis (E.U12)
G.S4	plan diagnostic procedures and treatment (E.U16)
G.S5	prepare and analyse clinical cases (E.U13, E.U38)
G.S6	present a case to other physician, consult relevant abnormalities in laboratory and imaging tests (E.U13, E.U14, E.U16, E.U18)

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

<b>5. ADDITIONAL EFFECTS OF LEARNING</b> <i>(non-compulsory)</i>
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Number of effect of learning	Effects of learning i time
<b>Knowledge – Graduate knows and understands:</b>	
K1	
K2	
<b>Skills– Graduate is able to:</b>	
S1	
S2	
<b>Social Competencies – Graduate is ready for:</b>	
SC1	
SC2	

<b>6. CLASSES</b>		
Form of class	Class contents	Effects of Learning
bedside classes	<p>Training of practical issues connected with taking history, signs and symptoms assessment.</p> <p>Training of basic practical procedures.</p> <p>Training of differential diagnosis.</p> <p>Interpretation of basic lab tests, imaging studies and basics of ECG.</p> <p><b>Effects of Learning:</b> E.U1, E.U3, E.U7, E.U12, E.U13, E.U14, E.U16, E.U24, E.U38</p>	
seminars	<ol style="list-style-type: none"> <li>History taking</li> <li>Physical examination</li> <li>Cardiovascular system – history taking and physical examination</li> <li>Cardiovascular system – cardiac imaging and catheterization</li> <li>Respiratory system – history taking and physical examination</li> <li>Gastrointestinal system – history taking and physical examination</li> <li>Renal medicine – history taking and physical examination</li> <li>Endocrinology – clinical presentations of selected endocrinopathies (thyrotoxicosis, hypothyroidism, Cushing’s syndrome, Addison’s disease, acromegaly, hyperandrogenism and hypopituitarism)</li> <li>Neurology – history taking and physical examination, some common presentations</li> <li>Laboratory tests: some major disease patterns; fluid balance and basic principles of IV fluid therapy</li> <li>Diabetes mellitus – classification, presentation, diagnosis</li> <li>Arterial hypertension – classification, presentation, diagnosis and management</li> <li>The musculoskeletal system – history taking and physical examination</li> <li>Diseases of the gastrointestinal tract</li> <li>Haematology – the components of a physical examination</li> <li>Heart failure – basic concepts and management</li> </ol>	

	17. ECG – a methodical approach and ECG abnormalities 18. Pneumonia – presentation, diagnosis and management 19. Acute kidney injury and chronic kidney failure 20. Gastrointestinal bleeding – causes, symptoms and management; endoscopic procedures  <b>Effects of Learning:</b> E.W1, E.W7 points: 1, 2, 3, 4, 5, 6, 7, 8, 9, E.W40, E.W41	
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<b>7. LITERATURE</b>
<b>Obligatory</b>
1. Oxford Handbook of Clinical Medicine, 10 <sup>th</sup> edition 2. Macleod's Clinical Examination, 14 <sup>th</sup> edition
<b>Supplementary</b>
1. Harrison's Principles of Internal Medicine, 19th edition. 2. Bate's Guide to Physical Examination and History Taking, 12 <sup>th</sup> edition

8. VERIFYING THE EFFECT OF LEARNING		
Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
G.S1, G.S2, G.S3, G.S4	Active participation in all seminars and classes.	Obligatory attendance and active participation in all seminars and classes.
G.S5	Preparing a power-point presentation of case report.	Presentation of case report.
G.K1, G.K2, G.K3	Execution of assigned tasks on the e-learning platform.	Execution of assigned tasks on the e-learning platform.
G.K1, G.K2, G.K3	Oral colloquium at the end of the course with the appointed doctor separately for each subgroup.	3.0 (satisfactory).

<b>9. ADDITIONAL INFORMATION</b> ( <i>information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club</i> )
<p>Lectures:</p> <p>Cardiovascular disease risk assessment and management (2 hrs).  Imaging studies in the clinical practice (2 hrs).  Symptoms and signs of endocrine disorders. (2 hrs)  Diabetes mellitus – classification, diagnosis and complications. Metabolic syndrome. (2 hrs)  Laboratory tests interpretation (2 hrs).</p> <p>At the first day of the course we meet at the entrance of the clinic (The Department of Endocrinology, Diabetology and Internal Medicine – Kondratowicza Street 8, building C, 7th floor) at 8:00 a.m. Then we present the detailed schedule of classes. Some seminars and classes may be conducted as e-learning, depending on epidemiological situation.</p>



## Medical Psychology

<b>1. IMPRINT</b>	
<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Medical Science</b>
<b>Study Profile</b> <i>(general academic / practical)</i>	General academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	Uniform MSs
<b>Form of studies</b>	<b>Full time studies</b>
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	<b>Obligatory</b>
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	<b>Credit</b>
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Department of Medical Psychology & Medical Communication ul. Litewska 14/16, 00-575 Warszawa Tel. +48 22 116 92 11 <a href="mailto:zpikm@wum.edu.pl">zpikm@wum.edu.pl</a>

<b>Head of Educational Unit / Heads of Educational Units</b>	Professor Krzysztof Owczarek, MA, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	Magdalena Łazarewicz, MA, PhD magdalena.lazarewicz@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Magdalena Łazarewicz, MA, PhD magdalena.lazarewicz@wum.edu.pl
<b>Teachers</b>	Magdalena Łazarewicz, MA, PhD (magdalena.lazarewicz@wum.edu.pl) Joanna Chylińska, MA, PhD (joanna.chylinska@wum.edu.pl) Marta Rzakiewicz, MA, PhD (marta.rzakiewicz@wum.edu.pl) Jakub Związek, MA (jakub.zwiazek@wum.edu.pl) Marcin John, MA (marcin.john@gmail.com)

## 2. BASIC INFORMATION

Year and semester of studies	III, 1 <sup>st</sup> semester	Number of ECTS credits	1.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)		10	0,25
Classes (C)		10	0,25
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions		10	0,5

## 3. COURSE OBJECTIVES

O1	Student acquires skills and knowledge on the psychological aspects of the medical patient care, is familiar with the concept of health-related quality of life and understands psychosocial consequences of hospitalization and chronic illness.
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O2	Student understands and is able to identify psychosocial risk factors of somatic diseases, knows the mechanisms of human functioning in health and illness (including terminal disease)
O3	Student gets familiar with a problem of abuse and basic methods of psychological intervention
O4	Student understands the elements of the patient's perspective, knows how to diagnose the patient's attitude toward illness and treatment; is familiar with motivational interviewing and health promotion methods
O5	Student learns how age and age-related developmental needs can affect delivery of care and responses to illness and how to respond to them effectively
O6	Student knows the signs of work stress and burnout and is familiar with available preventive methods

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th July 2019)</i>	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

D.K1	social dimension of health and illness, the impact of the social environment (family, social networks) and social inequalities as well as socio-cultural differences on health, as well as the role of social stress in health and self-destructive behaviour
D.K2	social factors influencing behaviour in health and disease, especially in chronic disease
D.K3	forms of abuse, models explaining family and institutional abuse, social bases of different forms of abuse and the doctor's role in recognizing it
D.K4	Social approached to the meaning of health, illness, disability and aging in the relation to social attitudes, social consequences of the somatic disease, disability and socio-cultural barriers, and the concept of health related quality of life
D.K7	psychosocial consequences of hospitalization and chronic disease
D.K9	basic human psychological mechanisms of functioning in health and disease
D.K10	the role of the family in the treatment process
D.K11	aspects of adaptation to the disease as a challenging situation, phases of adaptation to threatening situation, including dying and grief
D.K12	the role of stress in etiopathogenesis and progress of the somatic disease and recognizes coping mechanisms
D.K14	the principles of health promotion, its tasks and main lines of action, with particular emphasis on knowledge of the role of elements of a healthy lifestyle
D.K15	the principles of motivating the patient to health promoting behaviours and informing about unfavorable prognosis



Skills– Graduate* is able to:	
D.S1	in the whole therapeutic process, include patient's subjective needs and expectations resulting from socio-cultural background
D.S2	recognize signs of risk and auto destructive behaviours and reacts to them accordingly
D.S3	chooses treatment which minimizes social consequences of the disease for the patient
D.S10	recognizes signs of abuse and its risk factors and reacts accordingly
D.S11	applies basic psychological motivational and supportive interventions

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)	
Number of effect of learning	Effects of learning i time
Knowledge – Graduate knows and understands:	
K1	the concept of professional burnout and understands how it can be prevented
K2	-
Skills– Graduate is able to:	
S1	-
S2	-
Social Competencies – Graduate is ready for:	
SC1	-
SC2	-

6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminars	S1 - Seminar 1 – Psychosocial aspects of the medical profession Introduction to Medical Psychology. The concept of professional burnout. Strategies of preventing burnout and coping with stress.	D.K1, K1, D.K12
	S2 - Seminar 2 – Stress and abuse. Theoretical bases of stress and coping. The role of a doctor in recognizing and preventing abuse/domestic violence. Basic psychological interventions in the situation of abuse. Biopsychosocial approach to patients in medical practice.	D.K3, D.K12, D.S10

Classes	S3 – Seminar 3 - The role of psychosocial factors in etiopathogenesis of somatic disease. Promoting health in medical practice. Motivational interview – Applying basics of motivational interviewing in medical practice.	D.K2, D.K10, D.K12, D.K14, D.K15, D.S2, D.S11
	PC1 – Practical class 1 - The concept of health-related quality of life, psychosocial consequences of disease and adaptation to illness. Attitude towards health and illness.	D.K1, D.K4, D.K7, D.K9, D.K11, D.S1, D.S3
	PC2 – Practical class 2 - Psychological aspects of disability. Health and illness across lifespan	D.K9, D.K11, D.S1
	PC3 – Practical class 3 - Psychological aspects of death, dying, care for terminal patients and grief. Delivering bad news- Practice in delivering bad news, examples of protocols for delivering bad news to patients and their families.	D.K10, D.K11, D.K15, D.S1
S	S4 – Seminar 4 - Test	

## 7. LITERATURE

### Obligatory

PDF materials provided by the teacher during the course.

### Supplementary

3. Van Teijlingen E. & Humphris, G. (2019). Psychology and Sociology Applied to Medicine. Elsevier.
4. Feldman, M & Christensen, J.(2014). Behavioral Medicine. A guide for Clinical Practice. McGraw-Hill Medical
5. Ofri, D.(2014). What doctors Feel: How Emotions Affect the Practice of Medicine. Beacon Press.
6. Gabe, J. & Monaghan, L.(2013). Key Concepts in Medical Sociology (SAGE Key Concepts series). Sage Publications

The above textbooks are available for short rental from the Department of Psychology and Medical Communication library (single copies).

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
D.K1-D.K4, D.K7. D.K9-D.K12, D.K14- D.K15, D.S1-D.S3, D.S10, D.S11, K1	Final test, written (case study analysis with 4 short open questions and 2 theoretical open questions).	Min. 55% of correct answers

## 9. ADDITIONAL INFORMATION *(information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)*

**Attendance:** Students are expected to attend and actively participate in all seminars and classes. In case of an excused absence (max. 1 during the course) students will be allowed to make up missed work. In such cases students should notify the teacher as soon as possible to establish the way of covering the absence. Change of subgroups is possible only after consulting the teacher in advance.

Students are expected to come to the class on time. Being late for over 15 minutes counts as an absence. Recurring tardiness will result in additional work – an essay or short review of literature (based on the decision of the teacher, depending on the missed material).

To provide good learning environment for everyone, students are requested to turn off any electronic devices that might disturb the class.

**Test:** The final test takes place during the last seminar (7<sup>th</sup> week from the beginning of the course) and it consists of a case study (an analysis of a patient on a basis of short open questions) and two theoretical open questions.

Contact information to the course coordinator: Magdalena Łazarewicz, MA, PhD, [magdalena.lazarewicz@wum.edu.pl](mailto:magdalena.lazarewicz@wum.edu.pl)

The Department of Medical Psychology and Medical Communication runs the **Psychological Students Science Club “Psyche”** (in English) (contact information: [magdalena.lazarewicz@wum.edu.pl](mailto:magdalena.lazarewicz@wum.edu.pl)).



## Medical Communication

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	<b>Medical science</b>
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	Uniform MSs
<b>Form of studies</b>	<b>Full-time studies</b>
<b>Type of module / course</b> (obligatory / non-compulsory)	<b>Obligatory</b>
<b>Form of verification of learning outcomes</b> (exam / completion)	<b>Credit</b>
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	Department of Medical Psychology & Medical Communication ul. Litewska 14/16, 00-575 Warszawa Tel. +48 22 116 92 11 zpikm@wum.edu.pl

<b>Head of Educational Unit / Heads of Educational Units</b>	Professor Krzysztof Owczarek, MA, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	Magdalena Łazarewicz, MA, PhD magdalena.lazarewicz@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Magdalena Łazarewicz, MA, PhD magdalena.lazarewicz@wum.edu.pl
<b>Teachers</b>	Magdalena Łazarewicz, MA, PhD (magdalena.lazarewicz@wum.edu.pl) Joanna Chylińska, MA, PhD (joanna.chylinska@wum.edu.pl) Marta Rządiewicz, MA, PhD (marta.rzadkiewicz@wum.edu.pl) Jakub Związek, MA (jakub.zwiazek@wum.edu.pl) Marcin John, MA (marcin.john@gmail.com)

2. BASIC INFORMATION				
Year and semester of studies	III, 1 <sup>st</sup> semester		Number of ECTS credits	1.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation	
Contacting hours with academic teacher				
Lecture (L)		-	-	
Seminar (S)		-	-	
Discussions (D)		10	0,5	
e-learning (e-L)		-	-	
Practical classes (PC)		-		
Work placement (WP)		-	-	
Unassisted student's work				
Preparation for classes and completions		10	0,5	

<b>3. COURSE OBJECTIVES</b>	
O1	The aim of the course is to provide students with opportunity to develop skills in building proper doctor-patient relationship through medical communication, as well as to increase awareness of the student's own communication style.

O2	To improve skills in nonverbal communication during conducting a consult (to raise awareness of student's own non-verbal behaviours and sensitivity to nonverbal cues from a patient).
O3	To improve skills in verbal communication during a consult - active listening: discovering patient's perspective, collecting and passing information (including bad news) and including the patient into treatment process and making decisions regarding treatment.
O4	To provide practice in applying basic motivational and supportive interventions.
O5	To provide practice in group work: delivering and receiving constructive feedback information.
O6	To increase empathy by experiencing the role of a patient in a safe learning environment.

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Effects in time</b>
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**Knowledge – Graduate\* knows and understands:**

D.K5	the rules and methods of communication with the patient and his family, which are used to build an empathic, trust-based relationship
D.K6	the role of good verbal and nonverbal communication in doctor-patient interaction, the meaning of trust in the interaction with patients

**Skills– Graduate\* is able to:**

D.S1	In the whole therapeutic process, include patient's subjective needs and expectations resulting from socio-cultural background
D.S2	recognize signs of risk and auto destructive behaviors and reacts to them accordingly
D.S3	choose treatment which minimizes social consequences of the disease for the patient
D.S4	build the atmosphere of trust during the treatment process
D.S5	conduct the consult with the patient with the use of active listening skills and empathy, and talks to the patient about his life situation
D.S6	inform the patient about the goal, progress and possible risks of suggested diagnostic and treatment methods
D.S7	Involve the patient in the therapeutic process
D.S8	pass bad news to the patient and his/her family
D.S9	passes recommendations and information on health promoting lifestyle

D.S11	apply basic psychological motivational and supportive interventions
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\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

<b>5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)</b>	
<b>Number of effect of learning</b>	<b>Effects of learning i time</b>
<b>Knowledge – Graduate knows and understands:</b>	
K1	-
K2	-
<b>Skills– Graduate is able to:</b>	
S1	-
S2	-
<b>Social Competencies – Graduate is ready for:</b>	
SC1	-
SC2	-

<b>6. CLASSES</b>		
<b>Form of class</b>	<b>Class contents</b>	<b>Effects of Learning</b>
D	<p>Practical class 1: Medical Communication – review and summary: skills (verbal and nonverbal communication bases for active listening) and protocols (Calgary-Cambridge Protocol, SPIKES); preparation for role-playing exercises.</p> <p>Practical classes 2-4: Practical exercises of the use of psychological knowledge and communication skills for solving problems in medical practice (based on role-playing exercises), e.g. collecting a basic medical interview in a primary care setting and in an ER, passing bad news to the patient and the family, explaining medical procedures, motivating the patient for better adherence or a lifestyle change..</p>	<p>D.K5, D.K6</p> <p>D.S1-D.S9, D.S11</p>

<b>7. LITERATURE</b>
<b>Obligatory</b>
<p>Lloyd, M., Bor R., Noble, L. (2019) Clinical Communication Skills for Medicine. Elsevier.</p> <p>Required communication protocols as PDF materials provided by the teacher during the course.</p>
<b>Supplementary</b>

Cole, S., Bird, J. & Weiner, J.S.(2014). Medical Interview. Elsevier.

Silverman, J., Kurtz, S, Draper J (2008) Skills for Communicating with Patients. Radcliffe Publishing.

Desmond J, Copeland LR (2000) Communicating with Today's Patients. Jossey-Bass. A Wiley Imprint.

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
D.S1-D.S9, D.S11	Participation in the video-recorded role-playing exercise as a doctor and as a patient.	Minimal acceptable level of performance on the learning outcome
D.K5, D.K6	Preparation of the essay self-evaluating communication skills performed in the role-playing exercise.	Minimal acceptable level of performance on the learning outcome, providing answers to all points included in the instruction.

## 9. ADDITIONAL INFORMATION *(information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)*

The class is intended as practical and is based on experiential learning. The outcomes of that process are strongly related to active participation in all in-class activities, therefore attendance is mandatory. Students will be allowed to make up missed work in case of an excused absence. In such cases students should notify the teacher as soon as possible to establish the way of covering the absence. Change of subgroups is possible only after consulting the teacher in advance and not for the classes for which the particular student's role-playing exercise was scheduled.

Students are expected to come to the class on time and participate actively (in the role-playing exercises as doctors/patients and during discussions). Being late for over 15 minutes counts as an absence. Recurring tardiness will result in additional work – an essay or short review of literature (based on the decision of the teacher, depending on the missed material).

To provide good learning environment for everyone, students are requested to turn off any electronic devices that might disturb the class.

### Role-playing

The classes are based on role-playing exercises and each student is required to participate in two role-playing scenes: once as a doctor and once as a patient. Scenarios are delivered to students prior to the class. The role-playing are recorded (on the student or teacher's equipment). The video is only made available to the participants of a given role-playing exercise.

### Essay

To complete the course students are required to write an essay, which presents reflections regarding communication process during the role-play. The paper should be delivered to the teacher within a week from the class on which the particular role-playing exercise took place. Detailed guidelines for this task are provided and discussed during the course.

The Department of Medical Psychology and Medical Communication runs the Psychological Students Science Club "Psyche" (in English) (contact information: [magdalena.lazarewicz@wum.edu.pl](mailto:magdalena.lazarewicz@wum.edu.pl)).





## Pharmacology and Toxicology

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	medical science
<b>Study Profile</b> <i>(general academic / practical)</i>	general academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	uniform MSc
<b>Form of studies</b>	Full time studies
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	Obligatory
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	Credit
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	Chair and Department of Experimental and Clinical Pharmacology Centre for Preclinical Research and Technology CePT, Banacha 1b, 02-927 Warsaw, tel. (+48) 22 116 61 60

<b>Head of Educational Unit / Heads of Educational Units</b>	Prof. Dagmara Mirowska-Guzel MD, PhD, SciD tel. (+48) 022 1166160
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	Maciej Niewada MD, PhD, SciD tel. (+48) 691745377
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Maciej Niewada MD, PhD, SciD tel. (+48) 691745377
<b>Teachers</b>	Ewa Widy-Tyszkiewicz MD, PhD, SciD Aleksandra Wiśłowska-Stanek MD, PhD, SciD Iwona Korzeniewska-Rybicka MD, PhD Jan Bemberek MD, PhD. Justyna Pyrzanowska MD, PhD Maciej Niewada MD, PhD, SciD Wojciech Masełbas MD, PhD

<b>2. BASIC INFORMATION</b>			
<b>Year and semester of studies</b>	III year 5 & 6 semester	<b>Number of ECTS credits</b>	9.00
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)		30	1
Seminar (S)		10	½
Classes (C)		60	2
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
<b>Unassisted student's work</b>			
Preparation for classes and completions		90	3
Preparation workload to credits		80	2½

<b>3. COURSE OBJECTIVES</b>	
O1	Concepts and principles of mechanism of action, clinical applications and adverse effects of drugs.
O2	Translation of pharmacological principles into clinical decision-making.

<b>4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING</b> <i>(concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study)</i>	
<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	

**Knowledge – Graduate\* knows and understands:**

G.K1	C.W11. genetic mechanisms of acquiring drug resistance by microorganisms and neoplastic cells; C.W15. the consequences of exposure of the human body to various chemical and biological factors and the principles of prevention; C.W20. basics of disinfection, sterilization and aseptic procedures; C.W35. individual groups of therapeutic agents; C.W36. main mechanisms of drug action and their changes in the system depending on age; C.W37. the impact of disease processes on drug metabolism and elimination; C.W38. basic principles of pharmacotherapy; C.W39. major drug side effects, including drug interactions; C.W40. the problem of drug resistance, including multi-drug resistance; C.W41. indications for genetic tests carried out in order to individualize pharmacotherapy; C.W42. basic directions of therapy development, in particular the possibilities of cell, gene and targeted therapy in specific diseases; C.W43. basic concepts of general toxicology; C.W44. a group of drugs, the abuse of which can lead to poisoning; C.W45. symptoms of the most common acute poisonings, including alcohol, drugs and other psychoactive substances, heavy metals and selected groups of drugs; C.W46. basic principles of diagnostic procedures in poisoning; C.W48. the consequences of a deficiency of vitamins or minerals and their excess in the body;
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**Skills– Graduate\* is able to:**

G.S1	C.U10. interpret the results of microbiological tests; C.U13. perform simple pharmacokinetic calculations; C.U14. select drugs in appropriate doses in order to correct pathological phenomena in the body and in individual organs; C.U15. design schemes of rational chemotherapy of infections, empirical and targeted; C.U16. prepare records of all prescription forms of medicinal substances; C.U17. use pharmaceutical guides and databases on medicinal products; C.U18. estimate the toxicological risk in specific age groups and in the states of liver and kidney failure and prevent drug poisoning; C.U19. interpret the results of toxicological tests
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\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

## 5. CLASSES

Form of class	Class contents	Effects of Learning
Seminars and classes:	<ol style="list-style-type: none"> <li>1. Pharmacokinetics I.</li> <li>2. Pharmacokinetics II.</li> <li>3. Chemotherapeutic agents I.</li> <li>4. Chemotherapeutic agents. II.</li> <li>5. Chemotherapeutic agents III.</li> <li>6. Anthelmintic drugs. Antiprotozoal drugs. Antifungal drugs.</li> <li>7. Drugs used in gastrointestinal diseases. Control of gastric acidity and treatment of peptic ulcers. Emetic drugs and antiemetic drugs. Drugs which increase gastrointestinal motility. Antidiarrheal drugs.</li> <li>8. Agents used in disorders of coagulation.</li> <li>9. Adrenocorticosteroids and adrenocortical antagonists. The hypothalamic and pituitary hormones. Sex hormones – estrogens, progestins, androgens.</li> <li>10. Pancreatic hormones and antidiabetic drugs. Thyroid and antithyroid drugs.</li> <li>11. Prescription writing.</li> <li>12. Drugs used in respiratory diseases.</li> <li>13. CV drugs 1. Catecholamines and sympathomimetic drugs. Adrenergic receptor antagonists.</li> <li>14. CV drugs 2. Calcium channel blockers. Diuretic agents.</li> <li>15. CV drugs 3. Drugs affecting RAAS. Other vascular drugs.</li> <li>16. Lipid lowering agents. Drugs in treatment of obesity.</li> <li>17. Opioid analgesics and antagonists.</li> <li>18. Nonsteroidal anti-inflammatory drugs and non-opioids analgesics.</li> <li>19. Psychostimulants. Anxiolytics.</li> <li>20. Antipsychotic agents.</li> <li>21. Antidepressant agents.</li> <li>22. Drugs used in neurological disorders.</li> </ol>	CW11-CW48 CU10-CU19
Lectures	<ol style="list-style-type: none"> <li>1. Introduction to pharmacology. Basic principles. Reliable sources of information in pharmacology.</li> <li>2. Pharmacodynamics: drug action, the relationship between drug concentration and effect.</li> <li>3. Antiviral drugs.</li> <li>4. Drug prevention of infectious diseases.</li> <li>5. Drugs used in chemotherapy of tuberculosis and leprosy.</li> <li>6. Rational use of chemotherapeutics.</li> <li>7. Agents that affect bone mineral homeostasis. Drugs used in rheumatology.</li> <li>8. Agents used in cytopenias. Hemopoietic growth factors.</li> <li>9. Agents acting at the neuromuscular junction and autonomic ganglia. Cholinergic agonists. Cholinergic blocking drugs.</li> <li>10. Mediators of inflammation and allergy. Anti-allergic drugs. Immunopharmacology.</li> <li>11. Cancer drugs.</li> <li>12. Local and general anaesthetics.</li> <li>13. Antihypertensive agents.</li> <li>14. Drugs used in angina pectoris.</li> <li>15. Agents used in cardiac arrhythmias.</li> <li>16. Drugs used in ophthalmology.</li> <li>17. Dermatologic pharmacology.</li> <li>18. Pharmacology of alcohol consumption.</li> <li>19. Drugs of abuse.</li> <li>20. Principles of toxicology. Harmful effects of drugs.</li> <li>21. Occupational and environmental toxicology.</li> </ol>	CW11-CW48 CU10-CU19

	22. Agents used in anaemias. Pharmacology of vitamins.	
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<b>6. LITERATURE</b>
<b>Obligatory</b>
<ol style="list-style-type: none"> <li>1. Humphrey P. Rang, James M. Ritter, Rod J. Flower, Graeme Henderson. Rang &amp; Dale's Pharmacology, 9th Edition. 2018.</li> <li>2. Bertram G. Katzung. Basic and Clinical Pharmacology 15th Edition. 2020.</li> <li>3. Katzung &amp; Trevor's Pharmacology Examination and Board Review, McGraw Hill Education &amp; Medic, 13th Edition, 2021.</li> <li>4. Goodman and Gilman's The Pharmacological Basis of Therapeutics. Laurence Brunton, Bjorn Knollman, Randa Hilal-Dandan, McGraw-Hill Education, 13th Edition. 2017.</li> </ol>
<b>Supplementary</b>
<ol style="list-style-type: none"> <li>1. Paweł Krząścik, Przemysław Mikołajczak. Pharmacology in a nutshell. 2017. 1st Edition. ISBN: 978-83-941043-2-0</li> <li>2. Lippincott Illustrated Reviews: Pharmacology, 7th edition, Karen Whalen PharmD, BCPS, Publication Date October 2, 2018</li> <li>3. BRS Pharmacology, Author(s): Sarah Lerchenfeldt, Gary Rosenfeld Ph.D., 7th edition, publication date: August 12, 2019</li> </ol>

7. VERIFYING THE EFFECT OF LEARNING		
Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
CW11-CW48 CU10-CU19	Attendance Multiple choice tests or oral credits	>50%  Grade and criteria: 2,0 (unsatisfactory) <=50% 3,0 (satisfactory) 51-58% 3,5 (better than satisfactory) 59-68% 4,0 (good) 69-78% 4,5 (better than good) 79-88% 5,0 (very good) >=89%

<p><b>8. ADDITIONAL INFORMATION</b> (information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)</p> <p><b>Seminars, classes and lectures are held at Rectorate building of MUW, Main Library, Didactic Center – Banacha Campus, Żwirki i Wigury 61. Students are obliged to attend all practical classes and seminars with the group assigned only (individual arrangements are to be approved in written (mail) in advance).</b></p> <p><b>After both V and VI semesters students are obliged to complete the final credits in form of MCQ or oral colloquium that covers the scope of classes, seminars and lectures.</b></p> <p><b>Credits of the both tests on V and VI semesters entitle the student to join Clinical Pharmacology subject at the VII semester. Final exam at the end of VII semester covers both pharmacology/toxicology and clinical pharmacology.</b></p> <p><b>Rules on colloquiums and Q&amp;A tests</b></p> <ol style="list-style-type: none"> <li>1. Students are informed about the date/time and the venue for MCQ tests either for semester colloquium or final exam at least one month in advance.</li> </ol>
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2. Students are expected to arrive at the venue at least 15 minutes before test start. Those who are late more than 15 minutes after the test start are not allowed to enter and are kindly invited for the retake.
3. To facilitate students identification ID document (preferably student record book) need to be presented, otherwise students are not allowed to take the test.
4. Students are asked to wait outside the room and can enter only following identification confirmed.
5. Students are allocated the individual place which is pointed by supervisor.
6. **The test is based on student individual work - unauthorized materials (including revision notes and electronic devices including mobile phones) are disallowed. Communication with any person during the exam, other than the supervisor, is prohibited and can be the cause for student banning.**
7. For MCQ tests only one answer is correct.
8. To pass the test students need to provide 50% + 1 (i.e. 51 for 100 questions) correct answers. The final individual score is based on the number of correct answers provided and other students' performance (the distribution of test results).
9. The form of retake is usually the same as first approach unless number of students for retake determines the feasible form which then is individually decided.
10. Test results are made available on the Department website as soon as possible.



## Pediatrics

### 1. IMPRINT

<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	Medical science
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	Uniform MSc
<b>Form of studies</b>	full-time studies
<b>Type of module / course</b> (obligatory / non-compulsory)	Obligatory
<b>Form of verification of learning outcomes</b> (exam / completion)	credit
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	<p>1. Department of Pediatrics with Clinical Assessment Unit. (2W9) 63a Żwirki i Wigury St., 02-091 Warsaw (Pediatric Hospital) Phone: 48 22 317 92 31 e-mail: <a href="mailto:obserwacyjny.dsk@uckwum.pl">obserwacyjny.dsk@uckwum.pl</a></p> <p>2. Department of Pediatric Cardiology and General Pediatrics (2M6) 63a Żwirki i Wigury St., 02-091 Warsaw (Pediatric Hospital) Phone: 48 22 317 95 88 e-mail: <a href="mailto:kardiologia.dsk@uckwum.pl">kardiologia.dsk@uckwum.pl</a></p>

<b>Head of Educational Unit / Heads of Educational Units</b>	1. Assoc. Prof. Ernest Kuchar, MD, PhD 2. Professor Bożena Werner, MD, PhD
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	1. Assoc. Prof. Ernest Kuchar, MD, PhD 2. Radosław Pietrzak MD, PhD
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	1. Anna Piwowarczyk, MD <a href="mailto:anna.piwowarczyk@wum.edu.pl">anna.piwowarczyk@wum.edu.pl</a> Monika Wanke-Rytt, MD, PhD, <a href="mailto:monika.wanke@uckwum.pl">monika.wanke@uckwum.pl</a> 2. Radosław Pietrzak MD, PhD <a href="mailto:radoslaw.pietrzak@wum.edu.pl">radoslaw.pietrzak@wum.edu.pl</a>
<b>Teachers</b>	<p><b>Department of Pediatrics with Clinical Assessment Unit (2W9)</b>  Ernest Kuchar, MD, PhD  Anna Piwowarczyk, MD  Magdalena Okarska-Napierała, MD, PhD  Monika Wanke-Rytt, MD, PhD  Michał Wronowski, MD  Dominika Rykowska, MD  Joanna Mańdziuk, MD</p> <p><b>Department of Pediatric Cardiology and General Pediatrics (2M6)</b>  Professor Bożena Werner, MD, PhD e-mail: <a href="mailto:bozena.werner@wum.edu.pl">bozena.werner@wum.edu.pl</a>  Beata Kucińska, MD PhD; <a href="mailto:beata.kucinska@wum.edu.pl">beata.kucinska@wum.edu.pl</a>  Radosław Pietrzak, MD PhD; <a href="mailto:radoslaw.pietrzak@wum.edu.pl">radoslaw.pietrzak@wum.edu.pl</a>  Halszka Kamińska, MD PhD; <a href="mailto:halszka.kaminska@wum.edu.pl">halszka.kaminska@wum.edu.pl</a>  Tomasz Książczyk, MD; <a href="mailto:tomasz.ksiazczyk@wum.edu.pl">tomasz.ksiazczyk@wum.edu.pl</a>  Anna Chanas, MD; <a href="mailto:anna.chanas@uckwum.pl">anna.chanas@uckwum.pl</a>  Katarzyna Łuczak-Woźniak, MD; <a href="mailto:katarzyna.luczak-wozniak@wum.edu.pl">katarzyna.luczak-wozniak@wum.edu.pl</a>  Agnieszka Pskit-Hanuszczak, MD; <a href="mailto:agnieszka.pskit@uckwum.pl">agnieszka.pskit@uckwum.pl</a>  Ewa Smereczyńska-Wierzbicka, MD; <a href="mailto:ewa.wierzbicka@uckwum.pl">ewa.wierzbicka@uckwum.pl</a>  Małgorzata Ludzia, MD; <a href="mailto:mludzia@wum.edu.pl">mludzia@wum.edu.pl</a>  Anna Rożnowska-Wójtowicz, MD; <a href="mailto:anna.wojtowicz@uckwum.pl">anna.wojtowicz@uckwum.pl</a>  Margaret Chudyk, MD; <a href="mailto:margaret.chudyk@uckwum.pl">margaret.chudyk@uckwum.pl</a>  Paulina Dobkowska Wawrzacz, MD; <a href="mailto:paulina.dobkowska@uckwum.pl">paulina.dobkowska@uckwum.pl</a>  Mateusz Puchalski, MD; <a href="mailto:mateusz.puchalski@uckwum.pl">mateusz.puchalski@uckwum.pl</a>  Klaudia Obsznajczyk, MD; <a href="mailto:klaudia.obsznajczyk@uckwum.pl">klaudia.obsznajczyk@uckwum.pl</a>  Izabela Janiec, MD PhD; <a href="mailto:izabela.janiec@uckwum.pl">izabela.janiec@uckwum.pl</a>  Sylwia Łuszczczyk MD; <a href="mailto:sylwia.luszczczyk@uckwum.pl">sylwia.luszczczyk@uckwum.pl</a></p>

## 2. BASIC INFORMATION

<b>Year and semester of studies</b>	3 <sup>rd</sup> year, 5 <sup>th</sup> and 6 <sup>th</sup> semester	<b>Number of ECTS credits</b>	4
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FORMS OF CLASSES	Number of hours	ECTS credits calculation
Contacting hours with academic teacher		
Lecture (L)		
Seminar (S)	20	1,3
Classes (C)	40	2,7
e-learning (e-L)		
Practical classes (PC)		
Work placement (WP)		
<b>Unassisted student's work</b>		
Preparation for classes and completions		

<b>3. COURSE OBJECTIVES</b>	
O1	Identify normal growth, development and behavior and their assessment, as well as approaches to abnormalities from infancy through adolescence
O2	Describe neonatal physiology (Apgar score, physiologic jaundice) and principles concerning prematurity
O3	Recognize principles of physical examination in a neonates, infants, children and adolescents.
O4	Describe health maintenance and preventive care for children: <ul style="list-style-type: none"> <li>• nutrition,</li> <li>• vaccination,</li> <li>• screening tests</li> <li>• hydration</li> <li>• risk factor identification and modification.</li> </ul>
O5	Recognize common acute and chronic paediatric conditions, congenital and genetic syndromes.
O6	Apply principles of physiology and pharmacology to children from birth through adulthood, especially age-related changes.
O7	Demonstrate interpersonal communication skills that facilitate empathic relationships and effective collaborations with families, children and adolescents, and other health care professionals and teams

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

**Code and number of effect of learning in accordance with standards of learning**  
(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th July 2019)

**Effects in time**  
G.K.1-3, 6  
G.S.2,4,7,9,10-14, 27,29,38

**Knowledge – Graduate\* knows and understands:**

E.W1	environmental and epidemiological conditions of the most common diseases
E.W2	principles of feeding healthy and sick children, including natural feeding, vaccination
E.W3	causes, symptoms, principles of diagnosis and therapeutic management for the most common diseases in children: <ol style="list-style-type: none"> <li>1) rickets, tetany, fits,</li> <li>2) heart defects, myocarditis, endocarditis and pericarditis, cardiomyopathy, abnormal heart rhythm, cardiac failure, hypertension, syncope,</li> <li>3) acute and chronic diseases of the upper and lower respiratory tract, congenital defects of the respiratory tract, tuberculosis, cystic fibrosis, asthma, allergic rhinitis, urticaria, anaphylactic shock, angioedema,</li> <li>4) anaemia, bleeding diatheses, marrow failure, cancers in children, including solid tumours typical of childhood,</li> <li>5) acute and chronic abdomen pain, vomiting, diarrhoea, constipations, alimentary canal bleedings, peptic ulcer disease, non-specific intestine diseases, pancreas diseases, cholestasis and liver diseases and other acquired diseases and congenial defects of the alimentary canal,</li> <li>6) urinary system infections, congenial defects of the urinary system, nephrotic syndrome, nephrolithiasis, acute and chronic renal failure, acute and chronic renal inflammations, systemic renal diseases, urination disorders, vesicoureteral reflux,</li> <li>7) growth disturbances, thyroid and parathyroid diseases, adrenal gland diseases, diabetes, obesity, growing pains and disorders of sexual gland functions,</li> <li>8) cerebral palsy, encephalitis and meningitis, epilepsy,</li> <li>9) the most frequent infectious diseases in childhood,</li> <li>10) genetic syndromes,</li> <li>11) connective tissue diseases, rheumatic fever, juvenile arthritis, systemic lupus, dermatomyositis</li> </ol>
E.W6	most common life-threatening conditions in children and rules of conduct in these states;

**Skills– Graduate\* is able to:**

E.U2	conduct a medical interview with the child and his or her family
E.U4	perform a physical examination of the child at any age
E.U7	assess the patient's general condition, state of consciousness and awareness

E.U9	compare anthropometric and blood pressure measurements with the data on the growth charts
E.U10	assess the stage of puberty
E.U11	Perform and understand developmental screenings
E.U12	perform a differential diagnosis of the most common diseases of adults and children
E.U13	assess and describe the patient's somatic and mental state
E.U14	recognize states of immediate danger to life
E.U27	Qualify the patient for vaccination;
E.U29	perform basic procedures and medical procedures: 1) body temperature measurement, pulse count and non-invasive blood pressure check, 2) vital signs monitoring with the aid of a pulse oximeter and cardiac monitor, 3) spirometry, oxygen therapy, manual ventilation and basics of mechanical ventilation, 4) oro- and nasopharyngeal airway device placement, 5) intravenous, intramuscular, subcutaneous injections, intravenous cannulation, venous blood sampling, blood culture taking, arterial and capillary blood sampling, 6) nasal, pharyngeal and skin swab taking, 7) male and female urinary bladder catheterisation, nasogastric tube placement, stomach lavage, enema, 8) standard resting electrocardiogram with adequate interpretation, electrical cardioversion and defibrillation, 9) simple strip test and blood glucose check
E.U38	keep patient's medical records

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

<b>5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)</b>	
<b>Number of effect of learning</b>	<b>Effects of learning i time</b>
<b>Knowledge – Graduate knows and understands:</b>	
K1	
K2	
<b>Skills– Graduate is able to:</b>	
S1	
S2	
<b>Social Competencies – Graduate is ready for:</b>	

SC1	1) to establish and maintain deep and respectful contact with the patient, and to show understanding of world and cultural differences; 2) be guided by the patient's well-being; 3) respect the medical confidentiality and rights of the patient; 4) take action towards the patient on the basis of ethical principles, with awareness of the social conditions and limitations resulting from the disease, perceiving and recognizing their own limitations and making a self-assessment of deficits and educational needs; 6) promote pro-healthy behaviour; 7) use objective sources of information; 8) formulate conclusions from own measurements or observations; 9) implement the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical professions, also in a multicultural and multinational environment; 10) formulating opinions concerning various aspects of professional activity; 11) assume responsibility for decisions taken in the course of professional activity, including in terms of own and other persons' safety
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6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminar	1) physical and subjective paediatric investigation 2. psychomotor development 3 Feeding part 1 4 Nutrition part 2 5. evaluation of nutritional status 6. general state (state of consciousness, arrangement, body structure) 7 Skin, lymph nodes, head and neck examination 8 Basic symptoms and their differentiation in respiratory diseases (upper airways) 9 Basic symptoms and their differentiation in respiratory diseases (lower airways) 10 Basic symptoms and their differentiation in gastrointestinal diseases 11 Basic symptoms and their differentiation in urinary tract diseases 12 Basic symptoms and their differentiation in cardiovascular diseases 13 Basic symptoms and their differentiation in nervous system diseases (including febrile convulsions) 14. protective vaccinations 15 Acute infectious diarrhea 16 Fever 17. meningitis 18 Upper respiratory tract infections 19 Characteristics of individual development periods and assessment methods 20th Colloquium  Materials: <a href="https://pediatria.wum.edu.pl/">https://pediatria.wum.edu.pl/</a>	
Classes	collecting an interview with a parent of a small child, an interview with an older child Physical examination - general condition, assessment of vital functions. Nutrition of children at the age of 1. Physical examination - head, neck, skin. Child development.	

	Milestones. Physical examination - chest, respiratory system. Physical examination - abdominal cavity (gastrointestinal tract, urinary tract, puberty features) Physical examination - chest, cardiovascular system Basics of neurological examination. Skeletal-articular system. Child with fever (sepsis, upper respiratory tract infection). Child with fever (meningitis, gastroenteritis) Colloquium (practical and theoretical part)	
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## 7. LITERATURE

### Obligatory

Obligatory literature:

1. Tom Lissauer, Will Carroll. Illustrated Textbook of Paediatrics, Elsevier. Fifth edition. (with. T. Lissauer, W.Carroll. Self-assessment in Paediatrics).
2. Karen J. Marcadante, Robert M. Kliegman: Nelson Essentials of Pediatrics. Elsevier, Eighth edition
3. Denis Gill, Niall O'Brien. Paediatric Clinical Examination- made easy. Elsevier, Sixth edition.
4. L.S. Bickley MD, Bates' Pocket Guide to Physical Examination & History Taking, Lippincott Williams & Wilkins,

### Supplementary

<http://szczepienia.pzh.gov.pl/en/immunization-schedule/> - Polish vaccination schedule

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
G.K.1-3, 6 G.S2,4,7,9,10-14, 27,29,38	<p><i>Credit for the exercises is given by the assistant on the basis of the student's participation in the exercises.</i></p> <p><i>Attendance of the student in all classes is mandatory; max. 1 day of excused absence (the form of homework must be agreed with the course coordinator).</i></p> <p><i>In the case of unexcused absences or more excused absences, the student is required to complete the entire block at a different date (to be agreed with the course coordinator).</i></p> <p><i>The coursework includes the completion of the exercises and the colloquium on the subject discussed during the class</i></p>	<p><i>Completion by assistant</i></p> <p><i>Written test (15 questions, minimum 9 questions required)*</i></p> <p><i>*In the case of a negative assessment, the date of the correctional colloquium is agreed with the course coordinator within a maximum of 2 weeks from the end of the class.</i></p>

**9. ADDITIONAL INFORMATION** (*information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club*)

**During classes, students are required to have: a doctor's apron, stethoscope, flashlight, badge, shift shoes and personal protective equipment.**

**The student has the opportunity to evaluate the classes by filling in the university's evaluation questionnaire for classes and academic teachers. Additionally, students can submit their comments directly to the Clinic Secretariat. All suggestions for conducting classes will be considered with utmost care.**



## Nuclear Medicine

<b>1. IMPRINT</b>	
<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> (in accord with appendix to the Regulation of the Minister of Science and Higher education from 26th of July 2019)	<b>Medical science</b>
<b>Study Profile</b> (general academic / practical)	General academic
<b>Level of studies</b> (1 <sup>st</sup> level / 2 <sup>nd</sup> level / uniform MSc)	Uniform MSc
<b>Form of studies</b>	<b>Full-time studies</b>
<b>Type of module / course</b> (obligatory / non-compulsory)	obligatory
<b>Form of verification of learning outcomes</b> (exam / completion)	credit
<b>Educational Unit / Educational Units</b> (and address / addresses of unit / units)	Department of Nuclear Medicine, Warsaw Medical University, Banacha Str. 1a , 02-097 Warsaw, e-mail: <a href="mailto:sekretariat_zmn@wum.edu.pl">sekretariat_zmn@wum.edu.pl</a> , tel. 22 599-22-70, fax: 22 599-11-70

<b>Head of Educational Unit / Heads of Educational Units</b>	Leszek Królicki MD, PhD Prof.
<b>Course coordinator</b> ( <i>title, First Name, Last Name, contact</i> )	Leszek Królicki MD, PhD Prof. Tel. 22/599-22-70, e-mail: leszek.krolicki@wum.edu.pl
<b>Person responsible for syllabus</b> ( <i>First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported</i> )	Leszek Królicki MD, PhD Prof.
<b>Teachers</b>	Leszek Królicki MD, PhD Prof. Jolanta Kunikowska MD, PhD with hab. Joanna Mączewska MD, PhD Małgorzata Kobylecka MD, PhD Katarzyna Fronczewska MD Agata Kopatys MA Szymon Kujda MA

2. BASIC INFORMATION			
<b>Year and semester of studies</b>	2021/2022 III year 3 <sup>rd</sup> semester	<b>Number of ECTS credits</b>	2.0
<b>FORMS OF CLASSES</b>		<b>Number of hours</b>	<b>ECTS credits calculation</b>
<b>Contacting hours with academic teacher</b>			
Lecture (L)			
Seminar (S)		7	0,46
Discussions (D)		23	1,54
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
<b>Unassisted student's work</b>			
Preparation for classes and completions			

3. COURSE OBJECTIVES	
O1	Basic knowledge of nuclear medicine procedures and their use in modern clinical diagnosis and treatment.



4 STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING (concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study)	
Code and number of effect of learning in accordance with standards of learning (in accordance with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)	Effects in time
<b>Knowledge – Graduate* knows and understands:</b>	
F.W1	causes, symptoms, principles of diagnosis and therapeutic treatment in relation to the most common diseases requiring surgical intervention taking into account the distinctions of childhood, in particular: <ol style="list-style-type: none"> <li>1) acute and chronic diseases of abdominal cavity,</li> <li>2) chest diseases,</li> <li>3) limb and head diseases,</li> <li>4) bone fractures and organ injuries</li> </ol>
F. W10	problems of contemporary imaging studies, in particular: <ol style="list-style-type: none"> <li>1) radiological symptomatology of basic diseases,</li> <li>2) instrumental methods and imaging techniques used to perform therapeutic procedures,</li> <li>3) indications, contraindications and preparation of patients for particular types of imaging examinations and contraindications to the use of contrast agents</li> </ol>
F. W13	causes, symptoms, principles of diagnosis and therapeutic treatment in the case of the most common diseases of the central nervous system in terms of: <ol style="list-style-type: none"> <li>1) cerebral oedema and its consequences with a particular reference to emergencies,</li> <li>2) other forms of intracranial narrowness with their consequences,</li> <li>3) cranial-cerebral injuries,</li> <li>4) vascular defects of the central nervous system,</li> <li>5) tumours of the central nervous system,</li> <li>6) diseases of the spine and spinal cord</li> </ol>
<b>Skills– Graduate* is able to:</b>	
F.U7	assess the result of radiographic studies in terms of the most frequent kinds of fractures, especially long bone fractures

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

5. ADDITIONAL EFFECTS OF LEARNING (non-compulsory)	
Number of effect of learning	Effects of learning and time

Knowledge – Graduate knows and understands:	
K1	Graduate has: 1. Knowledge of physical basics of nuclear medicine 2. Knowledge of radiochemistry basics 3. Knowledge about most commonly used nuclear medicine procedures. 4. Knowledge about radioisotopic therapeutic procedures: thyroid, neuroendocrine tumors bone pain, arthritis
K2	
Skills– Graduate is able to:	
S1	1. choose an adequate nuclear medicine examination necessary in course of diagnosis choose an adequate therapeutic procedure
S2	2. extend the knowledge and master their skills in the scope of Nuclear Medicine procedures properly interpret radioisotopic examination result
Social Competencies – Graduate is ready for:	
SC1	
SC2	

6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminar	<p><u>1. Basic physics of Nuclear Medicine devices</u></p> <p>Basic concepts of nuclear physics, types of ionizing radiation. Nuclear medical devices and basic units of measurement. Principles of ionizing radiation protection.</p> <p><u>2. Radiochemistry</u></p> <p>Definition of a radiopharmaceutical – its physical, chemical, biological and scintigraphic properties. Molybdenum-technetium generator. Radiotracers labeled with <sup>99m</sup>Technetium. Principles of doses selection. Biological effects of ionizing radiation.</p> <p><u>3. Selected clinical applications of nuclear medicine diagnostic techniques</u></p> <p>- Nuclear neurology: brain perfusion examination (SPECT): epilepsy, tumors, stroke/blood vessel occlusion; dopaminergic system examination: Parkinson's disease, degenerative diseases of the brain</p> <p>- Nuclear cardiology: myocardial perfusion (SPECT, PET) and gated myocardial perfusion examination (G-SPECT): ischemia, heart muscle viability, ejection fraction.</p> <p>- Bone scintigraphy static and dynamic bone scintigraphy: bone metastases, primary bone tumors, degenerative diseases, inflammations, pain causes identifying; planar scintigraphy, SPECT and SPECT/CT technique.</p> <p><u>4. Modern techniques used in nuclear medicine</u></p>	F.W1, F. W10. F. W13, F.U7.

	<p>PET, PET/CT, peptide receptor studies, use of monoclonal antibodies</p> <p><b>5. Therapy in Nuclear Medicine</b></p> <p>Radionuclide therapy: radionuclides, basis for its success, precautions, merits and limitations, indication, contraindications</p> <ol style="list-style-type: none"> <li><sup>131</sup>I – thyroid: benign and malignant disease</li> <li>MIBG - neuroblastoma, pheochromocytoma, poorly differentiated NET</li> </ol> <p><sup>89</sup>Sr, <sup>153</sup>Sm - bone metastases</p> <p><sup>169</sup>Er, <sup>186</sup>Re, <sup>90</sup>Y – radiosynovectomy</p> <p><sup>90</sup>Y Zevalin (anti-CD20) – NHL</p> <p><sup>90</sup>Y, <sup>177</sup>Lu somatostatin analogs - NET, SSTR positive tumors</p>	
Practical classes	<p>Students learn about the construction of the facility, visit the scintigraphy rooms and the radiochemistry laboratory. They will learn the patient's path from the administration of the radioisotope to the proper examination, as well as ways to develop a study.</p>	

## 7. LITERATURE

### Obligatory

- Essentials of Nuclear Medicine Imaging, Fred A. Mettler, Milton J. Guiberteau

### Supplementary

- Nuclear Medicine and PET Technology and Techniques, Paul E. Christian, Donald R. Bernier, James K. Langan

## 8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
G.K1, G.S1,	Colloquium	70% of the correct answers

## 9. ADDITIONAL INFORMATION (information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club)

The classes will be held on 25<sup>th</sup> - 29<sup>th</sup> October 2021 in room 602 Dean's Office (8.30-12.00) group 3  
15<sup>th</sup> - 19<sup>th</sup> November 2021 in room 602 Dean's Office (8.30-12.00) group 5  
24<sup>th</sup> - 28<sup>th</sup> January 2022 in room 602 Dean's Office (8.30-12.00) group 1  
28<sup>th</sup> February - 4<sup>th</sup> March 2022 in room 602 Dean's Office (8.30-12.00) group 2  
7<sup>th</sup> - 11<sup>th</sup> March 2022 in room 602 Dean's Office (8.30-12.00) group 4



## Propedeutics of Stomatology

<b>1. IMPRINT</b>	
<b>Academic Year</b>	2021/2022
<b>Department</b>	Faculty of Medicine
<b>Field of study</b>	Medicine
<b>Main scientific discipline</b> <i>(in accord with appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Medical science</b>
<b>Study Profile</b> <i>(general academic / practical)</i>	General academic
<b>Level of studies</b> <i>(1<sup>st</sup> level / 2<sup>nd</sup> level / uniform MSc)</i>	Uniform MSc
<b>Form of studies</b>	<b>Full-time studies</b>
<b>Type of module / course</b> <i>(obligatory / non-compulsory)</i>	obligatory
<b>Form of verification of learning outcomes</b> <i>(exam / completion)</i>	credit
<b>Educational Unit / Educational Units</b> <i>(and address / addresses of unit / units)</i>	<a href="#">Department of Periodontology and Oral Diseases, UCS Binieckiego 6 street, 02-097 Warsaw</a>

<b>Head of Educational Unit / Heads of Educational Units</b>	Prof. dr hab. Renata Górka
<b>Course coordinator</b> (title, First Name, Last Name, contact)	
<b>Person responsible for syllabus</b> (First name, Last Name and contact for the person to whom any objections concerning syllabus should be reported)	Dr n. med. Andrzej Miskiewicz; phone (22) 2701616, mobile 513445674, e-mail: <a href="mailto:andrzej.miskiewicz@wum.edu.pl">andrzej.miskiewicz@wum.edu.pl</a>
<b>Teachers</b>	<a href="#">prof. Kazimierz Szopiński – dental radiology</a> <a href="#">dr hab. n.med Ewa Czołowska – orthodontics</a> <a href="#">dr n.med. Anna Widmańska - orthodontics</a> <a href="#">dr n.med. Andrzej Miskiewicz – periodontology</a> <a href="#">dr n.med. Zygmunt Stopa – maxillofacial surgery</a> <a href="#">dr n.med. Iwona Sobiech – pediatric dentistry</a> <a href="#">lek. stom Magdalena Świątkowska-Bury – pediatric dentistry</a>

## 2. BASIC INFORMATION

Year and semester of studies	III year, 6-th semester	Number of ECTS credits	1.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)		18	1
Seminar (S)		-	-
Discussions (D)		-	-
e-learning (e-L)		-	-
Practical classes (PC)		-	-
Work placement (WP)		-	-
Unassisted student's work			
Preparation for classes and completions		-	-

## 3. COURSE OBJECTIVES

O1	Gaining basic knowledge about oral and maxillofacial conditions.
O2	Learning the principles of clinical and radiological diagnostics of oral cavity diseases.
O3	Getting acquainted in the interactions between oral medicine and systemic health.

**4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING** (*concerns fields of study regulated by the Regulation of Minister of Science and Higher Education from 26 of July 2019; does not apply to other fields of study*)

<b>Code and number of effect of learning in accordance with standards of learning</b> <i>(in accordance with appendix to Regulation of Minister of Science and Higher education from 26th of July 2019)</i>	<b>Knowledge of the masticatory system structure and function, the patomechanism of periodontal diseases. Knowledge of the prophylaxis in children and adolescents. Knowledge of the principles of dental trauma treatment.</b>
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**Knowledge – Graduate\* knows and understands:**

G.K1	F.W1: causes, symptoms, principles of diagnosis and therapeutic treatment in relation to the most common diseases requiring surgical intervention taking into account the distinctions of childhood, in particular: bone fractures and organ injuries
G.K2	F.W13. causes, symptoms, principles of diagnosis and therapeutic treatment in the case of the most common diseases of the central nervous system in terms of: cranial-cerebral injuries,
G.K3	E.W3. causes, symptoms, principles of diagnosis and therapeutic treatment of the most common diseases in children: acute and chronic diseases of the upper and lower respiratory tract, congenital defects of the respiratory tract, tuberculosis, cystic fibrosis, asthma, allergic rhinitis, urticaria, anaphylactic shock, angioedema,
G.K4	E.W7. reasons, symptoms, diagnostic and treatment procedures of the most frequent internal diseases and their complications in adult patients: digestive system diseases, including oral cavity.
G.K5	E.W24. basics of early detection of tumours and oncology screening principles

**Skills– Graduate\* is able to:**

G.S1	E.U1. collect medical history from adult patients;
G.S2	E.U3. conduct a complete and targeted physical examination in adults;

\* In appendix to the Regulation of Minister of Science and Higher education from 26th of July 2019 „graduate”, not student is mentioned.

**5. ADDITIONAL EFFECTS OF LEARNING** (*non-compulsory*)

<b>Number of effect of learning</b>	Knowledge of co-dependencies between periodontal disease and systemic health.
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**Knowledge – Graduate knows and understands:**

K1	G.W1. health assessment methods of an individual and a population, disease and medical procedure classification;
K2	E.W23. environmental and epidemiological conditions of the most common cancers;

**Skills– Graduate is able to:**

S1	E.U1. collect medical history from adult patients;
S2	E.U3. conduct a complete and targeted physical examination in adults;

**Social Competencies – Graduate is ready for:**

SC1	F.U1. assist in a typical surgery, prepare the surgical field and use local anaesthetics at the operated area;
SC2	F.U3. observe the rules of asepsis and antisepsis;

<b>6.</b>		
<b>Form of class</b>	<b>Class contents</b>	<b>Effects of Learning</b>
Lecture 1	The new approach in pediatric dentistry.	G.K1, O1, K1
Lecture 2	Dental trauma.	G.K1, G.K2
Lecture 3	Selected diseases of the oral cavity requiring surgical approach.	G.K5, G.K3, S1, S2
Lecture 4	Maxillofacial surgical treatment.	G.S1, SC1, SC2
Lecture 5	Orthodontic diagnosis.	G.S2, E.U3
Lecture 6	Orthodontic treatment.	G.K1
Lecture 7	Relationship between periodontal and systemic diseases.	G.K4, O2, S1
Lecture 8	Symptoms of systemic diseases and disorders in the oral cavity.	O3, K2
Lecture 9	Introduction to dentomaxillofacial radiology. Part I.	G.K1
Lecture 10	Introduction to dentomaxillofacial radiology. Part II.	G.K2

<b>7. LITERATURE</b>
<b>Obligatory</b>
Periodontology: The Essentials. <i>Hans-Peter Mueller</i> ; Georg Thieme 2015 Ed. II
<b>Supplementary</b>
Clinical Periodontology and Implant Dentistry. <i>Niklaus P. Lang and Jan Lindhe</i> ; John Wiley & Sons 2015

**8. VERIFYING THE EFFECT OF LEARNING**

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<i>O1-O3</i>	<i>Credit</i>	<i>Presence</i>
<i>G.K1-G.K5</i>	<i>Credit</i>	<i>Presence</i>
<i>G.S1-G.S2</i>	<i>Credit</i>	<i>Presence</i>
<i>K1-K2</i>	<i>Credit</i>	<i>Presence</i>
<i>S1-S2</i>	<i>Credit</i>	<i>Presence</i>
<i>SC1-SC2</i>	<i>Credit</i>	<i>Presence</i>

**9. ADDITIONAL INFORMATION** (*information essential for the course instructor that are not included in the other part of the course syllabus e.g. if the course is related to scientific research, detailed description of, information about the Science Club*)

**Knowledge from the anatomy and physiology, confirmed with the passed curricula on the 1<sup>st</sup> and 2<sup>nd</sup> year.**