

DESCRIPTION OF THE COURSE OF STUDY

Course code	0912-7LEK-C5.11-LL	
Name of the course in	Polish	Diagnostyka laboratoryjna
	English	Laboratory diagnostics

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Medicine
1.2. Mode of study	Full-time
1.3. Level of study	Uniform Master's studies
1.4. Profile of study*	General academic
1.5. Person preparing the course description	Dr. n. med. Urszula Grabowska, mgr Agnieszka Piechowska
1.6. Contact	apiechowska@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites*	Biology, biochemistry, physiology

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes	Lecture - 15 h, Classes – 40 h	
3.2. Place of classes	Lectures and classes in the teaching rooms of UJK	
3.3. Form of assessment	Lecture – E, Classes – Zo (credit with grade)	
3.4. Teaching methods	Informative lecture with the usage of multimedia techniques. Classes using activation techniques.	
3.5. Bibliography	Required reading	<ol style="list-style-type: none"> Gaw A., Murphy M. J., Rajeev S. & 2 more, Clinical Biochemistry, ELSEVIER, 2013 Marshall W., Day A., Lapsley M., Clinical Chemistry, ELSEVIER, 2017 Howard M., Hamilton P., Haematology, ELSEVIER, 2013
	Further reading	<ol style="list-style-type: none"> Becket G., Walker S. W., Rae P. & 1 more, Clinical Biochemistry, Blackwell Publishing Ltd., 2005 Provan D., Baglin T., Oxford Handbook of Clinical Haematology, Oxford University Press, 2015 Brunzel N.A., Fundamentals of Urine & Body Fluids Analysis, ELSEVIER (Saunders), 2016

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED TEACHING OUTCOMES

4.1. Course objectives (including form of classes)

For both forms of classes:

- acquaintance with analytical methods as a diagnostic tool,
- presentation of the principles of the proper collection of biological material for laboratory research,
- gaining the ability to interpret the results of laboratory research,
- familiarity with the rules of a doctor cooperation with the laboratory.

4.2. Detailed syllabus (including form of classes)

Lecture:

- The rules of functioning of diagnostic laboratory.
- Laboratory research as a tool in the diagnosis of diseases.
- Research in the scope of medical analytics.
- Water-electrolyte and acid-base balance disorders.
- Laboratory diagnostics of mineral metabolism disorder.
- The diagnostics of disorders of white and red blood cell system.
- Laboratory research in a diagnostics of kidney diseases.
- Laboratory diagnostics of endocrine disorders.
- Laboratory diagnostics of digestive system diseases.
- Tumor markers and their diagnostic usefulness.
- Immunodiagnostics.

Classes:

- The factors affecting the reliability of the result of laboratory research.
- Collecting biological material for laboratory test.
- The methods used in laboratory diagnostics.

4. Laboratory diagnostics of metabolic disorders. Obesity.
5. Disorders of exo and endocrine functions of the pancreas. Diabetes.
6. Laboratory research in the assessment of lipid metabolism.
7. Laboratory diagnostics of hemostasis disorders.
8. Laboratory diagnostics of haematological malignancies.
9. Laboratory test in a diagnostics of inflammatory conditions. Acute phase proteins.
10. Clinical enzymology.
11. Serological diagnostics.
12. Cooperation between a doctor and medical laboratory.
13. Interpretation of the laboratory test results in various clinical conditions.

4.3. Education outcomes in the discipline

Code	A student, who passed the course	Relation to learning outcomes
within the scope of KNOWLEDGE , the graduate knows and understands:		
W01	the basics of microbiological and parasitological diagnosis;	C.W19.
W02	the basic principles of diagnostic poisoning;	C.W46.
W03	environmental and epidemiological conditions for the most common diseases;	E.W1.
W04	the types of biological materials used in laboratory diagnosis and the rules for the collection of research material;	E.W39.
W05	theoretical and practical foundations for laboratory diagnosis;	E.W40.
W06	the capabilities and limitations of laboratory tests in emergency situations;	E.W41.
W07	indications for the implementation of monitoring therapy;	E.W42.
within the scope of ABILITIES , the graduate knows how to:		
U01	apply basic laboratory techniques, such as qualitative analysis, titration, colorimetry, nephelometry, chromatography, electrophoresis of proteins and nucleic acids;	B.U8.
U02	plans diagnostic, therapeutic and preventive procedures;	E.U16.
U03	interpret laboratory test results and identify the reasons for deviations;	E.U24.
U04	collect and secure samples of material used in laboratory diagnostics;	E.U28.
U05	comply with the aseptic and antiseptic rules;	F.U3.
U06	use antigen-antibody reaction in current modifications and techniques for the diagnosis of infectious diseases, allergies, autoimmune diseases, blood diseases and cancer	C.U8

4.4. Methods of assessment of the intended teaching outcomes																					
Teaching outcomes (code)	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self-study*			Group work*			Others*		
	Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes					
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01	+	-		-	-		-	-		-	-		-	-		-	-		-	-	
W02	+	-		-	-		-	-		-	-		-	-		-	-		-	-	
W03	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
W04	-	-		-	+		-	-		-	-		-	-		-	-		-	-	
W05	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
W06	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
W07	+	-		-	-		-	-		-	-		-	-		-	-		-	-	
U01	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
U02	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
U03	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
U04	-	-		-	+		-	-		-	-		-	-		-	-		-	-	
U05	+	-		-	+		-	-		-	-		-	-		-	-		-	-	
U06	+	-		-	+		-	-		-	-		-	-		-	-		-	-	

*delete as appropriate

4.5. Criteria of assessment of the intended teaching outcomes		
Form of classes	Grade	Criterion of assessment
lecture (L)	3	Class attendance and active participation. Mastering course content at the primary level. Inability to combine different groups of issues in logical sequences. Exam for given grade 61%-68%
	3,5	Class attendance, active participation. Presenting the knowledge after being directed. Exam for given grade 69%-76%
	4	Class attendance, active participation. Mastering course content at the satisfactory level, presenting the knowledge moderately independently. Ability to use it in typical situations. Exam for given grade 77%-84%
	4,5	Class attendance, active participation. Mastering the full range of course content, presenting independent responses based on the knowledge. Ability to analyze and critically interpret the information. Exam for given grade 85%-92%
	5	93%-100% Class attendance, active participation. Mastering the full range of course content, presenting independent responses based on the knowledge. Ability to analyze and critically interpret the information. Exam for given grade 93%-100%
classes (C)*	3	61% - 68%
	3,5	69%-76%
	4	77%-84%
	4,5	85%-92%
	5	93%-100%

- Thresholds are valid from 2018/ 2019 academic year

5. BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT

Category	Student's workload
	Full-time studies
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	55
<i>Participation in lectures*</i>	15
<i>Participation in classes, seminars, laboratories*</i>	40
<i>Preparation in the exam/ final test*</i>	
<i>Others*</i>	
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	45
<i>Preparation for the lecture*</i>	
<i>Preparation for the classes, seminars, laboratories*</i>	35
<i>Preparation for the exam/test*</i>	10
<i>Gathering materials for the project/Internet query*</i>	
<i>Preparation of multimedia presentation</i>	
<i>Others*</i>	
TOTAL NUMBER OF HOURS	100
ECTS credits for the course of study	4

Accepted for execution (date and signatures of the teachers running the course in the given academic year)

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