

## DESCRIPTION OF THE COURSE OF STUDY

<b>Course code</b>	<b>0912-7LEK-F-3-ASMŻ</b>	
<b>Name of the course in</b>	Polish	<b>Aktywne składniki materii żywej</b>
	English	<b>Active ingredients of living matter</b>

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

<b>1.1. Field of study</b>	Medicine
<b>1.2. Mode of study</b>	Full-time
<b>1.3. Level of study</b>	Uniform Master's studies
<b>1.4. Profile of study*</b>	General academic
<b>1.5. Specialization*</b>	Lack
<b>1.6. Unit running the course of study</b>	The Faculty of Medicine and Health Sciences
<b>1.7. Person/s preparing the course description</b>	dr Magdalena Marcinkowska, dr Dariusz Widel
<b>1.8. Person responsible for the course of study</b>	dr Magdalena Marcinkowska, dr Dariusz Widel
<b>1.9. Contact</b>	Magdalena.Marcinkowska@ujk.edu.pl dariusz.widel@ujk.edu.pl

### 2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

<b>2.1. Affiliation with the module</b>	elective
<b>2.2. Language of instruction</b>	English
<b>2.3. Semesters in which the course of study is offered</b>	1 <sup>st</sup> semester
<b>2.4. Prerequisites*</b>	Knowledge of the basis of general and organic chemistry

### 3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

<b>3.1. Form of classes</b>	lecture – 15 hours	
<b>3.2. Place of classes</b>	lecture room, Faculty of Medicine UJK	
<b>3.3. Form of assessment</b>	credit with grade	
<b>3.4. Teaching methods</b>	Informative lecture	
<b>3.5. Bibliography</b>	<b>Required reading</b>	<ol style="list-style-type: none"> <li>1. An Introduction to General, Organic, and Biological Chemistry, Global Edition Autor: Timberlake Karen, ed. by Pearson Higher Education , 2015</li> <li>2. Textbook of Medical Biochemistry, Eighth Edition, MN Chatterjea, Rana Shinde, JP Medical Ltd, 2011</li> <li>3. Principles of Biochemistry: Pearson New International Edition, Laurence A. Moran , Robert A. Horton , Gray Scrimgeour Marc Perry, Pearson Education Ltd., 2013</li> </ol>
	<b>Further reading</b>	<ol style="list-style-type: none"> <li>1. Organic Chemistry - 8th edition, John E. McMurry, Cengage Learning, 2011</li> </ol>

### 4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED TEACHING OUTCOMES

<b>4.1. Course objectives (lecture)</b> CI. Introduction with basic issues concerning vitamins, macro- and microelements and organic compounds with metals present in living organism.
<b>4.2. Detailed syllabus (lecture)</b> Micro- and macroelements. Metal compounds in organism and medicine. Vitamins – division and characterization of groups. The role of vitamins in organism, result of deficiency and excess. Bioactivity of vitamins. Results of avitaminosis and hypervitaminosis. Oxidative stress – causes. Reactive forms of oxygen. The influence of oxidative stress on organism. Antioxidants.

Code	A student, who passed the course	Relation to teaching outcomes
within the scope of <b>KNOWLEDGE:</b>		
W01	knows the chemical structure and biogenesis of vitamins	B.W 10
W02	knows the definitions of oxidation potential and oxidative stress	B.W 17
W03	knows the chemical nature and functions of compounds with metals present in organism	B.W4, B.W 10
within the scope of <b>ABILITIES:</b>		
U01	explains the causes of oxidative stress and its influence on organism	B.U 6
U02	describes changes in organism that cause disturbance of appropriate supplementation of vitamins, micro- and macroelements	B.U 4 B.U 6
U03	presents organic compounds with metals and their functions in organism	B.U 6

#### 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			Form of classes		
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01				+																	
W02				+																	
W03				+																	
U01				+																	
U02				+																	
U03				+																	

\*delete as appropriate

#### 4.5. Criteria of assessment of the intended teaching outcomes

Form of classes	Grade	Criterion of assessment
lecture (L)	3	Achievement 60 - 67% of the total number of points from written test
	3,5	Achievement 68 - 75% of the total number of points from written test
	4	Achievement 76 - 83% of the total number of points from written test
	4,5	Achievement 84 - 91% of the total number of points from written test
	5	Achievement 92 - 100% of the total number of points from written test

#### 5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	Student's workload
	Full-time studies
<b>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</b>	<b>15</b>
Participation in lectures*	15
Participation in classes, seminars, laboratories*	
Preparation in the exam/ final test*	
Others*	
<b>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</b>	<b>10</b>
Preparation for the lecture*	
Preparation for the classes, seminars, laboratories*	
Preparation for the exam/test*	10
Gathering materials for the project/Internet query*	
Preparation of multimedia presentation	
Others*	
<b>TOTAL NUMBER OF HOURS</b>	<b>25</b>
ECTS credits for the course of study	1

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

.....