**description of the course of study**

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

1. **LOCATION OF THE course OF STUDY within the system of studies**

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| **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 Magdalena Marcinkowska, dr Dariusz Wideł |
| **1.6. Contact** | Magdalena.Marcinkowska@ujk.edu.pl  dariusz.widel@ujk.edu.pl |

1. **General characteristicS of the course of study**

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| **2.1. Language of instruction** | English |
| **2.2. Prerequisites\*** | Knowledge of the basis of general and organic chemistry |

1. **DETAILED CHARACTERISTICS OF THE COURSE OF STUDY**

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| * 1. **Form of classes** | | lecture – 15 hours (including 5 e-learning) |
| * 1. **Place of classes** | | lecture room, Faculty of Medicine UJK |
| * 1. **Form of assessment** | | credit with grade |
| * 1. **Teaching methods** | | Informative lecture |
| * 1. **Bibliography** | **Required reading** | 1. An Introduction to General, Organic, and Biological Chemistry, Global Edition Autor: Timberlake Karen, ed. By Pearson Higher Education , 2015 2. Textbook of Medical Biochemistry, Eighth Edition, MN Chatterjea, Rana Shinde, JP Medical Ltd, 2011 3. Principles of Biochemistry: Pearson New International Edition, Laurence A. Moran , Robert A. Horton , Gray Scrimgeour Marc Perry, Pearson Education Ltd., 2013 |
| **Further reading** | 1. Organic Chemistry – 8th edition, John E. McMurry, Cengage Learning, 2011 |

1. **Objectives, syllabus CONTENT and intended LEARNING outcomes**

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| * 1. **Course objectives (lecture)**   ***C1.***Introduction with basic issues concerning vitamins, macro- and microelements and organic compounds with metals present in living organism. |
| * 1. **Detailed syllabus (lecture)**   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. |

**4.3Intended learning outcomes**

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| **Code** | **A student, who passed the course** | **Relation to learning**  **outcomes** |
| within the scope of **knowledge**, the graduate knows and understands: | | |
| W01 | the metabolic profiles of basic organs and systems; | B.W16. |
| W02 | the influence of the oxidative stress on cells and its importance in the pathogenesis of diseases and in aging processes; | C.W47. |
| W03 | the consequences of vitamins or minerals deficiency and their excess in the body; | C.W48. |
| within the scope of **ABILITIES**, the graduate knows how to: | | |
| U01 | envisage the development of biochemical processes depending on the state of the cells’ energy; | B.U6. |
| U02 | perform simple function tests evaluating the human body as a system stable regulation (stress tests) and interpret the figures on the basic physiological variables; | B.U7. |

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|  | within the scope of **SOCIAL COMPETENCE**, the graduate is able to: |  |
| K01 | establish and maintain deep and respectful contact with the patient and show understanding towards ideological and cultural differences; | H.S1 |
| K02 | do what is right for the patient; | H.S2 |
| K03 | respect medical confidentiality and patient’s rights; | H.S3 |
| K04 | take actions concerning the patient on the basis of ethical principles, being aware of social conditions and restrictions resulting from illness; | H.S4 |
| K05 | recognize his/her own limitations and self-evaluate educational deficiencies and needs; | H.S5 |
| K06 | ife st ife s ife style; | H.S6 |
| K07 | use reliable information sources; | H.S7 |
| K08 | conclude on the basis of own surveys and observations; | H.S8 |
| K09 | introduce rules of social conduct and teamwork to the group of specialists, including specialists form other medical professions also in the multicultural and multinational environment; | H.S9 |
| K10 | give opinions concerning various aspects of professional activity; | H.S10 |
| K11 | take responsibility for own decisions made during professional activities including own safety and safety of other people; | H.S11 |

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| * 1. **Methods of assessment of the intended learning outcomes** | | | | | | | | | | | | | | | | | | | | | |
| **Teaching**  **outcomes**  ***(code)*** | **Method of assessment (+/-)** | | | | | | | | | | | | | | | | | | | | |
| **Exam oral/written\*** | | | **Test\*** | | | **Project\*** | | | **Effort**  **in class\*** | | | **Self-study\*** | | | **Group work\*** | | | **Others\***  **Observation** | | |
| ***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 |  |  |  | ***+*** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| K01-K11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ***+*** |  |  |

***\*delete as appropriate***

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| * 1. **Criteria of assessment of the intended learning outcomes** | | |
| **Form of classes** | **Grade** | **Criterion of assessment** |
| **lecture (L)** | **3** | Achievement 61 - 68% of the total number of points from written test |
| **3,5** | Achievement 689- 76% of the total number of points from written test |
| **4** | Achievement 77- 84% of the total number of points from written test |
| **4,5** | Achievement 85 - 92% of the total number of points from written test |
| **5** | Achievement 93- 100% of the total number of points from written test |

* [**Thresholds**](https://pl.bab.la/slownik/angielski-polski/thresholds) **are valid from 2018/ 2019 academic year**

1. **BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT**

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| **Category** | **Student’s workload** |
| **Full-time**  **studies** |
| *NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/* | **15** |
| *Participation in lectures\** | **10** |
| *Participation in classes, seminars, laboratories\** |  |
| *Preparation in the exam/ final test\** |  |
| *Others\** | **51** |
| *INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/* | **10** |
| *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\** |  |
| *TOTAL NUMBER OF HOURS* | **25** |
| 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)*

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1 e-learning (without participation of the lecturer)