**description of the course of study**

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| **Course code** | **0912.4.LEK.D.HBS** |
| **Name of the course in**  | Polish | **Struktury ciała ludzkiego w badaniach obrazowych** |
| English | **Human body structures in medical imaging** |

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 n. med. Michał Spałek |
| **1.6. Contact** | Wnoz\_inm@ujk.edu.pl |

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

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| **2.1. Language of instruction** | English |
| **2.2. Prerequisites\*** | Lack |

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

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| * 1. **Form of classes**
 | **lectures 15 h (10 h in the form of e-learning)** |
| * 1. **Place of classes**
 | Courses in the teaching rooms of the UJK |
| * 1. **Form of assessment**
 | credit with grade |
| * 1. **Teaching methods**
 | informative lecture with oral transmission of knowledge and the use of visual means, conversational lecture, demonstration with description, discussion connected with the lecture |
| * 1. **Bibliography**
 |  **Required reading** | 1. Wicke L: Atlas of Radilogic Anatomy. 7th edition, Saunders 2004 |
|  **Further reading** | 1. Spratt J, Salkowski L, Loukas M, Turmezei T, Weir J, Abrahams P: Weir & Abrahams' Imaging Atlas of Human Anatomy. 5th edition, Elsevier 20172. Ryan S, McNicholas M, Eustace SJ: Anatomy for Diagnostic Imaging.  3rd edition, Saunder 20103. McWilliams S: Practical Radiological Anatomy. CRC Press LLC 20114. [Weissleder](https://www.bookdepository.com/author/Ralph-Weissleder) R, [Wittenberg](https://www.bookdepository.com/author/Jack-Wittenberg) J, [Harisinghani](https://www.bookdepository.com/author/Mukesh-G-Harisinghani) MG, [Chen](https://www.bookdepository.com/author/John-W-Chen) JW: Primer of Diagnostic Imaging : Expert Consult-Online and Print. 5th edition, Mosby 2011 |

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

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| * 1. **Course objectives *(including form of classes)***

C1-W – familiarize the students with the knowledge and understanding of human anatomy in morphologic and topographic aspects in medical imaging C2-W – make the students aware of the impact of the latest developments in science and technology on the advancement of particular methods of medical imaging C3-W – provide students with the knowledge in the scope of the physical and technical basics of ultrasound, X-ray, computed tomography and magnetic resonance imaging as well as possibilities and limitations of individual imaging methods.C4-W – familiarize the students with the specialized terminology used in the descriptions of imaging examinationsC5-U – acquiring skills to recognize anatomical structures and some pathological changes of human body organs in individual imaging examinationsC6-U – prepare the student to make a proper assessment of individual functional systems in various clinical situations as well as suggesting the way of further proceedings.C7-U – prepare to use the knowledge of topographic human anatomy in both diagnostic and therapeutic medical procedures.C8-K – awareness of the opportunity to acquire knowledge from different sources and seeking help from other people. |
| * 1. **Detailed syllabus *(including form of classes)***

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| ***Lp.*** | ***Lecture subjectsie aktoweki*** | ***Number of hours*** |
| *W1* | Radiological anatomy of all organs of the human head and neck area in medical imaging studies | 5 |
| *W2* | Radiologic anatomy of all organs in the thorax, abdomen and pelvis area in medical imaging studies | 5 |
| *W3* | Radiologic anatomy of the upper and lower limb, and of the spine in medical imaging studies | 4 |
| *W4* | Passing out | 1 |
|  | **Total number of hours** | **15** |

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**4.3 Intended 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 | Human anatomy topographically and functionally, including topographical relations between individual organs along with anatomical, histological and embryological terminology in Polish and English; | A.W1. |
| W02 | Microarchitecture of tissues, extracellular matrix and organs; | A.W3. |
| within the scope of **ABILITIES**, the graduate knows how to: |
| U01 | Explain the anatomical basis for clinical examination; | A.U3. |
| U02 | Make conclusions as to the relationship between anatomical structures on the basis of intravital diagnostic tests, in particular in the field of radiology (plain images, tests using contrast agents, CT scans and magnetic resonance imaging); | A.U4. |
| within the scope of **SOCIAL COMPETENCE**, the graduate is able to: |
| K01 | Recognize his/her own limitations and self-evaluate educational deficiencies and needs; | K.S5. |
| K02 | Use reliable information sources; | K.S7. |
| K03 | Give opinions concerning various aspects of professional activity; | K.S10. |
| K04 | Take responsibility for own decisions made during professional activities including own safety and safety of other people; | K.S11. |

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| * 1. **Methods of assessment of the intended learning outcomes**
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| **Teaching** **outcomes*****(code)*** | **Method of assessment (+/-)** |
| **Exam oral/written\*** | **Test\*** | **Project\*** | **Effort** **in class\*** | **Self-study\*** | **Group work\***  | **Others\*****Final passing out both of lectures and self-study subjects (written and practical parts)**  |
| ***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 | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** |
| U01 | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** |
| U02 | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** |
| K01-K04 | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***-*** | ***+*** | ***-*** | ***-*** |

***\*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** | Student mastered knowledge and skills specified in 4.3 sufficiently – obtained 61-68% of possible points |
| **3,5** | Student mastered knowledge and skills specified in 4.3 fairly good – obtained 69-76% of possible points |
| **4** | Student mastered knowledge and skills specified in 4.3 good – obtained 77-84% of possible points |
| **4,5** | Student mastered knowledge and skills specified in 4.3 more than good – obtained 85-92% of possible points |
| **5** | Student mastered knowledge and skills specified in 4.3 very good – obtained 93-100% of possible points |

\*[**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\** | **5**1 |
| *INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/* | **10** |
| *Preparation for the lecture\** | **10** |
| *Preparation for the classes, seminars, laboratories\** |  |
| *Preparation for the exam/test\** |  |
| *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** |

***\*delete as appropriate***

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

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1 e-learning