# SUBJECT CARD

## Faculty of Medicine and Health Sciences
## Medicine
## Form of studies: Full-time course
## Degree: long-cycle Master's programme
## Specializations: No specialization
## Academic year: 2023/2024

| INFORMATICS AND TELEMEDICINE | |
|---|---|
| SUBJECT NAME | Informatics and Telemedicine |
| NUMBER OF ECTS POINTS: | 2 |
| LANGUAGE OF INSTRUCTION | english |
| TEACHER(S) | dr hab. n. med. Wojciech Trąbka, prof. KAAFM <br> dr Elżbieta Broniatowska |
| PERSON RESPONSIBLE | dr hab. n. med. Wojciech Trąbka, prof. KAAFM |
| NUMBER OF HOURS: | |
| SEMINARS: | 45 |
| GENERAL OBJECTIVES | |
| OBJECTIVE 1: | Presenting basic information about application of computers, databases, acquisition, processing and transferring medical signals and medical images |
| OBJECTIVE 2: | Demonstrating the most important systems used for conducting electronic medical record of patient, saving data and medical images and health information exchange |
| OBJECTIVE 3: | Getting used of exampling computer programmes allowing for gathering, processing and utilisation of data, information and knowledge in medicine |
| OBJECTIVE 4: | Introducing the abilities of telemedicine and application of statistical calculations in medicine |
| LEARNING OUTCOMES | |
| MW1: | student knows basic issues dealing with application of computers, the Internet, databases, acquisition, processing and transferring medical signals and images in medicine |
| MW2: | student knows the most important systems and computer tools used for conducting patient electronic health record, saving data and medical images as well as medical information exchange |
| MU1: | student can work with exemplary computer programs allowing for optimal collection, processing and application of data, information and knowledge in medicine science |

| INFORMATICS AND TELEMEDICINE | |
|---|---|
| MU2: | student can select computer program for statistical calculations in medicine and can apply computer tools used in telemedicine |
| INTRODUCTORY REQUIREMENTS | |
| lack | |

| COURSE PROGRAM | DESCRIPTION |
|---|---|
| SEMINARS 1 | Data, information, information system, medical informatics |
| SEMINARS 2 | Medical data, terms, classifications, coding systems |
| SEMINARS 3 | Medical knowledge in the Internet |
| SEMINARS 4 | Computer science in public health |
| SEMINARS 5 | Hospital information system, standards |
| SEMINARS 6 | Medical record, patient record, electronic health record (EHR), HL7 standard |
| SEMINARS 7 | Information system of public health in Poland |
| SEMINARS 8 | Bioinformatics in medicine |
| SEMINARS 9 | Excel – basic applications |
| SEMINARS 10 | Excel – charts and statistical calculations |
| SEMINARS 11 | Clinical Decision Support Systems |
| SEMINARS 12 | Medical imaging |
| SEMINARS 13 | Modern medical education |
| SEMINARS 14 | Presentation preparation - rules |
| SEMINARS 15 | Presentation demonstration |

| DIDACTIC METHODS (APPLIED) | DESCRIPTION |
|---|---|
| | Discussions, computer classes, multimedia presentations |

| STUDENTS WORKLOAD: | |
|---|---|
| CONTACT HOURS WITH THE ACADEMIC TEACHER | 45 |
| HOURS WITHOUT THE PARTICIPATION OF THE ACADEMIC TEACHER | Preparation of presentation: 15 |
| TOTAL NUMBER OF HOURS FOR THE COURSE | 60 |
| CONDITIONS FOR COURSE COMPLETION | |

| INFORMATICS AND TELEMEDICINE ||
|---|---|
| | Attendance of all classes is obligatory. Presentation performance (in pairs) concerning application of information technology in medicine (topics are suggested by the teacher, students may prepare their own topic if they consult it with the teacher earlier). Presentation assessment scale is between 1-10 points. Students need to score at least 6 points for their performance to get credit. |
| METHODS OF ASSESMENT: | |
| IN TERMS OF KNOWLEDGE: | Preparing presentation concerning application of information technology in medicine using any computer software |
| IN TERMS OF SKILLS: | Presentation performance (the level of understanding and the way of presentation) |
| IN TERMS OF SOCIAL COMPETENCE: | Presentation performance (talking, intonation, gestures, the audience reaction) |
| FORMATIVE: <br><br> SUMMATIVE (I & II) | lack <br><br> EXAM: Presentation performance <br><br> RETAKE EXAM: essay about telemedicine on the topic suggested by the teacher |
| GRADING SCALE | |
| 3,0 (Satisfactory) | 6 points for the presentation |
| 3,5 (Satisfactory plus) | 7 points for the presentation |
| 4,0 (Good) | 8 points for the presentation |
| 4,5 (Good plus) | 9 points for the presentation |
| 5,0 (Very Good) | 10 points for the presentation |
| BASIC LITERATURE | |
| [1] Edward H. Shortliffe, James J. Cimino, „Biomedical Informatics – Computer Applications in Health Care and Biomedicine", Springer, 2021 ||
| SUPPLEMENTARY LITERATURE | |
| [1] M. R. Ogiela, R. Tadeusiewicz, „Modern Computational Intelligence Methods for the Interpretation of Medical Images", Springer 2008 ||
| [2] M. Campbell, L. J. Heyer, "Discovering Genomics, Proteomics and Bioinformatics", Benjamin Cummings, 2nd edition, 2006 ||