JAGIELLONIAN UNIVERSITY MEDICAL COLLEGE

Computer science and medical statistics

Educational subject description sheet

Basic information

Organizational unit Faculty of Medicine	**Didactic cycle** 2021/22
Field of study Dentistry, Program in English	**Realization year** 2021/22, 2023/24
Study level long-cycle master's degree program	**Lecture languages** english
Study form full-time	**Block** obligatory for passing in the course of studies
Education profile general academic	**Mandatory** obligatory
Disciplines Medical science	**Examination** graded credit
Subject related to scientific research Tak	**Standard group** C. PRECLINICAL SCIENCES

Subject coordinator	Wojciech Lasoń
Lecturer	The full list of lecturers is available on the website usosweb.uj.edu.pl in the tab Directory → Courses.

Period	**Examination**	**Number of ECTS points**
Semester 1	credit **Activities and hours** classes: 20	1.0

Period	**Examination**	**Number of ECTS points**
Semester 5	graded credit **Activities and hours** classes: 25	1.0

Goals

C1	The basic aim is to introduce students with modern and innovative information systems and applications used in medicine, especially in dentistry. Objectives include also demonstrate methods and tools and develop skills to used efficiently in supporting decision and therapeutic processes

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	issues in the field of medicine and natural sciences – in the basic scope	O.W1	multiple choice test
W2	the rules of conducting scientific research and spreading their results	O.W4	assignment report, multiple choice test
Skills – Student can:			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	multiple choice test
U2	critically evaluate the results of scientific research and adequately justify the position	O.U9	project
Social competences – Student is ready to:			
K1	use objective sources of information	O.K7	assignment report
K2	formulate conclusions from own measurements or observations	O.K8	assignment report

Calculation of ECTS points

Semester 1

Activity form	Activity hours*
classes	20
preparation for classes	15

Student workload	**Hours** 35
Workload involving teacher	**Hours** 20
Practical workload	**Hours** 20

* hour means 45 minutes

Semester 5

Activity form	Activity hours*

classes	25

Student workload	**Hours** 25
Workload involving teacher	**Hours** 25
Practical workload	**Hours** 25

* hour means 45 minutes

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Medical databases	W2, U2, K1, K2	classes
2.	3D technologies in medicine	W1, U1, K1	classes
3.	E-learning in medicine	W1, U1, K1	classes
4.	Simulation in medicine, Virtual Patient	W1, U1	classes
5.	Medical images analysis	W1, U1, U2, K1	classes
6.	Clinical Decision Support Systems	U1, K1	classes
7.	Teleconsultation in medicine	W1, U1, K1	classes
8.	Biostatistics	W1, U2, K2	classes

Course advanced

Semester 1

Teaching methods:

case study, classes / practicals, computer classes, laboratories (labs), demonstration, discussion, e-learning, project method, case study method, presentation, group work, seminar, virtual patient, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
classes	assignment report, multiple choice test	- attend all classes - active participation in discussions during class - preparation and execution of individual tasks - preparation of presentation on given subject - active participation in preparing and performing a clinical pathway - pass the computer test on medical informatics

Semester 5

Teaching methods:

computer classes, laboratories (labs), discussion, e-learning, problem solving method, project method, presentation, group work, simulation, low fidelity simulation, PBL Problem Based Learning

Activities	Examination methods	Credit conditions
classes	project, assignment report, multiple choice test	- attend all classes - active participation in discussions during class - preparation and execution of individual tasks - preparation of presentation on given subject - active participation in preparing and performing a clinical pathway - pass the computer test on medical informatics

Entry requirements

no prerequisites

Literature

Obligatory

1. Simulation in medicine – Preclinical and clinical applications. Irena Roterman-Konieczna (Ed.) 2015. De Gruyter. ISBN 978-3-11-040626-9
2. Simulation in medicine – Computer-aided diagnostics and therapy. Irena Roterman-Konieczna (Ed.) 2020. De Gruyter. ISBN 978-3-11-066687-8
3. Introduction to Telemedicine. Wootton R., Craig J., Victor Patterson V. 2011, 2nd edition, Hodder Arnold Publishers, ISBN: 978-1853156779

Optional

1. Telemedicine Technologies: Information Technologies in Medicine and Telehealth, Fong B., Fong A.C.M., Li C.K. 2011, Wiley, ISBN: 9780470745694

Kierunkowe efekty uczenia się

Kod	Treść
O.K7	use impartial sources of information
O.K8	draw conclusions from own measurements or observations
O.U5	plan one’s own educational activity and continuously improve oneself in order to update knowledge
O.U9	critically evaluate scientific findings and properly substantiate
O.W1	issues in the field of medicine and life sciences to a basic extent
O.W4	principles of scientific research and dissemination of the results