

COURSE OFFERED

Name of the course	Polish	Trendy w naukach biologicznych
	English	Trends in the biological sciences

1. LOCATION OF THE COURSE OF STUDY WITHIN THE EDUCATION SYSTEM

1.1. Section¹	Biology
1.2. Discipline²	Biological Sciences
1.3. Type of education	stationary
1.4. Level of education	PhD programme
1.5. Person preparing the course description	Prof. Dr hab. Andrzej Wójcik
1.6. Contact	andrzej.wojcik@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Type of course³	Specialised subjects in the discipline
2.2. Language of the course	English

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Type of classes⁴	Lecture
3.2. The number of hours⁵	15 h
3.3. Location of classes	Lecture room at UJK
3.4. Type of assessment	Pass with grade
3.5. Didactic methods	-lecture - presentations
3.6. Literature	basic Life: The Science of Biology by David Hillis, H Craig Heller, Sally D Hacker, Dave Hall, David Sadava, 12nd ed. 2020, W.H. Freeman & Co Ltd.
	supplementary D. Hanahan. Hallmarks of cancer: new dimensions. Cancer Discov 2022;12:31–46, doi: 10.1158/2159-8290.CD-21-1059. E.J. Hall and A.J. Giaccia. Radiobiology for the Radiologist, 2019, Wolters Kluwer https://unitedvrg.com/2019/06/29/radiobiology-for-the-radiologist-8th-edition-2019-2018-pdf/

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDEND LEARNING OUTCOMES

4.1. Course objectives (including the form of classes)
C01. Acquiring advanced knowledge of the theoretical and methodological research assumptions in contemporary biology. C02. Acquiring the ability to apply conceptual categories from modern

¹ Section of Humanities:, Social Sciences, Section of Exact and Natural Sciences, Section of Medical and Health Sciences, Section of Arts.

² History,Linguistics, Literary Studies, Medical Sciences, Health Sciences, Political and Administrative Sciences, Legal Sciences, Security Sciences, Pedagogy, Communication and Media Studies, Management and Quality Studies, Biological Sciences, Chemical Sciences, Physical Sciences, Earth and related Environmental Sciences, Visual Arts and Artwork Conservation, Musical Arts.

³ General courses, domain specific subjects in the section, disciplinary subjects in the sections, specialized subjects in the discipline.

⁴ Classes, lecture, seminar.

⁵ Consistent with the education program at the Doctoral School
Jan Kochanowski University in Kielce.

research methods and to formulate and justify judgments about the latest scientific achievements in this field. C03. Developing competencies related to independent research project implementation and fulfilling responsibilities related to scientific research activities.

4.2. Syllabus content

1. DNA damage repair mechanisms and analysis methodology
2. Mechanisms of radiation-induced carcinogenesis
3. Risk assessment of radiation-induced cancer
4. Statistical uncertainty in measuring the effects of low-dose radiation

5. SUBJECT LEARNING OUTCOMES

Learning outcomes	A doctoral student who has passed the subject:	Reference to the learning outcomes of Doctoral School (according to the training program at the Doctoral School)
in the area of KNOWLEDGE:		
W01	The doctoral student possesses knowledge of the global scientific body of work, encompassing theoretical foundations, general concepts, and selected detailed topics, as well as current scientific achievements in the field of DNA damage and repair mechanisms, mechanisms of radiation-induced carcinogenesis, and the methodologies used to analyze these processes, including contemporary research approaches.	SD_W01
W02	The doctoral student has advanced knowledge of development trends in disciplines related to their research topic, particularly in radiation biology, molecular biology, and biostatistical methods applied to the assessment of low-dose radiation effects and cancer risk.	SD_W02
in the area of SKILLS:		
U01	The doctoral student is able to define the purpose and scope of research and formulate research hypotheses related to DNA damage and repair mechanisms, radiation-induced carcinogenesis, and cancer risk assessment, including problems associated with low-dose radiation effects.	SD_U01
U02	The doctoral student is able to apply interdisciplinary knowledge (molecular biology, radiation biology, and biostatistics) to identify, formulate, and creatively solve complex scientific problems or to design and conduct research tasks related to the analysis of radiation-induced biological effects.	SD_U03
U03	The doctoral student is able to use a foreign language at B2 level of the Common European Framework of Reference for Languages in research activities, including the analysis of scientific literature, preparation of	SD_U07

	publications, and presentation of results in the field of DNA damage, radiation biology, and cancer risk assessment.	
in the area of SOCIAL COMPETENCE:		
K01	The doctoral demonstrates entrepreneurial thinking and actively takes initiative.	SD_K04

6. METHODS OF ASSESSMENT OF THE INTENDED LEARNING OUTCOMES

SUBJECT LEARNING OUTCOMES	METHOD OF ASSESSMENT (+/-)																				
	Oral/written exam			Kolokwium			Project			Activity in class			Own work			Group work			Others		
	The type of classes			The type of classes			The type of classes			The type of classes			The type of classes			The type of classes			The type of classes		
	L	E	S	L	E	S	L	E	S	L	E	S	L	E	S	L	E	S	L	E	S
SD_W01										X											
SD_W02										X											
SD_U01										X											
SD_U02										X											
SD_U03										X											
SD_K01										X											

7. CRITERIA OF ASSESSMENT OF THE INTENDED LEARNING OUTCOMES

Form of classes	Grade	Criterion of assessment
Lecture (L) ⁶	3,0	51-60% of the points awarded for class participation
	3,5	61-70% of the points awarded for class participation
	4,0	71-80% of the points awarded for class participation
	4,5	81-90% of the points awarded for class participation
	5,0	91-100% of the points awarded for class participation

Accepted for execution

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⁶ Niepotrzebne usunąć.