


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Introduction to eukaryotic cell biology		13.3.0467	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	pierwszego stopnia
Wydział Chemii	Chemia	form	stacjonarne
		specjalty	chemia biomedyczna, chemia kosmetyków
		specialization	wszystkie
Teaching staff			
dr hab. Agnieszka Żylicz-Stachula, profesor uczelni			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		2	
Lecture		classes - 30 h	
The realization of activities		tutorial classes – 5 h	
classroom instruction		student's own work – 15 h	
Number of hours		Total: 50 h - 2 ECTS	
Lecture: 30 hours			
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
obligatory		polish	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
<ul style="list-style-type: none"> - discussion - group work - multimedia-based lecture - problem-focused lecture 		Final evaluation	
		Graded credit	
		Assessment methods	
		<ul style="list-style-type: none"> - (mid-term / end-term) test - graded course credit based on individual grades obtained during the semester 	
		The basic criteria for evaluation	
		Assessment with final grade: final written test (single-choice test questions), and active participation in the scientific debate essay or presentation, assessed for advanced ability to locate and evaluate Web-based information final grade according to the scale of grades given in the Study Regulations supplementary oral or written evaluation for students who did not obtain the required 51% in the first term	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
none			
B. Prerequisites			
<ul style="list-style-type: none"> • general chemistry, organic chemistry, biochemistry • proper use of the chemical/biological terminology and nomenclature, • knowledge of nucleic acids and protein structure 			

<p>Aims of education</p> <ul style="list-style-type: none"> • acquainting students with all issues mentioned in the lecture's program content; • acquainting students with the basics of biology and physiology of the eukaryotic cell; • acquainting students with cellular DNA repair mechanisms; • acquainting students with the causes and factors leading to malignant transformation; • acquainting students with contemporary methods used in oncological diagnostics; • acquainting students with actual methods of treatment and future trends in modern oncology; 	
<p>Course contents</p> <p>structure of a cell; basics of biology and physiology of eukaryotic cell; DNA repair mechanisms; mechanisms and regulation of eukaryotic cell division; stem cells; oncogenes and suppressor genes (definitions, examples); basic properties of the cancer cell; cancer classification (TNM staging system); angiogenesis; genetic and environmental factors leading to malignant transformation; selected diagnostic methods in oncology; selected anticancer therapies, history of cancer research; personalization of medicine;</p>	
<p>Bibliography of literature</p> <p>Literature required to pass the course</p> <p>Alberts, B., Bray, D., Hopkin, K., Johnson, A., Lewis, J., Raff, M., Roberts, K., Walter, P. Podstawy biologii komórki PWN, 2009</p> <p>Extracurricular readings</p> <p>Buckingham, M.L., Flaws, L.: Molecular diagnostics: Fundamentals, Methods and Clinical Applications 2007</p> <p>Alberts, B., Bray, D., Hopkin, K., Johnson, A. Essentials of cell biology 3 edition, 2009</p> <p>Elsersawi, A.: Chemistry, biology and cancer: the bond 2009</p> <p>Alberts, B., Johnson, A., Lewis, J., Raff, M.: Molecular Biology of the Cell 2007</p> <p>R.A. Weinberg The biology of cancer. 2014</p> <p>L. Pecorino Molecular biology of cancer. 2012</p> <p>R.E. LaFond Cancer. The outlaw cell 2012</p>	
<p>The learning outcomes (for the field of study and specialization)</p>	<p>Knowledge</p> <ol style="list-style-type: none"> 1. describes eukaryotic cell structure, 2. describes selected DNA repair mechanisms, 3. understands and describes mechanisms of neoplastic transformation, 4. lists and discusses the characteristics of a cancer cell, 5. lists and characterizes biological, chemical, physical and genetic factors leading to neoplastic transformation, 6. lists, characterizes and understands selected methods used in oncological diagnostics, 7. understands and describes the classification of cancers 8. lists and describes phases of clinical trials of new anticancer drugs
	<p>Skills</p>
	<p>Social competence</p> <ol style="list-style-type: none"> 1. understands the need for further education, 2. is cautious and critical when expressing opinions, 3. acquires the skill of scientific discussion
<p>Contact</p> <p>a.zylicz-stachula@ug.edu.pl</p>	