Uniwersytet Gdański



# KAPITAŁ LUDZKI NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

UNIA EUROPEJSKA EUROPEJSKI FUNDUSZ SPOŁECZNY



### Course title

Molecular methods of nucleic acid amplification

not defined

ECTS code

## Name of unit administrating study

null Studies

faculty	field of study	type	first tier studies (BA), second tier studies (MA)
Faculty of Biology	Medical Biology	form	full-time
		specialty	all
		specialization	all
Faculty of Biology	Biology	type	first tier studies (BA), second tier studies (MA)
		form	full-time
		specialty	all
		specialization	all
Faculty of Biology	Genetics and	type	first tier studies (BA)
	Experimental Biology	form	full-time
		specialty	all
		specialization	all
Faculty of Biology	Natural Resources	type	first tier studies (BA)
	Conservation	form	full-time
		specialty	all
		specialization	all

### **Teaching staff**

dr inż. Karolina Stojowska-Swędrzyńska; dr hab. Wojciech Pokora, profesor uczelni

Forms of classes, the realization and number of hours	ECTS credits
Forms of classes	2 ESTIMATION OF WORKING TIME:
The realization of activities classroom instruction	a) Classes requiring direct participation of the academic teacher and student:
Number of hours	- participation in lectures: 15 h
Lecture: 15 hours	<ul> <li>participation in the exam: 1 h</li> <li>participation in consultations: 9 h</li> </ul>
	<ul> <li>b) Student's own work:</li> <li>preparation for discussion and problem solving: 10</li> <li>h</li> <li>preparation for exam, final assessment: 15 h.</li> </ul>
	TOTAL: 50 hours.

#### The academic cycle

2022/2023 summer semester				
Type of course	Language of instruction			
an elective course	english			
Teaching methods	Form and method of assessment and basic criteria for eveluation or examination requirements			
Conversational lecture with multimedia presentation, problem solving	Final evaluation Graded credit			
	Assessment methods written credit: test questions and open-ended tasks (problem solving)			
	The basic criteria for evaluation			

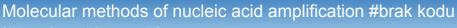
Sylabusy - Centrum Informatyczne UG

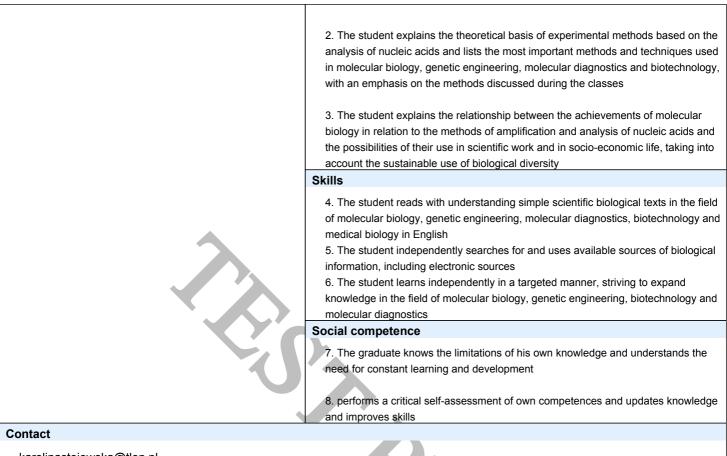
		prises questions on lecture material and additional readings specified during series – minimum 51% of points from the final written test
Method of verifying required learning outcomes		
Learning outcome		Conversational lecture with multimedia presentation, problem solving
		Knowledge
1/2/3		Exam/discussion
		Skills
4/5/6		Exam/discussion
		Social competence
7 / 8		Discussion
Required courses and introductory requirements		
<ul> <li>A. Formal requirements</li> <li>Courses containing the basics of molecular biology, biochem</li> <li>B. Prerequisites</li> <li>Knowledge of the structure, properties and functions of basic</li> </ul>	-	crobiology nacromolecules (including DNA, RNA, restriction enzymes, DNA
polymerases)		
Aims of education		
The aim of the lecture is to provide students with the various		of nucleic acid amplification r application in molecular biology, biotechnology and medicine.
Course contents		application in molecular biology, bloccimology and medicine.
Application of PCR for the analysis of unknown sequences (i review of other target amplification methods (eg. NASBA - N SDA - Strand Displacement Amplification)	SCP, FIGE, F inverse PCR Nucleic Acid hain Reaction re – Anti-DN	PFGE, DGGE, melting point analysis, restriction analysis, sequencing). a, Target Gene Walking, panhandle PCR, overlap extension). Sequence-Based Amplification, TMA – Transcription Mediated Amplification n, Gap_LCR, Strand Displacement Amplification) and signal amplification
Bibliography of literature		
<ul> <li>Fakruddin et al, Nucleic acid amplification: Alternative metho doi: 10.4103/0975-7406.120066</li> <li>B. Extracurricular readings Latest scientific articles (pointed during the course) Mullis, Faloona, Specific synthesis of DNA in vitro via a polyr</li> </ul>	ademic Press Review, AKM Microbiologio ods of polyme	s, 2019 (selected chapters)
10.1016/0076-6879(87)55023-6.		
The learning outcomes (for the field of study and specialization)	as the la diagnos	ge student is aware of the development and current state of knowledge as we atest research trends in the fields of: molecular biology, molecular stics, genetic engineering or biotechnology with the use of nucleic acid ration techniques, and demonstrates their relationship with other natural

disciplines

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