

stamp

Załącznik A. Program specjalności Fizyka z optoelektroniką 2019/2020
PROGRAM OF SPECIALITY PHYSICS WITH OPTOELECTRONICS

Studia II stopnia stacjonarne / Masters studies 2019/2020

Kierunek : Fizyka / Physics

Specjalność/ SPECIALITY : Fizyka z optoelektroniką/ PHYSICS WITH OPTOELECTRONICS

Studia realizowane w Uniwersytecie Pedagogicznym im. Komisji Edukacji Narodowej w Krakowie wspólnie w porozumieniu z Uniwersytetem Narodowym im. Olesia Gonczara, Dnipro, Ukraina

in DNIPRO NATIONAL UNIVERSITY:

Speciality – Applied physics and nanomaterials

Speciality – Physics and Astronomy

Specialisation – Solid state optoelectronics

approved by the faculty council of Physics, Electronics and Computer Systems in DNIPRO NATIONAL UNIVERSITY, Ukraine	unit code	
..... approved by the faculty council of Faculty of Mathematics, Physics and Technical Science in Pedagogical university, Poland		
24 KWI. 2019		

Unit plan name	Solid state optoelectronics
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ECTS points	121
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Qualifications and professional privileges:

A master of Physics has professional qualifications to work in field of information-measuring technology, optical communication and research institutions in applied physics.

Learning outcomes

KNOWLEDGE	
W01	A master has the expanded knowledge in mathematical physics.
W02	A master has a basic knowledge in general and theoretical physics.
W03	A master knows theoretical models of condensed matter physics.
W04	A master knows the most important achievements and actual problems in condensed matter physics and optoelectronics, and integrated optics
W05	A master knows technological foundations of a modern material science.
W06	A master has the advanced knowledge of the optical phenomena in various mediums.
W07	A master knows a basic methods of information processing in optical and optoelectronic systems.
W08	A master knows principles of operation of experimental equipment for physical researches.
W09	A master knows how to determine the characteristics of metamaterials, functional and smart materials and parameters of devices.
W10	A master has a basic knowledge in the issues of the prevention of accidents during physical experiments.
SKILLS	
U01	A master is able to collect and analyze the science information using communication systems.
U02	A master is able to plan and carry out the scientific researches.
U03	A master is able to determine the characteristics of functional electronics materials.
U04	A master has exploitation skills of electrical and optical equipment.
U05	A master is able to calculate the parameters of optoelectronic devices.
U06	A master is able to use knowledge obtained to develop new devices for functional, nano- and optoelectronics.
U07	A master is able to use knowledge obtained to develop a fiber-optic devices and telecommunication systems.
SOCIAL ABILITIES	
K01	A master has the creativity and the ability to conceptual thinking.
K02	A master is able to present and justify the personal point of view
K03	A master is able to use the information technologies for the communication with the scientific community
K04	A master is aimed to expand personal knowledge and skills

K05	A master has the legal erudition
K06	A master concerned about the environmental safety of physical experiment

Verification of learning outcomes:

	E – learning	Educational games	Recitation	Fieldwork	Labs	Individual projects	Common projects	Discussion	Essay	Oral exam	Writing exam/ tests	Other
W01			x		x	x	x	x	x	x	x	
W02			x		x	x	x	x	x	x	x	
W03			x			x	x	x	x			
W04			x		x	x	x	x	x	x	x	
W05			x			x	x	x	x			
W06			x		x	x	x	x	x	x	x	
W07			x			x	x	x	x			
W08			x			x	x	x	x	x	x	
W09			x									
W10			x		x		x					
U01			x		x	x	x	x	x	x	x	
U02			x			x	x	x	x			
U03			x		x	x	x	x	x			
U04			x			x	x	x	x	x	x	
U05			x		x	x	x	x	x	x	x	
U06			x			x	x	x	x			
K01			x			x	x	x				
K02			x			x	x	x				
K03			x			x	x	x				
K04			x			x	x	x				
K05						x	x	x				
K06			x			x	x	x				
K07			x			x	x	x				

p.o. DZIEKAN
Wydziału Matematyczno-Fizyczno-Technicznego
Uniwersytetu Pedagogicznego w Krakowie

Anna Stolińska
dr Anna Stolińska

pieczęć i podpis Dziekana / Dean's signature