## DESCRIPTION OF THE COURSE OF STUDY

Course code	12.6-7PIEL-D4,10-OIETWO							
Name of the course in	Polish	Opieka i edukacja terapeutyczna w ostrej i przewlekłej niewydolności oddechowej						
	English	Nursing and therapeutic education in acute and chronic						
		respiratory failure						

### 1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Nursing
1.2. Mode of study	Full-time study
1.3. Level of study	Master's degree
1.4. Profile of study*	Practical
1.5. Person/s preparing the course description	Małgorzata Knap, PhD, Monika Olczyk; Translation: Sylwia Głowala, PhD
1.6. Contact	sylwia.glowala@ujk.edu.pl

### 2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites*	Anatomical and physiological foundations of the func-
_	tioning of the human body. Respiratory system anato-
	my. Fundamentals of laboratory diagnostics. Principles
	of drug administration, dosage, side effects of active
	substances.

#### 3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

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3.1. Form of classes	Lectures (L), classes (C)					
3.2. Place of classes	Lectures halls UJK, didadctic rooms at UJK					
3.3. Form of assessment	Graded credit					
3.4. Teaching methods	Lecture: informative with multimodal presentation, presentation of algorithms, searching and summarizing medical articles from sources of professional medical literature, group work.					
3.5. Bibliography Required reading	<ol> <li>Paul L.Marino, red. wyd. pol. Andrzej Kübler.: Intensywna terapia. Wrocław 2017, wyd 4.</li> <li>Szkulmowski Zbigniew.: Wentylacja domowa. Lublin 2018, wyd.1</li> </ol>					
Further reading	1. Maciejewski Dariusz, Wojnar-Gruszka Katarzyna.: Wentylacja mechaniczna – teoria i praktyka.					

## 4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

### **4.1.** Course objectives (including form of classes)

- C1. The student will learn about the symptoms, diagnostics and nursing procedures in acute and chronic respiratory failure and the principles of invasive and non-invasive mechanical ventilation,
- C2. Assessment of the basic functions of the respiratory system efficiency and disorders of its efficiency on the basis of vital parameters and known diagnostic methods,
- C3. The student will learn to communicate with a ventilated patient and conduct therapeutic education,
- C4. The student will acquire the ability to create educational projects while maintaining the proper structure didactic.

## 4.2. Detailed syllabus (including form of classes)

# Lectures

- 1. Fundamentals of respiratory system physiology.
- 2. Symptoms of respiratory failure. Type I and type II respiratory failure.
- 3. Differentiation of acute and chronic respiratory failure.
- 4. Invasive and non-invasive mechanical ventilation in acute and chronic respiratory failure.
- 5. Use of inhaled drugs in respiratory diseases. Principles of the correct use of drugs, taking into account different routes of administration of preparations.

6. Arterial blood gases. Principles of interpretation of gasometric results on the basis of economic disturbances acid-base-respiratory.

#### Classes

- 1. Physiology of respiration. Symptoms of respiratory failure. Type I and type II respiratory failure.
- Differentiation of respiratory failure between acute and chronic NO.
- 2. Arterial blood gases. Principles of interpretation of gasometric results based on the analysis of clinical cases.
- 3. Use of inhaled drugs in respiratory diseases. Manual pocket inhalers, type DPI and MDI, principles of correct use, promoting high pulmonary deposition. Principles of using the inspiratory flow meter to assess the quality of the inhaled inhalation. Differences between long-acting and short-acting drugs, SOS therapy. Nebulization as an element of inhalation therapy.
- 4. Hospital oxygen therapy and home oxygen treatment (DLT). Principles of oxygen therapy in type I and type II respiratory failure. Devices used to supply oxygen in hospital conditions. The dangers of oxygen therapy and the toxicity of oxygen.
- 5. Breathing techniques and breathing exercises used to support respiratory diseases.

Breathing exercises to help evacuate the residual secretions. Postural drainage, mechanical cleaning of the airways.

- Differentiation of NIV and CPAP therapies. NIV in acute respiratory failure. NIV ventilation techniques in long-term home treatment of NIV. Principles of NIV fan operation and types of interfaces. Complications of NIV therapy. The role of a nurse in monitoring a patient undergoing non-invasive ventilation therapy.
- 6. Therapeutic education. Diagnosing the educational needs of patients with acute or chronic respiratory failure. The role of a nurse in conducting therapeutic education. Didactic structure of educational projects.
- 7. Presentation of individual educational projects and selected educational content in the form of a leaflet, poster, multimedia presentation or a talk, corresponding to the specific objectives of the project.

(including e-learning)

- 1. 1. Spirometry test as a tool supporting diagnosis and assessing the stage of disease in COPD (GOLD). Initial interpretation of spirometric test results (obstruction, restriction)
- 2. Non-invasive mechanical ventilation in acute and chronic respiratory failure.

4.3 Intended learning outcomes

Code	A student, who passed the course	Relation to learning outcomes						
	within the scope of <b>KNOWLEDGE: Student knows:</b>							
W01	Pathomechanism, symptoms, diagnostics and nursing procedures in chronic respiratory failure	PIEL2P_W55						
W02	Technique of spirometric test;	PIEL2P_W56						
W03	Principles and methods of therapeutic education of the patient, his family and caregiver in the field of self-observation and self-care in diabetes, asthma and chronic obstructive pulmonary disease;	PIEL2P_W61						
W04	Pathomechanism of diabetes, asthma and chronic obstructive pulmonary disease as well as complications and coordination of activities related to therapeutic education;	PIEL2P_W62						
W05	Principles of applying modern methods of oxygen therapy, monitoring the condition of a patient treated with oxygen and oxygen toxicity;	PIEL2P_W75						
W06	Indications and rules for the use of invasive and non-invasive mechanical ventilation and possible complications of its application;	PIEL2P_W76						
	within the scope of ABILITIES: Student can:							
U01	Perform spirometry tests and interpret their results;	PIEL2P_U59						
U02	Prepare equipment and devices for the implementation of invasive mechanical ventilation, including testing the apparatus;	PIEL2P_U81						
U03	Operate the ventilator in non-invasive ventilation mode;	PIEL2P_U81						
U04	Prepare and use equipment for non-invasive ventilation;	PIEL2P_U81						
U05	Provide a mechanically ventilated patient in an invasive manner with comprehensive nursing care;	PIEL2P_U81						
U06	Communicate with a mechanically ventilated patient using alternative communication methods	PIEL2P_U81						
	within the scope of <b>SOCIAL COMPETENCE</b> :							
K01	Be responsible for the health services provided	PIEL2P_K5						

4.4. Methods of assessment of the intended learning outcomes								
			Metho	d of assessme	nt (+/-)			
Teaching outcomes (code)	Exam oral/written*	Test*	Project*	Effort in class*	Self-study*	Group work*	Others* e.g. standard- ized test used in e- learning	

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	L	С	 L	C	 L	С		L	C	 L	C	 L	C	 L	C	
W01	+															
W02	+															
W03	+															
W04	+															
W05	+															
W06	+															
U01	+			+		+			+		+		+			
U02	+			+		+			+		+		+			
U03	+			+		+			+		+		+			
U04	+			+		+			+		+		+			
U05	+			+		+			+		+		+			
U06	+			+		+			+		+		+			
K01	+			+		+			+		+		+			

<sup>\*</sup>delete as appropriate

4.5. Criteria of assessment of the intended learning outcomes									
Form of classes	Grade	Criterion of assessment							
ing	3	61-68%. Mastering the content at the basic level, chaotic answers, necessary leading questions / obtaining points from a written test.							
including ing) (C)	3,5	69-76%. Mastering the content of the curriculum at the basic level, systematized answers, requires the teacher's help / obtaining credits for a written test.							
re (L) (incle-learning) classes (C)	4	77-84%. Mastering the content of the curriculum at the basic level, systematic and independent answers. Solving problems in typical situations / obtaining points from a written test.							
lecture e-le cla	4,5	85-92%. The scope of the presented knowledge goes beyond the basic level based on the supplementary literature provided. Solving problems in new and complex situations / obtaining points from a written test.							
lec	5	93-100%. The scope of the presented knowledge goes beyond the basic level on the basis of independently acquired scientific sources of information / obtaining points from a written test.							

# 5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

	Student's workload					
Category	Full-time studies	Extramural studies				
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER	20					
/CONTACT HOURS/						
Participation in lectures*	10					
Participation in classes, seminars, laboratories*	10					
Preparation in the exam/final test*						
Others (please specify e.g. e-learning)*						
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	30					
Preparation for the lecture*						
Preparation for the classes, seminars, laboratories*	15					
Preparation for the exam/test*	15					
Gathering materials for the project/Internet query*						
Preparation of multimedia presentation						
Others *						
TOTAL NUMBER OF HOURS	50					
ECTS credits for the course of study	2					

*delete	as	annro	priate

Accepted for execution (date and legible signatures of the teachers running the course in the given academic year)

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