

## SYLLABUS

concerning the cycle of education 2023-2029

Academic year 2023/2024

### 1. 1. BASIC INFORMATION CONCERNING THIS SUBJECT / MODULE

Subject / Module	<b>Anaesthesiology and Intensive Therapy</b>
Course code / module *	AIT/F
Faculty of (name of the leading direction)	<b>Faculty of Medicine, University of Rzeszow</b>
Department Name	<b>Faculty of Medicine, University of Rzeszow</b>
Field of study	<b>Medicine</b>
Level of education	<b>uniform master's studies</b>
Profile	<b>general academic</b>
Form of study	<b>stationary</b>
Year and semester	<b>year V, semesters IX and X</b>
Type of course	<b>obligatory</b>
Coordinator	<b>Bogumila Gebicka M.D., Ph.D.</b>
First and Last Name of the Teacher	Bogumila Gebicka M.D., Ph.D. Janusz Kidacki M.D., Ph. D.

\* -- ACCORDING TO THE RESOLUTIONS OF THE FACULTY OF MEDICINE

#### 1.1. Forms of classes, number of hours and ECTS

Lecture	Exercise	Conversation	Laboratory	Seminar	ZP	Apprentice-ship	Self-learning	Number of points ECTS
30	40	0	0	0	0	0	0	4

#### 1.3. The form of class activities

- ☒ classes are in the traditional form
- ☒ classes are implemented using methods and techniques of distance learning

#### 1.4. Examination Forms / module (exam, credit with grade or credit without grade)

## 2. REQUIREMENTS

COMPLETED AND PASSED COURSES: ANATOMY AND PHYSIOLOGY OF THE RESPIRATORY, CIRCULATORY AND RENAL SYSTEM  
COMPLETED COURSES IN INTERNAL MEDICINE, PAEDIATRICS, SURGERY AND EMERGENCY MEDICINE(III AND IV YEAR)

### 3. GOALS, LEARNING OUTCOMES , STUDY CONTENT , TEACHING METHODS

#### 3.1 Goals

C1	Introduction to the basics of the subject Anesthesiology and Intensive Care, in particular: - principle of perioperative safety, preparing the patient for surgery, performing general anesthesia, local anesthesia and controlled sedation.
C2	Acquainting with current guidelines of management of life-threatening states in adult.
C3	Making students aware of the need to systematically supplement and update their knowledge in this area. Acquaintance with the principles of cooperation in a group and taking responsibility for timely and reliable performance entrusted tasks.
C4	Introduction into the intensive care issues

#### 3.2 Learning outcomes

EK (the effect of education)	THE CONTENT OF THE LEARNING EFFECT DEFINED FOR THE SUBJECT (MODULE)	REFERENCE TO DIRECTIONAL EFFECTS (KEK)
<b>Student knows and understands</b>		
K_W01	symptoms and course of diseases	O.W2
K_W02	methods of diagnostic and therapeutic procedures appropriate for specific disease states	O.W3
K_W03	principles of perioperative safety, patient preparation for surgery, general and local anesthesia and controlled sedation	F.W4
K_W04	postoperative treatment with analgesic therapy and postoperative monitoring	F.W5
K_W05	indications and rules for the use of intensive care	F.W6
K_W06	rules of qualification for basic surgical procedures and invasive diagnostic and therapeutic procedures, rules of their performance and the most frequent complications	F.W3
K_W07	the most common complications associated with anesthesia, sedation and perioperative period	F.W19
K_W08	the principles of suspicion and diagnosis of brain death	F.W15
K_W09	Therapeutic algorithm for hypothermia	F.W16
<b>Skills – Student can</b>		
K_U1	identify medical problems and prioritize medical management	O.U1
K_U2	identify life-threatening conditions that require immediate medical intervention	O.U2
K_U3	plan the diagnostic procedure and interpret its results	O.U3

K_U4	implement appropriate and safe therapeutic treatment and predict its effects	O.U4
K_U5	plan own learning activities and constantly learn in order to update own knowledge	O.U5
K_U6	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7
K_U7	communicate and share knowledge with colleagues in a team	O.U8
K_U8	critically evaluate the results of scientific research and adequately justify the position	O.U9
K_U9	monitor the patient's condition in the post-operative period based on basic vital parameters	F.U12
K_U10	to pass on information about the death of a close friend and relative	F.U36
<b>Social Competences – Student is ready to</b>		
K_K1	establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1
K_K2	be guided by the well-being of a patient	O.K2
K_K3	respect medical confidentiality and patients' rights	O.K3
K_K4	take actions towards the patient on the basis of ethical norms and principles, with an awareness of the social determinants and limitations of the disease	O.K4
K_K5	perceive and recognize own limitations and self-assessing educational deficits and needs	O.K5
K_K6	use objective sources of information	O.K6

### 3.3 Study content

#### A. Lectures

<b>Course contents</b>
1. Evaluation of the patient and preoperative medication.
2. General anesthesia. Recovery from anesthesia. Complications.
3. Anaesthesia of elderly patients.
4. Anaesthesia for children.
5. Regional anaesthesia .
6. Obstetric anesthesia and pain relief in labor.
7. Pain management and sedation in ICU patients. Drugs in ICU patients ( pharmacokinetics, pharmacodynamics).
8. Critical care in neurology and neurosurgery. Seizures. Evaluation of the comatose patient. Brain death.

9. Infections in surgical ICU-preventions, laboratory diagnosis, monitoring Bacteremia and sepsis. Toxic and septic shock. Bacterial hospital-acquired pneumonia and VAP. Long term catheters, venous, artery lines. Infections in surgical patients-preventions, laboratory diagnosis, monitoring -related bacteremia and sepsis. Antibiotic prophylaxis in surgical theatres
10. Respiratory failure. Principles of mechanical ventilation.
11. Cardiovascular management in CCU-diagnosis, monitoring and treatment. Diagnosis and treatment of the shock syndrome.
12. Metabolism in critical patient. Dehydrations and electrolytes supply. Nutritional failure, principles of parenteral nutrition and enteral feeding.
13. . Massive bleeding and haemorrhagic shock
14. ICU patient after Severe trauma. Acute kidney failure.

## B. Clinical courses (exercises)

Course contents
1. Problem-based learning: preparation for anaesthesia. Preoperative visit
2. Problem-based learning: general anaesthesia. Patient evaluation in the postoperative period. Postoperative pain relief. Risk factors in the postoperative period: residual muscle paralysis, respiratory depression, delirium.
3. Problem-based learning: regional anaesthesia. Spinal and epidural blocks. Peripheral nerve blocks. Complications of regional anesthesia
4. Problem-based learning: pain relief in labor.
5. Problem-based learning: respiratory failure. Mechanical lung ventilation.
6. Problem-based learning: acute heart failure. Monitoring of the cardiovascular function. Cardiac output. Catecholamine administration.
7. Problem-based learning: acute renal failure and renal support.
8. Problem-based learning. Infections in the ICU setting
9. Medical Simulation Center 1: Anaesthesiology. Preparing the patient for general anaesthesia. IV placement. Anaesthesia machine. Monitoring of vital signs: ECG, non-invasive and invasive blood pressure, central venous pressure, monitoring of cardiac output, muscle relaxation. Induction of anaesthesia. Preoxygenation – the concept of apnoea tolerance period. Securing the airway: mask ventilation, oral airway, laryngeal mask, endotracheal intubation. Placing naso-gastric tube. Placing urinary catheter. Maintenance of anaesthesia: evaluating the depth of anaesthesia – BIS. Evaluation blood loss. Fluid and blood products.
10. Medical Simulation Center 2. Intensive therapy. Scenario 1: Septic shock. Using quick-SOFA scale. Evaluation and treatment of the patient in septic shock in the ICU setting. Administering drugs using infusion pump. Cardiopulmonary resuscitation. Scenario B. Traumatic brain injury and massive internal bleeding combined. Patient stabilization for abdominal surgery.

## 3.4 Teaching Methods

Clinical classes, case study, high fidelity simulation, brainstorming, discussion/seminar. Group work

#### 4. METHODS AND EVALUATION CRITERIA

##### 4.1 Methods of verification of learning outcomes

Symbol efektu	METHODS OF ASSESSMENT OF LEARNING OUTCOMES (EG.: TESTS, ORAL EXAMS, WRITTEN EXAMS, PROJECT REPORTS, OBSERVATIONS DURING CLASSES)	FORM OF CLASSES
K_W01 – KW10	Test (written)	Lectures, clinical classes (clinical classes)
K_U01 – KU10	Practical pass (Summer semester, in the Medical Simulation Center)	Clinical classes (exercices)

##### 4.2 Conditions for completing the course (evaluation criteria)

###### **Lectures (EK\_01, EK\_02):**

###### 1. test pass and open questions:

A: Questions in the field of messages to remember;

B: Questions in the field of speech to understand;

C: Solving a typical written task;

D: Solving an atypical written task;

- for insufficient solution of tasks only from areas A and B = grade 2.0

- for solving tasks only from areas A and B, the possibility of obtaining max. rating 3.0

- for solving tasks from the area A + B + C, the possibility of obtaining max. evaluation 4.0

- for the solution of tasks in the area A + B + C + D, the possibility of obtaining a rating of 5.0

###### **Knowledge assessment:**

###### Written test

5.0 - has knowledge of each of the contents of education at the level of 90% -100%

4.5 - has knowledge of each of the content of education at the level of 84% -89%

4.0 - has knowledge of each of the content of education at the level of 77% -83%

3.5 - has knowledge of each of the content of education at the level of 70% -76%

3.0 - has knowledge of each of the content of education at the level of 60% -69%

2.0 - has knowledge of each of the contents of education below 60%

###### **Classes, seminars (K\_U1 – K\_U10, K\_K1-K\_K6):**

1. full participation and activity in the exercises

Range of ratings: 2.0 - 5.0

#### **Skill assessment**

5.0 - the student actively participates in the classes, is well prepared, knows the rules of conduct very well and acquires basic and advanced skills of rescue

4.5 - the student actively participates in classes, knows the rules of conduct well and has acquired basic and advanced rescue skills

4.0 - the student actively participates in classes, is improved, knows the rules of conduct well and has acquired basic and advanced rescue skills

3.5 - the student participates in the classes, his scope of preparation does not allow for a comprehensive presentation of the discussed problem, he knows the rules of conduct well enough and has acquired basic and advanced rescue skills

3.0 - the student participates in the classes, knows the rules of conduct sufficiently and has acquired basic rescue skills

2.0 - the student passively participates in the classes, the statements are incorrect in substance, do not know the rules of conduct and have not acquired the basic skills of rescue

#### **5. Total student workload required to achieve the desired result in hours and ECTS credits**

<b>Activity Form</b>	<b>Activity hours</b>
Hours of classes according to plan with the teacher	60
Participation in the consultations (online?)	3
Preparation for classes	2
Preparation for the test	20
Total of hours	85
<b>ECTS points</b>	4

*\* 1 ECTS point equals 25-30 hours of the student's workload*

#### **6. Apprenticeship**

<b>NUMBER OF HOURS</b>	-0
<b>RULES AND FORMS OF APPRENTICESHIP</b>	-0

#### **7. References**

<b>Obligatory</b>
1. <b>OH'S INTENSIVE CARE MANUAL ANDREW D BERSTEN , NEIL SONI, SEVENTH EDITION</b>
<b>Optional</b>
1. Advanced Life Support – guidelines //www.erc.edu/index.php/als_overview/p
2. <b>Morgan &amp; Mikhail's Clinical Anesthesiology, Seventh Edition</b>
Copyright © 2022 by McGraw Hill LLC

Akceptacja Kierownika studiów podyplomowych / kursu / szkolenia lub osoby upoważnionej