



UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN  
Faculty of Medicine

## Course syllabus – part A

**Course code:** 48SJ-AIC

**Cycle:** 2025Z

**ECTS:** 3.00

Anesthesiology and Intensive Care

Anesthesiology and Intensive Care

### SUBJECT MATTER CONTENT:

**Seminar** - -1.Regional anesthesia, pharmacology of local anesthetics. 2.Patients care during the perioperative period – introduction. 3. Pharmacology of general anesthesia drugs. 4. Multiorgan failure: cardiovascular, respiratory and CNS systems. 5. Multiorgan failure: endocrinological and gastroenterological systems.

**Lecture** - -The construction of the camera to the anesthesia. Basics of ventilation replacement. Ventilation in the face mask. Rules intubation. Installing non-invasive methods for monitoring during anesthesia. Opioid analgesics; pharmacokinetics, pharmacodynamics, side effects Regional anesthesia - methods of identification of neural structures Side effects of local anesthesia - the nature of different types of anesthesia non-invasive and invasive methods of treatment of postoperative pain. Installing non-invasive monitoring in the ICU. Methods of reactive oxygen therapy. Non-invasive ventilation. Basic modes of positive pressure ventilation. Practical aspects of therapy katecholowymi aminami, and drugs acting on the cardiovascular system. Rules of conduct antibiotic. Nutritional therapy in OIT

**Classes** - -The construction of the camera to the anesthesia. Basics of ventilation replacement. Ventilation in the face mask. Rules intubation. Installing non-invasive methods for monitoring during anesthesia. Opioid analgesics; pharmacokinetics, pharmacodynamics, side effects Regional anesthesia - methods of identification of neural structures Side effects of local anesthesia - the nature of different types of anesthesia non-invasive and invasive methods of treatment of postoperative pain. Installing non-invasive monitoring in the ICU. Methods of reactive oxygen therapy. Non-invasive ventilation. Basic modes of positive pressure ventilation. Practical aspects of therapy katecholowymi aminami, and drugs acting on the cardiovascular system. Rules of conduct antibiotic. Nutritional therapy in OIT

### TEACHING OBJECTIVE:

Introducing the student to work in the intensive care, acquiring knowledge and skills in the field : recognizing life-threatening conditions, taking appropriate therapeutic interventions in patients with organ dysfunctions or insufficiencies. 2/ The ability to assess the patient's condition in terms of surgery, selection of the appropriate type of anesthesia, preparation of the patient for surgery, principles of postoperative pain treatment (including regional anesthesia techniques). 3/ Ethical dilemmas during care of critically ill patients

**Legal acts specifying learning outcomes:**  
672/2020;

**ISCED Code:** -

**Status:** -

**Group of courses:** -

**Discipline:** Medical Sciences

**Language:** ANG

**Classes:** Lecture (5h); Seminar (10h); Classes (45h);

**Program:** Medicine

**Phase:** Kierunek lekarski piąty rok semestr dziesiąty (oferta w jęz. angielskim dla obcokrajowców)

**Profile:** -

**Form:** full-time

**Level of studies:** uniform master's studies

**Introductory subject:** anatomy, physiology, pathophysiology, pharmacology

**Prerequisites:** knowledge of the current ALS, BLS guidelines in adults and children

**Organized by the unit:**

**Coordinators:**

Dariusz Onichimowski,  
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**DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN  
RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF  
THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS  
AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN  
RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR  
FIELDS OF STUDY:**

**Symbols for outcomes related to the discipline:**

M/NMA\_P7S\_KO+++, M/NM+++++, M/  
+++++, M/  
NMA\_P7S\_KR++, M/NMA\_P7S\_UW+++++, M/  
NMA\_P7S\_WG+++++,  
+++++

**Symbols for outcomes related to the field of study:**

K.4.+, K.2.+, K.1.+, C.U10.+, E.U14.+, E.U37.+, E.U7.+, E.U24.+,  
E.U32.+, F.U22.+, C.U20.+, D.U6.+, E.U16.+, E.U25.+, E.U29.+,  
E.U30.+, D.U7.+, F.U12.+, F.U21.+, F.U3.+, M/NM\_C.W.38.+, M/  
NM\_E.W29.+, M/NM\_E.W42.+, M/NM\_F.W15.+, M/NM\_F.W4.+,  
M/NM\_F.W5.+, M/NM\_F.W6.+, KA7\_WG12+, KA7\_WG15+,  
KA7\_WG6+, M/NM\_A.W5.+, M/NM\_B.W1.+, M/NM\_B.W20.+, M/  
NM\_B.W24.+, M/NM\_C.W.40.+, M/NM\_C.W14.+, M/NM\_C.W29.+,  
M/NM\_C.W30+, M/NM\_D.W18.+

**Symbols for outcomes related to the field of study:**

**W1** - the basic principles of pharmacotherapy;

**W2** - the principles of treating pain, including neoplastic and  
chronic pain;

**W3** - the indications for monitored therapy

**W4** - the principles of suspecting and recognising brain death

**W5** - the rules of perioperative safety, patient preparation for the  
surgery, performance of general and local anaesthesia and  
controlled sedation;

**W6** - post-operative treatment with pain therapy and post-  
operative monitoring;

**W7** - indications for and the principles of implementing intensive  
care

**W8** - różne modele komunikacji z pacjentem i jego rodziną oraz z  
zespołem interdyscyplinarnym;

**W9** - principles of dietary treatment and selected aspects of diet  
therapy in various health and disease states.

**W10** - theoretical basis for performing selected standard and  
complex medical procedures and skills;

**W11** - the basic cell structures and their functional specialisations;

**W12** - the water and electrolyte management in biological  
systems;

**W13** - the basis of nervous system stimulation and conduction,  
including higher level nervous activity, as well as physiology of  
striated and smooth muscles plus blood functions

**W14** - the basic quantitative parameters describing the efficiency of individual systems and organs, including the standard ranges and the demographic factors affecting the parameter values;

**W15** - the problem of resistance to medicinal drugs, including multi-drug resistance;

**W16** - the impact of abiotic and biotic environmental factors (viruses, bacteria) on the human organism, human populations, and their routes of entry into the human organism;

**W17** - the definition and pathophysiology of shock and in particular differentiation of the causes of shock and multiple-organ failure

**W18** - the etiology of haemodynamic disorders, regressive and progressive changes

**W19** - the rules of team work

**U1** - interpret the results of microbiological tests

**U2** - recognise immediately life-threatening conditions

**U3** - recognise the patient in agony and confirm his/her death;

**U4** - evaluate the overall condition, state of consciousness, and awareness of the patient;

**U5** - interpret the results of laboratory tests and identify the causes of deviations from the norm;

**U6** - plan specialist consultations

**U7** - recognise symptoms of growing intracranial pressure

**U8** - describe the changes in the functioning of the organism in homeostatic distortions, particularly identify its integrated response to physical effort, exposure to high and low temperature, loss of blood or water, sudden verticalisation, and transition from sleep to wakefulness.

**U9** - inform the patient of the purpose, course, and potential risks inherent in the proposed diagnostic or therapeutic actions, and obtain his/her informed consent to such actions

**U10** - plan diagnostic, therapeutic, and prophylactic procedures;

**U11** - apply nutritional treatment, including enteral and parenteral feeding

**U12** - 1) taking the body temperature (both external and internal), the heart rate, the arterial pressure applying a non-invasive method, 2) monitoring the vital signs with the use of the patient monitor, pulse oximetry, 3) conducting spirometry tests, oxygenotherapy, assisted and controlled ventilation, 4) inserting the oropharyngeal tube,

**U13** - . assist in the following medical procedures and operations: 1) transfusing blood and blood product preparations, 2) performing pleural drainage, 3) performing pericardiocentesis, 4) performing paracentesis, 5) performing lumbar puncture, 6) performing thin needle biopsy, 7) performing epicutaneous tests, 8) performing intradermal and scarification tests and interpreting their results;

**U14** - engage the patient in the therapeutic process;

**U15** - monitor the patient in the post-operative period based on core vital parameters

**U16** - assess the condition of an unconscious patient in accordance with international point scales;

**U17** - apply the rules of asepsis and antiseptics;

**K1** - taking actions towards the patient based on ethical principles, with the awareness of social conditions and limitations resulting from the disease;

**K2** - be guided by the good of the patient;

**K3** - establishing and maintaining a deep and respectful contact with the patient, as well as showing understanding for worldview and cultural differences;

#### **Symbols for outcomes related to the field of study:**

**Seminar** - ['K1', 'K2', 'K3', 'U1', 'U2', 'U3', 'U4', 'U5', 'U6', 'U7', 'U8', 'U9', 'U10', 'U11', 'U12', 'U13', 'U14', 'U15', 'U16', 'U17', 'W1', 'W2', 'W3', 'W4', 'W5', 'W6', 'W7', 'W8', 'W9', 'W10', 'W11', 'W12', 'W13', 'W14', 'W15', 'W16', 'W17', 'W18', 'W19'] - Discussion of clinical cases

**Lecture** - ['K1', 'K2', 'K3', 'U1', 'U2', 'U3', 'U4', 'U5', 'U6', 'U7', 'U8', 'U9', 'U10', 'U11', 'U12', 'U13', 'U14', 'U15', 'U16', 'U17', 'W1', 'W2', 'W3', 'W4', 'W5', 'W6', 'W7', 'W8', 'W9', 'W10', 'W11', 'W12', 'W13', 'W14', 'W15', 'W16', 'W17', 'W18', 'W19'] - Recorded lecture with a multimedia presentation placed on the teams platform

**Classes** - ['K1', 'K2', 'K3', 'U1', 'U2', 'U3', 'U4', 'U5', 'U6', 'U7', 'U8', 'U9', 'U10', 'U11', 'U12', 'U13', 'U14', 'U15', 'U16', 'U17', 'W1', 'W2', 'W3', 'W4', 'W5', 'W6', 'W7', 'W8', 'W9', 'W10', 'W11', 'W12', 'W13', 'W14', 'W15', 'W16', 'W17', 'W18', 'W19'] - Recorded lecture with a multimedia presentation placed on the teams platform

#### **FORM AND CONDITIONS OF VERIFYING LEARNING OUTCOMES:**

**Seminar (Oral test)** - ['U1', 'K1', 'W1', 'U2', 'K3', 'U3', 'W3', 'U4', 'W4', 'W5', 'U5', 'W6', 'U6', 'W7', 'U7', 'W8', 'U8', 'W9', 'U9', 'U10', 'W10', 'U11', 'W11', 'U12', 'W12', 'U13', 'W13', 'W14', 'U14', 'W15', 'U15', 'U16', 'W16', 'W17', 'U17', 'W18', 'W19', 'W2', 'K2'] - Discussion of clinical cases

**Classes (Colloquium test)** - ['U1', 'K1', 'W1', 'U2', 'K3', 'U3', 'W3', 'U4', 'W4', 'W5', 'U5', 'W6', 'U6', 'W7', 'U7', 'W8', 'U8', 'W9', 'U9', 'U10', 'W10', 'U11', 'W11', 'U12', 'W12', 'U13', 'W13', 'W14', 'U14', 'W15', 'U15', 'U16', 'W16', 'W17', 'U17', 'W18', 'W19', 'W2', 'K2'] - test of 10 questions, the condition for passing is to obtain 60% of correct answers

**Lecture (Written exam)** - ['U1', 'K1', 'W1', 'U2', 'K3', 'U3', 'W3', 'U4', 'W4', 'W5', 'U5', 'W6', 'U6', 'W7', 'U7', 'W8', 'U8', 'W9', 'U9', 'U10', 'W10', 'U11', 'W11', 'U12', 'W12', 'U13', 'W13', 'W14', 'U14', 'W15', 'U15', 'U16', 'W16', 'W17', 'U17', 'W18', 'W19', 'W2', 'K2'] - test of 50 questions, the condition for passing is to obtain 60% of correct answers

## Literature:

1. Fundamentals of Anaesthesia 4th edition by Colin Pinnock, Tim Smith, Ted Lin; Cambridge University Press; 2016; Pages: ; Tome: ; Required literature
2. Anaesthesia 8th Revised edition by, Ronald Miller & Co, Miller's; wyd. Elsevier Health Sciences.; 2015; Pages: ; Tome: ; Required literature
3. [https://www.youtube.com/watch?v=7cEs0oH\\_pcl](https://www.youtube.com/watch?v=7cEs0oH_pcl), Complimentary literature
4. [https://www.youtube.com/watch?v=\\_Ko-m4kFOil](https://www.youtube.com/watch?v=_Ko-m4kFOil), Complimentary literature
5. <https://www.youtube.com/watch?v=h4uvHsx1kJ8>, Complimentary literature
6. <https://www.youtube.com/watch?v=q3UNsNtFHLA>, Complimentary literature
7. [https://www.youtube.com/watch?v=Tg7DJzbA\\_gU](https://www.youtube.com/watch?v=Tg7DJzbA_gU), Complimentary literature
8. <https://www.youtube.com/watch?v=6DtpLZ08Vml>, Complimentary literature
9. [https://www.youtube.com/watch?v=OshfCqYpZ\\_4](https://www.youtube.com/watch?v=OshfCqYpZ_4), Complimentary literature
10. <https://www.youtube.com/watch?v=ilGAmdyZr4Y>, Complimentary literature
11. [https://www.youtube.com/watch?v=\\_i7nZg\\_qgSk](https://www.youtube.com/watch?v=_i7nZg_qgSk), Complimentary literature
12. <https://www.youtube.com/watch?v=XK8154sZn84>, Complimentary literature
13. [https://www.youtube.com/watch?v=AkKXRd\\_-S2o](https://www.youtube.com/watch?v=AkKXRd_-S2o), Complimentary literature
14. [https://www.youtube.com/watch?v=zzZbXR\\_m0vE](https://www.youtube.com/watch?v=zzZbXR_m0vE), Complimentary literature
15. <https://www.youtube.com/watch?v=dORH20x32wY>, Complimentary literature
16. <https://www.youtube.com/watch?v=n77OH16wztk>, Complimentary literature
17. <https://www.youtube.com/watch?v=WJuRHvMFS2Q>, Complimentary literature



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## Detailed description of ECTS credits awarded - part B

**Course code:** 48SJ-AIC

**Cycle:** 2025Z

**ECTS:** 3.00

Anesthesiology and Intensive Care

Anesthesiology and Intensive Care

### 1. Contact hours with the academic teacher:

|                             |             |
|-----------------------------|-------------|
| - participation in: Lecture | 5 h         |
| - participation in: Seminar | 10 h        |
| - participation in: Classes | 45 h        |
| - consultation              | 5 h         |
| <b>Total:</b>               | <b>65 h</b> |

### Independent work of a student:

|                              |                |
|------------------------------|----------------|
| - student's independent work | 10.00 h        |
| <b>Total:</b>                | <b>10.00 h</b> |

1 ECTS credit = 25-30 h of an average student's work, number of ECTS

ECTS Points = 75.00 h : 25 h/ECTS = 3.00 ECTS

**Average:** 3.00 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher -  
2.60 ECTS pts

- including the number of ECTS credits for hours of independent work of a student - 0.40 ECTS pts