JAGIELLONIAN UNIVERSITY MEDICAL COLLEGE

Anesthesiology and Intensive Care

Educational subject description sheet

Basic information

Department Faculty of Medicine	**Didactic cycle** 2016/17
Field of study Medical Program	**Realization year** 2019/20, 2020/21
Study level long-cycle master's degree program	**Lecture languages** English
Study form full-time	**Block** obligatory for passing in the course of studies
Education profile general academic	**Mandatory** obligatory
Disciplines Medical science	**Examination** examination
Subject related to scientific research Yes	**Standard groups** B. Scientific basics of medicine, C. Preclinical course, F. Clinical procedural sciences

Subject coordinator	Janusz Andres
Lecturer	Janusz Andres

Periods Semester 7, Semester 8	**Examination** credit **Activities and hours** seminar: 15, clinical classes: 25, total: 40	**Number of ECTS points** 3.0

Periods Semester 9, Semester 10	**Examination** examination **Activities and hours** seminar: 20, clinical classes: 19, total: 39	**Number of ECTS points** 3.0

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 cardiopulmonary resuscitation and management of life-threating states in adult.
C3	Awarning students 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 issue

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge – Student knows and understands:			
W1	symptoms and course of diseases	O.W2	booklet of practical skills, booklet of practice, classroom observation, clinical case presentation, multiple choice test
W2	methods of diagnostic and therapeutic procedures appropriate for specific disease states	O.W3	booklet of practical skills, booklet of practice, clinical case presentation, multiple choice test
W3	principles of perioperative safety, patient preparation for surgery, general and local anesthesia and controlled sedation	F.W4	classroom observation, clinical case presentation, multiple choice test
W4	postoperative treatment with analgesic therapy and postoperative monitoring	F.W5	classroom observation, clinical case presentation, multiple choice test
W5	indications and rules for the use of intensive care	F.W6	classroom observation, clinical case presentation, multiple choice test
W6	guidelines for cardiopulmonary resuscitation of newborns, children and adults	F.W7	booklet of practical skills, booklet of practice, clinical case presentation, multiple choice test
W7	principles of functioning of the integrated system National Medical Rescue Service	F.W8	clinical case presentation, multiple choice test
W8	rules of qualification for basic surgical procedures and invasive diagnostic and therapeutic procedures, rules of their performance and the most frequent complications	F.W3	booklet of practice, classroom observation, clinical case presentation, multiple choice test

W9	the principles of suspicion and diagnosis of brain death	F.W15	booklet of practice, clinical case presentation, multiple choice test
W10	the most common complications associated with anesthesia, sedation and perioperative period	F.W19	clinical case presentation, multiple choice test
Skills – Student can:			
U1	identify medical problems and prioritize medical management	O.U1	booklet of practical skills, booklet of practice, classroom observation, clinical case presentation
U2	identify life-threatening conditions that require immediate medical intervention	O.U2	booklet of practical skills, booklet of practice, classroom observation, clinical case presentation
U3	plan the diagnostic procedure and interpret its results	O.U3	booklet of practical skills, booklet of practice, classroom observation, clinical case presentation
U4	implement appropriate and safe therapeutic treatment and predict its effects	O.U4	booklet of practical skills, booklet of practice, classroom observation, clinical case presentation
U5	plan own learning activities and constantly learn in order to update own knowledge	O.U5	booklet of practical skills, classroom observation, clinical case presentation
U6	inspire the learning process of others	O.U6	booklet of practical skills, classroom observation, clinical case presentation
U7	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, classroom observation, clinical case presentation
U8	communicate and share knowledge with colleagues in a team	O.U8	booklet of practical skills, classroom observation, clinical case presentation
U9	critically evaluate the results of scientific research and adequately justify the position	O.U9	booklet of practical skills, classroom observation, clinical case presentation
U10	adhere to the principles of asepsis and antisepsis	F.U3	booklet of practical skills, booklet of practice, classroom observation, clinical case presentation
U11	make a peripheral puncture	F.U5	booklet of practical skills, booklet of practice, clinical case presentation
U12	perform basic resuscitation procedures using an automatic external defibrillator and other emergency procedures and first aid	F.U10	booklet of practical skills, clinical case presentation
U13	operate according to the algorithm of advanced resuscitation activities	F.U11	booklet of practical skills, clinical case presentation

U14	monitor the patient's condition in the post-operative period based on basic vital parameters	F.U12	booklet of practical skills, booklet of practice, clinical case presentation
U15	to pass on information about the death of a close friend and relative	F.U34	booklet of practical skills, classroom observation, clinical case presentation
U16	operate according to a current algorithm for advanced resuscitation activities: a) is able to open the airway using non-instrumented and instrumented techniques endoscopic retrograde cholangiopancreatography) b) is able to ventilate the patient with a self-expanding bag with a face mask c) is able to operate the manual defibrillator safely	F.U27	booklet of practical skills, clinical case presentation
Social competences – Student is ready to:			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	booklet of practical skills, booklet of practice
K2	to be guided by the well-being of a patient	O.K2	booklet of practical skills, booklet of practice
K3	respect medical confidentiality and patients' rights	O.K3	booklet of practical skills, booklet of practice
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	booklet of practical skills, booklet of practice
K5	perceive and recognize own limitations and self-assessing educational deficits and needs	O.K5	booklet of practical skills, booklet of practice
K6	promote health-promoting behaviors	O.K6	booklet of practical skills, booklet of practice
K7	use objective sources of information	O.K7	booklet of practical skills, booklet of practice

Calculation of ECTS points

Semester 7, Semester 8

Activity form	**Activity hours***
seminar	15
clinical classes	25
Student workload	**Hours** 30
Workload involving teacher	**Hours** 40
Practical workload	**Hours** 25

* hour means 45 minutes

Semester 9, Semester 10

Activity form	Activity hours*
seminar	10
clinical classes	19
lecture	10
preparation for examination	30
preparation for classes	5
case analysis	10
professional practice	10
conducting literature research	5
participation in examination	2

Student workload	**Hours** 97
Workload involving teacher	**Hours** 39
Practical workload	**Hours** 39

* hour means 45 minutes

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Evaluation of the patient and preoperative medication. General anesthesia. Recovery from anesthesia, patients selection after recovery. Anesthesia of elderly patients. ALS	W10, W3, W4, W5, W6, W7, W8, W9, U1, U10, U13, U14, U15, U16, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	classes, seminar
2.	Anesthesia for children. Regional anesthesia . Pain management and sedation in ICU patients. Drugs in ICU patients (pharmacokinetics, pharmacodynamics).	W1, W2, W4, W5, W9, U1, U10, U11, U12, U13, U15, U3	classes, seminar

3.	Critical care in neurology and neurosurgery. Seizures. Evaluation of the comatose patient. Brain death. Long term catheters, venous, artery lines. Infections in surgical patients-preventions, laboratory diagnosis, monitoring -related bacteremia and sepsis. Antibiotic prophylaxis in surgical theatres	W10, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	classes, seminar
4.	Obstetric anesthesia and pain relief in labour. Principles of mechanical ventilation. Respiratory failure.	W1, W10, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	classes
5.	Cardiovascular management in CCU-diagnosis, monitoring and treatment. Diagnosis and treatment of the shock syndrome. Metabolism in critical patient. Dehydratations and electrolities supply, nutritional failure, principles of parenteral nutrition and enteral feeding. Drugs in ICU. Infections in surgical ICU-preventions, laboratory diagnosis, monitoring -related bacteriemia and sepsis. Toxic and septic shock. Bacterial hospital-aquired pneumonia and VAP.	W1, W10, W2, W3, W4, W5, W6, W8, U1, U10, U11, U12, U13, U14, U15, U16, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	classes
6.	ICU patient after Severe trauma. AKI	W1, W10, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	classes

Course advanced

Semester 7, Semester 8

Teaching methods:

case study, brainstorm, clinical classes, discussion, group work, seminar, high fidelity simulation

Activities	Examination methods	Credit conditions
seminar	multiple choice test	Active participation in seminar classes - active participation in scenario, problem solving, assessment of practical ALS skills, ventilation and external heart massage, assessment of compliance with ERC recommendations. No absence available.
classes	booklet of practical skills, classroom observation, multiple choice test	Presence on clinical exercises and practical- active participation and discution the cases - one justified absence from practical exercises or clinical, it is possible to make up missed classes with other groups (no more than 3-4 students per CLR group).

Semester 9, Semester 10

Teaching methods:

case study, brainstorm, clinical classes, discussion, educational film, presentation, group work, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
seminar	booklet of practice, clinical case presentation	Active participation in seminar classes. ase presentation
classes	booklet of practical skills, classroom observation, multiple choice test	Presence on clinical exercises and practical-active participation and discution the cases - one justified absence from practical exercises or clinical, it is possible to make up missed classes with other groups (no more than 3-4 students per CLR group). Case presentation.
lecture	booklet of practice, multiple choice test	Presence on lectures

Entry requirements

completed and passed courses: physiology, anatomy, internal medicine, surgery, padiatrics, neurosurgery, neurology, radiology, orthopedics and traumatology.

Literature

Obligatory

1. Oh”s Intensive Care Manual Andrew D Bersten , Neil Soni, seventh

Optional

1. Advanced Life Support – guidelines //www.erc.edu/index.php/als_overview/pl

Standard effects

Code	Content
F.U3	adhere to the principles of asepsis and antisepsis
F.U5	make a peripheral puncture
F.U10	perform basic resuscitation procedures using an automatic external defibrillator and other emergency procedures and first aid
F.U11	operate according to the algorithm of advanced resuscitation activities
F.U12	monitor the patient's condition in the post-operative period based on basic vital parameters
F.U27	operate according to a current algorithm for advanced resuscitation activities: a) is able to open the airway using non-instrumented and instrumented techniques endoscopic retrograde cholangiopancreatography) b) is able to ventilate the patient with a self-expanding bag with a face mask c) is able to operate the manual defibrillator safely
F.U34	to pass on information about the death of a close friend and relative
F.W3	rules of qualification for basic surgical procedures and invasive diagnostic and therapeutic procedures, rules of their performance and the most frequent complications
F.W4	principles of perioperative safety, patient preparation for surgery, general and local anesthesia and controlled sedation
F.W5	postoperative treatment with analgesic therapy and postoperative monitoring
F.W6	indications and rules for the use of intensive care
F.W7	guidelines for cardiopulmonary resuscitation of newborns, children and adults
F.W8	principles of functioning of the integrated system National Medical Rescue Service
F.W15	the principles of suspicion and diagnosis of brain death
F.W19	the most common complications associated with anesthesia, sedation and perioperative period
O.K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures
O.K2	to be guided by the well-being of a patient
O.K3	respect medical confidentiality and patients' rights
O.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.K5	perceive and recognize own limitations and self-assessing educational deficits and needs
O.K6	promote health-promoting behaviors
O.K7	use objective sources of information
O.U1	identify medical problems and prioritize medical management
O.U2	identify life-threatening conditions that require immediate medical intervention
O.U3	plan the diagnostic procedure and interpret its results
O.U4	implement appropriate and safe therapeutic treatment and predict its effects
O.U5	plan own learning activities and constantly learn in order to update own knowledge
O.U6	inspire the learning process of others
O.U7	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient
O.U8	communicate and share knowledge with colleagues in a team

Code	Content
O.U9	critically evaluate the results of scientific research and adequately justify the position
O.W2	symptoms and course of diseases
O.W3	methods of diagnostic and therapeutic procedures appropriate for specific disease states