

ANESTHIOLOGY, RESUCITATION AND INTENSIVE CARE	
GENERAL INFORMATION	
Course coordinator	Professor Slavica Kvolik, MD, PhD
Assistant/Associate	Assoc. Prof. Ivan Radoš, MD, PhD Asst. Prof. Ozana Katarina Tot, MD, PhD Asst. Prof. Nevenka Miličević, MD, PhD Gordana Kristek, MD, PhD Nenad Nešković, MD, PhD Hrvoje Vinković, MD Dino Budrovac, MD Sonja Škiljić, MD Višnja Ikić, MD Ana Cicvarić, MD Anja Petričević, MD Ivan Omrčen, MD Josipa Glavaš Tahter, MD Karlo Kedačić, MD
Study Programme	Integrated undergraduate and graduate university study of Medicine
Status of the course	Mandatory
Year of study, semester	5 th year, 9 th semester
ECTS	2
Workload (hours)	Lectures (20); Seminars (20); Exercises (20)
Expected number of students	70
COURSE DESCRIPTION	
Course objectives	
<p>To enable students to independently perform basic and advanced skills of cardiopulmonary resuscitation. To train students for basic procedures in airway, peripheral and central venous maintenance. Introduce students to the properties of certain groups of drugs used in anesthesiology. Introduce students to the preoperative examination and preparation of certain categories of patients for surgery. Learn on main indications for performing general and regional anesthesia, therapeutic effects of anesthetics, side effects and complications of certain types of anesthesia.</p> <p>Introduce students to the intensive care of surgical and traumatized patients. Learn initial diagnosis and treatment in septic patients.</p> <p>Introduce students to the procedures of diagnosis and treatment of chronic pain.</p>	
Enrolment requirements and entry competencies	
General conditions for enrollment in the fifth year.	
Learning outcomes at the Programme level	
1.1., 1.2., 2.1, 2.2., 2.3., 3.1., 3.3., 3.4.,3.5., 4.1., 4. 2.	
Learning outcomes (5-10)	
<ol style="list-style-type: none"> 1. Assess ASA status 2. Compare the types of anesthesia and relate them to the drugs used in anesthesia 3. Use methods of basic intraoperative monitoring of patients, interpret the findings of respiratory monitoring, get acquainted with monitoring methods 	

4. Independently perform resuscitation using basic (BLS) and advanced (ALS) life support methods
5. Independently perform basic resuscitation procedures "in the field" and in polytraumatized, burnt, hypothermic and intoxicated patients
6. Confirm shock, sepsis, distinguish types of shock, list the features of septic shock, distinguish septic shock and multiorgan failure (MOF) and compare procedures in their diagnosis and therapy
7. Compare methods of parenteral and enteral nutrition, calculate the caloric requirement using equations for different categories of intensive care patients
8. Get acquainted with the techniques of physical examination and methods of monitoring critically ill patients, determine the indications for the use of radiological diagnostic techniques, get acquainted with the use of ultrasound in ICU
9. Distinguish between mechanical ventilation methods, assisted ventilation techniques
10. Present the basics of neuroanatomy and neurophysiology of pain and describe methods of drug, complementary and invasive treatment of chronic pain

Course content

Lectures

Monitoring and measuring the parameters of vital organ functions, cardio-pulmonary-cerebral resuscitation - basic (BLS) and advanced (ALS) life support in specific situations such as cardiac arrest, polytrauma, hypothermia, burns or periarest conditions; preoperative examination and preparation of patients for surgery. Types of anesthesia, general and local anesthetics, opioids, muscle relaxants, postoperative recovery, and complications of anesthesia. Pain treatment: type and quantity of pain, types of drugs and other therapies that can be applied to patients in a pain clinic.

Seminars

Based on the presentation of clinical situations, case studies and analysis of available literature in the field of problems related to individual topics of the curriculum develop the ability to independently process a given topic and a critical approach to literature. Through the treatment of problems related to perioperative procedures, procedures in intensive care medicine, resuscitation and pain treatment, students develop speaking and written communication skills when presenting solutions to given tasks and problems.

Practical exercises

The student acquires skills through resuscitation exercises on manequins, models and finally in a real clinical situation in the operating room. Students develop an awareness of the importance of making critical decisions about the timely initiation of resuscitation, its sufficiently long and quality implementation, as well as the termination of procedures in defined clinical situations. In clinical exercises, students independently perform procedures such as observing and interpreting vital signs, recognizing the quality of breathing, assessing the need for additional ventilation or oxygenation, mask ventilation, diluting medications, and administering intravenous medications. Students get acquainted with the methods of performing invasive monitoring methods, determining the indications for setting up individual monitors and interpreting the observed results. Students independently determine perioperative risk according to the ASA classification. They will learn the basic methods in the treatment of critically ill patients. Pain scoring according to the VAS scale in the acute and chronic pain conditions.

Mode of teaching

Lectures; Seminars; Clinical exercise

Student obligations

Attendance at all forms of teaching is mandatory, and the student must access all knowledge tests. A student may justifiably miss 30% of each form of teaching. Unfinished exercise must be colloquial.

Monitoring student work (alignment of learning outcomes, teaching methods and grading)

Teaching activity	ECTS	Learning outcome	Student activity	Assessment methods	Grade points	
					Min.	Max.
Class attendance		1-10	Class attendance	Record		
Seminar	0.3	1-10	Attendance	Presentation within group	10	20
Exercises	0.5	1-10	Active participation in exercises	Exercise diary	10	20
Final exam	1	1-10	Learning for the written exam	Written exam	40	60
Total	2				60	100

Evaluation of the final exam:

Percentage of accurate answers provided (%)	Grade points
60,00-69,99	40
70,00-79,99	45
80,00-89,99	50
90,00-94,99	55
95,00-100,00	60

Calculation of final grade:

Grades earned during classes are joined by points earned in the written exam. The evaluation is performed by absolute distribution, ie on the basis of the final achievement and is graded with the numerical system as follows:

A - excellent (5): 90-100 points; B - very good (4): 80-89.99 points; C - good (3): 70-79.99 points; D - sufficient (2): 60-69.99 points

Required reading (available in the library and through other media)

Title	Number of copies in the library	Availability through other media
1. Script "Anesthesiology, resuscitation, intensive care and pain treatment" available online		Available online 70

Additional reading

1. K. Šakić et al.: Clinical Anesthesiology, Resuscitation and Intensive Care, MF Osijek 2008

Course evaluation procedures

Anonymous, quantitative, standardized student survey on the course and work of teachers conducted by the Office for Quality of the Medical Faculty Osijek.

Note /Other

E-learning is not included in the norm of subject hours, but it is used in teaching and contains links to various pages, video and audio materials available on the website.