University of Medicine and Pharmacy "Carol Davila" Bucharest
Commission for Quality Assurence

SUBJECT OUTLINE

1. Program data

1.1.	**UNIVERSITY OF MEDICINE AND PHARMACY "CAROL DAVILA"**
1.2.	**MEDICINE FACULTY / DEPARTMENT 14**
1.3.	**DISCIPLINE : ANAESTHESIA AND CRITICAL CARE –**
1.4.	**FIELD OF STUDIES: HEALTH**
1.5.	**STUDY CYCLE : BACHELOR'S DEGREE**
1.6.	**CURRICULUM: MEDICINE**

2. DISCIPLINE DATA

2.1.	**Discipline name: Anaesthesia and Critical Care**						
2.2	**Discipline location:**						
2.3.	**Lectures activities:**						
2.4	**Practical lessons coordinator:**						
2.5. Year of study	VI	**2.6. Semester**	XI, XII	**2.7. Evaluation type**	Written exam and practical exam	**2.8. Discipline regimen**	Mandatory

3. Estimated total time (hours / semester of teaching activity)

No. of hours per week	20	**From which: lecture**	10	**Practical lessons**	10
Total hours in the curriculum	32	**From which: lecture**	16	**Practical lessons**	16
Time fund distribution	2 weeks	**From which: lecture**	2 hours/ day	**Practical lessons**	2 hours/day
Textbook study, course support, bibliography and notes					yes
Additional documentation in the library, on specialized electronic platforms and in the field					
Preparation of seminars / laboratories, topics, papers, portfolios and esseys					
Tutoring					

Examination		
Other activities		
Total individual study hours		
Number of credits		2 credits

4. Preconditions (where applicable)

4.1. of curriculum	Fundamental knowledge of physiology, pharmacology, physics, internal medicine and general surgery
4.2. of skills	Taking patient's history, general clinical examination, interpretation of paraclinical tests (hematology, coagulation, biochemistry)

5. Conditions (where applicable)

5.1. for the lecture	use of video projector and other IT equipment, smart blackboard
5.2. for seminar / laboratory	Anaesthesia and intensive care departments, operating theatre, advanced simulation mannequins for airway management, vascular access, pleural puncture, abdominal paracentesis, simulators for complex clinical scenarios (newborn, pediatric, adult), laryngoscope, video laryngoscope, sterile equipment for self-protection

6. Specific skills acquired

6.1 Professional skills (experienced through knowledge and skills)	**Acquiring the necessary and sufficient knowledge, so that at the end of the module students will know:** - Main anesthesia techniques, drugs used in anesthesia and intensive care and specific anesthetic maneuvers - Main monitoring techniques used in anesthesia and critical care - The most common pathologies and organ dysfunctions in critically ill patients: diagnosis criteria, physiopathology, treatment and prognosis **At the end of the module the students will be able to**: - Conduct a routine preanesthetic examination - Examine critically ill patients - Interpret most commonly used paraclinical tests - Interpret clinical monitoring data - Perform cardiopulmonary resuscitation - Perform airway management - To recognize the main indications for ventilatory support and extracorporeal support in critically ill patients - To perform initial assessment and management of a critically ill patient

6.2 Transversal skills (Professional development, personal development)	- to be able to work in a multidisciplinary team - to be able to communicate with patients and next of kin - to have a correct professional conduct

7. Discipline objectives (based on the specific skills acquired)

5.1. General objective	**To present to the student in a clear and concise manner:** - Main anesthesia techniques, drugs used in anesthesia and intensive care and specific anesthetic maneuvers - Main monitoring techniques used in anesthesia and critical care - The most common pathologies and organ dysfunctions in critically ill patients: diagnosis criteria, physiopathology, treatment and prognosis
5.2. Specific objectives	**To guide the student in such a manner that at the end of the module the student will be able to:** - Conduct a routine preanesthetic examination - Examine critically ill patients - Interpret most commonly used paraclinical tests - Interpret clinical monitoring data - Perform cardiopulmonary resuscitation - Perform airway management - To recognize the main indications for ventilatory support and extracorporeal support in critically ill patients - To perform initial assessment and management of a critically ill patient

8. Conținut

8.1. Lecture	**Teaching method**	**Remarks**
1. Anesthesia: definition, pharmacology of anesthetic drugs, general anesthesia techniques, regional anesthesia, pain management	Presentation	2 hours
2. Monitoring in anesthesia and critical care, acute cardiocirculatory failure, cardiopulmonary resuscitation	Presentation	2 hours
3. Shock, trauma, burns and multiple system organ dysfunction	Presentation	2 hours
4. Respiratory failure	Presentation	2 hours
5. Acid-base and electrolyte imbalance	Presentation	2 hours
6. Fluid therapy, transfusion medicine and nutrition in critically ill patients	Presentation	2 hours
7. Acute liver failure. Acute renal failure	Presentation	2 hours
8. Coma and brain death	Presentation	2 hours

8.2. Clinical stage	Teaching method	Remarks
1. Cardiopulmonary resuscitation and vascular access	simulation	2 hours
2. Airway management	simulation	2 hours
3. Advanced medical simulation: shock, acute respiratory failure	simulation	2 hours
4. Initial assessment and resuscitation in critically ill patients	Clincial cases	2 hours
5. Monitoring in anaesthesia and critical care	Clincial cases	2 hours
6. General examination and paraclinical tests interpretation in critically ill patients	Clincial cases	2 hours
7. Differential diagnosis of organ dysfunction	Clincial cases	2 hours
8. Invasive and non-invasive mechanical ventilation. Extracorporeal renal, liver and cardio-circulatory support	Clincial cases	2 hours

Bibliography:

1. Power-point presentations
2. Butterworth, John F., David C. Mackey, and John D. Wasnick. Morgan and Mikhail's Clinical Anesthesiology Cases. McGraw Hill Professional, 2020.
3. Bersten, Andrew D., and Jonathan Handy. Oh's Intensive Care Manual E-Book. Elsevier Health Sciences, 2013.

9. Corroboration of the contents of the discipline with the expectations of the representatives of the epistemic community, professional associations and representative employers in the field related to the program

The concepts of anaesthesia and critical care exposed through lectures and practical lessons are in accordance with the requirements of the European medical university education, being supported by those in the specialized bibliography, helping to integrate the information obtained in the multidisciplinary context, thus favoring the development of competences in establishing a diagnosis.

10.Evaluation

Type of activity	Evaluation criteria	Validation methos	Percentage of the final grade
Lecture	Theoretical knowledge from the course bibliography	Multiple choice questions	70 %
Practical lessons	Activity during practical lessons	Assessed by group tutor	10 %

	Practical exam	Practical assessment	20 %
Minimum performance standard			
- Minimum 50% in each evaluation criteria			

Date of completion:

September 2022