FACULTY OF MEDICINE II

STUDY PROGRAM 0911.1 MEDICINE

CHAIR OF EMERGENCY MEIDCINE

APPROVED
at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum faculty Medicine
Minutes No. 1 of 15.03.18

Chairman associate professor, ph. degree
Suman Serghei _____
(signature)

APPROVED
at the Council meeting of the Faculty Medicine II
Minutes No. 4 of 20.03.18

Dean of Faculty associate professor, ph. degree
Betiu Mircea _____
(signature)

APPROVED
approved at the meeting of the chair **Emergency Medicine**
Minutes No. **2** of **02.09.2107**
Head of chair professor, ph. degree
Ciobanu Gheorghe _____
(signature)

SYLLABUS

DISCIPLINE MEDICAL EMERGENCIES AND PRIMARY CARE

Integrated studies

Type of course: **Compulsory**

Chisinau, 2017

INTRODUCTION

- **General presentation of the discipline: place and role of the discipline in the formation of the specific competences of the professional / specialty training program**
  Program First Aid were developed to provide highly trained individuals with the skills necessary for early assessment and demonstrate the first emergency medical care. Each chapter begins with a list of objectives which tell you what you should be able to do by the end of the chapte. The three kinds of objectives listed are knowledge (cognitive), in which the students are asked to learn information; attitude (affective), in which students are asked to change a value, belief, or feeling about something; and showing (psychomotor), in which students are asked to apply or demonstrate some knowledge or skill that students have learned**;**
- **Mission of the curriculum (aim) in professional training** of First Aid is the foundation for saving lives after cardiac arrest. Students will learn the skills of high quality cardiopulmonary and cerebral resuscitation for victims of all ages and will practice delivery of these skills both as a single rescuer and as a member of multirescuer team. The skills will enable to recognise cardiac arrest and over major emergency activate the emergency response system and respond quickly and confidently, give victims the best chance of survival. Program First Aid is a continuing medical education course**;**
- **Language (s) of the course:** romanian, russian, english, french;
- **Beneficiaries:** students of the I year, faculty MEDICINE II.

I. MANAGEMENT OF THE DISCIPLINE

Code of discipline		**S.01.O.008**	
Name of the discipline		Medical emergencies and primary care	
Person(s) in charge of the discipline		Professor , ph. degree **Gh. Ciobanu**	
Year	**I**	Semester/Semesters	**II**
Total number of hours, including:			**90**
Lectures	**17**	Practical/laboratory hours	**17**
Seminars	**17**	Self-training	**39**
Clinical internship			
Form of assessment	**CD**	Number of credits	**2**

II. TRAINING AIMS WITHIN THE DISCIPLINE

At the end of the discipline study the student will be able to:
at the level of knowledge and understanding:

- Knowledge of basic anatomy and physiology of central nervous system, respiratory, cardiovascular and locomotor system. Assessment of vital signs, normal values of vital signs in correlation with age;
- Knowledge the principles of organizing of emergency medical assistance in the Republic of Moldova, the Cardio-pulmonary Resuscitation System and the ethical and forensic aspects of CPR;
- Knowledge of the anatomical, physiological aspects of the respiratory system, partial and total foreign bodies airways obstruction and the algorithm of disobstruction;
- Knowledge and argumentation of the application of Basic Life Support in adults;
- Knowing the operating principles and application of the External Automated Defibrillator to adults and children;
- Knowledge and argumentation of the application of Basic Life Support in children;
- Knowledge of the principles of primary assessment and resuscitation of the traumatized patient, application and argumentation of the methods of immobilization;
- Knowledge of primary assessment of patients with wounds and bleedings, first aid peculiarities and methods of controling bleeding;
- Knowing acute disturbances of consciousness, primary assessment and first aid to patients with lipothemy, syncope, seizures and coma;
- Knowing the features of precordial pain, hypertension and hypotension, primary assessment and first aid.

at the application level:

- Systematic primary evaluation of vital functions and vital signs - level of consciousness, breathing, pulse, blood pressure. Patient's ABCD primary exam in cardiorespiratory arrest;
- Working with emergency service and timely calling of ambulance for patients with medical and surgical emergencies. Knowledge of the principles of organization of the cardiorespiratory and cerebral resuscitation system and the observance of the links of the survival chain, the ethical, medical-legal norms in the application of the basic resuscitation measures;
- To argue the priority of disobstruction maneuvers in partial or total obstructions of the airways and their protection in Basic Life Support. Applying the Heimlich, Selik maneuver and the algorithm of the airway disobstruction according to age categories of patients;
- Demonstration of basic resuscitation maneuvers in adults. Primary ABC assessment and CAB base rescue measures. Apply defibrillation with the Automatic External Defibrillator in cardiac arrest observing the steps of selecting and attaching the paddles;
- To apply the basic resuscitation measures to children of ages 1-8 years, 1-12 months and newborns;
- Performing the primary examination of the traumatized patient. Demonstration of temporary splinting techniques and first aid in conditions of safety for team and patient;
- Performing the assessment of the consciousness according to the AVPU scale;
- Applying the safety position to the unconscious patient with breathing and current circulation.

at the integration level:

- Assess the importance of promptness and compliance with the quality criteria of basic resuscitation measures in the context of other clinical disciplines;
- To approach creatively, systematically and based on clinical priorities the application of basic reanimation measures;
- To deduce the interrelations between emergency medicine, fundamental and clinical disciplines;
- Have abilities to change attitudes, values and confidence in the application of basic resuscitation maneuvers;
- Possess skills for implementing standardized basic resuscitation techniques in other clinical disciplines of surgical and therapeutic profile;
- Have affection and compassion in communication with the patient and relatives;
- Possess skills for objective evaluation and self-evaluation of practical knowledge and skills;

III. PROVISIONAL TERMS AND CONDITIONS

Basic knowledge of anatomy, physiology.

IV. THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/ laboratory hours/seminars and self-training

No. d/o	THEME	Number of hours		
		L	P/H	Self-t
1.	Basics of anatomy and physiology of the central nervous system, repiratory system, cardiovascular system and locomotor system. Vital signs and peculiarities in age correlation.	2	4	4
2.	National Emergency Service. The Cardiopulmonary and Cerebral Resuscitation System. Knowing the pathophysiology of cardiorespiratory arrest in children and adults. Ethical and forensic aspects in cardiopulmonary resuscitation (CPR).	2	4	5
3.	Airways and foreign bodies airways obstruction. Drowning. Heimlich maneuver and algorithms for assessing and maneuvers of clearing a foreign bodies airway obstruction in children and adults.	2	4	5
4.	Basic Life Support in Adults.	2	3	4
5.	Basic Life Support in Children.	1	3	4
6.	Initial assesment and Cardiorespiratory and Cerebral Resuscitation of the traumatized patient. First Aid and Splinting of injured extrimity.	2	4	5
7.	Wounds of soft tissues, bleeding and burns. Basic emergency care.	2	4	4
8.	Acute disturbances of consciousness - lipotemia, syncope, seizures, coma. Primary	2	4	4

No. d/o	THEME	Number of hours		
		L	P/H	Self-t
	assessment of the patient with acute consciousness disturbances and first aid.			
9.	Chest pain. Hypertension and hypotension. Patient assessment and first aid.	2	4	4
		17	**34**	**39**
Total		**90**		

V. REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
Theme (chapter) 1. Basics of anatomy and physiology of the central nervous system, repiratory system, cardiovascular system and locomotor system. Vital signs and peculiarities in age correlation	
• To define the basic notions of anatomical components and functions of CNS, respiratory, cardiovascular and locomotor systems; • To know the physiological parameters of vital functions and the methods of determining vital of functions; • To demonstrate assessment and recognition skills for normal ranges of vital signs and in patients with major medical emergencies; • To apply the methods, procedures and techniques of deferment of vital functions; • To integrate basic knowledge of anatomy and physiology into the assessment of vital functions.	1. Basic notions of anatomical components and functions of CNS, respiratory, cardiovascular and locomotor systems; 2. Normal ranges of vital signs by the age category. 3. Methods for determining blood pressure, pulse, consciousness (scale AVPU), respiration by age category. 4. Methods, procedures, and techniques of determinations for vital functions.
Theme (chapter) 2. The Cardiopulmonary and Cerebral Resuscitation System. Cardiorespiratory and Cerebral Resuscitation in adults and children.	
• To define cardiac arrest and Basic Life Support in adults and children; • To know the causes of cardiopulmonary arrest and clinical signs, the primary examination of the patient in cardiopulmonary arrest and the stages of the application of basic resuscitation measures; • To demonstrate airway permeability assessment in adults and children, airway permeability remediation techniques in adults and children, ventilation techniques and external chest compression technique in children and adults; • To apply the acquired knowledge in performing of cardiorespiratory and cerebral resuscitation in adults and children; • To integrate knowledge into basic resuscitation measures and to select manopees and techniques that are clinically argued in each case.	1. Cardiopulmonary arrest - notion, causes, clinical signs. 2. The components of the CPR system, the links of the chain of survival in adults and children, the pathophysiology of the cardiopulmonary arrest, the ethical and forensic aspects of the application of Basic Life Support. 3. The techniques of CPR in adults and children.
Theme (chapter) 3. Airways and foreign bodies airways obstruction. Drowning. Heimlich maneuver and algorithms for assessing and maneuvers of clearing a foreign bodies airway obstruction in children and adults.	
• To define the anatomical structure and the peculiarities of the age of the airways and the notions of total and partial foreign bodies airway obstruction and drowning; • To know the etiology and clinical signs of foreign bodies airways obstruction and drowning; • To demonstrate the maneuvers of clearing a foreign bodies airway obstruction in children and adults; • To apply methods for verifying and restoring of airway permeability to adults and children; • To integrate the notions of anatomy and physiology of the airways	1. Anatomical structure and the peculiarities of the age of the airways. 2. Foreign bodies airway obstruction – notion and clasification. 3. Algorithms for assessing and maneuvers of clearing a foreign bodies airway obstruction in children and adults. 4. The maneuvers to restore airway permeability to adults and children.

Objectives	Content units
and to highlight the priority of permeability assessment, restoration and maintenance of airway permeability.	5. Maneuvers of clearing a foreign bodies airway obstruction in children and adults.
Theme (chapter) 4. Initial assesment and Cardiopulmonary and Cerebral Resuscitation of the traumatized patient. First Aid and Splinting of injured extrimity.	
• To define the functions of the locomotor system, closed and open fractures, head injury and thermal, chemical and electrical burns; causes, clinical signs and prophylaxis; • To know the signs of probability and certainty of a fracture; main clinical manifestations of fractures; main clinical manifestations of burns; • To demonstrate the primary survey (initial assessment) of the patient with major trauma and burns (ABCDE); • To apply the primary survey at the scene of the accident in fractures, head injury and spinal injury;	1. The basic anatomical notions of the locomotor system. 2. Primary survey of a traumatized patient - notion, components. 3. Fractures - notion, classification, clinical signs, first aid. 4. Burns - notion, classification, clinical signs, first aid.
Theme (chapter) 5. Wounds of soft tissues, bleeding and burns. Basic emergency care.	
• To define the notion of soft tissue injury, wounds, bleeding: arterial, venous and capillary; ethiology; clinical signs and prophylaxis measures. Define pulse, central and peripheral pulse; • To know the clinical signs of wounds and bleeding; • To demonstrate initial assessment of the patient with soft tissue wounds and bleeding; • To apply temporary haemostasis methods; • To integrate the knowledge for selecting temporary haemostasis and first aid measures.	1. Wounds – notions, etiology, clasification, first aid. 2. Bleeding - notion, etiology, clinical signs and prophylaxis measures, temporary haemostasis methods. 3. Initial assessment of patients with soft tissue wounds and bleeding.
Theme (chapter) 6. Acute disturbances of consciousness - lipotemia, syncope, seizures, coma. Primary assessment of the patient with acute consciousness disturbances and first aid.	
• To define the notions of acute consciousness disorders - lipotemia, syncope, seizures, coma, epileptic status; • To know the main clinical manifestations of acute consciousness disorders - lipotemia, syncope, seizures, coma; • To demonstrate initial assessment of the patient with acute consciousness disorders - lipotemia, syncope, seizures, coma; • To apply initial assessment of the patient with acute consciousness disorders; primary neurologic assessment (scale AVPU); • To integrate basic knowledge of acute consciousness disorders, clinical manifestations and their peculiarities for the purpose of accurately selecting first aid measures and calling for emergency service 903 (112).	1. The notion of consciousness and acute consciousness disorders - lipotemia, syncope, seizures, coma, epileptic status. 2. Acute consciousness disorders - lipotemia, syncope, seizures, coma; etiology, predisposing factors and main clinical manifestations of acute consciousness disorders - lipotemia, syncope, seizures, coma. 3. Initial assessment of the patient with acute consciousness disorders - lipotemia, syncope, seizures, coma; neurological evaluation of AVPU. 4. First aid in patients with acute consciousness disorders - lipotemia, syncope, seizures, coma.
Theme (chapter) 7. Chest pain. Hypertension and hypotension. Patient assessment and first aid.	
• To define chest pain and possible heart attack, hypotension and hypertension; • To know the characteristics of chest pain and possible heart attack; • To demonstrate initial assessment of the patient with chest pain, hypertension and hypotension; measurement of blood pressure;	1. Chest pain – notion. 2. Characteristics of chest pain and possible heart attack, typical and atypical forms, trigger factors, duration, location, irradiation, clinical

Objectives	Content units
• To apply the method of measurement of blood pressure in the initial assessment of the patient with chest pain, hypotension and hypertension; • To integrate the basic knowledge of anatomy, physiology, initial assessment of patient with precordial pain, possible heart attack, hypotension and hypertension in the correct orientation in first aid and ensuring patient access to emergency services.	signs. 3. Blood pressure, normal values and methods for measurement of blood pressure. 4. The notions of hypertension and hypotension. 5. Initial assessment of patients with chest pain, hypertension and hypotension.

VI. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY OUTCOMES

✓ **Professional (specific) (SC) competences**

- **PC1.** Knowing of the principles of organizing of emergency medical assistance of the population of the Republic of Moldova, the Cardio-Respiratory and Cerebral Resuscitation System and the ethical and forensic aspects of CPR; Knowing, understanding and use of specific medical language in medical emergencies; Apply basic knowledge, concepts and methods in first aid.
- **PC2.** Strong knowledge and practical application of the cardiorespiratory and cerebral resuscitation maneuvers, how to clear a foreign bodies airway obstruction in children and adults; to apply medical first aid to patients with medical-surgical emergencies.
- **PC3.** Developing a diagnosis, treatment and rehabilitation plan for various medical and surgical emergencies and selecting the appropriate therapies, including emergency medical assistance at the pre-hospital stage and the Department of Emergency Medicine;
- **PC4.** The use of medical techniques and digital technologies to solve the specific tasks of first aid to the patient in medical-surgical emergencies at the pre-hospital stage.

✓ **Transversal competences (TC)**

- **TC2.** Performing activities and exercising, the roles specific to team work in various medical institutions. Promoting the spirit of initiative, dialogue, cooperation, positive attitude and respect for others, empathy, altruism and continuous improvement of our own activity.

✓ **Study outcomes**

- Recognize and orientate in organizing the provision of emergency medical assistance;
- Apply basic resuscitation measures to critical patients (adults, children);
- Provide medical first aid for wounds and burns;
- Possess temporary haemostasis and immobilisation techniques;
- Apply defibrillation using the External Automatic Defibrillator.

Note. Study outcomes (are deduced from the professional competencies and formative valences of the informational content of the discipline).

VII. STUDENT'S SELF-TRAINING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Working with literature	Work systematically in the library and on internet. Consultation of current electronic sources on the subject.	• Quality of knowledge, logical and systematized thinking; • Knowledge of new acquisitions in Vital Bazal Support obtained from Guides of ERC and AHA.	During the semester
2.	Report	Analysis of relevant sources on the theme of the report. Analysis, systematization and synthesis of information on its own theme.	• Quality of source selection and analysis; • Quality of analysis and synthesis of information on its own theme; • Formation of a knowledge algorithm in the primary assessment of the patient and stabilization of vital functions by applying	During the semester

		Presentation of the report to the chair according to the actual requirements.	the BLS measures.	

VIII. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- ***Teaching and learning methods used***

Exposition, interactive lecture, heuristic conversation, problem-solving, brainstorming, group work, individual study, work with textbook and text, debate, problem solving, role play, simulation, interactive listening.

- ***Methods of assessment*** *(including the method of final mark calculation)*

Current: front and / or individual control via:
(a) applying docimological tests
(b) solving problems / exercises
(c) analysis of case studies
(d) playing role plays on the topics discussed
(e) control work
(f) appreciation of individual work

Final: Colloquium

The final mark will consist of the annual average score, consisting of 2 marks (part 0,5), the practical skill test (part 0,2) and the final test mark in the test-editor (part 0,3)

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	**2**	**F**
3,01-4,99	**4**	**FX**
5,00	**5**	**E**
5,01-5,50	**5,5**	
5,51-6,0	**6**	
6,01-6,50	**6,5**	**D**
6,51-7,00	**7**	
7,01-7,50	**7,5**	**C**
7,51-8,00	**8**	
8,01-8,50	**8,5**	**B**
8,51-8,00	**9**	
9,01-9,50	**9,5**	**A**
9,51-10,0	**10**	

The average annual mark and the marks of all stages of final examination (computer assisted, test, oral) - are expressed in numbers according to the mark scale (according to the table), and the final mark obtained is expressed in number with two decimals, which is transferred to student's record-book.

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations.

IX. RECOMMENDED LITERATURE:

A. Compulsory:

1. Firs aid (courses for medical students)
2. American Heart Association. Basic Life Support Privider Nabual, 2016.
3. European Resuscitation Council Guidelines for Resuscitation, 2015. Resuscitation, 95 (2015), 81-99, 223-248, 278-28.

B. Additional

1. J. David Bergeron, G. Bizjak. First Responder. (8th edition)