Approved

At the meeting of the Faculy Council **Medicine nr. 2**
Minutes Nr. 3 of 25.02.2014

Dean of the Faculty **Medicine nr. 2**
PhD, associate professor _____ **M.Betiu**

Approved

At the meeting of the chair **Emergency Medicine**
Minutes Nr. 11 of 28.01.2014

Head of the chair **Emergency Medicine**,
PhD, professor _____ **Gh. Ciobanu**

SILLABUS FOR STUDENTS OF THE

FACULTY MEDICINE NR.2

Name of the course**: EMERGENCY MEDICINE**

Code of the course: **S.02.0.016**

Type of course: **compulsory**

Total number of hours 76,

lectures 16 hours,

practical lessons 40 hours,

20 hours additional services in the clinic

Number of credits provided for the course: **4**

Lecturers teaching the course:

Gh.Ciobanu, PhD, university professor, Lev Crivceanschii, PhD, associate. prof., L.Rezneac, PhD, associate. prof., Natalia Scurtov, MD, assist. prof., Ala Rabovila, MD, assist. prof., Eugenia Ciubotaru, MD, assist. prof., Natalia Catanoi, MD, assist. prof., Victoria Petrachi, MD, assist. prof..

Chisinau 2014

I. Aim of the discipline:

Studying the concept of comprehensive education and training in cardiovascular, trauma, surgical, neurological, pediatric emergencies, focusing the training on operative diagnostic evaluation, the first stabilization measures and algorithms- guideline for emergency assistance at the stage of pre-hospital and emergency medicine departments

II. Objectives obtained in teaching the discipline:

- At the level of knowledge and understanding

1. Primary and secondary examination of the somatic and trauma patient at the pre-hospital stage and completion of the ambulance call sheet.
2. Performing cardiopulmonary and cerebral resuscitation at the stage of pre-hospital:
    a. Opening maneuvers of upper respiratory tract: Sofar triple handle, double handle Esmarh, Heimlich's maneuver, cricothyrostomy.
    b. Upper respiratory tract protection maneuvers: oropharyngeal cannulas insertion (Guedel and Safar airway) and Robertazzi nasopharyngeal airway.
    c. Artificial ventilation maneuvers: facemask ventilation and mask and self-inflating bag.
    d. Sternal compression and report compliance: compression/ventilationin resuscitation performing (30/2 in adults, 15/2 in children and 3/1 in new born).
    e. Making automatic external defibrillation.
    f. Patient's evaluation during resuscitation: criteria of assessing correct performance of resuscitation and criteria to stop cardiopulmonary and cerebral resuscitation.
3. Temporary hemostasis methods:
    a. Direct compression of a bleeding site.
    b. Maximum flexion in the joint
    c. Compression on vessel track
    d. Tourniquet application
    e. Anterior nasal packing
4. Restraint of the traumatized patient methods:
    a. Setting cervical collar
    b. Application of long and short boards
    c. Upper limbs immobilization with Cramer splint and lower limbs with Diterex splint
5. Performing lateral safety position in unconscious patient
6. Performing electrocardiogram and ECG monitoring of critical patients
7. Methods of patient's transportation: with stretchers and chair, two-person carriage, carriage performed by two rescuers using "seat", carry in arms, transport by increasing the victim on the back of the rescuer, assistance of the patient by a person or two.
8. Motorcycle helmet removal in case of accident.
9. Extraction of vehicle injures victim

- At the level of application

1. Performing primary and secondary examination of the somatic and trauma patient at the pre-hospital stage and completion of the ambulance call sheet.
2. Performing cardiopulmonary and cerebral resuscitation at the stage of pre-hospital:
    a. Opening maneuvers of upper respiratory tract: Sofar triple handle, double handle Esmarh, Heimlich's maneuver, cricothyrostomy.
    b. Upper respiratory tract protection maneuvers: oropharyngeal cannulas insertion (Guedel and Safar airway) and Robertazzi nasopharyngeal airway.
    c. Artificial ventilation maneuvers: facemask ventilation and mask and self-inflating bag.
    d. Sternal compression and report compliance: compression/ventilation in resuscitation performing (30/2 in adults, 15/2 in children and 3/1 in new born).
    e. Performing automatic external defibrillation.
3. Performing temporary hemostasis:
    a. Direct compression of a bleeding site.
    b. Maximum flexion in the joint
    c. Compression on vessel track
    d. Tourniquet application
    e. Anterior nasal packing
4. Restraint of the traumatized patient:
    a. Setting cervical collar
    b. Application of long and short boards
    c. Upper limbs immobilization with Cramer splint and lower limbs with Diterex splint
5. Performing lateral safety position in unconscious patient
6. Performing electrocardiogram and ECG monitoring of critical patients
7. Motorcycle helmet removal in case of accident.
8. Extraction of vehicle injures victim

- At the level of integration

- To appreciate the importance of medical emergencies in the context of medicine.

- To find a creative approach in problems of clinical medicine.

- To deduct connections between Emergency medicine and other clinical disciplines.

- Familiar with the use and integration of knowledge and practical exercises used in critical situations in clinical disciplines

- Be able to assess and self-assess knowledge in the discipline

- Be able to assimilate new advances in clinical disciplines

III. Provisional terms and conditions:

Medical emergency is a clinical discipline which being studied during university will enable future doctors acquire the principles of:
- Cardiopulmonary and cerebral resuscitation. Basic life support in adults.
- Sudden cardiac death. Cardiopulmonary and cerebral resuscitation: Advanced Cardiac Life Support: algorithms, Guideline RCR and C in IVF, TV without pulse, ventricular asystole and DEM. Signs of effectiveness of resuscitation. Monitoring. Stabilizing the successfully resuscitated patient. Transportation and hospitalization conditions of successfully resuscitated patient.
- Cardiopulmonary and cerebral resuscitation in infants and children. Pediatric Advanced Life Support.
- Anaphylactic reaction. Anaphylactic shock. Etiology. Pathogenesis. Algorithm - diagnostic guideline. Differential diagnosis. Complications. Algorithm - management guideline. Stabilizing the patient. Conditions of transportation and hospitalization of the patient.
- Acute poisoning with mushrooms, methyl alcohol, insecticides and carbon monoxide. Acute poisoning by snake bites and the hymenoptera bites. Algorithm - diagnostic guideline. Differential diagnosis. Complications. Algorithm - management guideline. Specific antidote treatment.
Conditions of transportation and hospitalization of the patient.
- Emergency ECG: ECG algorithms in acute ischemia, in critical cardiac arrhythmias and other critical syndromes.
- Primary and secondary examination of polytraumatized critical patient. Hypovolemic shock: hemorrhagic shock, traumatic shock. Etiology. Pathogenesis. Algorithm - Guideline assessment. Differential diagnosis. Complications. Algorithm - management guideline. Stabilizing the patient. Conditions of transportation and hospitalization of the patient.
- Head trauma and spinal cord trauma. Immobilization and stabilization maneuvers of the patient. Algorithm - Guideline assessment. Patient immobilization on the board long. Stabilizing the patient. Conditions of transportation and hospitalization of the patient.
-Chest trauma. Immobilization and stabilization maneuvers of the patient. Algorithm - Guideline assessment. Stabilizing the patient. Conditions of transportation and hospitalization of the patient.
- Musculoskeletal trauma: sprains, fractures. Immobilization and stabilization maneuvers of the patient. Etiology. Algorithm - Guideline assessment. Immobilization of dislocations and fractures of the patient's thoracic and pelvic members. Stabilizing the patient. Conditions of transportation and hospitalization of the patient.
- The plagues. External bleeding. Epistaxis. Etiology. Algorithm - Guideline assessment. Stabilizing the patient. Conditions of transportation and hospitalization of the patient.
- Extraction of vehicle injured victim.
- Disaster Medicine. Triage and medical aid in case of incidents with multiple victims and disasters. Types of disasters (earthquake, explosion, various victims of mass accidents etc.). Earthquake scenario involving teams of: triage, resuscitation and intensive care in medical aid in case of incidents with multiple victims and in disasters.

IV. Main theme of the cours:

A. Lectures:

Nr.	Tema	Ore
1.	Cardio-Pulmonary and Cerebral Resuscitation. Basic Life Support in Adults.	2
2.	Sudden Cardiac Death (Cardiac Arrest). Cardio-Pulmonary and Cerebral Resuscitation. Advanced Cardiac Life Support	2
3.	Cardiopulmonary and cerebral resuscitation in infants and children. Pediatric Advanced Life Support. Birth to pre-hospital phase.	2
4.	Acute poisoning with mushrooms, methyl alcohol, insecticides and carbon monoxide. Acute poisoning by snake bites and the hymenoptera bites.	1
5.	Coma, Seizures and other Alteration of Consciousness.	1
6.	Anaphylactic reaction. Anaphylactic shock.	1
7.	Emergencies caused by environmental factors: medical emergencies due to heat, submersion (drowning), electrocution, lightning accidents.	1
8.	The acute coronary syndrome: cardiac arrhythmias, cardiogenic shock, acute pulmonary edema.	2
9.	Primary and secondary examination of polytraumatized critical patient.	2
10.	Hypovolemic shock: hemorrhagic shock, traumatic shock.	2

B. Practical lessons:

Nr.	Tema	Ore
1.	Cardio-Pulmonary and Cerebral Resuscitation. Basic Life Support in Adults.	4
2.	Sudden Cardiac Death (Cardiac Arrest). Cardio-Pulmonary and Cerebral Resuscitation. Advanced Cardiac Life Support	4
3.	Cardiopulmonary and cerebral resuscitation in infants and children. Pediatric Advanced Life Support. Birth to pre-hospital phase.	6
4.	Emergencies caused by environmental factors: medical emergencies due to heat, submersion (drowning), electrocution, lightning accidents.	2
5.	Critical cardiac arrhythmias.	2
6.	ECG in emergencies.	2
7.	Primary and secondary examination of polytraumatized critical patient.	2
8.	Head trauma and spinal cord trauma. Immobilization and stabilization maneuvers of the patient.	2
9.	Chest trauma. Immobilization and stabilization maneuvers of the patient.	2
10.	Musculoskeletal trauma: sprains, fractures. Immobilization and stabilization maneuvers of the patient. The plagues. External bleeding. Epistaxis.	2
11.	Extraction of vehicle injured victim.	2
12.	Triage and medical aid in case of incidents with multiple victims and disasters.	3
13.	Differential Colocvium	7

V. Recommended literature:

- A. compulsory:

1. European Resuscitation Council Guidelines for Resuscitation, 2010. Resuscitation, 81 (2010), 1219–1276.
2. Pre-hospital Emergency Medical Care. Northwest Teams 2005.
3. Lectures "Emergency Medicine"
4. Emergency First Responder. Medical Teams International 2008.
5. First responders. J. David Bergeron, Gloria Bizjak. Fifth Edition. 2002
6. Asistenţa Medicală Urgentă la etapa de prespital. Nivelul bazal. Northwest Medical Teams. 2005
7. Emergency medicine. Ghid for comprehensiv study. v.1 şi 2. Ed. CPSS. Bucureşti, 2009.
8. Protocoale clinice standardizate în urgenţe pediatrice. Chişinău, 2010.
9. Moartea subută cardiacă la adult. Protocol clinic naţional. Chişinău, 2008, actualizat în an.2012.
10. Lev D.Crivceanschii. Urgenţe medicale. Ghid practic.Ediția a IV-a. Chişinău, 2011.

- B. additional:

VI. Teaching and learning methods :

The discipline "Emergency Medicine" is taught in the classical manner: lectures and practical classes. The lectures are read by professors of the department. In practical classes students learn practical maneuvers used in emergency conditions. The Department reserves the right to conduct some practical classes in an interactive way.

VII. Suggestions for individual activity :

From the pedagogical point of view, one of the least effective methods of learning is a passive attendance of the course, even when it is structured and illustrated very thoroughly.

Obtaining practical skills is more effective than reading about how to do, but it is more efficient to teach others to do the same.

If you want to succeed in medical emergencies it is important to work actively with the material. This means:

- Read the material on the subject thoroughly. Take notes. Try to formulate your own highlights. Study the diagrams and pictures in handbook and notebooks.
- Attend lectures and practical classes, but not only to be present. Doing so it is unlikely you will meet requirements

VIII. Methods of assessment :

The medical emergencies discipline knowledge assessment is made at the end of the module (course) in two steps: step multiple-choice test and oral test in practical control maneuvers.
The test consists of 100 tests from all medical emergencies, 40 are simple and 60 are compliment multiple tests. The student has provided a total of 2 hours to corresponds to the test.The step is marked with scores of 0 to 10.
The oral test is done by discussion and practical maneuvers used in medical emergencies. The student shall have 5 minutes to prepare the response. The sample is marked with scores of 0 to 10.
Topics for colocvium differential (tests and practical maneuvers list) approved at the meeting of the Department and to the students at the beginning of the module (course).
The final grade consists of two components: the oral (coefficient 0.5), multiple-choice test (coefficient 0.5). Knowledge assessment is assessed with grades from 10 to 1 without decimals.
Absence at the exam without no reasons are recorded as "absent."
The student is entitled to two colocviumului repeated assertions failed.

Methods of mark rounding

The average of current and final marks	Final mark
5	**5**
5,1-5,5	**5,5**
5,6-6,0	**6**
6,1-6,5	**6,5**
6,6-7,0	**7**
7,1-7,5	**7,5**
7,6-8,0	**8**
8,1-8,5	**8,5**
8,6-9,0	**9**
9,1-9,5	**9,5**
9,6-10	**10**

Absence on examination without good reason shall be recorded as "absent" and is equivalent to 0 (zero). The student has the right to re-take the failed exam twice.

IX. Language of study :

Romanian, Russian, English, French