



Syllabus on the discipline “Emergency Medicine”

1. General information	
Faculty of Postgraduate Education	dentistry
Educational program (field, specialty, level of higher education, form of education)	22 Healthcare, 221 Dentistry, second (Master’s) level of higher education, full-time
Academic year	5th
Discipline name, code (electronic identification at the Danylo Halytskyi Lviv National Medical University website)	OK 42.2. Emergency Medicine
Department (name, address, phone, e-mail)	Department of Anesthesiology and intensive care, 70010, Lviv, 7 Chernihivska str.
Chair of the Department (e-mail)	Verbovsky R.M., MD, PhD, associate professor kaf_anesthesiology_FPGE@meduniv.lviv.ua
Educational year (year of the discipline study)	5th
Semester (semester of the discipline study)	IX-X
Type of the discipline/module (mandatory/optional)	Mandatory
Teaching staff (names, surnames, scientific degrees and titles, e-mails)	Olha Filyk, MD, PhD, associate professor, doctor_555@ukr.net Volodymyr Mishchuk, MD, PhD, associate professor, mishchukdoc@gmail.com Myroslava Harbar, MD, PhD, associate professor, mirasvit@yahoo.com Oleksandr Kolupayev, MD, assistant professor, kolupayevs@gmail.com Ostap Turkevych, MD, assistant professor, turkevychostap@gmail.com
Person, responsible for syllabus (the person to whom comments on the syllabus should be given, e-mail)	Myroslava Harbar, MD, PhD, associate professor, mirasvit@yahoo.com Olesya Ilchyshyn, MD, head teacher, lesja.rav@gmail.com
Number of ECTS credits	1,5
Number of hours (lectures / practical classes / self-reliance work)	45 (practical classes – 24, self-work – 21)
Language	Ukrainian, English
Information on the consultations	Consultations are held in accordance with the schedule approved by the Chair of the department
Address, telephone and rules of operation of the clinical base, office	Lviv Regional Clinical Hospital, 79010, Lviv, Chernihivska str., 7, ph. +38(032) 2368470; +38 (050)5379519; +38 (067) 7314938 First Medical Union St. Panteleimon Hospital, Lviv, Mykolaichuka str., 9, First Medical Union St. Luka Hospital, Lviv,

Navrotskogo str., 23,
First Medical Union St. Nicholas Hospital, Lviv,
P.Orlyka str, 4,

2. Short resume of the discipline

Emergency medical care as an academic discipline is an integral part of clinical medicine and is an important point in training a doctor of any specialty.

The course concentrates on human anatomy, physiology, pathophysiology, pharmacology, propedeutics and internal medicine.

The discipline is fundamental for students concerning management of urgent and emergent conditions that occur out of hospital and in the clinic. The study of the discipline provides an opportunity to gain practical skills and develop professional skills for diagnosis and care of urgency and emergency in different circumstances.

3. Goals and Objectives of the discipline

Goals. This course aims at developing student's competence in the field of emergency medicine. After completing this course, students should gain a holistic view of critical situations, protecting the body from extreme influences and know common methods of vital functions support in cases of their urgent deterioration.

Objectives.

- To provide a basic knowledge of interpreting the main clinical manifestations and laboratory data of deterioration of vital functions and critical situations.
- To be able to make a strategy of examinations and treatment in critical situation; demonstrate mastery of diagnosis and care for major syndromes; diagnose signs of clinical death and terminal conditions, perform cardiopulmonary resuscitation; use the basic principles of emergency care for victims of man-made and natural disasters including mass-casualty accidents.
- To enable students to understand and apply the algorithms and team work of intensive care of emergencies.

Competencies and results of studying, the formation of which provides the completing the discipline (general and specific competencies).

General competencies:

1. Ability to abstract thinking, analysis and synthesis.
2. Ability to apply knowledge in clinical situations.
3. Knowledge and understanding of the subject area and understanding of professional activity.
4. Ability to do research at the appropriate level.
5. Ability to learn and master modern information.
6. Ability to identify and solve problems.

Specific (professional, subject competencies):

The student should:

to know:

- the basic principles of organization and providing of emergency medical care in Ukraine and worldwide;
- international standards of emergency care;
- current standards of emergency care in Ukraine;
- diagnostic skills at the scene and at the emergency department of the multidisciplinary hospital;
- emergency tactic in case of asphyxia, anaphylaxis, hypertensive crisis, acute respiratory disorders, acute poisoning, electrocution, bleeding, cardiac arrest, coma, hypothermia, drowning;
- the organizational principles of providing emergency medical care.

be able to:

- recognize urgent conditions in the work of a general practitioner - family medicine, outpatient clinic, department;
- to assess a victim according to ABCDE approach;
- to apply an appropriate protocol, which matches the symptoms of the victim;
- to provide emergency medical care in accordance to the protocol;
- to work as a member of emergency medical team in a case of mass casualties;

<ul style="list-style-type: none"> - triage the victims; - perform cardiopulmonary resuscitation; - manage oxygen and infusion therapy. <p><i>Autonomy and responsibility:</i></p> <ul style="list-style-type: none"> - independent work with the modern Ukrainian and international protocols; - creation clinical cases for discussion in group. 		
1. Course prerequisites		
To successfully complete the discipline and master the competencies, it is advisable to obtain knowledge in such disciplines as: "Human Anatomy", "Biochemistry", "Physiology", "Pathophysiology", "Pharmacology", "Internal Medicine", "Propedeutics".		
5. Study results according to the Program		
Code of the result of study. <i>(categories: Kn – knowledge, Ab – ability, C – competence, AR – autonomy and responsibility).</i>	Content of the study result	Link to the code in the matrix of competencies. <i>Symbol of the Program Result of study Code in the Higher Education Standard.</i>
Kn-1	Knowledge on the the basic principles of organization and providing of emergency medical care in Ukraine and world.	PR-1
Kn-2	Knowledge on international standards of emergency care.	PR-2
Kn-3	Knowledge on the current standards of Ukraine of emergency care.	PR-3
Kn-4	Knowledge on the algorithms of intensive care of emergencies diagnostical skills at the scene and at emergency department of the multidisciplinary hospital.	PR-4
Kn-5	Knowledge on the emergency tactic in case of asphyxia, anaphylaxis, hypertensive crisis, acute respiratory disorders, acute poisoning, electrocution, bleeding, cardiac arrest, coma, hypothermia, drowning.	PR-5
Ab-1	To be able to organize providing emergency medical care.	PR-6
Ab-2	Ability to work independently with the protocols of the Ministry of Health of Ukraine and international and regional standards in the field of health care	PR-7
Ab-3	Ability to diagnose clinical death and perform resuscitation.	PR-8
Ab-4	Ability to make a plan of intensive care in emergencies;	PR-9
Ab-5	Ability to ensure airway patency	PR-10
Ab-6	Ability to intubate the trachea on a mannequin	PR-11
Ab-7	Ability to perform mechanical lung ventilation with an Ambu bag	PR-12
Ab-8	Ability to perform chest compressions and defibrillation of the heart	PR-13

Ab-9	Ability to determine the type of disorders of acid-base status and their correction	PR-14
Ab-10	Ability to determine the type of water-electrolyte status and correct disbalance.	PR-15
Ab-11	Ability to perform assessing a victim according to the ABCDE approach	PR-16
C-1	Knowledge and understanding of the professional activity.	PR-17
C-2	Ability to analyse medical information.	PR-18
C-3	Ability to do research at the appropriate level.	PR-19
Ar-1	To work independently with the modern Ukrainian and international protocols.	PR-20
Ar-2	To create clinical cases for group discussion.	PR-21

6. Discipline format and scope

Discipline format (<i>full-time/parttime</i>)	Full-time	
Type of classes	Number of hours	Number of groups
practical classes	24	1
self-work	21	

7. Topics and scope of the discipline

Code of the class type	Topic	Scope of study	Code of the result of study	Teaching staff
P-1 (<i>practical class</i>)	Organization of emergency medical care in Ukraine. The initial aid by medical team in emergency.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class	Kn-2, Kn-2, Kn-3, C-1, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
P-2	Airways management and mechanical ventilation in adults.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues.	Kn-4, Ab-5, Ab-6, Ab-7, C-1, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD

		5. Summarizing the class		
P-3	The emergency care to victims at the prehospital stage. The primary examination of a patient.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class	Kn-4, Ab-1, Ab-2, Ab-4, Ab-11, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
P-4	The emergency care to victims at the prehospital stage. The secondary examination of a patient.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class	Kn-4, Ab-1, Ab-2, Ab-4, Ab-11, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
P-5	Cardiac arrest. Cardio-pulmonary resuscitation.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class	Kn-2, Kn-3, Kn-4, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, C-1, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
P-6	Emergency diagnosis and treatment at the scene.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-	Kn-1, Kn-2, Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-5, Ab-9, Ab-10, Ab-11, C-1, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD

		control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class		Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
P-7	Emergency care in trauma.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class	Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-10, Ab-11, C-1, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
P-8	Emergency care in multiple casualty incidents.	1. Checking the mastering of the list of questions from the thematic plan. 2. Discussion of issues for self-control. 3. Solving clinical cases. 4. Clarification of problematic issues. 5. Summarizing the class	Kn-1, Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-10, Ab-11, C-1, C-2, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-1 (<i>self-work</i>)	Organization of emergency medical care in Ukraine. The initial aid by medical team in emergency.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-2, Kn-2, Kn-3, C-1, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-2	Airways management and mechanical ventilation in	List of questions to the topic processing. Preparation of	Kn-4, Ab-5, Ab-6, Ab-7, C-1, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD

	adults.	answers to self control questions. Preparation of clinical cases.		Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-3	The emergency care to victims at the prehospital stage. The primary examination of a patient.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-4, Ab-1, Ab-2, Ab-4, Ab-11, C-2, C3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-4	The emergency care to victims at the prehospital stage. The secondary examination of a patient.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-4, Ab-1, Ab-2, Ab-4, Ab-11, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-5	Cardiac arrest. Cardio-pulmonary resuscitation.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-2, Kn-3, Kn-4, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, C-1, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-6	Emergency diagnosis and treatment at the scene.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-1, Kn-2, Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-5, Ab-9, Ab-10, Ab-11, C-1, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr

				Mishchuk, MD, PhD
SW-7	Emergency care in trauma.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-10, Ab-11, C-1, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD
SW-8	Emergency care in multiple casualty incidents.	List of questions to the topic processing. Preparation of answers to selfcontrol questions. Preparation of clinical cases.	Kn-1, Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-10, Ab-11, C-1, C-2, C-3, Ar-1, Ar-2	Kolupayev Oleksandr, MD Olha Filyk, MD, PhD Myroslava Harbar, MD, PhD Ostap Turkevych, MD Volodymyr Mishchuk, MD, PhD

8. Results of study verification

Current control

is carried out during the training sessions and aims to check the assimilation of educational material by students (it is necessary to describe the forms of current control during the training sessions). Forms of assessment of current educational activities should be standardized and include control of theoretical and practical training. The final grade for the current educational activity is set on a 4point (national) scale

Result of study code	Code of the class	Result of study verification method	Enrollment criteria
Kn-2, Kn-2, Kn-3, C-1, C-2, C-3, Ar-1, Ar-2	P-1, SW-1	Attending lectures and practical classes. Execution of written tasks on the topic (questions for self-control and creative tasks). Participation in discussions, discussion of issues submitted for independent study.	To enroll in the study of the discipline it is necessary: to comply with the requirements of the curriculum; to solve tasks both in class and those offered for independent study correctly.
Kn-4, Ab-5, Ab-6, Ab-7, C-1, C-2, C-3, Ar-1, Ar-2	P-1, SW-1		
Kn-4, Ab-1, Ab-2, Ab-4, Ab-11, C-2, C3, Ar-1, Ar-2	P-3, SW-3		
Kn-4, Ab-1, Ab-2, Ab-4, Ab-11, C-2, C-3, Ar-1, Ar-2	P-4, SW-4		
Kn-2, Kn-3, Kn-4, Ab-1, Ab-2, Ab-3, Ab-4, Ab-5, Ab-6, Ab-7, Ab-8, C-1, C-2, C-3, Ar-1, Ar-2	P-5, SW-5		
Kn-1, Kn-2, Kn-3,	P-6, SW-6		

Kn-4, Ab-1, Ab-2, Ab-4, Ab-5, Ab-9, Ab-10, Ab-11, C-1, C-2, C-3, Ar-1, Ar-2			
Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-10, Ab-11, C-1, C-2, C-3, Ar-1, Ar-2	P-7, SW-7		
Kn-1, Kn-3, Kn-4, Ab-1, Ab-2, Ab-4, Ab-10, Ab-11, C-1, C-2, C-3, Ar-1, Ar-2	P-8, SW-8		
Final control			
General evaluation system		Participation to the classes during the semester - 100% on a 200-point scale	
Evaluation scales scale		Traditional 4-point scale, multi-point (200-point) scale, ECTS rating	
Conditions of admission to the final control		The student attended all practical (laboratory, seminar) classes and received at least 120 points for current performance	
Type of final control		Methods of final control	Enrollment criteria
Credit		It is necessary to enroll all topics submitted for current control. Grades from the 4-point scale are converted into points on a multi-point (200-point) scale in accordance with the Regulation "Criteria, rules and procedures for evaluating the results of students' learning activities".	The maximum number of points is 200. The minimum number of points is 120.
Criteria for assessing the exam/differentiated test			
Exam	<i>In this field it is necessary to describe the order and a technique of carrying out final control / all its stages</i>	<i>It is necessary to define in points evaluation criteria for each concrete stage of final control</i>	
Differentiated test			
The maximum number of points that a student can score for the current academic activity for admission to the test is 200 points. The minimum number of points that a student must score for the current academic activity for admission to the test is 120 points. The calculation of the number of points is based on the grades obtained by the student on a 4-point (national) scale during the study of the discipline, by calculating the arithmetic mean (CA), rounded to two decimal places. The resulting value is converted into points on a multi-point scale as follows: $X = (CA \times 200) / 5$			
9. Policy of the discipline			
Academic Integrity: Students' work is expected to be their original research or reasoning. Lack of references to sources used, fabrication of sources, copying, interference in the work of other students, etc. are examples of possible academic dishonesty. Identification of signs of academic dishonesty in the student's work is the basis for non-enrollment by the teacher, regardless of the extent of plagiarism or deception. Sources of training: the source base can be provided by the teacher exclusively for educational purposes without the right to transfer it to third parties. Students are encouraged to use other literature that is not listed in available thematic plans.			
10. Literature			

1. Difficult Airway Society Guidelines for management of unanticipated difficult intubation in adults 2015. https://www.das.uk.com/guidelines/das_intubation_guidelines.
2. The ABCDE approach. <https://www.resus.org.uk/resuscitation-guidelines/abcde-approach/>
3. European Resuscitation Council Guidelines for Resuscitation 2015 / Koenraad G. Monsieura, Jerry P. Nolan et al // Resuscitation. – 2015. - Vol. 95. - P.1-80. <https://cprguidelines.eu/>
4. Advanced Life Support Course. Manual. Based upon the ERC Guidelines 2015. ISBN: 9789079157839.
5. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure 2016. The Task Force for the Diagnosis and Treatment of Acute and Chronic Heart Failure 2016 of the European Society of Cardiology. Developed in collaboration with the Heart Failure Association (HFA) of the ESC. European Heart Journal. - 2016. – Vol. 37. – P. 2129–2200. doi.org/10.1093/eurheartj/ehw128
6. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016 / Andrew Rhodes, Laura E. Evans, Waleed Alhazzani [et al] // Critical Care Medicine. - March 2017. – Vol.45 (3P). – P. 1-67. <http://www.survivingsepsis.org/About-SSC/Pages/Leadership.aspx>
7. ITLS for Emergency Care Providers, 8th Edition, Global Edition / John E. Campbell, Roy L. Alson // Pearson Education Limited, 2018. - 344 p.
8. Rosen's emergency medicine: concepts and clinical practice. Ninth edition / Ron M. Walls, Robert S. Hockberger, Marianne Gausche-Hill // Elsevier, 2018. – 2972 p.

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