

UNIVERSITY OF ZAGREB SCHOOL OF MEDICINE

Plan of the course

**Emergency Medicine**

Academic year **2016/2017**

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izv. prof. dr. sc. Vesna Degoricija

## **I. COURSE AIMS**

Recent decades have witnessed a dramatic increase if not explosion in utilization of emergency medicine, which has coincided with an expansion of medical technology to include numerous innovative diagnostic and treatment modalities. As a result, the task of the physician has multiplied exponentially in terms of difficulty. That said, the emergency physician still needs to excel in the traditional skills of obtaining a medical history and performing a physical examination under exacting time constraints. However, at the same time, he or she must be conversant with the latest permutations of biomedical technology and their application to both the emergency department setting and outpatient care.

The goals and objectives of this three weeks course in 11th semester are: to develop a critical understanding of:

1. the history and development of emergency medicine as a specialty
2. the approach to patient management in the Emergency department, including ABCs, triage, diagnosis and disposition
3. the principles and techniques of basic wound management
4. the basic principles and rationale for the initial management of patients with trauma
5. the evaluation of patients presenting to the Emergency department with common complaints, including: chest pain, dyspnea, abdominal pain, headache, fever and altered mental status.

The main topics of the course are: cardiopulmonary resuscitation (CPR), basic and advanced life support, airway management, defibrillation, monitoring and treatment of cardiac arrhythmias, drugs in CPR, management of poisoned patient, basic trauma life support, surgical knots, immobilization, basic management of patient in coma and shock, pediatric life support, and advanced clinical thinking in emergency medicine.

## **II. COURSE STRUCTURE**

### **Course hours:**

Lectures: 4

Seminar: 30

Special clinical practicals: 34

### **Total hours: 68**

Lectures	4 h
Seminars	30 h
• Case study	8 h
• ECG conference	2 h
• Interactive seminars lead by tutors	7 h
• Journal club	3 h
• Morbidity and mortality (M&M) conference	3 h
• Wrap up	3 h
• Pro and contra debate	4 h
Practical laboratories on manikins and simulators	18 h
• Basic life support and advanced life support	8 h
• Defibrillation	2 h
• Airway management and intubation	2 h

- I.V. line 1 h
- Splinting techniques 3 h
- Suturing 2 h

Practical 16 h

Four times 4-hours shifts in hospital emergency departments (departments of medicine, surgery, pediatric, and neurology) and one eight hour shift with the medical team in Emergency department Sisters of Mercy University Hospital . All shifts will be tutored by selected residents in the field supervised by teaching staff.

Total: 68 hours

### III. PLAN OF THE COURSE AND COURSE SCHEDULE

#### **BLOCKS OF THE COURSE**

Number of blocks: 1

Block number	Start	End
1.	17.10.2016	4.11.2016

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Number of blocks: 1

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1.	17.10.2016	4.11.2016

#### **BLOCKS OF THE COURSE SCHEME**

Block 1

Date	Time	Group	Course hours type	Theme	Teaching staff
Monday 17.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Lectures	Lecture 1 - Introduction to EM - Chain of survival 1	izv. prof. dr. sc. Vesna Degoricija
	13:00-15:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Emergency Department Practical 1	Marijana Knezović, dr. med., Kristina Trnjar, dr. med., dr. sc. Marija Gomerčić Palčić, Sanja Stojsavljević, Sanda Dokoza Terešak, dr. med., Jelena Bielen, dr. med., Tena Janković, dr. med.
	15:00-15:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	M&M Conference 1 - Four riders of cardiac chest pain	izv. prof. dr. sc. Vesna Degoricija

Date	Time	Group	Course hours type	Theme	Teaching staff
	16:00-16:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Seminar 1 - Chain of survival 2	doc. dr. sc. Matias Trbušić
Tuesday 18.10.2016.	09:00-10:30; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	ECG Conference	doc. dr. sc. Nikola Bulj
	10:45-12:45; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Emergency Department Practical 2	Marijana Knezović, dr. med., Kristina Trnjar, dr. med., dr. sc. Marija Gomerčić Palčić, Sanja Stojsavljević, Sanda Dokoza Terešak, dr. med., Jelena Bielen, dr. med., Tena Janković, dr. med.
	13:30-15:15; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Practical 1 - BLS, ALS	izv. prof. dr. sc. Vesna Degoricija
	15:30-16:15; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Debriefing of daily activities	izv. prof. dr. sc. Vesna Degoricija
Wednesday 19.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Lectures	Lecture 2 - Shock	doc. dr. sc. Ivan Gornik
	10:00-11:30; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Pro et contra debate 1 - Critical clinical thinking in ED settings	doc. dr. sc. Ivan Gornik
	12:00-12:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Pro et contra debate 2 - High blood pressure? Why not?	doc. dr. sc. Nikola Bulj
	14:00-16:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Emergency Department Practical 3	Marijana Knezović, dr. med., Kristina Trnjar, dr. med., dr. sc. Marija Gomerčić Palčić, Sanja Stojsavljević, Sanda Dokoza Terešak, dr. med., Jelena Bielen, dr. med., Tena Janković, dr. med.
Thursday 20.10.2016.	12:00-12:45; KBSM, Laboratorij kliničkih vještina	A, B	Special clinical practicals	Practical 2 - Iv line, iv drip, injections	Marin Pavlov, dr. med.
	13:00-14:30; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Practical 3 - Monitoring of cardiac rhythm. Defibrillation	izv. prof. dr. sc. Vesna Degoricija

Date	Time	Group	Course hours type	Theme	Teaching staff
	14:45-15:30; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Journal Club 1 - Hearty meal	izv. prof. dr. sc. Vesna Degoricija
	15:45-16:30; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Case study 1 - Chest pain	doc. dr. sc. Matias Trbušić
Friday 21.10.2016.	08:00-09:45; KBSM, Laboratorij kliničkih vještina		Seminar	Show room 1 - Cath lab	doc. dr. sc. Matias Trbušić
	11:00-11:45; KBSM, Laboratorij kliničkih vještina	C, D	Special clinical practicals	Practical 2 - Iv line, iv drip, injections	Marin Pavlov, dr. med.
	13:00-13:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Journal Club 2 - Fever, sweet and sour	izv. prof. dr. sc. Vesna Degoricija
Monday 24.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Seminar 2 - Drugs, poisons and rock 'n roll	izv. prof. dr. sc. Vesna Degoricija
	10:00-10:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Case study 2 - Abdominal pain	Vedran Tomašić, dr. med.
	11:00-13:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Emergency Department Practical 4	Marijana Knezović, dr. med., Kristina Trnjar, dr. med., dr. sc. Marija Gomerčić Palčić, Sanja Stojsavljević, Sanda Dokoza Terešak, dr. med., Jelena Bielen, dr. med., Tena Janković, dr. med.
	14:30-16:00; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Case study 3 - A rude awakening	izv. prof. dr. sc. Vesna Degoricija, doc. dr. sc. Matias Trbušić
Tuesday 25.10.2016.	11:00-11:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Seminar 3 - Basic pediatric life support	Milivoj Novak
	12:00-12:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Case study 4 - Pediatric emergencies	Milivoj Novak

Date	Time	Group	Course hours type	Theme	Teaching staff
	14:00-16:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Emergency Department Practical 5	Marijana Knezović, dr. med., Kristina Trnjar, dr. med., dr. sc. Marija Gomerčić Palčić, Sanja Stojsavljević, Sanda Dokoza Terešak, dr. med., Jelena Bielen, dr. med., Tena Janković, dr. med.
	16:00-17:30; KBSM, Laboratorij kliničkih vještina		Seminar	Show room 4 - Abdominal ultrasound in EM	dr. sc. Neven Baršić
Wednesday 26.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Wrap up 1 - 4W	doc. dr. sc. Dražen Pulanić
	10:00-10:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Pro et contra debate 3 - Anemic patient in EM	doc. dr. sc. Dražen Pulanić
	14:00-16:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Emergency Department Practical 6	Marijana Knezović, dr. med., Kristina Trnjar, dr. med., dr. sc. Marija Gomerčić Palčić, Sanja Stojsavljević, Sanda Dokoza Terešak, dr. med., Jelena Bielen, dr. med., Tena Janković, dr. med.
	16:15-17:45; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Practical 4 - Airway management. Intubation	izv. prof. dr. sc. Vesna Degoricija
Thursday 27.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	M&M Conference 2 - Dyspnea	doc. dr. sc. Marko Velimir Grgić
	10:00-10:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Seminar 4 - Upper airway obstruction	doc. dr. sc. Marko Velimir Grgić
	11:00-11:45; KBSM, Laboratorij kliničkih vještina		Seminar	Show room 2 - Heart ultrasound in EM - Part 1	doc. dr. sc. Nikola Bulj
	13:00-15:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Practising on manikins BLS, ALS	Sanja Stojsavljević, dr. sc. Marija Gomerčić Palčić
Friday 28.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Journal Club 3 - Bloody Mary every morning	Vedran Tomašić, dr. med.

Date	Time	Group	Course hours type	Theme	Teaching staff
	10:00-10:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Wrap up 2 - Basic trauma life support	Đana Vanjak Bielen
	11:00-12:30; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Practical 5 - Splinting techniques	Đana Vanjak Bielen
	13:00-13:45; KBSM, Laboratorij kliničkih vještina		Seminar	Show room 3 - Heart ultrasound in EM - Part 2	doc. dr. sc. Nikola Bulj
Monday 31.10.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat	C, D	Lectures	Lecture 3 - Basic surgical skills: knots and suture	Mario Josipović, dr. med.
	10:00-13:00; KBSM, Laboratorij kliničkih vještina	C, D	Special clinical practicals	Principles of patient surgical management	Mario Josipović, dr. med.
	14:00-14:45; KBSM, Interna, Mala predavaonica, 3. kat	A, B	Lectures	Lecture 3 - Basic surgical skills: knots and suture	Mario Josipović, dr. med.
	15:00-18:00; KBSM, Laboratorij kliničkih vještina	A, B	Special clinical practicals	Principles of patient surgical management	Mario Josipović, dr. med.
Wednesday 2.11.2016.	09:00-09:45; KBSM, Interna, Mala predavaonica, 3. kat		Lectures	Lecture 4 - Altered mental status	prof. dr. sc. Arijana Lovrenčić-Huzjan
	10:00-10:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	M&M Conference 3 - Coma	prof. dr. sc. Arijana Lovrenčić-Huzjan
	11:00-11:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Wrap up 3 - Stroke	prof. dr. sc. Arijana Lovrenčić-Huzjan
	12:00-12:45; KBSM, Interna, Mala predavaonica, 3. kat		Seminar	Pro et contra debate 4 - Safety and risks of transfusion treatment	Tomislav Vuk, dr. med.
	13:00-15:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	Practising on manikins ALS	Marijana Knezović, dr. med., Kristina Trnjar, dr. med.

Date	Time	Group	Course hours type	Theme	Teaching staff
Thursday 3.11.2016.	07:00-10:00; KBSM, Laboratorij kliničkih vještina		Special clinical practicals	OSCE stations	izv. prof. dr. sc. Vesna Degoricija, dr. sc. Neven Baršić, Sanda Dokoza Terešak, dr. med., doc. dr. sc. Matias Trbušić, Sanja Stojsavljević, dr. sc. Marija Gomerčić Palčić
Friday 4.11.2016.	08:00-09:00; KBSM, Interna, Mala predavaonica, 3. kat	SVI	Exam	MCQ final exam	izv. prof. dr. sc. Vesna Degoricija

#### Learning outcomes

By the end of the course students will be able to apply the knowledge and skills required to provide immediate aid, to recognize clinical emergency problems and their severity by focused history taking, developing differential diagnosis, and establishing treatment plans. They will develop competency in both procedural and resuscitative skills e.g. defibrillation, intubation of simulated airway, introducing/inserting an intravenous catheter into a simulated vein, suturing, placement of plaster splints onto manikins and fellow classmates.

The topics covered in this course of emergency medicine have been selected since they are representative of the depth and breadth of current emergency medicine practice. Our aim is to create an innovative emergency medicine teaching program that would meet the minimum essential requirements and standards in line with global trends in medical education, to replace a traditional knowledge-based concept of medical education with evidence-based medicine, and to introduce problem-solving skills through a case based teaching of medicine which demands that students use problem solving skills. Through the structure of this course we hope that we will stimulate both the critical thinking and acquisition of practical skills by our students. In addition, we hope to create a new educational climate and culture which actively encourages the attitudes which the doctors of tomorrow will need i.e. one where students and teachers alike recognize that it is their ethical obligation to constantly develop their knowledge.

#### IV. EXAMINATIONS

##### Examination

Exam includes test and 5 OSCE stations.

Test type: multiple-choice questions (20) with one correct answer. Time: one hour.

##### OSCE stations (time: three hours)

- Basic life support
- Drowned victim
- Monitoring of cardiac rhythm in acute myocardial infarction and defibrillation
- Fall off the cliff
- Injuries from a running speed boat

##### Regular terms



4.11.2016

**V./I. LIST OF LECTURERS AND TEACHING STAFF**

1. dr. sc. Neven Baršić
2. doc. dr. sc. Nikola Bulj
3. izv. prof. dr. sc. Vesna Degoricija
4. doc. dr. sc. Marko Velimir Grgić
5. doc. dr. sc. Matias Trbušić
6. doc. dr. sc. Dražen Pulanić
7. dr. sc. Marija Gomerčić Palčić
8. doc. dr. sc. Ivan Gornik

**V./II EXTERNAL ASSOCIATES:**

1. prof. dr. sc. Arijana Lovrenčić-Huzjan
2. Milivoj Novak
3. Marin Pavlov, dr. med.
4. Vedran Tomašić, dr. med.
5. Đana Vanjak Bielen
6. Tomislav Vuk, dr. med.
7. Sanja Stojsavljević
8. Marijana Knezović, dr. med.
9. Kristina Trnjar, dr. med.
10. Sanda Dokoza Terešak, dr. med.
11. Jelena Bielen, dr. med.
12. Tena Janković, dr. med.
13. Mario Josipović, dr. med.

**V./III UNTENURED LECTURERS:**

**VI. LITERATURE**

**1. Obligatory**

**Suggested literature**

**Vesna Degoricija (editor): Emergency Medicine; Second edition, Zagreb 2013.**