



**MEDICINE AND SOCIETY**

**FIFTH YEAR OF STUDIES**

**Academic year 2025/2026**

**RESUSCITATION 1**

Subject:

## RESUSCITATION 1

The course is evaluated with 4 ECTS. There are 3 hours of active teaching per week (2 hours of lectures and 1 hour of work in a small group).

## TEACHERS AND ASSOCIATES:

PB	Name and surname	Email adress	Teacher - head of the module
1.	Asis prof dr Jelena Vuckovic	jelenavufi@gmail.com	Asisst.profesor
2.	Assist,prof dr Vlada ignjatovic	vladaig@yahoo.com	Asisst.profesor
4.	Prof. Dr. Ivan Chekerevac	icekerevac63@sbb.rs	Full.profesor
5.	Prof. Dr. Aleksandra Lučić Tomić	sanlusa@ptt.rs	Full.profesor
6.	Professor dr Tatjana Vulovic	tatjana_vulovic@yahoo.com	associate professor
7.	Professor dr Nenad Zornic	nenadzornic@gmail.com	associate professor
8.	InstructorsofERC		

## COURSE STRUCTURE

Modul	Name of the module	Week	Lectures	Work in a small group	Teacher - head of the module
	RESUSCITATION 1	15	2	1	Professor Nenad Zornic
					Σ 30+10=40

Work in small groups is held in 2 blocks, according to a marked schedule. The first block of work in a small group has 15 school hours, it is held in the Institute for Emergency Medical Assistance

### Assessment :

The student masters the subject in modules. The grade is equivalent to the number of points earned (see tables). Points are earned in three ways:

**ACTIVITY DURING THE LESSON:** In this way, the student can earn up to 10 points, with a maximum of 6 points gained after the first block of exercises, and a maximum of 4 points after the second block. Knowledge of the material, preparedness for working in a small group and team work are evaluated.

**PRACTICAL SKILLS TEST:** in the primary approach, assessment and resuscitation of a seriously injured patient. The skills acquired in the first block of exercises, during the duration of the first semester, are evaluated according to a defined schedule. A student can earn up to 30 points, where до 30 поена, при чему се бодовање врши на следећи начин:

SKILLS	Maximum points
Performing maneuvers and respest procedures, chest compression and secure defibrillation	<b>10</b>
Knowledge of the algorithms of the initial assessment and abcde approach, monitoring, urgent measures, recognition of heart strain rhythms, consideration of reversible causes of cardiac delay	<b>10</b>
Solve the given scenarios of clinical situations in a sudden cardiac store	<b>10</b>
Σ	<b>30</b>

**FINAL TESTS BY MODULE:** In this way, the student can gain up to 60 points, and according to the attached table, each question carries 2 points.

FINAL TEST		Maximum points			
		activity during classes	assessment of acquired skills	final test	Σ
	Primary approach and assessment of vitally endangered patient. Acute coronary syndromes. Basics of electrocardiographic diagnostics. Per-insultal disorders of the heart rate.				
	Advanced life support algorithm. Acid-base status. Anaphylactic reactions. Heart stall in special circumstances; Hypothermia.				
	Heart stall in special circumstances - poisonings; Trauma. Medicines in a heart standing. Postresuscitatorial treatment. Ethical aspects of resuscitation.			60	<b>60</b>
		<b>10</b>	30		<b>40</b>
	<b>Σ</b>	<b>10</b>	<b>30</b>	<b>60</b>	<b>100</b>

**The final grade is formed as follows:**

In order to pass the course, the student must obtain a minimum of 51 points and pass all modules. To pass the module the student must:

1. obtains more than 50% points in that module.
2. acquires more than 50% of the points provided for the activity in teaching in each module.
3. pass the module test, i.e. have more than 50% correct answers.
4. obtain more than 50% points on the practical skills test.

number of points won	grade
0 - 50	<b>5</b>
51 – 60	<b>6</b>
61 - 70	<b>7</b>
71 – 80	<b>8</b>
81 - 90	<b>9</b>
91- 100	<b>10</b>

## FINAL TEST

The test has 30 questions.  
Each question is worth 2 points.

## LITERATURE:

MODULE	TITLE OF TEXTBOOK	AUTHORS
Advanced Life Support Groups by Erca	Advanced Life Support Groups by Erca	Advanced Life Support Groups by Erca

## THE PROGRAM:

lectures 2 hours	work in a small group 1 hour
<ul style="list-style-type: none"> <li>• <b>Recognizing the deterioration of the condition in patients and the prevention of cardiorespiratory downtime</b> <ul style="list-style-type: none"> <li>• o How to recognize and treat patients with heart standstill risk, using ABCDE access.</li> <li>• o Early warning score</li> </ul> </li> <li>• <b>Acute coronary syndromes</b> <ul style="list-style-type: none"> <li>• o Definition, pathogenesis, division of acute coronary syndromes</li> <li>• o Clinical picture</li> <li>• o diagnosis (ECG, laboratory tests)</li> <li>• o get acquainted with ways of emergency treatment of acute coronary syndrome</li> <li>• o General measures</li> <li>• O coronary reperfusion therapy</li> <li>• o Percutaneous coronary interventions</li> <li>• o Complications</li> <li>o Secondary prevention</li> </ul> </li> <li>• <b>Fundamentals of electrocardiographic diagnostics and cardiac monitoring</b> <ul style="list-style-type: none"> <li>• o get acquainted with the physiology of the electrical activity of the heart</li> <li>• o get acquainted with indications for continuous cardiac monitoring</li> <li>• o Learn the interpretation of the electrocardiographic record</li> <li>• o Learn the rhythms that occur in the periarest period</li> <li>• about heart rate disorders in a heart standing</li> </ul> </li> <li>• <b>Defibrillation</b> <ul style="list-style-type: none"> <li>• o get acquainted with rhythms that meet in heart stitch: ventricular fibrillation, ventricular tachycardia, assistant, heartless</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Basic life support</b> <ul style="list-style-type: none"> <li>• o Checking the state of consciousness</li> <li>• o Breathing assessment</li> <li>• o Chest compressions</li> </ul> </li> <li>• <b>Provision of respiratory path and artificial ventilation</b> <ul style="list-style-type: none"> <li>• o Patient ventilation with a self-shaping balloon with a mask</li> <li>• o Setting up the oropharyngeal tube</li> <li>• o Installation of Laryngeal Mask</li> </ul> </li> <li>• <b>Quick ECG analysis</b> <ul style="list-style-type: none"> <li>• o Through the simulation on the phantom of different heart rate disorders, learn their recognition on the monitor</li> <li>• o Six step rhythm analysis</li> </ul> </li> <li>• <b>Defibrillation.</b> <ul style="list-style-type: none"> <li>• o Execution defibrillation on phantom. Proper electrode positioning, selecting appropriate energy energy, safe delivery of shock.</li> <li>• o Simulation of shockable rhythms</li> <li>• o Trusting the reprimand and secure application of the defibrillator</li> </ul> </li> <li>• <b>Acute coronary syndromes</b> <ul style="list-style-type: none"> <li>• o Work through the simulation on phantom per scenario of acute myocardial infarction treatment with such a patient</li> <li>• o Understand the importance of the urgent application of general therapy for ischemic heart disease.</li> <li>• o Truploying the algorithm of cardiopulmonal resuscitation</li> </ul> </li> <li>• <b>Tachycardia</b> <ul style="list-style-type: none"> <li>• o Simulation on phantom per scenario of tachyarrhythmias- rhythm identification</li> <li>• o Treatment by tachycardia algorithm.</li> </ul> </li> </ul>

electrical activity of the heart, and their treatments

- o get acquainted with the defibrillation mechanism
- • learn about the types of defibrillator and their basic characteristics
- o Learn about the security of the defibrillator, both manual and external automatic defibrillator

### • **Per-insurtical disorders of cardiac rhythm. Tachycardia.**

- about the algorithm of handling code
- Periarest tachycardia
- o get acquainted with the way of assessing the condition of the patient
- o Learn the basic characteristics of peri-decorated rhythms: sinus tachycardia, paroxysmal supraventricular tachycardia, fluttering and fibrillation of atrheaters, ventricular tachycardia (regular and irregular), fibrillation of the chamber
- o Learn about the basics of treatment of peri-decorated tachycardia (cardiovius, medicine therapy)

### • **PERI-CARCER DISORDERS OF CURRENT RIT.**

#### • **Bradycardia**

- o get acquainted with the definition of basic characteristics: sinus bradycardia, an atrioventricular block of first degree, an attrioventricular block of another degree, atrioventricular block of third degree; get acquainted with the notion of agonal rhythm
- o Understand Indications for Cardiac Pacing During Peri-Thankful Rhythm Disorders
- o Learn how non-invasive translational electric pacing applies
- o get acquainted with possible problems in the present temporary transvenous or permanent implanted peaker-mane and the way of solving them

#### • **Advanced life support algorithm**

- o The importance of high-quality chest compressions
- o Treatment of shockable and non-compliant rhythms
- o When and how to give medication during the heart standstill
- o Potential reversible causes of cardiac delay

#### • **Medicines in CPR**

- o Understand indications, doses, and mechanism of drugs that apply in CPR:
- -adrenalin, vasopressin
- -Amiodaron, Lidocaine
- -Atropin
- -magnesium sulfate
- -calcium, sodium bicarbonate-tromboliticterapy
- o learn about ways and roads of drug application:
- -canulation of peripheral and central veins

Application of synchronized DC shock and corresponding drugs.

- • Simulation on phantom per bradyrhythmy scenario - rhythm identification
- o Dating with pacing methods
- o Truing the application of transcounted pacing - proper installation of electrodes, choosing adequate pacing frequency, and dialing mode of the appropriate power.

#### • **Canulation of peripheral veins**

- • Interpretation of gas analyzes
- o Mastering the skill of rapid interpretation of gas analysis of arterial blood method in 5 steps

#### • **Simulation on phantom per asthma attack scenario**

- o Recognition of acute asthma attack
- o The treatment of acute asthma attack
- About Algorithm modifications in a patient in a heart standing due to acute napda asthma

#### • **Simulation on phantom per scenario of allergic reactions by type of anaphylaxis**

- o Recognition of anaphylaxis
- o Treatment of aanafilaxse
- o Algorithm modifications in a patient in a heart caution caused by anaphylaxis caused

#### • **Simulation on phantom per scenariodrowning**

- o Treples of drowning people
- About Algorithm modifications in drowning
- • Simulation on phantom per scenario: hypothermia
- o Recognition and classification of hypothermia
- o Patient treatment with hypothermia, knowledge of heating methods
- About Algorithm modifications in drowning

#### • **Pregnancy and heart failure**

- about algorithm modifications in a pregnant woman in a heart stitch, exercise on phantom

#### • **Communication with relatives of Reanimated**

- o get acquainted with the way of communication with relatives during resuscitation and the way of notifying relatives about the outcome of resuscitation efforts

- -Intratraheal Path of drug applications
- -Intry of drug applications
- 
- **Life threatening electrolyte disorders, acidobase equilibrium and oxygenations**
- o get acquainted in the way of origin, prevention, treatment and KPR code:
- -Remptions of serum potassium concentration (hypo- and hyperkaliemia)
- -Remptions of serum calcium concentration (hypo- and hyperkalciemia)
- -Remptions of serum magnesium concentration (hypo and hyperermagnesium)
- 
- **o Get acquainted with the definitions, mechanisms of formation and compensation, as well as the treatment of acidobase disorders:**
- - Respiratory acidosis
- - Respiratory alkalosis
- - Metabolic acidosis
- - Metabolic alkalosis
- - mixed acidobase disorders
- 
- **Disorders caused by the effect of the cold. System hypothermia ..**
- About getting to know the definition, clinical picture and predisposing hypothermia factors:
- - Definition and division.
- - physiological changes and complications.
- - CPR and drowning.
- - CPR and cooling techniques.
- **Drowning**
- o Definition
- o Specifics in CPR
- o Postresuscitacional therapy in drowning
- 
- **Anaphylactic reactions**
- o etiology
- About symptoms and signs
- o Therapeutic algorithm in anaphylactic reactions
- 
- **Poisoning**
- o Initial CPR in poisoned patients
- o General detoxification measures (prevention of absorption, promotion of elimination, specific antidotes).
- o Healing specific types of poisoning:
- - Opioids
- - Benzodiazepines
- - Amphetamines and other stimulants
- - Tricyclic antidepressants
- - caustic substances
- - Ethanol and other alcohols
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- **Postresuscitacional treatment**
- o get acquainted with possible complications and outcomes of cardiopulmonal resuscitation

- o realize the necessity of continuing supportive measures and after establishing Spontaneous circulation
- o Learn how the optimal functioning of the organism is provided after successful resuscitation

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### **Ethical problems in resuscitation**

- o Understand how the real choice of patients for the decision "is not for resuscitation".
- o Respiratory policy in hospitals.
- o Understand when the resuscitation should not be started
- o When to terminate the resuscitation efforts

## **LECTURE SCHEDULE**

**Institute for Emergency Medical  
Assistance**

**THURSDAY**

**08:00 - 09:30**

## **SCHEDULE OF EXERCISES**

**Institute for Emergency Medical  
Assistance**

**THURSDAY**

**09:35 - 12:30**

[Schedule of lectures, practical classes and tests – academic calendar](#)

## LESSON SCHEDULE FOR RESUSCITATION SUBJECT 1

модул	недеља	тип	назив методске јединице	наставник
1	1	II	Recognizing vitally endangered patient. Prevention of a heart standstill	Professor dr Nenad Zornic
1	1	B	And the group	
1	2	II	Acute coronary syndromes	Asis prof dr JelenaVuckovic
1	2	B	II Group	
1	3	II	Fundamentals of electrocardiographic diagnostics and cardiac monitoring	Asis prof dr JelenaVuckovic
1	3	B		
1	4	II		
1	4	B	Per-insurtical disorders of the heart rate. Tachycardia.	Assist,prof Vlada ignjatovic
1	5	II	Per-insurtical disorders of the heart rate. Braducardia	Asis prof dr JelenaVuckovic
1	5	B	II група	
2	6	II	Advanced life support algorithm	Professor dr Nenad Zornic
2	6	B	III Group	
2	7	II	Acido-base status and oxygenation	Professor Nenad Zornic
2	7	B	And the group	
2	8	II	Anaphylactic reactions	Prof. Dr. Aleksandra Lučić Tomić
2	8	B	II Group	
2	9	II	Heart stall in special circumstances-asthma	Prof. Dr. Ivan Chekerevac
2	9	B	III Group	
2	10	II	Heart stall in special circumstances - hypothermia	Professor dr Nenad Zornic
2	10	B		
3	11	II	Heart stall in special circumstances - poisonings	Professor dr Nenad Zornic
3	11	B		
3	12	II	Heart stall in special circumstances - Trauma	Professor dr Nenad Zornic

МОДУЛ	НЕДЕЉА	ТИП	НАЗИВ МЕТОДСКЕ ЈЕДИНИЦЕ	НАСТАВНИК
3	12	<b>В</b>		
3	13	<b>П</b>	Drugs in a heart standing	Professor dr Nenad Zornic
3	13	<b>В</b>		
3	14	<b>П</b>	Postresuscitacional treatment	Professor dr Tatjana Vulovic
3	14	<b>В</b>		
3	15	<b>П</b>	Ethical aspect and support for the family during the resuscitation	Professor dr Tatjana Vulovic
3	15	<b>В</b>		
		<b>ЗТМ</b>	<b>Final test</b>	
		<b>И</b>	<b>Exam (June Due)</b>	

### Exercises - The first block

#### Exercises on the KPR model, for 5 school classes. Imported in the Institute for Emergency Medical Assistance

- Basic life support
  - o Checking the state of consciousness
  - o Breathing assessment
  - o Chest compressions
- Provision of respiratory path and artificial ventilation
  - o Patient ventilation with a self-shaping balloon with a mask
  - o Setting up the oropharyngeal tube
  - o Installation of Laryngeal Mask
- Safe defibrillation

### Exercises - Second block

Exercises on the KPR model, for 5 school classes. Imported in the Institute for Emergency Medical Assistance

- Recognition of rhythms in heart shower and interpretation ECG in 6 steps
- Recognizing the deterioration of the general condition of the patient b c d e access
- Cardiac Station Scenario

About ABCDE access

on the application of immediate measures (respiratory path, oxygen, venous road, monitoring)

- o Application of appropriate therapy (Mona, Adrenaline, Atropin, Antiarrhythmics)
- o Recognition of a heart standing
- o Recognition of a shockable or non-smart rhythm
- o Consideration of reiercible signs of cardiac delay

### Exercises - the third block

Exercises on the KPR model, for 5 school classes. Imported in the Institute for Emergency Medical Assistance

- Resolving the clinical scenario of the heart standstill. Heart stall in special circumstances.