Medicinski fakultet u Rijeci

IZVEDBENI NASTAVNI PLAN
2026/2027

Za kolegij

Simulation of Clinical Skills

Studij:	**Medical Studies in English (R)** Sveučilišni integrirani prijediplomski i diplomski studij
Katedra:	**Katedra za anesteziologiju, reanimatologiju i intenzivnu medicinu**
Nositelj kolegija:	**doc. dr. sc. Tarčuković Janja, dr. med, DESAIC**
Godina studija:	**6**
ECTS:	**6**
Stimulativni ECTS:	**0 (0.00%)**
Strani jezik:	**Mogućnost izvođenja na stranom jeziku**

Podaci o kolegiju:

Course information (short description of the course, general information and instructions, course organisation and delivery, required materials, attendance and preparation requirements, student obligation, etc):

Simulation of Clinical Skills is a mandatory sixth year course within the Integrated Undergraduate and Graduate University Study of Medicine in English. The course comprises 8 hours of lectures and 125 hours of practical training, totalling 133 hours and corresponding to 6 ECTS credits.

The course is delivered by an experienced multidisciplinary team of medical educators and physicians specializing in Anaesthesiology, Resuscitation and Intensive Care Medicine, Internal Medicine, Surgery, Urology, In and Out-of-hospital Emergency Medicine, as well as Paediatrics. The teaching staff are affiliated with the University of Rijeka - Faculty of Medicine, Clinical Hospital Centre Rijeka and Out-of-hospital Emergency Medical Services.

In addition to in-person lectures and practical workshops, the course incorporates mandatory asynchronous online learning activities, including written educational materials, recorded lectures, video tutorials and demonstrations.

The primary objective of this course is to equip sixth-year medical student with the essential knowledge andd skills required to effectively assess, recognize, and manage a wide range of medical emergencies. The course employs advanced simulation-based educational methods to strenghten clinical reasoning and decision-making, enhance clinical judgement, and develop effective communication and teamwork skills. This is achieved through a combination of concise theoretical overviews of essential clinical skills and emergency medical conditions, followed by the practical application of aquired knowledge through realistic simulations-based clinical scenarios.

COURSE CONTENT

To achieve the intended learning outcomes, the course is organized into nine thematic units that use simulation-based education to bridge the gap between theoretical knowledge and practical clinical application.

1. STRUCTURED APPROACH TO MEDICAL EMERGENCIES - *How can healthcare professionals systematically assess, recognize, and manage a deteriorating patient in everyday practice?*

- eP. Introduction to simulation medicine: learning techniques and best practices
- L1 Initial assessment and structured hand-over of acutely ill patients (ABCDE, SAMPLE and SBAR)
- L6 Initial assessment and management of paediatric emergencies
- P1 Recognition and management of the deteriorating patient; advanced life support and cardiopulmonary resuscitation - in-person practical workshop supported by educational materials available on the e-learning platform

2. CARDIAC EMERGENCIES - *How can life-threatening cardiac emergencies be effectively recognized, assessed, and managed in everyday clinical practice?*

- L2 Initial assessment and management of patients with acute cardiac conditions
- P2 Cardiac emergencies: pathophysiological background, assessment, recognition, and management - in-person practical workshop supported by educational materials available on the e-learning platform

3. ACUTE RESPIRATORY FAILURE - *How can patients presenting with acute respiratory failure be systematically assessed, recognized and managed in everyday clinical practice?*

- L3 Initial assessment and management of patients with acute respiratory failure
- P3 Acute respiratory failure: pathophysiological background, assessment, recognition, and management - in-person practical workshop supported by educational materials available on the e-learning platform

4. ACUTE NEUROLOGICAL DETERIORATION - *How can patients presenting with acute neurological deterioration be systematically assessed and managed in everyday clinical practice?*

- P4/part I Acute neurological deterioration: assessment, recognition and management - in-person practical workshop supported by educational materials available on the e-learning platform

5. SEPSIS AND SEPTIC SHOCK - *How can patients with suspected sepsis or septic shock be systematically assessed, recognized and managed in everyday clinical practice?*

- P4/part II Sepsis and septic shock: assessment, recognition and management - in-person practical workshop supported by educational materials available on the e-learning platform

6. BLOOD, FLUIDS AND ELECTROLYTES - *How can patients presenting with fluid and electrolyte disturbance be systematically assessed and managed in everyday clinical practice?*

- L4 Initial assessment and management of a patients with hypovolaemia

- P5 Intravenous fluids and electrolyte disturbances, haemorrhage and haemorrhagic shock - in-person practical workshop supported by educational materials available on the e-learning platform

7. INJURIES AND TRAUMA LIFE SUPPORT - *How can injured patients be systematically assessed and managed in everyday clinical practice?*

- L5 Initial assessment and management of trauma patients
- P6 Essential surgical clinical skills: suturing techniques, splint application, fracture and dislocation reduction, and urinary bladder catheterisation
- P7 Trauma assessment and management: in-person practical workshop supported by educational materials available on the e-learning platform

8. PREHOSPITAL CRITICAL CARE - *How can medical emergencies be effectively assessed and managed in prehospital setting? What are the limitations of diagnostic and therapeutc interventtions outside the hospiital environment?*

- P8 Prehospital emergency and critical care: introduction to ground and air meddical transport, familiarizatio with prehospital emergency equipment, and recognition of the limitations of prehospital care and their implications for clinical decisio-making

9. THINKING IN PATERNS OF CLINICAL FEATURES IN WIDE DIFFERENTIAL DIAGNOSIS - *How can acquired theeoretical knowledge and practical clinical skills be effectively integrated into the assessment and management of complex medical emergencies, while ensuring effective communication and teamwork among healthcare professionals?*

- P9 Integrated simulation of all clinical skills – part 1
- P10 Integrated simulation of all clinical skills – part 2

COURSE CONCEPT

The primary objective of the course is to equip sixth-year medical students with the essential knowledge, clinical skills, and professional competencies required to effectively recognise, assess, and manage a wide range of medical emergencies. The course uses advanced simulation-based educational methods to develop clinical reasoning and decision-making abilities, strengthen clinical judgement, and promote effective communication and teamwork.

The course follows a flipped classroom model, in which students independently study theoretical content related to essential clinical skills and specific emergency medical conditions through the e-learning platform before attending in-person practical sessions. This mandatory independent preparation is followed by interactive, simulation-based workshops, where students actively apply their theoretical knowledge in realistic clinical scenarios. The preparatory theoretical component aims to establish a solid foundation of knowledge, enabling students to recognise, systematically assess, and appropriately manage patients presenting with acute and potentially life-threatening conditions. During the practical workshops, students participate in simulated clinical scenarios that require them to assess patients, interpret clinical findings, formulate differential diagnoses, select appropriate diagnostic investigations, and make decisions regarding patient management and treatment. Particular emphasis is placed on structured patient assessment, clinical decision-making, effective communication, and teamwork.

Each simulation scenario concludes with a structured debriefing session, during which students receive individualised feedback on their performance. This feedback process is an integral component of simulation-based learning, encouraging critical reflection, identifying areas for improvement, and supporting the continuous development of clinical competence, communication skills, and teamwork.

Ishodi učenja:

COURSE LEARNING OUTCOMES

After finishing the course, the student should be able to:

A. **COGNITIVE DOMAIN – KNOWLEDGE**

1. List the most common medical emergencies, including various causes of acute respiratory and circulatory failure, acute coronary syndrome and malignant arrhythmias, sudden neurological deterioration, sepsis and septic shock, fluid and electrolyte imbalances, hypovolemic shock, acute poisoning, burns and trauma.
2. Describe the typical clinical presentation and diagnostic tools for evaluating common medical emergencies.
3. Describe the necessary medication, procedures, and equipment for the management of the most common medical emergencies.

A. **PSYCHOMOTOR DOMAIN – SKILLS**

1. Recognize and manage cardiorespiratory arrest according to advanced life support guidelines.

2. Conduct a structured assessment (ABCDE, SAMPLE) of simulated patients experiencing medical emergencies, identify pathological findings, and apply this knowledge to create a differential diagnosis and propose diagnostic plan.
3. Analyse results of basic diagnostic tests: laboratory tests (blood count, glucose and electrolyte values, urea, creatinine, cardiac and inflammatory biomarkers, BGA), coagulation tests, microbiology cultures, ECG, and chest x-ray in the context of emergency medical conditions.
4. Manage a simulated patient with a medical emergency, including selecting appropriate treatment and emergency procedures based on clinical findings and diagnostic results.
5. Communicate effectively with team-members during clinical scenarios and other medical personnel during patient hand-over, fusing a structured approach (e.g. SBAR).

A. **AFFECTIVE DOMAIN – VALUES AND ATTITUDES**

1. Recognize the importance of structured patient assessment in high-stress situations.
2. Acknowledge the importance of early recognition of deteriorating patient and the need for prompt intervention planning.
3. Understand the significance of effective communication among medical personnel during medical emergencies.

Popis obvezne ispitne literature:

List of mandatory literature:

“Simulation of Clinical Skills – a practical guide” and educational materials available on e-learning platform (available to students prior to beginning of this course).

Popis dopunske literature:

Additional (optional) literature:

European Resuscitation Council Guidelines 2025 - available at: https://www.cprguidelines.eu/
- Basic Life Support
- Adult Advanced Life Support
- Cardiac Arrest in Special Circumstances
- Newborn Resuscitation and Support of Transition of Infants at Birth
- Paediatric Life Support
Alson LA, Han KH, Campbell JE. International Trauma Life Support for Emergency Care Providers, 9ed. Pearson 2019.
Šustić A, Sotošek V. Handbook of Anaesthesiology, Reanimatology, and Intensive Care Medicine for students of medicine and dental medicine, 1ed. Zagreb: Medicinska naklada, 2021.

Nastavni plan:

Predavanja popis (s naslovima i pojašnjenjem):

L1: Initial assessment and hand-over of acutely ill patient (ABCDE, SAMPLE and SBAR)

Explain assessment methods and management of deteriorating patient using ABCDE approach.

Describe a structured approach for communication between team members during the management of a patient (e.g. closed-loop communication), and during patient handover (e.g. SBAR).

L2: Initial assessment and management of a patient with cardiac pathologies

List the main acute cardiac conditions that may be life-threatening.

Describe how to assess and manage a patient with acute coronary syndrome or cardia rhythm disturbance.

Identify and define life threatening characteristics in rhythm disturbances (e.g., shock, syncope, myocardial ischaemia, severe heart failure).

List the indications for syncronized cardioversion and transcutaneous pacing.

L3: Initial assessment and management of a patient with acute respiratory failure

Define acute respiratory failure.

Llist the most common medical conditions that can lead to acute respiratory failure.

Describe the typical presentation and diagnostic methods used to asses acute respiratory failure.

Describe the medications, procedures, and equipment needed for initial management of acute respiratory failure.

L4: Initial assessment and management of a patient with hypovolaemia

Explain the concept of hypovolaemia and hpovolaemic shock.

List the main causes of volume loss, compensatory mechanisms, and the basic signs of hypoperfusion.

Identify the main types of intravenous fluids and blood products, and explain their purpose in the initial management of hypovolaemia.

Understand the fundamental principles of early recognition and initial management of hypovolaemia.

L5: Trauma assessment and management

Describe the assessment and management of trauma patients, including the primary survey, ongoing exams, and secondary survey.

L6: Initial assessment and management of paediatric emergencies

List clinical skills in paediatric population.

Explain the peculiarities of taking medical history, performing physical examination, and preparing the equipment needed for the paediatric population.

Describe the algorithms of advanced life support for the paediatric population.

Vježbe popis (s naslovima i pojašnjenjem):

Entry Practical (eP). Introduction to simulation medicine: learning techniques and best practices

Onsite class in conjunction with educational materials provided via the Merlin e-learning module, lessons include:

- Overview of simulation-based learning
- Techniques for effective learning in a simulation environment
- Best practices for teamwork and communication in clinical simulations

Learningoutcomes: understandtheprinciplesofsimulation-basedlearninganditsimportanceinmedical education.Apply techniques for effective learning in simulation environments. Demonstrate best practices for teamwork and communication during clinical simulations. Develop a structured approach to participating in debriefing simulation exercises.

Practical 1 (P1). Recognition and management of deteriorating patient; cardiopulmonary resuscitation algorithm

Onsite class in conjunction with obligatory educational materials provided via Merlin e-learning platform, lessons include:

- Initial assessment of the deteriorating patient, with written educational material and video-tutorials
- Airway management, with written educational material and video-demonstration
- Essentials for ECG interpretation in medical emergencies, with written educational material
- Cardiopulmonary resuscitation (CPR) guidelines and algorithms, with written educational material and video-demonstrations

Learning outcomes: Apply the ABCDE approach for the initial assessment of a deteriorating (simulated) patient, report the findings in a structured manner, interpret the pathological findings and incorporate them in a differential diagnosis, select the appropriate diagnostic tools to confirm the diagnosis, and apply the correct treatment. Interpret the 12-lead electrocardiogram (ECG). Perform a structured handover of the (simulated) patient.

Recognise cardiopulmonary arrest, identify heart rhythm associated with cardiac arrest, and perform CPR according to current guidelines.

Practical 2 (P2). Cardiac Emergencies – background, assessment, recognition, and management

Onsite class in conjunction with obligatory educational materials provided via the Merlin e-learning platform, lessons include:

- Acute coronary syndrome, with written educational material and video-tutorial
- Life-threatening arrhythmias, with written educational material and video-tutorial

Learning outcomes: Apply the ABCDE approach for the initial assessment of a (simulated) patient, report the findings in a structured manner, interpret pathological findings, and incorporate them into a differential diagnosis. Select appropriate diagnostic tools to confirm the diagnosis and apply the correct treatment.

Interpret the 12-lead electrocardiogram (ECG) to identify and localize signs of acute coronary syndrome (including STEMI and NSTEMI) and malignant arrhythmias, such as ventricular tachycardia and ventricular fibrillation. Use ECG interpretation to guide urgent clinical decision-making and management in simulated emergency scenarios.

Recognize cardiopulmonary arrest, identify associated heart rhythms, apply current resuscitation guidelines accurately, and perform safe defibrillation when indicated.

Explain guidelines for the management of acute coronary syndrome, bradyarrhythmias, and tachyarrhythmias. Define key clinical and diagnostic findings for treatment selection and apply this knowledge to the simulation of relevant clinical scenarios of acute coronary syndrome, brady- and tachyarrhythmia. Perform structured handover of the (simulated) patient.

Practical 3 (P3). Acute Respiratory Failure – background, assessment, recognition, and management

Onsite class in conjunction with obligatory educational materials provided via the Merlin e-learning platform, lessons include:

- Acute respiratory failure, with written educational materials
- Arterial blood gases, with written educational materials and video-tutorial
- Anaphylaxis, with written educational materials and video-tutorial
- Acute bronchospasm, with written educational materials and video-tutorials on asthma attack and acute exacerbation of COPD
- Pulmonary oedema, with written educational materials and video-tutorial

Learning outcomes: Apply the ABCDE for the initial assessment of a (simulated) patient with acute respiratory insufficiency, report the findings in a structured manner, interpret the pathological findings and incorporate them in a differential diagnosis. Select the appropriate diagnostic tools to confirm the diagnosis and apply the correct treatment. Interpret blood gas analysis. Explain the guidelines for the management of anaphylaxis, severe asthma attack, pulmonary oedema, and acute exacerbation of chronic obstructive pulmonary disease, define clinical and diagnostic findings important for selecting appropriate treatment. Implement the knowledge and skills needed for treatment of mentioned medical conditions. Perform structured handover of the (simulated) patient.

Practical 4 (P4). Sudden Deterioration in Neurologic Status. Sepsis and septic shock .

Onsite class in conjunction with obligatory educational materials provided via the Merlin e-learning platform, lessons include:

- Neurologic assessment, with education materials, video-tutorial, and video-demonstration on assessment of GCS
- Management of sudden neurological deterioration, with written educational material and video tutorial
- Seizures, with written educational materials
- Recognition and initial treatment of sepsis and septic shock, with written educational material and video tutorial on SOFA and qSOFA score, as well as First hour bundle

Learning outcomes: Apply the ABCDE for the initial assessment of a (simulated) patient with sudden deterioration in neurologic status, report the findings in a structured manner, interpret the pathological findings and incorporate them in a differential diagnosis, select the appropriate diagnostic tools to confirm the diagnosis, and apply the correct treatment. Conduct a neurologic assessment, including the Glasgow Coma Scale (GCS). Explain the guidelines for the management of stroke, traumatic brain injury, increased intracranial pressure, and blood glucose disturbances. Define clinical and diagnostic findings important for selecting appropriate treatment. Implement the knowledge and skills needed for treatment of mentioned medical conditions. Perform structured handover of the (simulated) patient.

Identify and manage a patient with various types of acute poisoning.

Explain the background for sepsis and septic shock. Perform an assessment of the (simulated) patient suspected of having sepsis, with special emphasis on quick-SOFA score. Define the most common sites and pathogens associated with sepsis. Recognize and manage septic patient with emphasis on first-hour bundle.

Practical 5 (P5). Intravenous fluids, haemorrhage and haemorrhagic shock, electrolyte disturbances, burns, acute poisoning

Onsite class in conjunction with obligatory educational materials provided via the Merlin e-learning platform, lessons include:

- Intravenous fluids, with written educational materials and video-tutorial on basic physiology
- Electrolyte disorders, with written educational materials and video-tutorial on hypo- and hyperkalaemia
- Haemorrhage and haemorrhagic shock, with written educational materials and video-tutorial
- Acute poisoning, with written educational materials and video-tutorial
- Burns assessment and management, with written educational materials and video-tutorial

Learning outcomes: Identify different types of intravenous fluids and understand their composition. Determine appropriate indications for the use of crystalloids, colloids, and blood products. Recognize contraindications and potential adverse effects associated with various intravenous fluids. Calculate the dose for fluid administration and demonstrate correct techniques for intravenous fluid delivery. Understand the principles of fluid balance and how to adjust intravenous fluid dose based on patient response and needs.

List clinical signs and symptoms of common electrolyte imbalances, interpret laboratory results to diagnose electrolyte disorder, develop appropriate management plan for the most common electrolyte disturbances, apply knowledge of electrolyte physiology to select correct treatment options.

Apply the ABCDE for the initial assessment of a (simulated) patient with haemorrhage, report the findings in a structured manner, interpret the pathological findings and incorporate them in a differential diagnosis, select the appropriate diagnostic tools to confirm the diagnosis, and apply the correct treatment. Explain the guidelines for haemorrhagic shock. Define clinical and diagnostic findings important for selecting appropriate treatment. Implement the knowledge and skills needed for the treatment of mentioned medical conditions. Order tranexamic acid and blood products timely. Perform structured handover of the (simulated) patient.

Practical 6 (P6). Essential Surgical Clinical Skills: suturing, splints, repositions, urinary bladder catheterisation

Onsite classes in conjunction with obligatory educational materials provided via the Merlin e-learning platform, lessons include:

- Suturing techniques, with video tutorial
- Application of splints and repositions
- Urinary bladder catheterization

Learning outcomes: demonstrate proper suturing techniques for wound closure, apply splints and perform repositions for fractures and dislocations, perform urinary bladder catheterization with sterile technique, recognize and manage complications associated with these procedures.

Practical 7 (P7). Trauma Assessment and Management

Onsite class in conjunction with obligatory educational materials provided via the Merlin e-learning platform, lessons include:

- Initial trauma assessment and management, with written education materials and video-tutorials on initial assessment and management, as well as thoracic and abdominal trauma
- Trauma life support algorithms, with written education materials and video-tutorials
- Burns, with written education material and video-tutorial
- Case studies on trauma management

Learning outcomes: conduct a primary and secondary survey for trauma patients, apply trauma life support protocols, recognize, and manage life-threatening injuries in a simulated environment, demonstrate effective communication and teamwork in trauma scenarios, perform structured handover of the (simulated) patient. Assess and provide initial management for burn injuries.

Practical 8 (P8). Prehospital critical care

Onsite practical session held in collaboration with out-of-hospital emergency medical services, includes:

- Familiarisation with ground (ambulance) and air (helicopter) emergency vehicles
- Orientation to emergency medical equipment used in prehospital settings
- Demonstration of procedures, logistical workflows, and safety protocols during patient transport
- Discussion of diagnostic and therapeutic limitations in the field environment

Learning outcomes: familiarise with structural and functional aspects of ambulance and helicopter-based emergency services. Identify key equipment used in prehospital care and understand its application. Demonstrate the principles of patient assessment, stabilization, and handover in the context of out-of-hospital emergencies. Recognise the limitations of diagnostics and management in prehospital settings and adapt clinical decision-making accordingly. Understand the organisation and workflow of emergency medical services and the role of effective communication and teamwork in the field.

Practical 9 (P9). Integrated simulation of all clinical skills – part 1

Onsite class involving integrated simulation scenarios that encompass a variety of clinical skills and emergencies learned throughout the course.

Learning outcomes: integrate and apply clinical skills from various medical emergencies in simulated scenarios, demonstrate effective teamwork and communication during simulations, reflect on performance and identify areas for improvement, receive and apply feedback to enhance clinical skills.

Practical 10 (P10). Integrated simulation of all clinical skills – part 2

This session continues the onsite integrated simulation scenarios from part 1, emphasizing the final evaluation of students. The assessment will be conducted using the Objective Structured Clinical Examination (OSCE) format, focusing on a simulated medical emergency scenario.

Learning outcomes: integrate and apply clinical skills from various medical emergencies in simulated scenarios, demonstrate effective teamwork and communication during simulations, reflect on performance and identify areas for improvement, receive and apply feedback to enhance clinical skills.

Obveze studenata:

Student obligations:

All information regarding the course, as well as mandatory materials required for preparation, will be available on the e-learning platform. Students should regularly check the platform to stay informed about all updates or changes related to the course. Furthermore, students are expected to fulfill course requirements, including attendance and active participation in classes.

COURSE ATTENDANCE:

Classes are organized according to the schedule published on the *inp.medri* application and the e-learning platform. Attendance at all lectures and practical workshops is mandatory, and attendance records are kept individually for each student. All sessions start promptly at the scheduled time; arriving late is considered an absence. Entering or leaving the room during class is not permitted. Additionally, if it is determined that a student has misused the *inp.medri.uniri.hr* application for attendance tracking, such actions will be considered a serious violation of academic integrity. Consequently, the case will be forwarded to the Faculty of Medicine Ethics Committee for review and consideration of appropriate disciplinary measures.

A student may be excused for up to 30% of the total number of lecture and practical hours, calculated separately for each type of teaching activity, exclusively for medical reasons, which must be supported by a medical certificate. If a student misses more than 30% of the scheduled hours for either lectures or practical workshops, they may not continue attending the course and will not meet the mandatory requirements for taking the final exam.

For all administrative matters (group changes, justification of absences, exam registration, etc.), students should contact the Skills Lab Administrator, **Ms. Petra Volf Žiković**, at the official email address: **petra.volf.zikovic@uniri.hr**.

The first attempt at the final examination takes place at a scheduled time immediately upon completion of the course and does not require separate registration. Registration for all subsequent examination dates must be completed at least five days before the scheduled examination date via the same email address.

Group changes are only possible through a one-to-one exchange (1:1) with a student from another group. All such exchanges must be communicated to Ms. Petra Volf Žiković in advance.

ACTIVE PARTICIPATION IN CLASSES:

As the course predominantly consists of highly interactive teaching activities, “Simulation of Clinical Skills” is structured around a flipped classroom model, encouraging pre-class preparation and active in-class participation.

Instructors provide a concise theoretical overview at the beginning of each session, and students, led by a designated team leader, apply this knowledge by participating in simulated clinical scenarios with support from their team members. In each scenario, the team leader is tasked with patient assessment, formulating differential diagnoses based on clinical findings, selecting appropriate diagnostic tests, determining necessary procedures and treatments, and making the final decision regarding patient discharge or hospital admission. In cases of hospital admission, students are encouraged to deliver a structured patient handover to another simulated healthcare professional.

Instructors facilitate the clinical scenario, providing structured debriefing and individualised feedback to all team members upon completion of the scenario.

The benefits of this course are directly related to students' level of engagement and preparedness. Optimal learning outcomes are achieved when clinical scenarios progress effectively, with students accurately identifying abnormal clinical findings, incorporating them into differential diagnoses, and using this information to guide subsequent patient management. **Therefore, students are expected to attend each session adequately prepared, with a thorough understanding of the ABCDE approach, current cardiopulmonary resuscitation guidelines, and the theoretical principles underlying the management of medical emergencies.** In particular, students are required to thoroughly study the course manual, *Simulation of Clinical Skills – A Practical Guide*, and all other mandatory educational materials available on the e-learning platform before attending each practical workshop.

Additionally, as this course is delivered during the final year of medical school and aims to integrate knowledge and skills acquired throughout previous years of study, students are expected to have a solid theoretical background in major clinical disciplines, including internal medicine, neurology, paediatrics, surgery, and other relevant specialties. Students are encouraged to consult the provided mandatory and supplementary educational materials during practical workshops to enhance their understanding and facilitate the effective application of acquired knowledge and skills.

All educational materials on the e-learning platform will be available before the course begins.

Ispit (način polaganja ispita, opis pisanog/usmenog/praktičnog dijela ispita, način bodovanja, kriterij ocjenjivanja):

Assessment (types and description of assessment etc):

Student assessment in the course is designed to provide regular feedback and evaluate students' progress over time. The assessment strategy incorporates both formative and summative assessments.

FORMATIVE ASSESSMENT

Formative assessments are integrated throughout the duration of the course. These assessments take the form of structured deebriefing sessions, followed by individualised feedback upon the completion of each simulated scenario. The goal of theis iterative process of learning, assessment and feedback is to promote students' continuous learning and enhance their clinical skills and knowledge.

Formative assessment is based on the evaluation of seven distinct areas:

- **ABCDE assessment,**
- **SAMPLE history,**
- **selection and interpretation of laboratory data and diagnostic investigations,**
- **medical interventions,**
- **clinical judgement,**
- **communication skills, and**
- **cardiopulmonary resuscitation procedures.**

This formative approach encourages students to develop a deeper understanding of the subject matter, refine their practical skills, and apply their knowledge in real time. Regular feedback and discussions provide students with opportunities to reflect on their performance, recognise their strengths, and identify areas for improvement.

SUMMATIVE ASSESSMENT

Summative assessment is conducted in accordance with the established grading regulations of the University of Rijeka and the Faculty of Medicine in Rijeka.

The assessment consists of botth continuous assessments and a final practical examination , with a maximum of 100 assessment points available, distributed between continuous assessments (70 points, 70%) and the final practical examination (30 points, 30%). A minimum score of 35 in continuous assessments and 15 in the final practical examination is necessary to pass the course and earn the corresponding ECTS credits.

The continuous assessment component, worth up to 70 credits, evaluates students' acquisition of theoretical knowledge throughout the course through seven mandatory written ttests, administeredd at the beginning of the respective practical workshop. These tests align with the themes of practical sessions 1-5, 7 and 8, with each test offering a potential maximum of 10 credits. Credits are awarded provided that the student correctly answers at least 50% of the questions. The tests may include a variety of question types, including single-best-answer question, multiple-choice question and short-answer questions. These assessments are designed to evaluate students' theoretical knowledge and preparedness for the practical workshops.

The allocation of assessment credits for the mandatory written tests is presented bellow:

% of correct answers	credits
50%	5
51-60%	6
61-70%	7
71-80%	8
81-90%	9
91-100%	10

The final practical evaluation, which contributes **a maximum of 30** credits towards the total assessment score, is open only to students who have met the following requiremments:

- Earned more than 35 credits in continuous assessment, and
- Had no more than 30% justified absencess from lectures and practical workshops, calculated separately for each type of teaching acttivity.

The final evaluation, conducted at the end of the course, follows the Objective Structured Clinical Examination (OSCE) format and involves the assessment and management of a simulatedd patient presenting with medical emergency.

The allocation of assessment points for the OSCE i presented below:

% of correct answers	credits
50%	15
51-60%	18
61-70%	21
71-80%	24
81-90%	27
91-100%	30

To pass the course and obtain the allocated ECTS credits, a student must successfully complete both the continuous and final evaluation, achieving a combined score of more than 50 credits in total.

This comprehensive assessment system evaluates both theoretical knowledge and practical clinical competencies, supporting students' prepareddness for clinical practice.

	DATES OF FINAL EXAM
1.	25.1.2027.
2.	12.2.2027.
3.	5.3.2027.
4.	3.4.2027.
5.	23.4.2027.
6.	16.6.2027.
7.	30.6.2027.
8.	3.9.2027.

Ostale napomene (vezane uz kolegij) važne za studente:

Other information (related to the course) important for students:

COMMUNICATION WITH TEACHERS:

Teachers are available daily during working hours (Monday to Friday, 8 am to 4 pm) via emails available on the webpage of the Faculty of Medicine in Rijeka and e-learning platform for all questions concerning the course. Consultations are possible by appointment and can be conducted live or through the online platforms.

ACADEMIC INTEGRITY:

It is expected that the teacher will respect the Code of Ethics of the University of Rijeka, and the students the Code of Ethics for students at the University of Rijeka.

STUDENTS DOING THE STUDENT YEAR/ERSMUS PROGRAME OUTSIDE OF RIJEKA:

For students who will be undertaking the student year/Erasmus programe outside of Rijeka and consequently will not be participating in the workshops at the Simulation of Clinical Skills, please note the following mandatory requirements to successfully complete the course:

1. Complete all the educational materials (continuous assessments included) provided on the e-learning platform. This material will be available until June 1st, 2027.

2. Fill out and sign the form provided on Merlin e-learning platform that includes a list of medical emergencies, along with three case reports detailing patients who presented with these medical emergencies. Upon completion of your internship, please send the form to janja.kuharic@uniri.hr and petra.volf.zikovic@uniri.hr.

Should you not have the opportunity to assess and manage three medical emergencies during your internship, an additional workshop will be arranged upon your return to Rijeka. During this workshop, you will be required to participate in a simulated medical emergency scenario, which will be evaluated by a medical educator.

SATNICA IZVOĐENJA NASTAVE 2026/2027

Simulation of Clinical Skills

Predavanja (mjesto i vrijeme / grupa)	**Vježbe** (mjesto i vrijeme / grupa)
14.12.2026	
L1: Initial assessment and hand-over of acutely ill patient (ABCDE, SAMPLE and SBAR): • P12 - KBC SUŠAK (09:00 - 09:45) [462] ◦ CSS L2: Initial assessment and management of a patient with cardiac pathologies: • P12 - KBC SUŠAK (10:00 - 11:30) [462] ◦ CSS L3: Initial assessment and management of a patient with acute respiratory failure: • P12 - KBC SUŠAK (11:45 - 12:30) [462] ◦ CSS L4: Initial assessment and management of a patient with hypovolaemia: • P12 - KBC SUŠAK (13:30 - 15:00) [462] ◦ CSS L6: Initial assessment and management of paediatric emergencies: • P5-112 (16:00 - 16:45) [372] ◦ CSS L5: Trauma assessment and management: • P5-112 (16:45 - 17:30) [1482] ◦ CSS	Entry Practical (eP). Introduction to simulation medicine: learning techniques and best practices: • P12 - KBC SUŠAK (08:15 - 09:00) [462] ◦ CSS G1 ◦ CSS G2 ◦ CSS G3 ◦ CSS G4 ◦ CSS G5 ◦ CSS G6
izv. prof. dr. sc. Lah Tomulić Kristina, dr. med. [372] · doc. prim.dr.sc. Pavletić Martina, dr. med. [1482] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462]	
15.12.2026	
	Practical 1 (P1). Recognition and management of deteriorating patient; cardiopulmonary resuscitation algorithm: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [2305] [462] ◦ CSS G1 ◦ CSS G2 Practical 7 (P7). Trauma Assessment and Management: • Kabinet vještina, vježbalište 4 (08:00 - 17:00) [294] ◦ CSS G5 ◦ CSS G6
naslovna asistentica Otočan Marinka, dr. med. [294] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462] · naslovna asistentica Tomas Vera, dr.med. [2305]	
16.12.2026	
	Practical 1 (P1). Recognition and management of deteriorating patient; cardiopulmonary resuscitation algorithm: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [462] [468] ◦ CSS G3 ◦ CSS G4
Knežević Danijel, dr. med. [468] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462]	
17.12.2026	

	Practical 2 (P2). Cardiac Emergencies – background, assessment, recognition, and management: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [462] [1914] [2136] ◦ CSS G1 ◦ CSS G2 Practical 8 (P8). Prehospital critical care: • ZZHM PGŽ Rijeka (08:00 - 17:00) [261] [471] ◦ CSS G5 ◦ CSS G6
naslovna asistentica Grgić Romić Ivana, dr. med. [2136] · naslovna asistentica Kajčić Senka, dr. med. [471] · naslovna asistentica Tancabel Mačinković Ana, dr. med. [261] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462] · naslovni asistent Ševeljević Ivan, dr. med. [1914]	
18.12.2026	
	Practical 2 (P2). Cardiac Emergencies – background, assessment, recognition, and management: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [467] [1860] [1912] ◦ CSS G3 ◦ CSS G4
Lulić Davorka, dr. med. [1860] · naslovni asistent Milošević Marko, dr. med. [467] · naslovni asistent Vuksan Ivan, dr. med. [1912]	
21.12.2026	
	Practical 3 (P3). Acute Respiratory Failure – background, assessment, recognition, and management: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [293] ◦ CSS G1 ◦ CSS G2 Practical 6 (P6). Essential Surgical Clinical Skills: suturing, splints, repositions, urinary bladder catheterisation: • Zavod za anatomiju - Sala 1 (08:00 - 17:00) [1935] [492] [1881] [2307] ◦ CSS G5 ◦ CSS G6
asistent Jakšić Ante, dr. med., FEBU [1881] · Komen Mokrović Simona, dr. med. [492] · naslovni asistent Lerga Mate, dr. med. [293] · naslovni asistent Srok Dorian, dr. med. [2307] · asistentica Šarac Grego Ivana, dr. med. [1935]	
22.12.2026	
	Practical 3 (P3). Acute Respiratory Failure – background, assessment, recognition, and management: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [2304] [1915] ◦ CSS G3 ◦ CSS G4
naslovni asistent Barbalić Berislav, dr. med. [2304] · naslovna asistentica Predrijevac Tomljanović Anamarija, dr.med. [1915]	
07.01.2027	
	Practical 8 (P8). Prehospital critical care: • ZZHM PGŽ Rijeka (08:00 - 17:00) [261] [471] ◦ CSS G1 ◦ CSS G2 Practical 1 (P1). Recognition and management of deteriorating patient; cardiopulmonary resuscitation algorithm: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [462] ◦ CSS G5 ◦ CSS G6
naslovna asistentica Kajčić Senka, dr. med. [471] · naslovna asistentica Tancabel Mačinković Ana, dr. med. [261] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462]	

08.01.2027	

	Practical 4 (P4). Sudden Deterioration in Neurologic Status. Sepsis and septic shock .:
	• Kabinet vještina, vježbalište 3 (08:00 - 17:00) [468]
	  ◦ CSS G3
	  ◦ CSS G4

Knežević Danijel, dr. med. [468]	
11.01.2027	

	Practical 2 (P2). Cardiac Emergencies – background, assessment, recognition, and management:
	• Kabinet vještina, vježbalište 3 (08:00 - 17:00) [462] [1860] [3276]
	  ◦ CSS G5
	  ◦ CSS G6
	
	Practical 6 (P6). Essential Surgical Clinical Skills: suturing, splints, repositions, urinary bladder catheterisation:
	• Zavod za anatomiju - Sala 1 (08:00 - 17:00) [492] [1881] [1935] [2307]
	  ◦ CSS G1
	  ◦ CSS G2
	
	Practical 5 (P5). Intravenous fluids, haemorrhage and haemorrhagic shock, electrolyte disturbances, burns, acute poisoning:
	• Kabinet vještina, vježbalište 1 (08:00 - 17:00) [468]
	  ◦ CSS G3
	  ◦ CSS G4

asistent Jakšić Ante, dr. med., FEBU [1881] · Knežević Danijel, dr. med. [468] · Komen Mokrović Simona, dr. med. [492] · Lulić Davorka, dr. med. [1860] · naslovni asistent Srok Dorian, dr. med. [2307] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462] · asistentica Šarac Grego Ivana, dr. med. [1935] · dr. sc. Šustić Marko, dr. med. [3276]	
12.01.2027	

	Practical 4 (P4). Sudden Deterioration in Neurologic Status. Sepsis and septic shock .:
	• Kabinet vještina, vježbalište 3 (08:00 - 17:00) [2305]
	  ◦ CSS G1
	  ◦ CSS G2

naslovna asistentica Tomas Vera, dr.med. [2305]	
13.01.2027	

	Practical 3 (P3). Acute Respiratory Failure – background, assessment, recognition, and management:
	• Kabinet vještina, vježbalište 3 (08:00 - 17:00) [293] [1915]
	  ◦ CSS G5
	  ◦ CSS G6
	
	Practical 7 (P7). Trauma Assessment and Management:
	• Kabinet vještina, vježbalište 1 (08:00 - 17:00) [292] [1975]
	  ◦ CSS G3
	  ◦ CSS G4

naslovni asistent Lerga Mate, dr. med. [293] · naslovna asistentica Mavrinac Nataša, dr. med. [1975] · naslovna asistentica Predrijevac Tomljanović Anamarija, dr.med. [1915] · naslovna asistentica Šverko Zinaić Petra, dr. med. [292]	
14.01.2027	

	Practical 5 (P5). Intravenous fluids, haemorrhage and haemorrhagic shock, electrolyte disturbances, burns, acute poisoning: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [2305] ◦ CSS G1 ◦ CSS G2
naslovna asistentica Tomas Vera, dr.med. [2305]	
15.01.2027	
	Practical 4 (P4). Sudden Deterioration in Neurologic Status. Sepsis and septic shock .: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [1912] [1913] ◦ CSS G5 ◦ CSS G6 Practical 8 (P8). Prehospital critical care: • ZZHM PGŽ Rijeka (08:00 - 17:00) [261] [471] ◦ CSS G3 ◦ CSS G4
naslovna asistentica Božić Katarina, dr. med. [1913] · naslovna asistentica Kajčić Senka, dr. med. [471] · naslovna asistentica Tancabel Mačinković Ana, dr. med. [261] · naslovni asistent Vuksan Ivan, dr. med. [1912]	
18.01.2027	
	Practical 5 (P5). Intravenous fluids, haemorrhage and haemorrhagic shock, electrolyte disturbances, burns, acute poisoning: • Kabinet vještina, vježbalište 3 (08:00 - 17:00) [2304] [2757] ◦ CSS G5 ◦ CSS G6 Practical 6 (P6). Essential Surgical Clinical Skills: suturing, splints, repositions, urinary bladder catheterisation: • Zavod za anatomiju - Sala 1 (08:00 - 17:00) [1935] [492] [1881] [2307] ◦ CSS G3 ◦ CSS G4
naslovni asistent Barbalić Berislav, dr. med. [2304] · asistent Jakšić Ante, dr. med., FEBU [1881] · Komen Mokrović Simona, dr. med. [492] · naslovna asistentica Polonijo Željka [2757] · naslovni asistent Srok Dorian, dr. med. [2307] · asistentica Šarac Grego Ivana, dr. med. [1935]	
19.01.2027	
	Practical 7 (P7). Trauma Assessment and Management: • Kabinet vještina, vježbalište 1 (08:00 - 17:00) [292] [294] ◦ CSS G1 ◦ CSS G2 Practical 9 (P9). Integrated simulation of all clinical skills – part 1: • Kabinet vještina, vježbalište 3 (08:00 - 18:30) [353] [1914] ◦ CSS G3 ◦ CSS G4
naslovna asistentica Otočan Marinka, dr. med. [294] · naslovni asistent Ševeljević Ivan, dr. med. [1914] · Šuper-Petrinjac Erika, dr. med. [353] · naslovna asistentica Šverko Zinaić Petra, dr. med. [292]	
20.01.2027	
	Practical 9 (P9). Integrated simulation of all clinical skills – part 1: • Kabinet vještina, vježbalište 3 (08:00 - 18:30) [462] [2304] ◦ CSS G5 ◦ CSS G6
naslovni asistent Barbalić Berislav, dr. med. [2304] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462]	

21.01.2027	
	Practical 9 (P9). Integrated simulation of all clinical skills – part 1: • Kabinet vještina, vježbalište 3 (08:00 - 18:30) [355] [1915] ◦ CSS G1 ◦ CSS G2
naslovni asistent Bura Matej, dr. med. [355] · naslovna asistentica Predrijevac Tomljanović Anamarija, dr.med. [1915]	
22.01.2027	
	Practical 10 (P10). Integrated simulation of all clinical skills – part 2: • Kabinet vještina, vježbalište 4 (08:00 - 18:30) [462] [355] [1912] [1913] ◦ CSS G1 ◦ CSS G2 ◦ CSS G3 ◦ CSS G4 ◦ CSS G5 ◦ CSS G6
naslovna asistentica Božić Katarina, dr. med. [1913] · naslovni asistent Bura Matej, dr. med. [355] · doc. dr. sc. Tarčuković Janja, dr. med, DESAIC [462] · naslovni asistent Vuksan Ivan, dr. med. [1912]	

Popis predavanja, seminara i vježbi:

PREDAVANJA (TEMA)	Broj sati	Mjesto održavanja
L1: Initial assessment and hand-over of acutely ill patient (ABCDE, SAMPLE and SBAR)	1	P12 - KBC SUŠAK
L2: Initial assessment and management of a patient with cardiac pathologies	2	P12 - KBC SUŠAK
L3: Initial assessment and management of a patient with acute respiratory failure	1	P12 - KBC SUŠAK
L4: Initial assessment and management of a patient with hypovolaemia	2	P12 - KBC SUŠAK
L5: Trauma assessment and management	1	P5-112
L6: Initial assessment and management of paediatric emergencies	1	P5-112

VJEŽBE (TEMA)	Broj sati	Mjesto održavanja
Entry Practical (eP). Introduction to simulation medicine: learning techniques and best practices	1	P12 - KBC SUŠAK
Practical 1 (P1). Recognition and management of deteriorating patient; cardiopulmonary resuscitation algorithm	12	Kabinet vještina, vježbalište 3
Practical 2 (P2). Cardiac Emergencies – background, assessment, recognition, and management	12	Kabinet vještina, vježbalište 3
Practical 3 (P3). Acute Respiratory Failure – background, assessment, recognition, and management	12	Kabinet vještina, vježbalište 3
Practical 4 (P4). Sudden Deterioration in Neurologic Status. Sepsis and septic shock .	12	Kabinet vještina, vježbalište 3
Practical 5 (P5). Intravenous fluids, haemorrhage and haemorrhagic shock, electrolyte disturbances, burns, acute poisoning	12	Kabinet vještina, vježbalište 1 Kabinet vještina, vježbalište 3
Practical 6 (P6). Essential Surgical Clinical Skills: suturing, splints, repositions, urinary bladder catheterisation	12	Zavod za anatomiju - Sala 1
Practical 7 (P7). Trauma Assessment and Management	12	Kabinet vještina, vježbalište 1 Kabinet vještina, vježbalište 4

Practical 8 (P8). Prehospital critical care	12	ZZHM PGŽ Rijeka
Practical 9 (P9). Integrated simulation of all clinical skills – part 1	14	Kabinet vještina, vježbalište 3
Practical 10 (P10). Integrated simulation of all clinical skills – part 2	14	Kabinet vještina, vježbalište 4

ISPITNI TERMINI (završni ispit):

1.	22.01.2027.
2.	12.02.2027.
3.	05.03.2027.
4.	02.04.2027.
5.	23.04.2027.
6.	17.06.2027.
7.	30.06.2027.
8.	06.09.2027.