



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Emergency

2627-2-H4104D015-H4104D01503

Aims

At the end of the course/activity block, the student will be able to:

- Learning the basics and mechanisms of physiopathology, diagnosis, monitoring and treatment of clinical emergencies, medical and surgical.
- Apply BLS and ACLS cardio-pulmonary resuscitation protocols

Learning outcomes according to the Dublin Descriptors

1. Knowledge and understanding

At the end of the course, students will have acquired basic knowledge of the pathophysiology, diagnosis, monitoring and treatment of the main medical and surgical emergencies.

Students will understand the principles of the initial assessment of critically ill patients, with particular reference to the evaluation of general conditions, vital signs recording and the ABCDE approach.

They will acquire knowledge of the principles of recovery and maintenance of vital functions, including BLS and ACLS protocols, cardiac defibrillation and pacing, airway management, respiratory support, treatment of shock and the initial management of polytrauma.

Students will also understand the basic principles of Pre-Hospital Trauma Life Support, acute cardiac failure, acute respiratory failure, coma, acid-base disorders and the evaluation of patients undergoing emergency surgery.

2. Applying knowledge and understanding

Students will be able to apply the acquired knowledge to the initial assessment and management of emergency patients in simulated and supervised clinical settings.

They will be able to record and interpret vital signs, recognize critical clinical conditions, apply the ABCDE approach and perform basic emergency procedures according to the level of training and supervision.

Students will progressively acquire practical skills related to venous access, cardiopulmonary resuscitation simulation, cardiac defibrillation, airway management, shock treatment and basic management of trauma patients.

Through lectures, practical exercises on mannequins, simulated scenarios, small-group activities and clinical

observation in emergency/urgency settings, students will apply emergency medicine principles to realistic clinical situations.

3. Making judgements

Students will develop the ability to rapidly evaluate clinical information, vital signs and patient conditions in order to identify priority and life-threatening problems.

They will be able to recognize situations requiring urgent intervention, escalation of care or activation of specific emergency protocols.

Students will also be encouraged to assess the appropriateness of diagnostic and therapeutic actions in relation to patient severity, clinical context and available resources.

The course will promote decision-making skills through simulated scenarios, clinical case discussion, practical tests and supervised observation of emergency activities.

4. Communication skills

Students will be able to communicate effectively in emergency settings, using clear, concise and appropriate medical terminology.

They will develop the ability to interact with healthcare professionals during emergency simulations and clinical observation, contributing to teamwork in time-critical situations.

Students will also be able to report essential clinical information, vital parameters and performed procedures in a structured and professional manner.

The course will strengthen communication skills through small-group simulations, practical exercises, discussion of clinical cases and interaction with tutors during emergency/urgency activities.

5. Learning skills

Students will acquire the learning skills necessary to further develop their competence in emergency medicine and resuscitation during subsequent clinical training.

They will be able to use guidelines, teaching materials, simulation-based learning, practical feedback and clinical case discussions to improve their knowledge and technical skills.

The course will promote autonomous and continuous learning through frontal teaching, interactive practical sessions, mannequin-based simulation, supervised emergency observation and assessment of practical manoeuvres.

Students will progressively develop the ability to integrate theoretical knowledge, practical procedures and professional behaviour in the initial management of emergency patients.

Contents

Evaluation of the patient general conditions. (ABCDE evaluation)

Guidelines for the recovery and maintenance of the vital functions (BLSD and ACLS).

Acute cardiac failure and Introduction to cardiac support (Pharmacological and Mechanical)

Pre Hospital Trauma Life Support (Introduction and principles of treatments of traumatic Patients in Pre Hospital Setting)

Acute Respiratory Failures and Introduction to Respiratory Support

Shock (types, diagnosis and principles of treatment).

Detailed program

- Venous access in emergency.
- Vital signs recording in emergency.
- Cardiac defibrillation and pacing.
- CPR simulation.
- Evaluation and treatment of comatose patient.
- Evaluation of patients undergoing emergency surgery.
- Airways management.
- Acid base interpretation.
- Treatment of shock.
- Evaluation and treatment of poly trauma.

Prerequisites

Pre-clinical block (anatomy, biochemistry, physiology...) successfully passed

Teaching form

Teaching with 8 hours of frontal lessons

Interactive teaching:

- Pre Hospital Trauma Life Support (PHTLS): 8 hours with practical activity on mannequins and simulated scenarios in small groups
- Basic Life Support and Defibrillation (BLS-D): 16 hours with alternating lectures, practical exercises and simulated scenarios
- Pediatric Basic Life Support and Defibrillation (PBLSD): 16 hours with alternating lectures, practical exercises and simulated scenarios

Observation form for Urgency and Emergency activities with tutoring by the anesthetist/resuscitator on emergency/urgency duty: 12 hours compulsory for all students.

- Methodology foreseen by the BLSD and ACLS courses
- Practical exercises with dummies or between students/teachers
- Discussion of clinical cases

Textbook and teaching resource

- Ashish R Panchal et Al. Part 3: Adult Basic and Advanced Life Support: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation . 2020 Oct 20;142(16_suppl_2):S366-S468
- 2021 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations: Summary From the Basic Life Support; Advanced Life Support; Neonatal Life Support; Education, Implementation, and Teams; First Aid Task Forces; and the COVID-19 Working Group. Circulation. 2022 Mar;145(9):e645-e721.
- Tintinalli's Emergency Medicine Manual. [David M. Cline](#), [Michael T. Fitch](#), [O. John Ma](#), [Rita K. Cydulka](#), [Scott A. Joing](#), [Vincent J. Wang](#). McGraw-Hill. ISBN:17-9780071837026
- Pollak A. et Al. PHTLS 10th Edition

Semester

second semester 2nd year

Assessment method

Ongoing tests:

- Practical tests/maneuvers
- Multiple choice tests

Final test:

- Multiple choice tests
- Practical tests/maneuvers

BLSD and ACLS

Office hours

on appointment

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Sustainable Development Goals

GOOD HEALTH AND WELL-BEING
