

COURSE CONTENT

(1) GENERAL INFO

SCHOOL	ENGINEERING		
DEPARTMENT	BIOMEDICAL ENGINEERING		
MSc PROGRAM	BIOMEDICAL ENGINEERING AND TECHNOLOGY		
STUDY LEVEL	POSTGRADUATE, MSc		
COURSE CODE	BMET204	SEMESTER	B
COURSE TITLE	Emergency medicine		
TEACHING		HOURS	ECTS
	LECTURES	26	5
COURSE TYPE	SPECIALIZATION		
COURSE REUIREMENTS:	-		
TEACHING AND EXAMINATION LANGUAGE:	ENGLISH		
IS THIS COURSE OFFER TO ERASMUS STUDENTS	YES (IN ENGLISH)		
COURSE WEBPAGE (URL)	https://eclass.uniwa.gr/courses/318/		

(2) LEARNING OUTCOMES

Learning outcomes
<p>Course Objectives: The aim of the course is to provide an understanding of the basic principles of emergency medicine as well as the means of patient transport and medical equipment used. This equipment, although it is part of the general medical equipment used in the health sector, due to the conditions prevailing during emergency medical and rescue assistance to the patient, is accompanied by certifications against demanding and strict standards of quality and efficiency. The presentation of these, and the safety rules that accompany them, will enable students to study the most stringent framework for the operation of medical devices.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Comprehensive understanding of the scientific field of emergency medicine and the medical equipment that surrounds it, with a clear distinction between patient vital signs support equipment, patient transport and patient extrication. 2. A clear distinction between patient vital signs support equipment, patient transport and patient extrication. 3. Knowledge of the terms of European quality and efficiency standards relating to emergency medicine, staff and patient safety and the medical equipment used. 4. Discrimination and ability of students to describe the means of transport and evacuation used in emergency medicine and relating to life support, transport and extrication of the patient. 5. Knowledge of the key points of sanitary evacuation - MEDEVAC under extreme conditions, after presenting the available and used means of extrication and stabilization of the patient with the help of medical equipment. <p>Achievement of Course Objectives and Learning Outcomes: After the presentation of the basic principles of emergency medicine in the light of the medical equipment used, students will be able to distinguish the types of this equipment according to their characteristics, capabilities and use. The presentation of the strict rules of quality and safety standards will enable students to evaluate the reliability of the equipment's operation after having fully understood the basic principles of its operation.</p> <p>In addition, students will be able to distinguish the means of transport of patients on the basis of their specific characteristics and the capabilities they provide to medical and rescue personnel. Knowledge</p>

of the characteristics of the ground, air and waterborne means of transport used will enable students to discern the need to improve and strengthen some of them. Finally, the presentation of the principles of MEDEVAC, will enable students to become familiar with the particular subject of evacuation and patient transport from fields characterized by extreme conditions.

General abilities

- Search, analysis and synthesis of data and information, using the necessary technologies
- Adaptation to new situations
- Decision-making
- Autonomous work
- Teamwork
- Working in an interdisciplinary environment
- Generating new research ideas

(3) COURSE CONTENT

"Emergency Medical Services - EMS"

Definitions and basic concepts of emergency medical services, classified as EMS, taking into account all applicable, worldwide, and the corresponding variations that exist.

"Technologies in emergency medicine"

Definitions and basic concepts of the technologies used at the level of medical equipment, which make biomedical technology compatible and fully effective at the level of pre-hospital care. At the same time, reference is made to the basic materials used in the manufacture of equipment and associated materials and the basic principles of equipment management.

"European standards and safety"

Definitions and basic concepts of current European quality and safety standards in relation to medical and rescue personnel, the medical equipment used and the means of transport in emergency medicine, depending on the type of equipment and its uses.

"Transporting EMS vehicles and related equipment"

Definitions and basic concepts of the vehicles of patient transport used (ground, air and waterborne) in emergency medical services, with reference to the differences depending on the type and the medical equipment they carry.

"MEDEVAC and related equipment"

Definitions and basic concepts of health evacuation, defined as the timely and effective transport and en route care provided by medical personnel to injured persons evacuated from a battlefield, to injured persons evacuated from the scene of an accident to a receiving medical facility or to patients outside an urban centre requiring emergency care in a higher-level health care formation and using medically equipped air ambulances, helicopters and other means of emergency transport.

(4) TEACHING AND LEARNING METHODS - EXAMINATIONS

COURSE DELIVERY	Physical presence, face to face at the auditorium	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	The course is conducted with a projector (for the presentation of basic theory) and on the blackboard.	
TEACHING ORGANIZATION	Activity	Semester workload
	Teaching / lectures	26
	Lecture material study	30

	Unsupervised literature review and preparation of the final project	69
	Total	125
STUNDET EVALUATION	100% final examination with multiple choice, short answer questions, essay development questions.	

(5) SUGGESTED LITERATURE

Books, scientific articles and related scientific resources:

[1] Wyatt JP, Taylor RG, de Wit K, Hotton EJ and Hotton E. Oxford Handbook of Emergency Medicine. Oxford University Press;2020.

[2] Greaves I, Porter K. Oxford Handbook of Pre-Hospital Care. Oxford University Press;2021.

[3] Nutbeam T, Boylan M and Leech C. ABC of Prehospital Emergency Care 2nd edition. Wiley Blackwell; 2023.

[4] Levine M. Ambulances. Lerner Publications Company;2004.