



## HUMANITAS MEDICAL SCHOOL

**Course: FORENSIC MEDICINE**

**Year (1<sup>st</sup>-2<sup>nd</sup>-3<sup>rd</sup>-4<sup>th</sup>-5<sup>th</sup>-6<sup>th</sup>): 6<sup>th</sup>**

**Period (1<sup>st</sup>-2<sup>nd</sup> semester – annual): 1<sup>st</sup> semester**

**Credits: 3**

### **Objectives**

The aim of this course is to explain main forensic aspects of medical issues, starting from forensic pathology (wound examination and documentation), and following the clinical forensic medicine (rape, sexual and domestic violence, child abuse and neglect, torture, age estimation). A comparison between Italian and international legislations will be treated, as well as bioethics and ethical codes. The course also explains post-mortem alterations, death certifications, and the estimation of time since death. The aim of the course is also the acquisition of the medical-legal reasoning skills applied to daily clinical practice. During the course there will be a one-morning tutorial where each student will be given the possibility to participate in an autopsy.

### **Prerequisites**

The student should be already confident with clinical activities, and know what staying in a hospital ward means and the importance of communication with the patient, with its ethical implications.

### **Contents**

General learning goals are:

- To know the main bases of forensic pathology.
- To be aware about how to describe and collect all kinds of wounds, how a clinical forensic examination must be performed to be used as evidence.
- To illustrate the crimes of interest to physicians (rape, sexual abuse, neglect, child abuse, domestic violence, age estimation...) and know when report is due.
- To know the main differences between Italian and international legislations



- To identify post-mortem alterations
- To learn how to identify the cause of death, the estimation of time since death and post-mortem identification, including the importance of toxicology, anthropology, odontology, entomology and neuropathology for these issues.
- To know how to write certificates and medical documents of legal interest
- To illustrate the meaning of evidence-based medicine and its importance in cases of medical malpractice
- To know the difference between private and social insurance
- To learn how a judicial autopsy should be performed.

Specific contents are:

**LECTURES 1-2. INTRODUCTION TO LEGAL MEDICINE AND THE LEGAL SYSTEM FOR PHYSICIANS: an overview of the field of forensic medicine.**

This includes discussion of the history of forensic science and medicine. Also discussed are the roles of medical examiners, coroners and non-physician medico-legal death investigators.

**LECTURES 3-4-5. FORENSIC PATHOLOGY: WOUND EXAMINATION AND DOCUMENTATION**

Topics in this section include post-mortem changes, sudden natural death, blunt force injury, sharp-force injury, ballistics and gunshot wounds. Also taught here are asphyxiation, drowning, thermal injuries, electrical injuries and lightning injuries.

**LECTURES 6-7-8: CLINICAL FORENSIC MEDICINE**

The role of this lecture is to educate students in dealing with documentation and evaluation of: sexual abuse, rape, child abuse and negligence, domestic violence, abuse of the elderly, torture, age assessment; documenting trauma and abuse.

**LECTURES 9-10. CRIMES OF INTEREST TO PHYSICIANS: ITALIAN LEGISLATION AND LAW (COMPARATIVELY TO INTERNATIONAL LEGISLATIONS)**

The role of the forensic medicine professionals in the legal system, starting with an overview of the Italian legal system and continuing with an in depth study of evidentiary issues, rules and procedures.



### **LECTURES 11-12. BIOETHICS AND ETHICAL CODES FOR PHYSICIANS**

The lesson introduces students to the field of biomedical ethics and related medico-legal concepts. Material is presented to provide students with a basic understanding of the legal obligations and ethical responsibilities of the health care provider. Topics include research involving human participants and animals, medical and health care ethics, and the implications of applied genetics and biotechnology.

### **LECTURES 13-14. CERTIFICATES AND OTHER MEDICAL DOCUMENTS OF LEGAL INTEREST; PRIVATE AND SOCIAL INSURANCE**

This lecture will deal with the legal documents medical staff need to prepare and provides students with, as well as general notions of social and private insurance.

### **LECTURES 15-16. DEATH: DIAGNOSIS, POST MORTEM ALTERATIONS, CERTIFICATION; ESTIMATION OF TIME SINCE DEATH**

Topics covered in this course include forensic study of toxicology, anthropology, odontology, entomology and neuropathology. Students also learn about forensic medicine aspects of motor vehicle accidents, explosions and bombs, bioterrorism and mass fatalities. This course covers use of fingerprinting, trace evidence analysis and DNA analysis in conducting medico-legal investigations. Students will be given an outline of criminal law and considerations in preparing and delivering court witness.

### **LECTURE 17-18: MEDICAL MALPRACTICE**

This lesson introduces students to the emerging field of evidence-based medicine. It begins with a history of the field. Students learn how to ask a clinical question so that it may be answered and how to use that question to formulate an effective literature search to find the best answer to the issue. In the next phase, students learn how to evaluate the importance and validity of the evidence.

## **Teaching Methods**

The course will be performed by lectures, practicals, real cases. Students are encouraged to actively participate to the lectures with questions and comments.



## Assessment

Assessment of the content of the Forensic Medicine course is organized to offer students some degree of flexibility in the calculation of their final mark.

The purpose is also to encourage students to achieve better learning outcomes and hence a better overall final evaluation.

The end-of-semester exam, which is a multiple-choice test, is followed by a further open question, that is not mandatory, but it may improve, confirm or worsen the final mark. If the student feels confident with the multiple-choice test, he/she can reach the maximum result only with it; if the student is unsure of his/her answers, he/she can fill the open question, trying to improve the final mark.

### Content

- 31 questions (each question 1 point): Questions will include the whole program of the course and are mandatory
- 1 open question, which is not mandatory, but if the student decides to answer it, it will be taken into account for the final mark

**Evaluation:** 31 multiple-choice questions

To pass the test the student needs to answer to at least 18 questions correctly.

31 correct answers = 30 cum laude

30 correct answers = 30

29 correct answers = 29

...

If at least 18 questions are correctly answered, and the open question is answered, it will be read and analyzed, and it may improve, confirm or worsen the multiple-choice mark.

## Texts

Pekka Saukko and Bernard Knight  
Knight's Forensic Pathology, 4<sup>th</sup> Ed.  
CRC Press, 2015