

**MEDICAL UNIVERSITY – PLOVDIV**  
**FACULTY OF MEDICINE**

**SYLLABUS**

**IN**

**FORENSIC MEDICINE AND**  
**DEONTOLOGY**

**Approved by the Department Council on 30.05.2022**

**Confirmed by the Faculty Council - Protocol №6/15.06.2022**

## Syllabus

Discipline	Final exam/ semester	Academic hours				ECTS non-auditorium classes	ECTS total	Academic hours in years and semesters	
		Total	Lectures	Practices	ECTS			5 <sup>th</sup> year	
								IX	X
Forensic Medicine and Deontology	after the 10th semester	75	45	30	2.5	1.5	4.0	-	3/2

**DISCIPLINE:** Forensic Medicine and Deontology

**TYPE OF DISCIPLINE ACCORDING TO THE UNIFORM STATE**

**REQUIREMENTS:** MANDATORY DISCIPLINE

**LEVEL OF QUALIFICATION:** Master Degree in Medicine

**FORMS OF TRAINING:** *Theoretical competence via lecture course:* basic knowledge of basics of legal proceedings in forensic examination in The Republic of Bulgaria, thorough knowledge of Forensic Traumatology, Tanatology, Toxicology, Deontology.

*Practical skills via practical seminars:* active participation in crime scene investigation of a dead body; writing a forensic report individually; distinguishing features of death, defining its duration, primary assessing its type and kind, properly reacting to the bodies of Ministry of Interior and approaching them whenever necessary.

**YEAR OF TRAINING:** 5<sup>th</sup> year

**DURATION OF TRAINING:** One semester

**ACADEMIC HOURS:** 75 hours (30 hours practical seminars + 45 hours lecture course)

**TECHNICAL EQUIPMENT APPLIED IN THE TRAINING:** projectors, diagrams, sketches, models, photographs, instructional film, organ specimens, posters related to different medicolegal cases, spectrophotometers, laboratory equipment, histologic specimens, multimedia presentations, instructional computers.

**FORMS OF EVALUATION:** Current control – tests at the end of each seminar. The grade resulting from the current control constitutes one third of the final grade. Final control – an end-of-semester exam; the grade thereof constitutes one third of the final grade. This exam

includes a test, a written exam on a question randomly selected for each student and a discussion.

**EVALUATION CRITERIA:** Approved and included in the Academic Standard Protocol of the subject Forensic Medicine and Deontology

**ASPECTS OF EVALUATION CRITERIA:** basic knowledge of the basics of legal proceedings in forensic examination in The Republic of Bulgaria, thorough knowledge of Forensic Traumatology, Tanatology, Toxicology, Deontology.

**SEMESTER EXAM:** An end-of-semester exam. This exam includes a test, a written exam on a question randomly selected for each student and a discussion.

**STATE EXAM:** No

**LECTURER:** Assoc. Prof. S. Spasov, Assoc. Prof. P.Timonov

**DEPARTMENT:** Department of Forensic Medicine and Deontology

### **ANNOTATION**

Basics of legal proceedings in Forensic Medicine. Forensic traumatology. Basics of Forensic Medical Expert Examination of living persons. Forensic Obstetrics and Gynaecology. Expert Examination of simulated diseases and self-injuries. Expert Examination in case of disputable paternity and/or maternity. Forensic Toxicology. Expert Examination of written data. Expert Examination of trace evidence. Medical Ethics and Deontology.

### **BASIC AIMS OF THE DISCIPLINE**

The aim of the course in Forensic Medicine is to develop capability and skills necessary in graduating medical students, for medico-legal cases in their career practice.

### **EXPECTED RESULTS**

Gaining knowledge and practical skills necessary for participation in the functioning of courts.

**Lectures**

*LECTURE No 1 - 2 hours:* Historical aspects of Forensic Medicine. Subject, objectives, methods and content of Forensic Medicine. Basics of legal proceedings in and organization of Forensic Medical Expert Examination – Penal Procedure Code, Criminal Code, Code of Civil Practice. Rights and obligations of the expert. Types of Expert examinations. Subjects of Forensic Medical Expert Examinations. Subjects of Forensic Medical Expert Examination. Responsibility of the experts.

*LECTURE No 2 - 2 hours:* Injuries caused by mechanical factors – general description, classification of injuries. Forensic Medical Expert Examination in blunt force trauma. Soft-tissue traumatic injuries – abrasions, bruises, lacerated wounds. Bone fractures typical of Forensic Medicine. Blunt force trauma of internal organs. Medicolegal aspects of blunt force trauma. Objectives of the Forensic Medical Expert Examination in case of such injuries.

*LECTURE No 3 – 2 hours:* Traffic accidents. Definition, classification, types. Injuries of pedestrians - characteristics of traumatic injuries. Rolling injuries - characteristics of traumatic injuries. Injuries of occupants of the vehicles-characteristics of traumatic injuries. Problems in cases of motor vehicle traumas. Objectives of the Forensic Medical Expert Examination. Medicolegal importance.

*LECTURE No 4 – 2 hours:* Forensic Medical Expert Examination in cases of sharp force trauma and firearm injuries. Stab, incised, puncture and chop wounds. Morphological characteristics. Distant, close, near and contact range gunshots. Morphological characteristics of entry and exit firearm wounds. Additional gunshot factors. Medicolegal importance. Objectives of the Forensic Medical Expert Examination.

*LECTURE No 5 – 2 hours:* Cause and mechanism of death in case of mechanic force injuries. Vital and postmortem injuries.

*LECTURE No 6 - 2 hours:* Mechanical asphyxias – major issues, classification of mechanical asphyxias. Pathophysiology of mechanical asphyxias. Hanging, ligature strangulation and manual strangulation – general and type characteristics, manner of death. Problems. Objectives of the Forensic Medical Expert Examination.

*LECTURE No 7 - 2 hours:* Other types of mechanical asphyxias – drowning, airway obstruction, postural asphyxia, asphyxia due to exhaustion or displacement of environmental oxygen. Problems. Objectives of the Forensic Medical Expert Examination.

*LECTURE No 8 - 2 hours:* Thermal deaths. Cold. Burns. Scalds. Electrical injuries. Lightning stroke. Specific medicolegal issues.

*LECTURE No 9 - 2 hours:* Forensic Toxicology – definition of “poison”, toxicokinetics and toxicodynamics of poisoning, conditions influencing poison reactions, major issues, medicolegal tests to detect drugs or poisons in living persons or dead bodies, toxicological analysis.

*LECTURE No 10 - 2 hours:* Forensic Toxicology – specific issues, poisoning caused by different types of poison. Rare, particular poisonings.

*LECTURE No 11 - 2 hours:* Forensic Medical Expert Examination of dead body – Violent death and Sudden natural death.

*LECTURE No 12 - 2 hours:* Forensic Thanatology. Cause and mechanism of death. Meaning of cellular, clinical (somatic), brain-stem, biological death and suspended animation. Determination of death. Early postmortem changes –changes in the skin, changes in the eye, livor mortis, algor mortis, rigor mortis. Late postmortem changes- putrefaction, adipocere, mummification. Time since death.

*LECTURE No 13 - 2 hours:* Forensic Medical Expert Examination of living people. Bodily injuries according to the Criminal Code of the Republic of Bulgaria. Legal and medical criteria for bodily injury. Short summary of the various medicobiological signs.

*LECTURE No 14 - 2 hours:* Forensic Medical Expert Examination in cases pertaining to sex. Sexual offences and paraphilias – legal criteria according to the Criminal Code of the Republic of Bulgaria. Forensic Medical Expert Examination in case of debauchery.

*LECTURE No 15 - 2 hours:* Forensic Medical Expert Examination in cases of pregnancy, abortion and delivery. Criminal abortion – legal regulation of willful abortion in the Republic of Bulgaria. Criminal liability in cases of criminal abortion.

*LECTURE No 16 - 2 hours:* Infanticide – legal criterion. Forensic Medical Expert Examination of dead body of newborn infant in cases of infanticide. Major issues, particular aspects of cadaver examination.

*LECTURE No 17 - 2 hours:* Disputable paternity or maternity. Blood type test – genetic rules and methods of examination. ABO system – clinical and medicolegal importance.

*LECTURE No 18 - 2 hours:* Forensic Medical Expert Examination of trace (material) evidence. Biological materials- blood, sperm, saliva and other materials. DNA typing.

*LECTURE No 19 - 2 hours:* Forensic Medical Expert Examination in cases of forensic anthropology identification. Identification data.

*LECTURE No 20 - 2 hours:* Legal and deontological issues in the medical practice - legitimacy of medical actions. Euthanasia.

*LECTURE No 21 - 2 hours:* Professional negligence (Malpractice) by medical staff. Classification of Malpractice. Willful crimes regarding medical activity.

*LECTURE No 22 - 3 hours:* Professional incompetence of medical staff. Medical errors. Fatal accidents (misadventure) in the medical practice. „Calculated risk” cases in the medical practice.

## **Practices**

*SEMINAR No 1 – 2 hours: Introduction to Forensic Medicine* – general concept of Forensic Medicine. Subjects of Forensic Medical Expert Examinations. Acquainting students with the requirements of the department, the proceedings of the seminars, the current control and the final exams.

*SEMINAR No 2 – 2 hours: Basics of legal proceedings in Forensic Medicine.* Introduction of the normative base concerning Forensic Medical Expert Examinations in the Republic of Bulgaria. Subjects of Forensic Medical Expert Examinations. Types of Forensic Medical Expert Examinations. Experts – rights, obligations, responsibility, right of challenge, forensic problems in the work of medical practitioners. Medicolegal reports.

*SEMINAR No 3 – 2 hours: Forensic Medical Expert Examination in cases of blunt force trauma.* Injuries caused by mechanical factors – general description, classification of injuries. Soft-tissue traumatic injuries – abrasions, bruises, lacerated wounds. Bone fractures typical of Forensic Medicine. Blunt force trauma of internal organs. Medicolegal aspects of blunt force traumas. Objectives of the Forensic Medical Expert Examinations in cases of such injuries. Blunt force trauma of internal organs. Medicolegal aspects of blunt force traumas. Objectives of the Forensic Medical Expert Examination in cases of such injuries. Demonstrations of specimens, photographs, and slides of both dead bodies and living people.

*SEMINAR No 4 - 2 hours: Forensic Medical Expert Examination in cases of sharp force trauma.* Stab, incised, puncture and chop wounds. Morphological characteristics. Demonstrations of specimens, photographs, and slides of both dead bodies and living people.

*SEMINAR No 5 – 2 hours: Forensic Medical Expert Examination in cases of traumatic injuries due to the traffic accidents.* Demonstrations of specimens, photographs, and slides of both dead bodies and living people.

*SEMINAR No 6 – 2 hours: Forensic Medical Expert Examination in cases of firearm injuries.* Distant, close, near and contact range gunshots. Morphological characteristics of entry and exit firearm wounds. Additional gunshot factors. Demonstrations of specimens, photographs, and slides of both dead bodies and living people.

*SEMINAR No 7 – 2 hours: Forensic Medical Expert Examination in cases of mechanical asphyxias.* Types of mechanical asphyxia- hanging, ligature strangulation and manual strangulation – general and type characteristics, manner of death. Problems. Objectives of the Forensic Medical Expert Examination. Other types of mechanical asphyxia - drowning, airway obstruction, postural asphyxia, asphyxia due to exhaustion or displacement of environmental oxygen. Medicolegal autopsy- cadaver demonstration.

*SEMINAR No 8 - 2 hours: Forensic Medical Expert Examination of a dead body –* Medicolegal autopsy- demonstration.

*SEMINAR No 9 – 2 hours: Forensic Medical Expert Examination of a dead body.* Medicolegal autopsy in cases of traumatic injuries, postmortem changes, diagnosis of death.

*SEMINAR No 10 - 2 hours: Forensic Medical Expert Examination of living people –* demonstration.

*SEMINAR No 11 - 2 hours: Forensic Medical Expert Examination of living people –* the students work alone under the supervision of the assistant-professor.

*SEMINAR No 12 – 2 hours: Forensic Medical Expert Examination of living people-* the students work alone and afterwards their work is checked and corrected by the assistant-professor.

*SEMINAR No 13 – 2 hours: Forensic Medical Expert Examination of written data. Documentary evidence.* Introduction and preparing a specific Forensic Medical Expert Examination for a particular case.

*SEMINAR No 14 - 2 hours: Forensic Medical Expert Examination of trace (material) evidence.* Examination of blood stains- general, chemical and serological examinations (ABO system).

*SEMINAR No 15 – 2 hours: Forensic Medical Expert Examination in cases of poisoning.* Cases. Practical introduction of the methods of chemical examination of biological materials.

## **Bibliography**

### *Compulsory:*

1. Doichinov I., Forensic Medicine, Plovdiv, 1997
2. Forensic medicine for medical students. Edited by Prof. Dr. Stoycho Radanov, 1992
3. Guide for practical exercises in forensic medicine. Edited by Prof. Dr. Stoycho Radanov, Medicine and Physical Education, Sofia, 1984

4. Forensic examination of living persons. Edited by Prof. Dr. Stoycho Radanov, S., Medicine and Physical Education, 1986
5. Pechilkov, I., Bodily injuries under the Criminal Code of the Republic of Bulgaria
6. Dr. Svetlozar Spasov - Selected issues in medical deontology and medical law - a guide for students, bachelors and masters in medicine - University Publishing House "Paisii Hilendarski" - Plovdiv 2015
7. Svetlozar Spasov - General Medical Deontology - University Publishing House "Paisii Hilendarski" - Plovdiv 2018
8. Ivan Tsranchev, Plamena Dineva, Kristina Hadjieva, Svetlozar Spasov - Collection of sample test questions in forensic medicine - Department of Forensic Medicine and Deontology Medical University - Plovdiv - Lax Book - Plovdiv - 2018
9. Ivan Tsranchev - Forensic aspects of violence under the editorship of Assoc. Prof.
10. Dr. P. Timonov, MD - Lax Beech - Plovdiv - 2020 Lecture course and notes. MCQs. Pavel Timonov. Lax Book.
11. The essentials of Forensic medicine and Toxicology- Dr K. S. Narayan Reddy, 1999.
12. Handbook of Forensic medicine and Toxicology- V.V. Pillay, 2001.
13. Criminal Code of the Republic of Bulgaria (<http://legislationline.org>)
14. V.Di Maio. Forensic Pathology. 2002.

### **Conspectus**

1. Objects of forensic examination. Forensic documentation. Description and characteristics of the different types of forensic documentation.
2. Injuries and deaths from various external factors. Definition and qualification of injuries. Damage from mechanic factors - general characteristics, classification. Factors, producing body injuries. Mechanisms, causing the damage.
3. Forensic examination in cases of injuries and death from blunt objects. Abrasions, bruises, wounds - definition, mechanism of production, morphology, forensic significance. Questions of forensic importance.
4. Forensic examination in cases of injuries and death from blunt objects. Damages to internal organs and bones from blunt objects. Forensic significance.
5. Car accidents. Definition, classification and general characteristics of injuries. Features of the expertise - stages and complexity. Questions of forensic importance.
6. Genesis and morphology of injuries associated to pedestrians. Questions of forensic importance.
7. Genesis and morphology of injuries in run-overs by vehicles. Questions of forensic importance.
8. Genesis and morphology of injuries inside the car. Questions of forensic importance.
9. Injuries and death from sharp objects. Puncture and cut wounds. Morphological characteristics of the injuries. Questions of forensic importance.

10. Injuries and death from sharp objects. Stab and chop wounds. Morphological characteristics of the injuries. Questions of forensic importance.
11. Damage from firearms. Firearms and ammunitions - a brief description. Forensic ballistics - shot production and damaging factors.
12. Ballistics of the gunshot wound - mechanism of formation of injuries - entry gunshot wound, wound track (permanent and temporary cavity), exit gunshot wound. Shot distances.
13. Damage from firearms. Shot from a distant range. Characteristics of the injuries - entry gunshot wound, wound track and exit gunshot wound.
14. Damage from firearms. Close range shot. Characteristics of the injuries - entry gunshot wound, wound track and exit wound.
15. Damage from firearms. Contact range shot. Characteristics of the injuries - entry gunshot wound, wound track and exit gunshot wound.
16. Damage from firearms- atypical weapons, homemade weapons, special purpose weapons, damage from explosives. Brief description of weapons and injuries.
17. Main issues of the forensic examination in case of injuries from firearms.
18. Vitality of mechanic injuries.
19. Cause and mechanism of death in mechanic injuries.
20. Injuries and death from high and low temperature. Characteristics of disabilities. Possibility to burn a corpse. Questions of forensic importance.
21. Injury and death from electric current - technical and atmospheric electricity. Features of the expertise. Questions of forensic importance.
22. Health disorders and death from oxygen deficiency (mechanic asphyxia). Hypoxia and mechanical asphyxia. Classification of mechanic asphyxia.
23. Mechanic asphyxia from neck compression (strangulation). Thanatogenetic mechanisms. Types. Characteristics. Questions of forensic importance.
24. Mechanic asphyxia from compression of the body, from obstruction of the airways. Asphyxia in enclosed space. Autoerotic asphyxia. Characteristics. Questions of forensic importance.
25. Forensic examination in case of drowning - phases, morphologic findings, diagnostics. Death in water. Questions of forensic importance.
26. Health disorders and death from poisoning. General questions. Conditions on which the action of poisons depends. Toxokinetics and toxodynamics.
27. Poisoning with narcotic substances - morphine, heroin, cocaine, etc. Characteristics of poisonings. Features of the examination of the corpse in death from drugs.
28. Ethyl alcohol poisoning. Characteristics of poisoning. Forensic examination to establish alcohol in a living person and a corpse.
29. Forensic examination of living persons. General data. Reasons. Stages and methodology of research, forensic documentation - types, structure. Procedural requirements.
30. Forensic examination of bodily injuries under Penal Code of Republic of Bulgaria. Legal and medical criteria. Determining the nature of the body injury. Medico-biological characteristics of mild body injury.
31. Medico-biological characteristics of severe body injury under Penal Code of Republic of Bulgaria.



32. Medico-biological characteristics of medium body injury under Penal Code of Republic of Bulgaria.
33. Forensic examination of simulated diseases and self-harm. Main purposes of forensic examination.
34. Forensic examination of sexual crimes. Fornication. Legal criteria. Forensic issues.
35. Forensic examination of sexual offenses. Rape. Legal criteria. Forensic issues.
36. Forensic examination of sexual crimes. Homosexual acts. Legal criteria. Forensic issues.
37. Forensic examination of a corpse. Determining of the death. Dying and death. Diagnosis of death. Medical death certificate. Imaginary death.
38. Supravital reactions. Early postmortal changes. Forensic significance.
39. Late postmortal changes. Forensic significance.
40. Determining the time interval since the moment of death. Methods and their forensic significance.
41. Organization and stages of the examination of the corpse. Examination of the corpse at the crimescene. Examination of the corpse during autopsy. Reasons for forensic examination of a corpse. Rules for forensic examination of the corpse.
42. Forensic examination of corpses of newborns. Infanticide. Legal criteria. Forensic issues.
43. Forensic examination of corpses died of non-violent sudden death. General data. Diagnosis and purposes of the forensic examination in case of sudden death. Factors leading to sudden death.
44. Deontology and medical law - relationships and trends. Deontological documents. Legal and medical documents. Legal regulation of the medical-diagnostic activity.
45. Medical and legal nature of the Medical Standards and Regulations. Clinical pathways - nature and legal significance.
46. Legal capacity of medical persons - Bulgarian citizens and foreigners.
47. Limits of the legal capacity of the medical persons. Specialization. Work in the risk zone. Medical activities performed in conditions of extreme necessity.
48. Informed consent of patients under the Health Act. Modern legal requirements for medical personnel in connection with the provision of information to patients.
49. Patients' rights under the European and National Charter of Patients' Rights - in general, in hospitalization and in emergencies.
50. Emergencies. Patients' rights in case of medical emergency.
51. Scope and normative regulation of the obligatory and compulsory treatment.
52. Classification of professional violations, omissions and crimes in the exercise of the medical profession.
53. Criminal and disciplinary responsibility of the medical persons in case of professional omissions and mistakes.
54. Administrative and civil liability in case of professional omissions and mistakes. Tort. The concept of guilt. Procedure for imposing administrative penalties for professional omissions and mistakes. Ways to challenge an act, statement of findings and penal decree in case of imposed administrative penalties on medical persons.
55. Accidents in medical practice.

**Head of Department:**

**Assoc.Prof. Spasov, Sv.,PhD**