



Faculty of Medicine  
Department of Forensic Medicine  
& Clinical Toxicology



**Faculty of Medicine  
Quality Assurance Unit**

# **Course Specification**

Of  
Forensic Medicine and Clinical  
Toxicology  
4th year of M.B.B.Ch. Program  
**2016-2017**



**University: Assiut**  
**Faculty: Medicine**

**Department: :** Forensic Medicine & Clinical Toxicology

**Course specification:**

### **1- basic course information**

**Course title:** Forensic Medicine & Clinical Toxicology **Code:**  
Amed017

**Academic year / Level:** Fourth year of M.B.B.Ch. program

**Department offering the course:** Dept .of Forensic Medicine and Clinical  
Toxicology

**Lecture:** 80 hs **Tutorial/Practical:** 64 hs + 2 weeks clinical

Total: 144 Hours + 2 weeks clinical

**External evaluator:** Prof. Dr. Safa El Daba

***Date of last revision : 10-2016***

### **2- Overall aims of course**

- To provide the student with the knowledge of the application of the principles and concepts of the medical sciences to problems in the field of law.
- To provide the student with the knowledge of medical ethics and theories and principles that governs ethical decision making, especially of the major ethical dilemmas in medicine.
- To provide the student with the knowledge about the threats to medical professionalism, and common medical errors, that can occur during practice of medicine.
- To enable the student to understand the principles and practice of law as they apply to the practice of medicine.
- To provide the student with the knowledge of types, actions, clinical features, circumstances, diagnosis, detection, and management of poisoning which operate on the human body.

### **3- Intended Learning Outcomes (ILOs)**

#### **A. Knowledge & Understanding**

By the end of the course, students should be able to:

##### **Forensic Medicine:**

A1- Describe medicolegal aspects of personal identification of living and dead human bodies.A.6

A2- Describe medicolegal aspects of examination of blood stains.A3 and A13

- A3- Define diagnosis of death, postmortem changes and postmortem decomposition.A.6
- A4- Describe medicolegal aspects of general and special types of wounds. A3 and A13
- A5- Describe medicolegal aspects of head injuries. A3 and A13
- A6- Describe medicolegal aspects of firearm injuries. A3 and A13
- A7- Explain and define medicolegal aspects of injuries due to physical agents. A3 and A13
- A8- Describe medicolegal aspects of asphyxia. A3 and A13
- A9- Explain and define medicolegal aspects of pregnancy and delivery. A3 and A13
- A10- Explain and define medicolegal aspects of abortion. A3 and A13
- A11- Explain and define medicolegal aspects of infanticide A3 and A13
- A12- Explain and define medicolegal aspects of child abuse. A3 and A13
- A13- Explain and define medicolegal aspect of sexual crimes.A.21
- A14- Define the threats to medical professionalism, and common medical errors, that can occur during practice of medicine. A13

### **Medical Ethics:**

- A15- Mention obligation of physicians towards patients, colleagues, community. (A.1 – A.4)
- A16- Mention types and items of consent and professional secrecy. (A.1 – A.4 and A .13)
- A17- Explain types of malpractice and items of medical responsibility. (A.1 – A.4)
- A18- Mention medicolegal aspects of organ transplantation, intersex states, euthanasia, and assisted reproduction techniques. (A.1 – A.4)
- A19- Mention ethical considerations of medical research involving human subjects. (A.1 – A.4)
- A20- Describe safety procedures during clinical examination(A.1 – A.4 and A.15)

### **Clinical Toxicology:**

- A21- Describe principles of toxicology of different types of poisonous substances and drugs which operate on human body (including corrosives, heavy metals, volatile, gaseous, plant alkaloids, central nervous system, pesticides, animal, food, antidepressants and antihistaminic poisoning) as regard classification, mechanism of action, clinical features of toxicity, circumstances, diagnosis and clinical management. A.12
- A22- Describe the criteria, clinical features, diagnosis and general management of dependence producing substances and drugs. A.12

## **B- Intellectual Skills:**

By the end of the course, students should be able to:

- B1- Interpret features of bone x- ray for identification. B.1-B.4
- B2- Correlate between characters of wound in museum specimens and photographs to reach to proper diagnosis of type of wound, causative instrument, time of infliction, circumstances, vitality and time needed for healing of different injuries. B.1-B.4
- B3- Integrate the result of laboratory tests findings under microscope into meaningful laboratory diagnosis of hair, fibers, stains (blood and semen), and metallic poisons. B.1-B.4
- B4- Correlate the features of different parts of a firearm cartridges for proper diagnosis of firearm weapon used in injury. B.1-B.4,B8
- B5- Correlate the features of different types of poisonous plant for proper diagnosis and management. B.1-B.4.B9
- B6- Correlate features of a case study of wounds and design appropriate management strategies (diagnostic and therapeutic) for a case acute or chronic poisoning to solve the problem. B.1-B.4.B9
- B7- Analyze relevant current data and literatures using computer information technologies and library resources in order to solve a toxicological problem or a clinical problem in the field of forensic medicine. B.3-B.6.B9

## **C- Professional and Practical Skills**

By the end of the course, students should be able to:

- C1- Examine bone and soft tissue specimens, photographs, x-rays, to write medicolegal report. C4, C5, C7
- C2- Assemble the results of history and examination of patients with injuries in trauma units of different hospitals to write standard medical report about injury. C6, C7
- C3- Assemble the results of history, clinical examination and laboratory test findings of patients with poisoning with drugs and chemicals or envenomation in admission units of different hospitals to be able to write standard medical report about a case of poisoning. C6, C7
- C4- Carry out the results of some chemical tests on department laboratories to identify microscopically blood stains, seminal stains, and heavy metals poisons. C6, C7
- C5- Examine microscopically hairs and fibers. C6, C7
- C6- Perform some screening tests on department laboratories to identify some drugs of abuse (such as cannabis, marijuana, opium, barbiturate, amphetamine etc.) by Triage kits, and immunoassay test on blood and urine samples. C6, C7
- C7- Examine macroscopically on department laboratories seeds, capsules and roots of poisonous plants. C6, C7

## **D- General and Transferable (Communication) Skills:**

By the end of the course, students should be able to:

- D1- Integrate computer programs and web sites to write a research essay about medicolegal community or worldwide problems or a subject in clinical toxicology, with trial of solving.
- D2- Organize an oral presentation of a written medicolegal report in seminars or group discussion, with students and staff members and follow time schedule effectively and evaluate his and others work.
- D3- Communicate with each others and communicate effectively and ethically with patients presenting with wounds, or symptoms and signs of poisoning in the trauma and admission units of hospitals.
- D4- Join groups and teams in laboratory experiments
- D5- Adopt the principles of life long learning with a strong commitment to it and always strive for excellence.
- D6- Adopt the safety control measures during practice
- D7- Value patients' privacy and confidentiality of patients' information
- D8- Be reliable and responsible in fulfilling obligations and cope with changing work environment.
- D9- Accept the limitation in Knowledge and always strive for excellence

## **4- Contents of the course**

<b>Topic</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Practical and tutorial</b>
<b><u>Forensic Medicine:</u></b>			
1- Identification	13	5	8
2-Examination of Blood Stains	9	3	6
3-Death & Post-Mortem Changes	10	6	4
4-General Wounds & Medical report	9	3	6
5-Injuries to special organs	5	3	2
6- Medicolegal aspects of Head Injuries	5	3	2
7-Firearm Weapons	7	3	4
8-Firearm Injuries	7	3	4
9-Injuries due to physical agents	7	3	4
10-Asphyxia	9	5	4
11-Sexual Offences (Crimes)	9	3	6
12- Medicolegal aspects of Pregnancy and Delivery	3.5	1.5	2
13-Medicolegal aspects of Abortion	3.5	1.5	2
14-Infanticide, Child Abuse	7	3	4
16-Medical Ethics	5	5	-----

<b><u>Clinical Toxicology:</u></b>			
1- General Toxicology	5	5	--
2-Corrosive poisons	2	2	--
3-Heavy Metals poisons	7	5	2
4-Plant alkaloids poisons	7	3	4
5-CNS depressants	2	2	--
6-Gaseous poisons	3	3	--
7-Volatile poisons	2	2	--
8-Pesticides poisoning	3	3	--
9-Drug dependence	2	2	---
10-Animal poisons& Food poisoning	2	2	--
Total	144	80	64

### **5- Teaching and Learning Methods**

- (1) Lectures for knowledge and intellectual skill outcomes using slides and overhead projector and data show apparatus.
- (2) Practical sessions and case study classes with active participation of students for gain intellectual, practical and communication skills including students presenting medical reports and research for brain storming then discussion sessions with staff members
- (3) Classes for demonstration of specimens, photographs, x-rays, microscope slides in department museums, and laboratories.
- (4) Tutorials in the class using slide projectors and video films about different injuries and instruments for knowledge, intellectual and general communication skills.
- (5) Small group teachings during meetings with the staff members for general communication skills.
- (6) Hospital (field) visits for demonstration of different types of wounds in trauma unit and cases of poisoning in admission units.
- (7) E-Learning system interactive discussions.

### **Facilities used for Teaching and Learning**

- 1- Appropriate teaching accommodation, including museums, laboratories, laboratory equipments (e.g. microscopes), teaching aids (photographs, x-rays, jars contain soft tissue specimens, bones, plant alkaloids specimens, firearm cartridges and some instruments used in causing wounds).
- 2- Facilities for field work: hospital visits, and library visits.
- 3-Students computers with net connection in faculty library.
- 4-Television, video, slide projectors (can be supplied centrally from the faculty) and Data Show apparatus.
- 5- In future plan: Models for injuries and automated thin layer chromatography for detection drugs of abuse.
- 6- E-Learning

## **6- Teaching and learning Methods for students with learning difficulties:**

- (1) Lectures for knowledge and intellectual skill outcomes using slides and overhead projector and data show apparatus.
- (2) Practical sessions and case study classes with active participation of students for gain intellectual, practical and communication skills including students presenting medical reports and research for brain storming then discussion sessions with staff members
- (3) Classes for demonstration of specimens, photographs, x-rays, microscope slides in department museums, and laboratories.
- (4) Tutorials in the class using slide projectors and video films about different injuries and instruments for knowledge, intellectual and general communication skills.
- (5) Small group teachings during meetings with the staff members for general communication skills.
- (6) Hospital (field) visits for demonstration of different types of wounds in trauma unit and cases of poisoning in admission units.
- (7)Revision of the curriculum in office hours

## **7-Methods of Assessment:**

- (1) Written exam: (to assess knowledge and intellectual skills (A1-A20, B1-B7)
- (2) Practical exam: (to assess practical and professional skills (C1-C7)
- (3) Class activities (to assess intellectual, practical, and communication skills (B7, C2, C3, and D1- D4)
- (4) Oral exam: to assess (A1-A20, and B1-B7).
- (5) Final written exam: to assess knowledge and understanding and intellectual skills (A1-A20, C1-C6).

## **Assessment Schedule:**

- Assessment 1: practical round examination done by the end of each practical round at 8 weeks and at the end of the year at 32 weeks
- Assessment 2: mid year written exam at 16 weeks
- Assessment 3: final oral examination at 32 weeks
- Assessment 4: final year written exam at 32 weeks

## **Weighting of assessment**

-Mid-year written exam-----	20%
-Practical exam.-----	10%
- Case study(medicolegal report)&Assignments(activity)	5%
- Oral exam. -----	15%
- Final written exam. -----	50%
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Total (score 200 degrees) -----	100%

## **8- List of References**

### **1- Department Books:**

Department books of forensic medicine and clinical toxicology which published annually and available to the students.

### **2- Essential Text Books:**

#### **Forensic Medicine:**

- Knight, B. (2014): Knight's Forensic Pathology, 13<sup>th</sup> edition, Arlond Company, U.K., and oxford University Press Inc., USA.
- Shepherd, R. (2014) Simpson's Forensic Medicine. 13<sup>th</sup> edition, Arlond Company, U.K, and Oxford University Press Inc., U.S.A.
- Gall, J.A.M., Boos, S.C., Payone-James, J.J., and Culliford, E., J. (2003): Forensic Medicine, Colour Guide Atlas, 1<sup>st</sup> edition, Churchill Livingstone Inc., U.S.A.
- Gresham, G.A. (2012): Colour Atlas of Wounds and Wounding, MTP Press Limited Inc., USA.
- Mason, J.K. (1996): Forensic Medicine, An Illustrated Reference, 1st edition, Champman and Hall Medical Inc., U.S.A.

#### **Clinical Toxicology:**

- Klassen, C.D. and Watkins (2015): Casserett and Doull's Essentials of Toxicology, 3<sup>rd</sup> edition, McGraw-Hill Company, U.S.A.
- Gossel, T. and Bricker, T. (1990): Principles of Clinical Toxicology. 2<sup>nd</sup> edition, USA.
- Greenberg, M.I., Hendrichkson, R.G., Shrestha, M. and Bryant, S.D. (2006): Medical Toxicology Review, 1<sup>st</sup> edition, McGraw-Hill Company, U.S.A.

### **3-Recommended Text Books:**

#### **Forensic Medicine**

- Saukko, P. and knight, B. (2004): Knight's Forensic Pathology, 3<sup>rd</sup> edition, Arlond Company, U.K., and oxford University Press Inc., US.A.
- Knight, B. (2003): Simpson's Forensic Medicine. 12<sup>th</sup> edition, Arlond Company, U.K., and oxford University Press Inc.,USA.
- Krishan- Vig (2006): Text Book of Forensic Medicine, Principles and practice, 3<sup>th</sup> edition, Elsevier Publisher Inc.,USA.
- Meadow, R. (1997): ABC of Child Abuse, 3<sup>rd</sup> edition, BMJ Inc., U.S.A.

#### **Medical Ethics:**

- Mappes ,T.A. and Degrazia, D. (1996): Biomedical Ethics, 4<sup>th</sup> edition, McGraw-Hill Publishers, U.S.A.



- Jeckers, N.S., Jonsen, A.R. and Pearman, R.M. (2007): Bioethics, An Introduction, The history and practice 3<sup>rd</sup> edition, Jones and Bartlett, U.K..
- Veatch, R, M. (1997): Medical ethics. 2<sup>nd</sup> edition, Jones & Barlett Publishers, Sudbury Massachusetts, U.S.A

### **Clinical Toxicology:**

- Ballantyne, B, Marrs, C.T., and Syversent, T. (2010): General & Applied Toxicology, 3<sup>rd</sup> edition, Macmillan Reference LTS, U.S.A.
- Gold Frank, L., Flwenbaum, N., Lewin, N., Weisman, R., Howland, M. and Hoffman, R. (2014): Toxicological Emergency. 9<sup>th</sup> edition, Mc Graw-Hill Company, U.S.A.
- Klassen, D.C (2013): Casserett and Doull's Toxicology. The Basic Science of Poison. 8<sup>th</sup> edition, McGraw-Hill Company, U.S.A.
- Hadad, L., Shannon, M. and Winchester, J. (2007): Clinical Management of Poisoning and drug overdose. 4<sup>th</sup> edition, Saunders Company, U.S.A.
- Dart, R.C. (2004): Medical Toxicology, 1<sup>st</sup> edition, Lippincott Williams & Wikins Inc., U.S.A.

### **4-Periodicals:**

- \*Forensic Science International Journals.
- \* Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- \* All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at [www.sciencedirect.com](http://www.sciencedirect.com)

**Course coordinator: Dr. Heba Atia Yassa**

**Head of Department:** Prof. Dr. Wafaa Mohamed Abdel Moneim

**Date: 10-2016**