

MODULE SPECIFICATIONS

Forensic Medicine & Clinical Toxicology

2021-2022





Module Specifications

Benha University **Faculty of Medicine**

Program on which the module given: Bachelor of Medicine & Surgery (Integrated program 5+2)

Department offering the module: Forensic medicine and clinical toxicology department

Academic year / Level: Year 3

Date of specification approval: Faculty Council: No 456 Date 21/9 /2021

A- Basic Information

- **Title: Forensic Medicine & Clinical Toxicology Module**
- **Code: FOCT 322**
- **Credit hours : 4 Credit hours**
- **Lecture: 24 hours**
- **Tutorial, case based learning and directed self learning: 36 (18 x 2 = 36 hours)**
- **Practical lab: 36 (18 x 2 = 36 hours)**

B- Professional Information

1 – The Overall Aims of this module are:

- To provide the undergraduate students with basic scientific knowledge that enables them to deal with common medico-legal conditions (either in living or dead cases).
- To provide essential practical and clinical skills necessary for proper dealing with common medico-legal conditions that will be met during practicing medicine.
- To provide the undergraduate students with basic scientific knowledge that enables them to deal with common toxic cases, either acute or chronic poisoning and drug dependence.
- To provide essential practical and clinical skills necessary for proper dealing with the common toxic cases, that will face him during practicing medicine.
- To provide the undergraduate students with basic ethical, professional education and communication skills essential for establishing & maintaining good doctor/ patient relationship, appropriate attitudes with colleagues and para-medicals.

2 – Competencies

Competency Area I of program: The graduate as a health care provider

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

1.1 Appreciate and respect patients and their problems in an empathic and holistic approach.

1.1.1 Enumerate common medical ethics dilemmas.

1.7 Implement the basic and clinical sciences practical skills & procedures to solve the medical problems met during practice of medicine.

1.7.1 Interpret case scenario of forensic medicine and recognize their medico-legal aspects.

1.7.2 Interpret case scenario of clinical toxicology cases to put a proper plan for their management.

1.7.3 Demonstrate factors affecting poisoning and doctor duty in case of poisoning.

1.7.4 Describe points of unknown body identification whether living or dead, identification of physical evidences and ages of medico-legal importance in Egypt and their estimation.

1.7.5 schedule types of medicolegal traumas and injuries (firearm injuries, violent asphyxia, thermal injuries.)

1.7.6 Analyze different problems of malpractices

1.8 Retrieve and Manage the updated biomedical information by all means, including electronic sources to remain current with advances in knowledge and evidence based medicine (EBM).

1.8.1 Express systemic thinking and personal judgment in solving different medico-legal problems.

1.9 Combine all obtained results either from history taking, medical examination and investigations in order to diagnose the medical problems.

1.9.1 Describe mechanism, clinical picture and management of common therapeutic drugs.

1.9.2 Discuss mechanism, clinical picture and management of the studied household poisons especially (corrosives, food poisoning, pesticides, hydrocarbons and other miscellaneous poisons).

1.9.3 Select lines of management of animal toxins (snakes, scorpions, etc....).

1.9.4 Discuss types of drug of dependence, mechanism of tolerance, mechanism of actions, clinical picture and management of studied cases of dependence (opioids, cocaine, alcohols, hallucinogens ...).

1.9.5 Differentiate between different types of traumas and wounds (legal, etiological and regional: head, neck, chest and abdominal injuries).

1.13 Manage life-threatening and serious conditions by providing appropriate first aid and immediate life support measures in different medical disciplines.

1.13.1 Organise general steps of management of intoxicated patient, methods of decontamination and enhanced elimination of toxin and antidotal therapy.

1.13.2 Use safely and effectively toxicological specimens and instruments.

1.15 Participate effectively in care of patients and their families regarding the end of life measures including the relevant medicolegal issues.

1.15.1 Demonstrate how to diagnose death and how to suspect about the manner of death.

1.15.2 Estimate time of death through assessment of postmortem changes and interval.

1.15.3 Classify different causes, mechanisms and manners of death

1.15.4 List causes of sudden unexpected natural death and their post mortem diagnosis

Competency area II: The graduate as a health promoter

By the end of the program the graduate should be able to:

2.1 Classify different health risks (demographic, occupational and environmental) that place individuals at risk for injury, endemic and chronic diseases.

2.1.1 Enumerate the circumstances of intoxication, management of poisoned patient with environmental toxins (heavy metals, gas poisons, etc...).

2.7 Manage special population probably including pregnant women, newborns & infants, adolescents and the elderly.

2.7.1 Appraise the medico-legal aspects of pregnancy, delivery, abortion and the mechanisms of death from criminal abortion

2.8 Determine people at risk of abuse (physical, Sexual, emotional, etc.,) or neglect and actively protect their welfare

2.8.1 Describe common sexual offenses including (rape, sodomy and indecent assault), and their medico-legal investigations.

2.8.2 Discuss types of injuries in infancy, infanticide, sudden infant death syndrome and child abuse.

Competency Area III of program: The graduate as a professional

By the end of the program the graduate should be able to

3.1 Demonstrate respect, appropriate professional behavior and establish good relations in all aspects of his/her practice.

3.1.1. Maintain a professional image in manner, dress, speech and interpersonal relationships that is consistent with the accepted contemporary medical profession standards.

3.1.2. Communicate clearly, sensitively and effectively with injured patients and their relatives, colleagues and also with his staff.

3.1.3. Respect all interactions with patients, families, colleagues and others with whom the physician must interact in their professional life, irrespective of their socioeconomic levels, culture or religious beliefs using appropriate language to establish a good patient-physician relationship.

3.1.4. Exhibit appropriate professional behaviors and relationships in all aspects of practice.

3.1.5. Develop oneself by gain and apply inter-professional skills.

3.1.6 Respect the role and the contributions of other health care professionals regardless their degrees or rank (top management, subordinate or colleague).

3.2 Complies with the professional standards, laws governing medical practice and the requirements of the national code of ethics issued by the Egyptian Medical Syndicate.

3.2.1. Practice the correct method for writing primary different medicolegal reports to avoid inaccuracies and errors.

3.2.2. Practice the correct method for writing death certificates.

Competency Area IV of program: The graduate as a scholar and scientist

By the end of the program the graduate should be able to:

4.8 Interpret common investigative and diagnostic tools including: imaging, electrocardiograms, laboratory assays, pathologic studies, and functional assessment tests.

4.8.1 Provide the students with the basic methods of collecting and preserving samples and other physical evidences.

4.8.2 Identify age, sex and race of different bones of body and x- ray photographs.

4.8.3 Identify different types of microscopically slides (hair, fibers, blood and semen)

4.8.4 Describe common forensic and toxicological specimen

Competency Area V of program: The graduate as a member of the health team and system

By the end of the program the graduate should be able to:

5.2 Cooperate with other health care professionals and engaging them in decision-making for effective patient management.

5.2.1 Show good teamwork spirit and working in harmony through shared responsibilities and decision making for outstanding work.

5.3 Apply strategies to promote understanding, manage differences, and resolve conflicts in a collaborative manner.

5.3.1 Work collaboratively in a team with other colleagues to maximize benefits.

5.3.2 Understand and respect the different cultural believes and values in the community they learn.

5.4 Adopt leadership skills to enhance team functioning, the learning environment, and the health care delivery system.

5.4.1. Practice leadership skills during practical and media sessions.

5.10 Document clinical conditions in an accurate, complete, timely, and accessible manner, in accordance with regulatory and legal requirements.

5.10.1 Examine different wounds and injuries and write a proper primary wound report.

5.10.2 Write a primary toxicological report.

Competency Area VI of program: The graduate as a lifelong learner and researcher

By the end of the program the graduate should be able to:

6.1 Assess his/her performance regularly using various performance indicators and information sources.

6.1.1 Criticize his/her performance using various performance indicators ..

6.2 Adopt a personal learning plan to remain current with advances in knowledge and practice.

6.2.1 Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.

6.2.2 Establish life-long self-learning required for continuous professional development.

6.3 Use different learning resources take in consideration the opportunities.

6.3.1 Retrieve, manage, and manipulate information by all means, including electronic means.

6.3.2 Present information clearly in written, electronic and oral forms

3- Contents

Topic	Lectures	Practical	Students Activities		
			Tutorial	Case Oriented Learning	Directed Self Learning
1-General Toxicology: - Introduction - General Aspect of Toxicology -Principles of Managing the poisoned patient - GIT decontamination -Elimination of Absorbed poison	2(10%)	1(7.1%)	1(16.7%)	-	-
2- Household Products:	1(5%)	-	1(16.7%)	1(16.7%)	-

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corrosives pesticides hydrocarbons					
3- Environmental toxins: Heavy metals Gas poisons	2 (8.3%)	-	-	1(16.7%)	-
4- Miscellaneous poisons: Animal poisoning food poisoning	1 (5%)	-	-	-	-
5- Medicinal (Therapeutics) poisons: -Acetaminophen -Salicylate -Theophylline -Cardiac glycosides - hypoglycemic -Tricyclic Antidepressants -Sedative-hypnotic	4 (14.7%)	-	-	-	1.5 (25%)
6- Alcohols and drugs of dependence: -Medico-legal aspects of dependence ethanol -Toxic alcohols opioids cocaine & amphetamine hallucinogens	3(13.3%)	-	1(16.7%)	-	1.5 (25%)
7- Death	1(3.3%)	1(7.1%)	-	-	-
8- Time of death and PM changes	1(3.3%)	1(7.1%)	-	1(16.7%)	-
9-Identification	-	5.5(39.3%)	1(16.7%)	-	-
10- Unexpected and sudden natural death	1(1.7%)	-	-	-	-
11- Wounds	1.5 (5%)	2(14.3%)	1(16.7%)	1(16.7%)	-
12- Head Injuries	1(3.3%)	0.5(3.6%)	-	-	1.5 (25%)
13-Regional injuries	1(3.3%)	0.5(3.6%)	-	-	-
14- Firearm Injuries	1(3.3%)	1(7.1%)	-	-	-
15- Physical Injuries	1(3.3%)	0.5(3.6%)	-	-	1.5 (25%)
16- Violent Asphyxia & Drowning	1.5 (5%)	0.5(3.6%)	-	1(16.7%)	-
17- Sexual Offences	1(3.3%)	-	-	1(16.7%)	-
18- Pregnancy, delivery and Abortion	1(3.3%)	0.5(3.6%)	-	-	-
19- Death and injury in infancy & child abuse	1(3.3%)	-	-	-	-
20- Medical Ethics & Malpractice	1(3.3%)	-	1 (16.7%)	-	-
Total	24	18 x2	6x2	6x2	6x2

4- Teaching and Learning Methods

- **Modified Lectures:** A modified lecture format, generally presented in a manner of interaction between students and the lecturers, is now commonly presented as video or any aiding materials.
- **Practical sessions.**
- **Tutorials:** Small Group Tutorials on special topics will be organized for the purposes of enhancing the students' general knowledge and overall understanding. It allows students to apply newly acquired knowledge and it is suitable for higher order cognitive objectives.
- **Case Oriented Learning :** Clinical Presentations will be organized as series of sessions of small group teaching led by staff from the appropriate Clinical Departments. These sessions also provide an opportunity for students to see patient-doctor interaction and the personal and social effects of illness. Satisfactory attendance and performance in practical classes and at clinical sessions are part of the final assessment at such level.
- **Directed self-Learning:** sessions will promote self-directed learning and thus, time will be available for further study by the students using all available- learning resources including electronic learning materials.
- **Online lectures (zoom app.): Lectures on Benha E- learning platform & survey.**
 موقع منصة التعليم الإلكتروني الخاص بجامعة بنها
<https://elearning.bu.edu.eg/>

Method	Evidence	ILOs
Modified lectures	CDs of lectures including (video films, brain storming, problem solving, etc....)	Competency Area I of program: The graduate as a health care provider. 1.1, 1.2, 1.5, 1.7, 1.8, 1.9, 1.10, 1.11, 1.13, 1.14, 1.15.
Online lectures (zoom app.) Lectures on Benha E- learning platform	موقع منصة التعليم الإلكتروني الخاص بجامعة بنها https://elearning.bu.edu.eg/	Competency area II: The graduate as a health promoter. 2.4, 2.5, 2.7, 2.8, 2.9. Competency Area III of program: The graduate as a professional. 3.1, 3.2, 3.4, 3.5, 3.6, 3.9.
Case oriented learning	Samples of student activities	Competency Area IV of program: The graduate as a scholar and scientist. 4.3, 4.5, 4.7, 4.8. Competency Area V of program: The graduate as a member of the health team and system. 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10. Competency Area VI of program: The graduate as a lifelong learner and
Directed self-learning	Samples of student activities	

		<p><i>researcher.</i> 6.1, 6.2, 6.3, 6.4.1, 6.4.2.</p>
<p>Practical sessions</p>	<ul style="list-style-type: none"> • Available videos on the platform • Logbook for attendance • microscopic slides (hair, fibers, blood and semen) toxicological specimen • متحف الشرعي 	<p><i>Competency Area I of program: The graduate as a health care provider.</i> 1.1.1, 1.7, 1.8, 1.10.1, 1.10.2, 1.10.5, 1.13.2, 1.15.3.</p> <p><i>Competency area II: The graduate as a health promoter.</i> 2.4.1, 2.5.1, 2.9.</p> <p><i>Competency Area III of program: The graduate as a professional.</i> 3.2.1, 3.2.2, 3.4, 3.5, 3.9.</p> <p><i>Competency Area IV of program: The graduate as a scholar and scientist.</i> 4.7.</p> <p><i>Competency Area V of program: The graduate as a member of the health team and system.</i> 5.1, 5.2.1, 5.3.1, 5.3.2, 5.5, 5.10.1, 5.10.2.</p> <p><i>Competency Area VI of program: The graduate as a lifelong learner and researcher.</i> 6.1.1, 6.4.1, 6.4.2</p>

5- Student Assessment Methods

1- Continuous assessment:

This form of assessment is designed to give you feedback to help you to identify areas for improvement. It includes a mixture of MCQs, short answer-questions (SAQs), case-solving exercises and independent learning activities in all subjects. These will be given during tutorial sessions and practical. The answers are presented and discussed immediately with you after the assessment. The results will be made available to you.

2- Written examination:

This type of assessment is used for judgment or decisions to be made about your performance. It serves as:

- ♣ Verification of achievement for the student satisfying requirement
- ♣ Motivation of the student to maintain or improve performance
- ♣ Certification of performance
- ♣ Grades

In this Module your performance will be assessed according to the following:

Continuous Assessment (formative for learning with feedback)	30% (30 marks)
Practical	30 % (30 marks)
Summative (final Exam (Two Hours)	40 % (40 marks)
Total = 100 % (100 marks)	

Assessment Schedule

Written Exams: will include multiple choice questions (MCQs). These will cover material presented during the lectures, tutorials, COL presentations, and DSL . Final examination will be held 10-12 AM first Saturday of module at the main examination Hall.

Quiz will be held at ----- AM of 2nd week of module.

Practical examination: Will be arranged by the departments

Tool	Evidence	Purpose (ILOs)
<p>Written examination:</p> <ul style="list-style-type: none"> • MCQs • Case study. 	<p>Attached module of examination.</p>	<p><u>To assess: (know & know how levels of millers, pyramid “knowledge, understanding & intellectual skills”.</u></p> <p><i>Competency Area I of program: The graduate as a health care provider.</i> 1.1, 1.2, 1.5, 1.7, 1.8, 1.9, 1.10, 1.11, 1.13, 1.14, 1.15.</p> <p><i>Competency area II: The graduate as a health promoter.</i> 2.4, 2.5, 2.7, 2.8, 2.9.</p> <p><i>Competency Area III of program: The graduate as a professional.</i> 3.1, 3.2, 3.4, 3.5, 3.6, 3.9.</p> <p><i>Competency Area IV of program: The graduate as a scholar and scientist.</i> 4.3, 4.5, 4.7, 4.8.</p> <p><i>Competency Area V of program: The graduate as a member of the health team and system.</i> 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10.</p> <p><i>Competency Area VI of program: The graduate as a lifelong learner and researcher.</i> 6.1, 6.2, 6.3, 6.4.1, 6.4.2.</p>
<p>Practical</p>	<p>Samples of test exams: OSPE/ OSCE stations.</p>	<p><u>To assess: (show & does levels of miller’s pyramid “Practical, clinical, professional skills & attitude”).</u></p> <p><i>Competency Area I of program: The graduate as a health care provider.</i> 1.1.1, 1.7, 1.8, 1.10.1, 1.10.2, 1.10.5, 1.13.2, 1.15.3.</p> <p><i>Competency area II: The graduate as a health promoter.</i> 2.4.1, 2.5.1, 2.9.</p> <p><i>Competency Area III of program: The graduate as a professional.</i></p>

		<p>3.2.1, 3.2.2, 3.4, 3.5, 3.9. <i>Competency Area IV of program: The graduate as a scholar and scientist.</i> 4.7. <i>Competency Area V of program: The graduate as a member of the health team and system.</i> 5.1, 5.2.1, 5.3.1, 5.3.2, 5.5, 5.10.1, 5.10.2. <i>Competency Area VI of program: The graduate as a lifelong learner and researcher.</i> 6.1.1, 6.4.1, 6.4.2.</p>
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Weighting of Assessments

Periodic exam (30%) (30 marks)

- Portfolio 6% (6 marks)
- Mid assessment 24% (24 marks)

Final exam (70%) (70 marks)

- Practical (OSPE) 30% (30 marks)
- Written exam 40% (40 marks)

6- List of References

For clinical toxicology:

Basic materials:

- Department books by staff members (2019-2020)

Essential books (textbooks):

- Goldfrank’s Manual of Toxicologic Emergencies: Hoffman, R.S.; Nelson, L.S.; Howland, M.A. et al. (eds.), McGraw-Hill Companies, New York, 9th ed., (2007).
- Poisoning & Drug Overdose. By: Olson, K.R. (ed.), Lange medical books/McGraw-Hill, New York, Chicago, Toronto, (2007).

Recommended books:

- Goldfrank's Toxicologic Emergencies. By: Flomenbaum, N.E.; Goldfrank, L.R.; Hoffman, R.S., et al. (eds.), McGraw-Hill, New York, 8th ed., (2006).
- Clinical Toxicology. By: Ford, M.D.; Delaney, K.A.; Ling, L.J. et al. (eds.), W.B. Saunders Co., Philadelphia, 1st ed., (2001).

Periodicals, Web sites, etc:

- <http://www.pubmed.com>.
- <http://sciencedirect.com>.

For forensic Medicine:

Basic materials:

- Department books: Handbook of forensic medicine by staff members 2019-2020.

Essential books (textbooks):

• Simpson's Forensic Medicine: Shepherd, R. (ed.), Arnold press, London, 12th ed.(2003

Recommended books:

1. Forensic pathology: Bernard Knight, Emeritus Professor of Forensic Pathology, University of Wales ... Paperback: 720 pages; Publisher: CRC Press; 3 edition (January 30, 2004).

2. Forensic Pathology, Second Edition (Practical Aspects of Criminal and Forensic Investigations) 2nd Edition by Dominick DiMaio (Author), Vincent J.M.DiMaio M.D. (Author)

Periodicals, Web sites, etc:

- <http://www.pubmed.com>.
- <http://sciencedirect.com>

7- Facilities Required for Teaching and Learning

Method	Evidence
Modified lectures	CDs of lectures including (video films, brainstorming, problem solving, etc...)
Distance learning	Benha E- learning platform
Practical classes	Toxicological reports, log book
Case based study	Case scenarios
Directed self Learning	Log book

Module Coordinator: Dr. Sally Mohsen & Dr.Maha Mokhtar