

Peer Revision

Reviewers	University	Date of Revision
- Prof. Dawlat Salem	Cairo	10/12/2011
- Prof. Ahmad K. Mansur	Mansura	28/11/2011

Program Specification of Medical Doctorate Degree of forensic medicine & clinical toxicology

Sohag University

Faculty of Medicine

A. Basic Information

1. Program title: MD Degree in Forensic Medicine & Clinical Toxicology
2. Program type: Single
3. Faculty: Faculty of Medicine
4. Department: Forensic Medicine & Clinical Toxicology.
5. Coordinator: Dr. Soheir Ali Mohamed
6. Ass. Coordinator : Esam Mohamed Abdalla Ali
7. External evaluator: Prof. Dr. Ragaa Mohamed Abdel Maboud
8. Last date of program specifications approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018.

B. Professional Information:

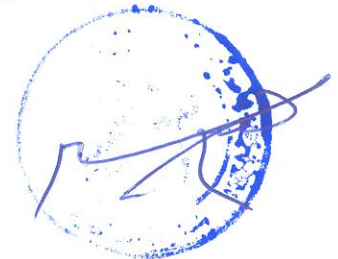
1. Program aims:

The aim of this program is to provide the graduate with the advanced medical knowledge and skills essential for the mastery of practice of specialty and necessary to provide further training and practice in the field of forensic medicine & clinical toxicology through providing:

1. Recent scientific knowledge essential for the mastery of practice of forensic medicine & clinical toxicology according to the international standers.
2. Skills necessary for proper diagnosis of forensic and toxicology cases problems solving and decision making.
3. Ethical principles related to the practice in this specialty
4. Active participation in community needs assessments and problem identification.
5. Maintenance of learning abilities necessary for continuous medical education.
6. Upgrading research interest and abilities.

2. Attributes of the student:

1. Efficient in carrying out the basics and methodologies of scientific research.
2. The continuous working to add new knowledge in the field of forensic medicine.
3. Applying the analytical course and critical appraisal of the knowledge in his specialty and related fields.
4. Merging the forensic medicine knowledge with the other related knowledge with conclusion and developing the relationships in between them.
5. Showing a deep awareness with the ongoing problems, theories, and advanced sciences in the specialty of forensic medicine.



Program Specification of Medical Doctorate Degree of forensic medicine & clinical toxicology

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B. Professional Information:

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3. Applying the analytical course and critical appraisal of the knowledge in his specialty and related fields.
4. Merging the forensic medicine knowledge with the other related knowledge with conclusion and developing the relationships in between them.
5. Showing a deep awareness with the ongoing problems, theories, and advanced sciences in the specialty of forensic medicine.

6. Determination of the professional problems in the specialty of forensic medicine. and creating solutions for them.
7. Efficient in carrying out the professional skills in his specialty.
8. Using advanced suitable technologies which serves his practice.
9. Efficient communication and leadership of team work in his specialty.
10. Decision making through the available information.
11. Using the available resources efficiently and working to find new resources.
12. Awareness with his role in the development of the society and preserve environment.
13. Behaving in a way which reflects his credibility, accountability, and responsibility.
14. Keeping continuous self development and transfer his experiences and knowledge to others.

3. Intended learning outcomes (ILOs):

a) Knowledge and understanding:

By the end of the study of doctoral program in forensic medicine and clinical toxicology the graduate should be able to:

- a1. Enumerate types and recent procedure for forensic autopsy.
- a2. Describe how to examine the scene of death and diagnose death.
- a3. Describe recent principles and medico legal aspects of personal identification of living and dead human bodies
- a4. Mention the recent advances in the pathology of wounds and different types of injuries in human body.
- a5. Explain recent knowledge of forensic serology that deals with different body fluids.
- a6. List the recent analytical and instrumental methods used in investigating crimes.
- a7. Describe recent principles of extraction of various drugs or poisons from body fluids and the keratinized tissues .
- a8. Describe principles of toxicology of different types of poisonous substances and drugs including classification, mechanism of action and clinical features of toxicity
- a9. Describe recent advance in examination the scene of death in cases of poisoning
- a10. List chemicals and drugs which induce organ toxicity.
- a11. Demonstrate recent advance in the criteria, clinical features, diagnosis and general management of dependence producing substances and drugs
- a12. List recent scheme for testing drugs or poisons.
- a13. Mention recent advance in antidotal studies and evaluation of toxicity in human subjects.
- a14. Demonstrate recent advance of gene mutations and structural chromosomal aberrations.
- a15. Describe recent advance in DNA repair
- a16. Enumerate the recent advance in data collection for vital statistics
- a17. Mention recent advance in constructing tables and graphs
- a18. Enumerate the recent advances of principles, methodologies, tools and ethics of scientific research.

- a19. Enumerate the recent advances in biostatistics and computer
- a20. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of forensic medicine and clinical toxicology.
- a21. Mention the principles and fundamentals of quality of professional practice in the field of forensic medicine and clinical toxicology

b) Intellectual skills

By the end of the study of doctoral program in forensic medicine and clinical toxicology the graduate should be able to:

- b1. Interpret the features of the scene of the crime in the field of forensic medicine and clinical toxicology for proper diagnosis of forensic and toxicology cases
- b3. Select from different diagnostic tool the one that can reach problem solving
- b4. Conduct research studies that adds to knowledge.
- b5. Formulate scientific papers in the area of forensic medicine and clinical toxicology
- b6. Assess risk in professional practices in the field of forensic medicine and clinical toxicology.
- b7. Plan to improve performance in the field of forensic medicine and clinical toxicology.
- b8. Identification of forensic and clinical toxicology problems and find solution
- b9. Have the ability to innovate
- b10. Manage scientific discussion administration based on scientific evidences and proofs
- b11. Criticize researches related to the field of forensic medicine and clinical toxicology
- b12. Collect and verify data from different sources and interpret data to diagnose prevalent problems in the field of forensic medicine and clinical toxicology.

c) Professional and practical skills

By the end of the study of doctoral program in forensic medicine and clinical toxicology the graduate should be able to:

- c1. Master the basic and modern professional skills in the area of forensic medicine and clinical toxicology
- c2. Write and evaluate standard medico-legal report of intoxicated or injured person.
- c4. Evaluate and develop methods and tools existing in the area of forensic medicine and clinical toxicology.
- c5. Perform tests showing the biochemical, cellular and serological changes associated with some injuries or toxicity.
- c6. Train junior staff through continuous medical education program.
- c7. Design new methods, tools and ways of professional practice.
- c8. Perform recent advanced technological methods in collection, analysis and interpretation of data

d) General and Transferable skills:

By the end of the study of doctoral program in forensic medicine and clinical toxicology the graduate should be able to:

- d1. Present report in accordance with the standard scientific guidelines in

- d2. seminars or group meetings .
- d3. Manipulate computer programs, do web search, to write an essay
- d4. about recent subjects of forensic medicine and toxicology .
- d5. Teach others and evaluate their performance.
- d6. Assess himself and identify his personal needs.
- d7. Use of different sources for information and knowledge
- d8. Work coherently and successfully as a part of team and team, leadership
- d9. Manage scientific meetings according to the available time.
- d10. Use appropriate computer program packages.

4. Academic Standards:

Sohag Faculty of Medicine adopted the general National Academic Reference Standards (NARS) provided by the national authority for quality assurance and accreditation (naqaae) for postgraduate program . This was approved by the faculty Council decree No. 6854, in its cession No. 177 Dated : 18/5/2009 .Based on these NARS; The Academic Reference Standards(ARS) were suggested for this program These ARS were revised by external evaluator and approved by the faculty council decree No7528, in its cession No 191, dated : 15/3/2010 . The adoption of NARS and the suggested ARS were approved by University council degree No 587, in its cession No.60. dated 26-12-2011.

5. Curriculum structure and contents:

5.a- Programme duration: 7 semesters (3.5 years)

5.b- Programme structure:

5. b.1- Number of hours per week:

Subject	No. Of hours/week		
	Lectures	Practical	Clinical
<u>First Part:(Minors)</u>			
+ Bio Statistics& Computer	2	2	-
Research Methodology	.2	2	-
Designing of toxicological studies	1	2	-
Gene toxicity	3	-	-
Molecular toxicity	3	-	-
<u>Second Part:</u>			
Forensic Medicine	3.75	6.5	-
Clinical Toxicology	3	5.5	1

code	Item	No	%	
b.i	Total credit hours	Compulsory	90	100
		Elective	0	0
		Optional	0	0
b.iii	credit hours of basic sciences courses	6	6	
b.iv	credit hours of courses of social sciences and humanities	0	0	
b.v	credit hours of specialized courses:	61	67	

b.vi	credit hours of other course		
b.vii	Practical/Field Training	8	8.9%
b.viii	Program Levels (in credit-hours system):		
	Level 1: 1 st part	15	16.7
	Level 2: 2 nd Part	53	58.8
	Level 3: Thesis	15	16.7

6. Program Courses

Program Courses : 7 courses are compulsory

6.1- level of program:

Semester...1.....

First part:

a. Compulsory

Course title	Total No, of hours	No of Lectures	hours / Practical	week Clinical	program ILOs Covered
<u>First Part:</u>					
+ Bio Statistics& Computer	4	2	2		a17,b11,c7,c8,d5,d8
Research Methodology	.4	2	2		a16,b3,b4,b8,b10,c1,c6,d5,d6,d9,d10
Designing of toxicological studies	3	1	2		a13,a18. b1,b2,b3,b8,b10,c1,c3,c4,c5,c6,d1,d2,d3,d5,d6,d7
Gene toxicity	3	3	-		a14,a16,a18,a19 b1,b2,b3,b4,b6,b9,b10,b12,c1,c2,c3,c4,c5,d1,d2,d3,d4,d5,d6,d7
Molecular toxicity	3	3	-		a15,a16,a18,a19, b1,b2,b3,b4,b6,b9,b10,b12,c1,c2,c3,c4,c5d1,d2,d3,d4,d5,d6,d7 ,

Second Part:

Forensic Medicine module	10.25	3.75	6.5		A1,a2,a3,a4,a5,a7,a12,a18,a19,a20,a21,b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,c1,c2,c3,c4,c5,c6,d1,d2,d3,d4, d5, d6, d7, d8.
Clinical Toxicology	9,5	3	5.5	1	A6,a8,a9,a10,a11,a18,a19, a20,a21,b1,b2,b3,b4,b5,b6,b7,b8,b9,b10C1,c2,c3,c4,c5,c6,d1,d2,d3,d4, d5, d6, d7, d8.

7. Program Admission Requirements

I- General Requirements.

- Candidate should have either MBBch degree from any Egyptian Faculty of Medicine or Equivalent Degree from Medical Schools abroad approved by the ministry of high Education.
- Candidate should know how to speak & write English well
- Candidate should have computer skills.
- Follow postgraduate bylaw Regulatory rules of Sohag Faculty of Medicine approved by the ministerial decree No. (44), dated 6/1/2010.

II- Specific Requirements

- Master degree in Forensic Medicine & Clinical Toxicology with at least "Good Rank".

8. Regulations for Progression and Program Completion

Duration of program is 90 credit hours (≥ 7 semesters ≥ 3.5 years), starting from registration till acceptance of the thesis; divided to:

First Part: (15 Credit hours ≥ 6 months ≥ 1 semester):

- Program-related basic science, Research Methodology, Ethics & medical reports, Biostatistics and computer.
- At least six months after registration should pass before the student can ask for examination in the 1st part.
- Two sets of exams: 1st in October — 2nd in April after fulfillment of the credit hours.
- At least 60% of the written exam and 60% of the total oral and practical/clinical is needed to pass in each course.
- For the student to pass the first part exam, a score of at least 60% (Level D) in each course is needed.
- Those who fail in one course need to re-exam it only.
- GPA of ≥ 1.3 is needed to pass this level (semester).

Second Part: (50-60 Credit hours ≥ 24 months = 4 semesters):

- Program related specialized science of Forensic Medicine & Clinical Toxicology courses. At least 24 months after passing the 1st part should pass before the student can ask for examination in the 2nd part.
- Fulfillment of the requirements in each course as described in the template and registered in the log book (8 Credit hours; with obtaining $\geq 75\%$ of its mark) is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; the credit hours of the logbook are calculated as following:
 - Each Cr. Hr.= 60 working Hrs.
 - Logbook= 8 Cr. Hr. X 60 working Hrs = 480 Working Hrs.
 - Collection of working Hrs. is as following:

Activity		Hrs
Grand rounds	اجتماع علمي موسع	٦
Training courses	دورات تدريبية	12/ day
Conference attendance	حضور مؤتمرات علمية داخلي خارجية	١٢/day 18/day
Thesis discussion	حضور مناقشات رسائل	٦
Workshops	حضور ورش عمل	١٢/day
Journal club	ندوة الدوريات الحديثة	٦
Seminars	لقاء علمي موسع	٦
Morbidity and Mortality conference	ندوة تحليل المخاطر المرضية أو الوفاة	٦
Self education program	برنامج التعليم الذاتي	٦

- Two sets of exams: 1st in October - 2nd in April.
- At least 60% of the written exam is needed to be admitted to the oral and practical exams.
- 4 times of oral and practical exams are allowed before the student has to re-attend the written exam.

Third Part (Thesis) (15 Credit hours =24-48 months=4-8 semester):

1. Documentation of the subject should not be delayed for > 1.5 years after registration.
2. Could start after registration and should be completed, defended and accepted after passing the 2nd part final examination, after passing of at least 24 months after documentation of the subject of the thesis and after publishing of at least one paper from the thesis in a specialized peer-reviewed journal.
3. Accepting the thesis is enough to pass this part.

9. Methods of student assessments:

Method of assessment	weight	The assessed ILOs
1-Research assignment		- General transferable skills, intellectual skills
2-Written Exams: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	50%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills
3-OSPE	50%	-Practical skills, intellectual skills, general transferable skills
4-Structured Oral Exams		- Knowledge, Intellectual skills, General transferable skills

Assessment schedule:

Part I:

- Biostatistics & Computer: Written Exam (2 hours) + Structured oral Exam
- Research Methodology: Written Exam (2 hours) + structured oral Exam
- Designing of toxicological studies: Written Exam (2 hours) + structured oral Exam.
- Gene toxicity and Molecular toxicity: Written Exam (2hours) + structured oral Exam.

Part II:

- Four Written Exams (3 hours for each) two for Forensic Medicine and two for Clinical Toxicology + OSCE for Clinical Toxicology + OSPE for Forensic Medicine + Structured oral Exam for each + Discuss the reports of autopsy specimens after death.

10. Evaluation of program.

Evaluator	Tool	Sample
1- Senior students	Questionnaire	3
2- Alumni	Questionnaire	1
3- Stakeholders (Employers)	Questionnaire	15
4-External Evaluator(s) (External Examiner(s))	Report	1
5- Other		

Course Specification of Biostatistics & Computer in Forensic Medicine & Clinical Toxicology

Sohag University

Faculty of Medicine

Course Specifications

1. Program on which the course is given: MD degree in forensic medicine & clinical toxicology
2. Major or Minor element of program: Minor.
3. Department offering the program: Dept. of Forensic Medicine & Clinical Toxicology
4. Department offering the course: Dept. Community Medicine and public Health.
5. Academic year / Level; 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Biostatistics & Computer in Forensic Medicine & Clinical Toxicology

Code: COM 0509- 300

Title	Lecture	Practical	Total	Credit
applied biostatistics	30	30	60	3

B. Professional Information

1. Overall Aims of Course

The aim of this course is to provide the postgraduate student with the advanced medical knowledge and skills essential for the mastery of practice of biostatistics and use precisely computer programs

2. Intended Learning Outcomes of Courses (ILOs)

a) **Knowledge and understanding:**

By the end of the course, the student is expected to be able to:

- a1. List different programs of analysis of data and statistical packages
- a2. Define the recent advances of sources of data and methods of collection.
- a3. Summarize data, construct tables and graphs
- a4. Calculate measures of central tendency and measures of dispersion
- a5. Describe the normal curves and its uses
- a6. Illustrate selected tests of significance and the inferences obtained from such tests
- a7. Illustrate selected tests of significance for parametric and non parametric inferences
- a8. Identify factor analysis and discrimination analysis

b) **Intellectual Skills**

By the end of the course, the student is expected to be allowed to:

- b1. Enumerate how to collect and verify data from different sources
- b2. Interpret data to diagnose prevalent problems in forensic medicine & clinical toxicology
- b3. Manage scientific meetings according to the available time.

b4. Use appropriate computer program packages.

c) Professional and Practical Skills:

By the end of the course, the student is expected to practice the following:

c1. Perform recent advanced technological methods in collection, analysis and interpretation of data

c2. Perform recent advanced technological methods in collection, analysis and interpretation of data

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

d1. Use appropriate computer program packages.

d2. Use of different sources for information and knowledge about biostatistics.

3. Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Recent advances in collection, analysis and interpretation of data	6	3	3
-Details of Tests of significance: Proportion test	6	3	3
Chi-square test	6	3	3
Student T test	6	3	3
Paired T test	6	3	3
-Correlation	4	2	2
-Regression	4	2	2
-ANOVA test	6	3	3
-Discrimination analysis	6	3	3
Factor analysis	5	2.5	2.5
- parametric and non parametric tests	5	2.5	2.5
Total	60	30	30
Credit	3	2	1

4. Teaching and Learning Methods

4.1- Lectures

4.2- Practical sessions

4.3- Computer search assignments

4.4- Computer application

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Intellectual skills, Knowledge, General transferable skills
5.4Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1.....	Final written exam	Week: 24
Assessment 2.....	Final Structured Oral Exam	Week: 24
Assessment 3	Attendance and absenteeism throughout the course	
Assessment 4	Computer search assignment performance throughout the course	

Weighting of Assessments

Final-term written examination	50%
Final Structured Oral Exam	50%
Total	100 %

Formative only assessments: attendance and absenteeism and Computer search assignments performance.

6. List of References

6.1- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, Prentice – Hall International Inc

6.2- Recommended Books

1- Dimensions of Community Health, Boston Burr Ridge Dubuque.

2- Short Textbook of preventive and social Medicine. Prentice-Hall International Inc.

3- Epidemiology in medical practice, 5th edition. Churchill Livingstone. New York, London and Tokyo

6.3- Periodicals, Web Sites, ... etc

1-American Journal of Epidemiology

2-British Journal of Epidemiology and Community Health

3- WWW. CDC and WHO sites

7. Facilities Required for Teaching and Learning:

1- ADEQUATE INFRASTRUCTURE: including teaching places (teaching class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.

2- TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr/Rasha Abd-El Hameed

Head of Department: Prof/Ahmed Fathy Hamed

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specification of Research Methodology in Forensic Medicine & Clinical Toxicology

Sohag University

Faculty of Medicine

1. Program on which the course is given: MD degree in forensic medicine & clinical toxicology
2. Major or Minor element of program: Minor.
3. Department offering the program: Dept. of Forensic Medicine & Clinical Toxicology
4. Department offering the course: Dept. of Community Medicine and public Health.
5. Academic year / Level; 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Research Methodology in Forensic Medicine & Clinical Toxicology

Code: COM0509 300

Total hours:

Title	Lecture	Practical	Total	Credit
research methods	30	30	60	3

B. Professional Information

1. Overall Aims of Course

1. To influence the students to adopt an analytical thinking for evidence based medicine
2. To use precisely the research methodology in researches

2. Intended Learning Outcomes of Courses (ILOs)

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

a) **Knowledge and understanding:**

By the end of the course, the student is expected to be able to:

- a1. Define the recent advances of screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests.
- a2. Explain the usefulness of screening tests, and calculate sensitivity, specificity, and predictive values.
- a3. Describe the study design, uses, and limitations.
- a4. List the recent advances of principles, methodologies, tools and ethics of scientific research.
- a5. Explain the strategies and design of researches.
- a6. Describe bias and confounding.
- a7. Describe sampling techniques and list advantages of sampling
- a8. Identify principles of evidence based medicine.

b) **Intellectual Skills**

By the end of the course, the student is expected to be able to:

- b1. Conduct research studies that add to knowledge.
- b2. Formulate scientific papers in the area of forensic medicine & clinical toxicology
- b3. Innovate and create researches to find solutions to prevalent problems in the area of forensic medicine & clinical toxicology
- b4. Criticize researches related to forensic medicine & clinical toxicology

c) Professional and Practical Skills:

By the end of the course, the student is expected to be able to:

- c1. Master the basic and modern professional skills in conducting researches in the area of forensic medicine & clinical toxicology
- c2. Design new methods, tools and ways of conducting researches.

d) General and Transferable Skills:

By the end of the course, the student is expected to be able to:

- d1. Use of different sources for information and knowledge to serve research.
- d2. Work coherently and successfully as a part of a team and team's leadership in conducting researches and field studies.

3. Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Details of epidemiological studies (case control, cohort and cross sectional)	8	4	4
Clinical trials, Quasi experimental study	8	4	4
Bias and errors	8	4	4
Setting a hypothesis	1	4	4
Recent advances in screening	8	4	4
- Evidence – based Medicine: Concept and examples Applicability Scientific writing: A protocol A curriculum	8	4	4
Setting an objective -Critical thinking	6	3	3
Formulation of papers	6	3	3
Total	60	30	30
Credit	3	2	1

4. Teaching and Learning Methods

- 4.1- Lectures.
- 4.2- Computer search assignments

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Intellectual skills, Knowledge, General transferable skills
5.4Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1	Final written exam	Week: 24
Assessment 2	Final Structured Oral Exam	Week: 24
Assessment 3	Attendance and absenteeism throughout the course	
Assessment 4	Computer search assignment performance throughout the course	

Weighting of Assessments

Final-term written examination	50	%
Final Structured Oral Exam	50	%
Total	100	%

Any formative only assessments Attendance and absenteeism throughout the course
Computer search assignment performance throughout the course

6. List of References

6.1- Essential Books (Text Books)

1-Maxy-Rosenau Public health and preventive medicine, 2008.,Robert Wallace, publisher McGraw-Hill Medical; 15 edition.

6.2- Recommended Books

1- Dimensions of Community Based projects in Health Care, 2018. Arxer, Steven L., Murphy, John W.; 1st edition.

2- Parks Text Book of Preventive & Social Medicine. 2017., K. Park. BanarsidasBhanot Publishers; 23 edition.

3- Clinical Epidemiology: The Essentials, 2013, Robert F., Suzanne W. Fletcher, Grant S., publisher Lippincott Williams & Wilkins; 5 edition.

6.3- Periodicals, Web Sites, ...etc

1-American Journal of Epidemiology

2-British Journal of Epidemiology and Community Health

3- WWW. CDC and WHO sites

7. Facilities Required for Teaching and Learning:

1-ADEQUATE INFRASTRUCTURE: including teaching places (teaching class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.

2- TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, color and laser printers.

Course Coordinator: Dr/Rasha Abd El-Hameed

Head of Department: Prof/Ahmed Fathy Hamed

Date: 18/12/2011, Revised:1/9/2012, Revised:1/12/2013, Revised:1/12/2018

Course Specification of Designing of Toxicological Studies in Forensic Medicine & Clinical Toxicology

Sohag University

Faculty of Medicine

Course Specifications

1. Program on which the course is given: MD degree in forensic medicine & clinical toxicology
2. Major or Minor element of program: minor.
3. Department offering the program: Dept. of Forensic Medicine & Clinical Toxicology
4. Department offering the course: Dept. of Forensic Medicine & Clinical Toxicology
5. Academic year / Level; 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Designing of Toxicological Studies in Forensic Medicine & Clinical Toxicology

Code: FOR 0509 300

Title	Lectures	Practical	Total	Credit
Designing of Toxicological Studies	15	30	45	2

B. Professional Information

1. Overall Aims of Course

1. Provide basic knowledge of different types of toxicity, acute, sub acute and chronic.
2. Demonstration of knowledge of different types of animal species and dose level used in each study.
3. Understand principles of testing for acute and chronic toxicity and how to evaluate toxicity in human subjects.
4. Understand ethical considerations of animal research.

2. Intended Learning Outcomes of Course (ILOs)

e) Knowledge and Understanding:

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

1. know recent advance in antidotal studies and evaluation of toxicity in human subjects.
2. Describe duration of toxicity studies, acute, sub acute and chronic.
3. Describe principles of selection of animal species and dose level used in each study.
4. Demonstrate principles of acute oral, skin and inhalation tests.
5. Demonstrate pathological techniques in toxicology .
6. Demonstrate hematology and clinical chemistry in toxicology studies.

7. Demonstrate dose response relationship
8. know the principles and fundamentals of ethics and legal aspects of professional practice in designing of forensic medicine and clinical toxicology studies
9. Understand ethical considerations of animal research.

f) Intellectual Skills

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

- b1. Interpret the features of a case study of poisoning to differentiate between types of toxicity, acute, sub acute, sub chronic and chronic.
- b2. Analyze case scenario of intoxicated patient and formulate treatment plan.
- b3. Conduct research studies about designing of toxicological studies that adds to knowledge.
- b4. Have the ability to innovate
- b5. Criticize researches related to the field of clinical toxicology

g) Professional and Practical Skills

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

- c1. Perform some laboratory tests to induce different types of toxicity on laboratory animals
- c2. Evaluate and develop methods and tools existing in the area of forensic medicine and clinical toxicology.
- c3. Perform tests showing the biochemical, cellular and serological changes associated with different types of toxicity.
- c4. Train junior staff through continuous medical education program.
- c5. Design new methods, tools and ways of professional practice.

h) General and Transferable Skills

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

- d1. Present toxicological report in accordance with the standard scientific guidelines in seminars or group meetings .
- d2. Manipulate computer programs, do web search, to write an essay about recent subjects of toxicology.
- d3. Teach others and evaluate their performance
- d4. Use of different sources for information and knowledge
- d5. Work coherently and successfully as a part of a team and team's leadership to perform some laboratory tests.
- d6. Manage scientific meetings about recent subjects in toxicology according to the available time.

3. Contents of the clinical toxicology course:

Topic	No. of hours	Lecture	Practical
Dose response relationship	5	2	3
Duration of toxicity studies, acute ,sub acute, chronic	5	2	3
Testing for acute and chronic toxicity	4	1	3
Selection of animal species and dose level	4	1	3

Principles of acute oral, skin, inhalation, tests.	5	2	3
Pathological techniques in toxicology	5	2	3
Hematology and clinical chemistry in toxicology studies	4	1	3
Antidotal studies	5	2	3
Evaluation of toxicity in human subjects	4	1	3
Ethics of animal research	4	1	3
Total	45	15	30
Credit	2	1	1

4. Teaching and Learning Methods:

- 4.1- Lectures
- 4.2- practical lessons
- 4.3-Assignment
- 4.4- attending and participating in scientific conferences work shops and discussion to acquire the general and transferable skills.

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4-OSPE	-Practical skills, intellectual skills
5.5 Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1: Final written exam...week (24)

Assessment 2: Final Structured Oral Exam ...week (24)

Weighting of Assessments

Final written exam	50%
Final Structured Oral Exam	50%
Total	100%

6. List of References

- 6.1- Course notes: Lectures notes prepared by the staff members of the department
- 6.2-Essential Books:
Principles of Clinical Toxicology by Gossel, T., and Bricker
- 6.3-Recommended Books:
General & Applied Toxicology by Macmillan (1994)
- 6.4 Periodicals and websites:

Forensic Science International, Egyptian Journals of Forensic Medicine and Clinical Toxicology, International Journals of Forensic Medicine and Clinical Toxicology www.sciencedirect.com

7. Facilities Required for Teaching and Learning

1. ADEQUATE INFRASTRUCTURE: including teaching places (teaching class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.
2. TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, colour and laser printers.
3. COMPUTER PROGRAM: for designing and evaluating MCQs

Course Coordinator: Dr. Esam Abd-Alla

Head of Department: Dr. Soheir Ali Mohamed

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specification of Gene Toxicity in Forensic Medicine & Clinical Toxicology

Sohag University

Faculty of Medicine

1. Program on which the course is given: MD degree in forensic medicine & clinical toxicology
2. Major or Minor element of program: Minor.
3. Department offering the program: Dept. of Forensic Medicine & Clinical Toxicology
4. Department offering the course: Dept. of Forensic Medicine & Clinical Toxicology
5. Academic year / Level; 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of Gene Toxicity in Forensic Medicine & Clinical Toxicology

Code: FOR:0509- 300

Title	Lectures	Practical	Total	Credit
Gene Toxicity	45	--	45	3

B. Professional Information

1. Overall Aims of Course

1. Provide basic knowledge of chromosomes and their constituents, genes and DNA.
2. Demonstration of knowledge of different types of chemicals and environmental agents that cause mutations and a number of cancers.
3. Understand how cells protect themselves from death and harmful exposure to genotoxic stress.

2. Intended Learning Outcomes of Course (ILOs)

a) Knowledge and Understanding:

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

- a1. Demonstrate recent advance of gene mutations and structural chromosomal aberrations.
- a2. Demonstrate the different genotoxic chemicals in the environment.
- a3. Demonstrate markers of genotoxic stress that place individuals at greater risk of developing cancer.
- a4. List the recent advance in data collection for vital statistics
- a5. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of gene toxicity..
- a6. Mention the principles and fundamentals of quality of professional practice in the field of gene toxicity.

b) Intellectual Skills

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

- b1. Interpret the features of different types of toxic chemicals in the environment for proper diagnosis of gene toxicity.
- b2. Analyze the environmental protection policies and public education programs which can lead to new forms of chemotherapy
- b3. Select from different diagnostic tools the one that can reach problem solving
- b4. Conduct research studies on gene toxicity that adds to knowledge..
- b5. Formulate scientific papers in the area of gene toxicity.
- b6. Plan to improve performance in the field of detection of genotoxic agents.
- b7. Manage scientific discussion administration based on scientific evidences and proofs
- b8. Criticize researches related to the field of gene toxicity.

c) Professional and Practical Skills

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

- c1. Master the basic and modern professional skills in the area of gene toxicity.
- c2. Write and evaluate standard medico-legal report about various classes of environmental agents that can damage the genetic material leading to mutations, cell death, or other forms of toxicity.
- c3. Evaluate and develop methods and tools existing in the area of detection of the genotoxic agents.
- c4. Perform tests showing the biochemical and cellular changes associated with toxicity.
- c5. Train junior staff through continuous medical education program.

d) General and Transferable Skills

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

- d1. Present report in accordance with the standard scientific guidelines in seminars or group meetings .
- d2. Manipulate computer programs, do web search, to write an essay about recent subjects of forensic medicine and toxicology .
- d3. Teach others and evaluate their performance.
- d4. Use of different sources for information and knowledge
- d5. Work coherently and successfully as a part of a team and team's leadership.
- d6. Manage scientific meetings according to the available time.
- d7. Assess himself and identify his personal needs.

3. Contents of the clinical toxicology course:

Topic	No. of hours	Lecture	Practical
Structure activity relationship	6	6	
Types of mutations: gene mutations, structural chromosomal aberrations, genome mutations	6	6	
Conversion of mutations to altered proteins	5	5	
DNA repair	5	5	
Mutagenicity tests	5	5	
The threshold level for mutagen city	6	6	
Carcinogenicity	6	6	
Teratogenicity	6	6	
Total	45	45	
Credit	3	3	

4. Teaching and Learning Methods:

4.1- Lectures

4.2-Assignment

4.4-3 Attending and participating in scientific conferences, work shops and discussion to aquire the general and transferable skills.

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.3-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.4 Computer search assignment	-General transferable skills, intellectual skills

Assessment Schedule

Assessment 1: Final written exam Week (24)

Assessment 2: Final Structured Oral Exam Week (24-26)

Weighting of Assessments

Final written exam	50%
Final Structured Oral Exam	50%
Total	100%

6. List of References

6.1- Course notes: Lectures notes prepared by the staff members of the department

6.2-Essential Books:

Principles of Clinical Toxicology by Gossel, T., and Bricker

6.3-Recommended Books:

General & Applied Toxicology by Macmillan

6.4 Periodicals and websites:

Forensic Science International, Egyptian Journals of Forensic Medicine and

Clinical Toxicology, International Journals of Forensic Medicine and Clinical

Toxicology www.sciencedirect.com

7. Facilities Required for Teaching and Learning

1. ADEQUATE INFRASTRUCTURE: including teaching places (teaching class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.
2. TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, colour and laser printers.
3. COMPUTER PROGRAM: for designing and evaluating MCQs

Course Coordinator: Dr. Esam Abd-Elaal

Head of Department: Dr. Soheir Ali Mohamed

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specification of Molecular Toxicity in Forensic Medicine & Clinical Toxicology

Sohag University

Faculty of Medicine

1. Program on which the course is given: MD degree in forensic medicine & clinical toxicology
2. Major or Minor element of program: Minor.
3. Department offering the program: Dept. of Forensic Medicine & Clinical Toxicology
4. Department offering the course: Dept. of Forensic Medicine & Clinical Toxicology
5. Academic year / Level; 1st part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of Molecular Toxicity in Forensic Medicine & Clinical Toxicology

Code: FOR:0509- 300

Title	Lectures	Practical	Total	Credit
Molecular Toxicity	45	-	45	3

B. Professional Information

1. Overall Aims of Course

1. Provide basic knowledge of cell injury & adaptation.
2. Demonstration of knowledge of mechanism of cell death; the roles of cell death & injury in the patho physiology of organ dysfunction.
3. Understand implications for prevention and therapy of multiple organ dysfunction syndromes.
4. Understand methods of determining mechanisms of cell necrosis and lipid peroxidation and how cells protect themselves from death and harmful exposure to cytotoxic stress.

2. Intended Learning Outcomes of Course (ILOs)

a) Knowledge and Understanding:

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

- a1. Describe recent advance in DNA repair.
- a2. Demonstrate knowledge of types of electrophilic structures.
- a3. Describe free radicals.
- a4. Demonstrate knowledge of reactive oxygen species.

- a5. Describe covalent binding and their toxic implications.
- a6. Describe principles of early screening techniques for cancer causing agents.
- a7. Know the recent advance in data collection for vital statistics
- a8. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of molecular toxicity.
- a9. Mention the principles and fundamentals of quality of professional practice in the field of molecular toxicity.

b) Intellectual Skills

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

- b1. Interpret the features of different types of toxic chemicals in the environment for proper diagnosis of molecular toxicity.
- b2. Analyze the environmental protection policies and public education programs which can lead to new forms of chemotherapy
- b3. Select from different diagnostic tool the one that can reach problem solving
- b4. Conduct research studies on molecular toxicity that adds to knowledge.
- b5. Formulate scientific papers in the area of molecular toxicity.
- b6. Plan to improve performance in the field of molecular toxicity.
- b7. Manage scientific discussion administration based on scientific evidences and proofs
- b8. Criticize researches related to the field of molecular toxicity.

c) Professional and Practical Skills

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

- c1. Master the basic and modern professional skills in the area of molecular toxicity.
- c2. Write and evaluate standard medico-legal report about various classes of environmental agents that can damage the genetic material leading to mutations, cell death, or other forms of toxicity.
- c3. Evaluate and develop methods and tools existing in the area of detection of the genotoxic agents..
- c4. Perform tests showing the biochemical and cellular changes associated with toxicity.
- c5. Train junior staff through continuous medical education program.

d) General and Transferable Skills

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

- d1. Present report about molecular toxicity in accordance with the standard scientific guidelines in seminars or group meetings.
- d2. Manipulate computer programs, do web search, to write an essay about recent subjects of molecular toxicity.
- d3. Teach others and evaluate their performance.
- d4. Assess himself and identify his personal needs.
- d5. Use of different sources for information and knowledge
- d6. Work coherently and successfully as a part of a team and team's leadership.
- d7. Manage scientific meetings according to the available time.

3. Contents of the clinical toxicology course:

Topic	No. of hours	Lecture	Practical
Mechanism of cell death	5	5	
Reactive intermediates: formation and detoxification	5	5	
Electrophilic structures	5	5	
Radicals	5	5	
reactive oxygen species	5	5	
Covalent binding and their toxic implications.	5	5	
Oxidative interactions; oxidative stress & lipid peroxidation.	5	5	
Establishment the level of cell necrosis.	5	5	
Covalent binding and lipid peroxidation	5	5	
Total	45	45	
Credit	3	3	

4. Teaching and Learning Methods:

4.1- Lectures

4.2- Assignment

4.3-Attending and participating in scientific conferences work shops and discussion to aquire the general and transferable skills.

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
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Assessment Schedule

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2. TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, colour and laser printers.

3. COMPUTER PROGRAM: for designing and evaluating MCQs

Course Coordinator: Dr. Esam Abd-Elaal

Head of Department: Dr. Soheir Ali Mohamed

Date: 18/12/2011, **Revised:**1/9/2012, **Revised:**1/12/2013, **Revised:**1/12/2018

Course Specification of Forensic Medicine & Clinical Toxicology in Forensic Medicine & Clinical Toxicology

Sohag University

Faculty of Medicine

Course Specifications

1. Program on which the course is given: MD degree in forensic medicine & clinical toxicology
2. Major or Minor element of program: major.
3. Department offering the program: Dept. of Forensic Medicine & Clinical Toxicology
4. Department offering the course: Dept. of Forensic Medicine & Clinical Toxicology
5. Academic year / Level; 2nd part
6. Date of specification approval: Faculty council No. "317", decree No. "1533" dated 17/12/2018

A. Basic Information

Title: Course Specification of Forensic Medicine & Clinical Toxicology in Forensic Medicine & Clinical Toxicology

Code: FOR:0509- 300

Title	Lectures	Practical	Clinical	Total	credit
Forensic Medicine	225	390	----	615	27
Clinical Toxicology	180	330	60	570	26

B. Professional Information

1. Overall Aims of Course

Forensic Medicine module

Provide basic knowledge of different types of injuries and how to diagnose death and differentiate between natural and criminal causes. . Also he/she can diagnose injuries and determine the percent of permanent infirmity accurately. The student should also be able to examine the scene of the crime and write a medicolegal report independently.

Clinical Toxicology module

1. Provide basic knowledge of different types of poisonous substances and drug.
2. Demonstration of knowledge of types, actions, clinical features, circumstances,
3. diagnosis, detection, and management of poisoning which operate on the human body
4. Demonstrate the criteria, clinical features, diagnosis and general management of
5. dependence producing substances and drugs

2. Intended Learning Outcomes of the Course (ILOs)

Forensic Medicine module

a) Knowledge and Understanding:

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

- a1. Mention types and recent procedure for forensic autopsy.
- a2. Describe how to examine the scene of death and diagnose death
- a3. Demonstrate the pathophysiology of death, postmortem changes, and decomposition
- a4. Demonstrate knowledge of abuse of human rights ; deaths in custody.
- a5. Explain the medico legal aspects of suffocation and asphyxia deaths.
- a6. Describe the medico legal aspect of deaths associated with surgical procedures.
- a7. Describe recent principles and medico legal aspects of personal identification of living and dead human bodies
- a8. Mention the recent advances in the pathology of wounds and different types of injuries in human body
- a9. Describe types of head and spinal injuries
- a10. Describe types of chest and abdominal injuries .
- a11. Enumerate self inflicted injury
- a12. Mention medicolegal aspects of firearm injuries and explosion deaths.
- a13. Demonstrate transportation injuries .
- a14. Explain the medicolegal aspects of neglect, starvation and hypothermia.
- a15. Mention medicolegal aspect of sexual crimes and child abuse.
- a16. Enumerate medicolegal aspects of pregnancy, delivery , abortion.
- a17. Mention medicolegal aspects of infanticide and sudden death in infancy.
- a18. Explain the medicolegal aspect of dysbarism and barotrauma..
- a19. Mention recent knowledge of forensic serology that deals with different body fluids
- a20. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of forensic medicine.
- a21. Mention the principles and fundamentals of quality of professional practice in the field of forensic medicine

b) Intellectual Skills

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

- b1. Interpret the features of the scene of the crime in the field of forensic medicine & clinical toxicology for proper diagnosis of forensic cases.
- b2. Select from different forensic diagnostic tool the one that can reach problem solving
- b3. Conduct research studies on recent subjects of forensic medicine that add to knowledge.
- b4. Formulate scientific papers in the area of forensic medicine.
- b5. Assess risk in professional practices in the field of forensic medicine.
- b6. Plan to improve performance in the field of forensic medicine .
- b7. Identify forensic problems and find solution
- b8. Have the ability to innovate
- b9. Manage scientific discussion administration based on scientific evidences and proofs
- b10. Criticize researches related to the field of forensic medicine .
- b11. Collect and verify data from different sources and interpret data to diagnose prevalent problems in the field of forensic medicine and clinical toxicology.

c) Professional and Practical Skills

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

- c1. Correlate between characters of different types of injury in museum
 - a. specimens and photographs to reach the proper diagnosis of forensic
 - b. cases.
- c2. Write and evaluate standard medico-legal report of injured person
- c3. Evaluate and develop methods and tools existing in the area of forensic medicine .
- c4. Perform tests showing the biochemical, cellular and serological changes associated with some injuries .
- c5. Train junior staff through continuous medical education program.
- c6. Design new methods, tools and ways of professional practice

d) General and Transferable Skills

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

- d1. Present report in accordance with the standard scientific guidelines in seminars or group meetings.
- d2. Manipulate computer programs, do web search, to write an essay about recent subjects of forensic medicine and toxicology.
- d3. Teach others and evaluate their performance.
- d4. Assess himself and identify his personal needs.
- d5. Use of different sources for information and knowledge
- d6. Work coherently and successfully as a part of a team and team's leadership to perform autopsy
- d7. Manage scientific meetings according to the available time.

Clinical Toxicology module

a) Knowledge and Understanding:

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

- a1. List the recent analytical and instrumental methods used in investigating crimes.
- a2. Describe principles of toxicology of different types of poisonous substances and drugs including classification, mechanism of action and clinical features of toxicity.
- a3. Mention designer drugs .
- a4. Describe poisonous anthropoids, mushrooms, poisonous plants and toxic marine life .
- a5. Mention natural hallucinogens .
- a6. Describe toxicity of centrally acting drugs .
- a7. Mention analgesics toxicity.
- a8. Demonstrate toxicity of muscle relaxants.
- a9. Demonstrate vitamins toxicity. a-
- a10. Demonstrate toxicity of heavy metals and inorganic agents
- a11. Describe pesticides poisoning
- a12. Describe corrosives poisoning .
- a13. Describe recent advance in examination the scene of death in cases of poisoning
- a14. List chemicals and drugs which induce organ toxicity.

- a15. Demonstrate recent advance in the criteria, clinical features, diagnosis and general management of dependence producing substances and drugs
- a16. Describe principles of pediatric resuscitation in cases of toxicity.
- a17. Describe principles of management of overdose in pregnancy
- a18. Mention recent advance in antidotal studies and evaluation of toxicity in human subjects.
- a19. Mention the principles and fundamentals of ethics and legal aspects of professional practice in the field of clinical toxicology.
- a20. Mention the principles and fundamentals of quality of professional practice in the field of clinical toxicology

b) Intellectual Skills

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

- b1. Interpret the features of the scene of the crime in the field of clinical toxicology for proper diagnosis of toxicology cases
- b2. Select from different diagnostic toxicological tool the one that can reach problem solving
- b3. Conduct research studies on recent subject of toxicology that adds to knowledge.
- b4. Formulate scientific papers in the area of clinical toxicology
- b5. Assess risk in professional practices in the field of clinical toxicology.
- b6. Plan to improve performance in the field of clinical toxicology.
- b7. Identify of clinical toxicology problems and find solution
- b8. Have the ability to innovate
- b9. Manage scientific discussion administration based on scientific evidences and proofs
- b10. Criticize researches related to the field of clinical toxicology
- b11. Collect and verify data from different sources and interpret data to diagnose prevalent problems in the field of forensic medicine and clinical toxicology.

c) Professional and Practical Skills

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

- c1. Describe the basic and modern professional skills in the area of clinical toxicology
- c2. Write and evaluate standard medico-legal report of intoxicated person
- c3. Evaluate and develop methods and tools existing in the area of clinical toxicology.
- c4. Perform tests showing the biochemical, cellular and serological changes associated with toxicity.
- c5. Train junior staff through continuous medical education program.
- c6. Design new methods, tools and ways of professional practice

d) General and Transferable Skills

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

- d1. Present report in accordance with the standard scientific guidelines in seminars or group meetings .

- d2. Manipulate computer programs, do web search, to write an essay about recent subjects of forensic medicine and toxicology .
- d3. Teach others and evaluate their performance.
- d4. Assess himself and identify his personal needs.
- d5. Use of different sources for information and knowledge
- d6. Work coherently and successfully as a part of a team and team's leadership to perform laboratory tests.
- d7. Manage scientific meetings according to the available time.

3. Contents of the course:
Forensic Medicine module

Topic	No. of hours	Lecture	Practical
Types of autopsy and procedure for forensic autopsy	30	10	20
Examination the scene of death	25	5	20
Post mortem artifact	15	5	10
The pathophysiology of death,	15	5	10
The pathology of sudden death	30	10	20
The obscure death	30	10	20
The medicolegal aspects of personal identification	30	10	20
The pathology of wounds, chest and abdominal injuries, self inflicted injury, head and spinal injuries and how to write a medicolegal report	30	10	20
The medicolegal aspects of firearm injuries and explosion deaths	25	10	15
The systemic effect of trauma	20	10	10
Transportation injuries	15	5	10
Abuse of human rights: deaths in custody	30	10	20
Burn and scold	30	10	20
Electrical fatalities	20	10	10
The medicolegal aspects of suffocation and asphyxia	35	10	25
Fatal pressure on the neck	20	10	20
Immersion deaths	30	10	20
The medicolegal aspects of neglect, starvation and hypothermia	20	10	10
The medicolegal aspects of pregnancy, delivery	20	10	10
The medicolegal aspects of abortion	20	10	10
The medicolegal aspects of infanticide and sudden death in infancy	20	10	10
The medicolegal aspect of sexual crimes	15	5	10
The medicolegal aspect of child abuse	15	5	10
The medicolegal aspect of deaths associated with anaesthesia & surgical procedures	15	5	10

Forensic serology including: examination of blood, semen, saliva and other body fluids	20	10	10
The medicolegal aspect of dysbarism and barotrauma	15	5	10
Forensic Psychiatry	15	5	10
Total	615	225	390
Credit	28	15	13

Clinical Toxicology module

Topic	No. of hours	Lecture	Practical	Clinical
The emergency management of poisoning	41	6	25	10
Active methods for detoxification	29	4	25	
Pediatric resuscitation and fluid management	30	5	25	
Management of overdose in pregnancy	35	5	25	5
Management of respiratory complications in poisoned patient	35	5	30	
Laboratory diagnosis and drug screening	26	6	20	
Toxin induced cardiovascular syndrome	11	6	5	
Clinical neurotoxicology	11	6	5	
Chemical hepatic injury and renal toxicity	16	6	10	
Hematologic consequences of poisoning	20	5	10	5
Toxic injury of the eye	16	6	5	5
Endocrine agent toxicity	11	6	5	
Geriatric toxicology	11	6	5	
Disaster management of massive toxic exposure	16	6	10	
Poisonous arthropods, mushrooms, poisonous plants, toxic marine life, botulism and food poisoning	31	6	25	

Designer drugs	11	6	5	
Drug dependence	11	6	5	
Natural hallucinogens	16	6	10	
Toxicity of centrally active drugs as: sedatives, tricyclic antidepressants, benzodiazepines, antipsychotic drugs, anticonvulsants and antihistamines	26	6	10	10
Analgesics : acetaminophen salicylate, non steroidal anti-inflammatory drug toxicity	21	6	10	5
Toxicity of muscle relaxants	11	6	5	
Toxicity of vitamins	11	6	5	
Toxicity of heavy metals and inorganic agents	21	6	10	5
Pesticides poisoning	21	6	10	5
Inhalation poisoning, volatiles and solvents	11	6	5	
Corrosives : acids and alkali injury, bleach, soap and detergents	16	6	5	5
Cosmetics, toilet articles, baby powder, and camphor	11	6	5	
Radiation toxicology	11	6	5	
Toxicology of food and food additives	16	6	5	5
Toxicology of chemical warfare agent.	11	6	5	
Ethical, moral and professional issues in toxicology	6	6	-	
Total	570	180	330	60
Credit	25	12	11	2

4. Teaching and Learning Methods:

4.1- Lectures

4.2- practical lessons with demonstration of specimens of bone, jars, photo, x rays poisonous plants and seeds in department museums, and laboratories

4.3-Assignment

4.4- attending and participating in scientific conferences workshops and discussion to acquire the general and transferable skills.

4.5 Field training

5. Student Assessment Methods

Method of assessment	The assessed ILOs
5.1- Observation of attendance and absenteeism.	- General transferable skills, intellectual skills
5.2- Log book	- General transferable skills
5.3-Written Exam: -Short essay: 40% -structured questions: 25% -MCQs: 20% -Commentary, Problem solving: 15%	- Knowledge - Knowledge - Knowledge, intellectual skills - Intellectual skills, General transferable skills,
5.4-Structured Oral Exam	- Knowledge, Intellectual skills, General transferable skills
5.5-OSPE	-Practical skills, intellectual skills
5.6 Computer search assignment	-General transferable skills, intellectual skills

Assessments schedule:

Assessment 1.... log book (formative exam)	Week: 80
Assessment 2.... Final written exam	Week: 96
Assessment 3.....Final OSPE	Week: 96
Assessment 4 ... Final Structured Oral Exam	Week: 96

Weighting of Assessments

Final Written Examination.	Separate exam.
Passing in the written exam is a condition to attend the following exams:	
Structured Oral Exam.	50 %
OSPE	50 %
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Total	100%

6. List of References

Forensic Medicine module

6.1- Course notes: Lectures notes prepared by the staff members of the department

6.2-Essential Books:

- Simpson's Forensic Medicine by Knight, B(1996)
- Medical ethics. by Jones & Barlett

6.3-Recommended Books:

6.4-Periodicals and websites:

Forensic Science International, Egyptian Journals of Forensic Medicine and Clinical Toxicology, International Journals of Forensic Medicine and Clinical Toxicology www.sciencedirect.com

Clinical Toxicology module

6.1- Course notes: Lectures notes prepared by the staff members of the department

6.2-Essential Books:

Principles of Clinical Toxicology by Gossel, T., and Bricker Toxicologic emergencies.

6.3-Recommended Books:

General & Applied Toxicology by Macmillan
Clinical managements of poisoning and drug overdose. By Hddad

6.4 Periodicals and websites:

Forensic Science International, Egyptian Journals of Forensic Medicine and Clinical Toxicology, International Journals of Forensic Medicine and Clinical Toxicology www.sciencedirect.com

7. - Facilities Required for Teaching and Learning

1. ADEQUATE INFRASTRUCTURE: including teaching places (teaching clinical class, teaching halls, teaching laboratory), comfortable desks, good source of aeration, bathrooms, good illumination, and safety & security tools.
2. TEACHING TOOLS: including screens, computers including cd (rw), data shows, projectors, flip charts, white boards, video player, digital video camera, scanner, copier, colour and laser printers.
3. COMPUTER PROGRAM: for designing and evaluating MCQs

Course Coordinator: Dr. Esam Abd-Elaal

Head of Department: Dr. Soheir Ali Mohamed

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