



A- COURSE TITLE, CODE, ACADEMIC YEAR:

Forensic Medicine and Toxicology (MLT 438), 1437/1438H

B- COURSE INFORMATION:

Course Code	Course Title	Credit Units			Study Level	Pre-requisites
		Total	Theory	Practical		
(MLT 438)	Forensic Medicine and Toxicology	2	2	0	8 th	PHT-413
Course Coordinator		Extension		Email Address		
Dr. Naser Rezk		3617		arezk@taibahu.edu.sa		

C- COURSE DESCRIPTION:

Brief description of knowledge, skills and activities to be achieved

1. Developing a working knowledge of the principles of toxicology.
2. Highlighting the clinically relevant topics and to explain difficult points: students are advised to:-
 - i. Understand the course objectives in general and every specific topic in particular.
 - ii. Read the topic from a given teaching materials and recommended textbook.
 - iii. Pay attention during the lecture; write down your notes and, questions.
 - iv. Make a summary; utilize self-testing in order to assess your grasping of the subject if it is possible to study the lecture in the same day, which is highly recommended.
3. Learning about clinical laboratory work in toxicology with strong ethical and professional values, to meet the needs of area employers.

The course provides a framework of activities that will introduce the major topics of managing toxicology laboratory for the clinical laboratory scientist level. Source of information readings, supplemental readings, and class discussions will convey the main body of knowledge and used to stimulate the desired level of critical thinking.

D- COURSE OBJECTIVES:

Toxicology is the study of adverse effects of chemical substances on living organisms and their environment. It also studies the harmful effects of drugs, chemicals, biological and physical agents in biological systems that are causing damage in living organisms. Toxicology requires interactions between biology, chemistry, medicine, veterinary medicine, pharmacy and environmental science. However, this "Forensic Medicine and Toxicology" course designed to educate MLT students about the field of clinical toxicology and forensic medicine. The design, implementation, and operation of laboratory applications for the analysis (detection and measuring) of different type's toxic materials and poisons are the main goals.

Summary of the knowledge or skill the course intended to develop; upon successful completion of this course, the student should be able to:

1. Demonstrated knowledge of toxicology



2. Analyze and interpret experimental findings in Toxicology
3. Identify drugs or drug classes that have harmful interactions
4. Know the basic medical concepts of death
5. Know the pharmacological changes associated with the toxicants

Consolidate accurate, skilled clinical toxicology laboratory workers with strong ethical and professional values, to meet the needs of employers.

E- THEORY TOPICS:

Week	Theory Topic	Contact Hours
1	Introduction to Forensic Medicine and Toxicology	2
2	Toxicants classification	2
3	Acid and base toxicity	2
4	Heavy metals	2
5	Pesticides	2
6	Toxic chemicals	2
7	Asphyxiates	2
8	Environmental pollutants	2
9	Addiction and drug dependence	2
10	CNS Stimulants 1	2
11	CNS Stimulants 2	2
12	Toxicology and forensic drug analysis	2
13	Forensic medicine	2
14	Toxicology review	2
15	Revision	2

F- ASSESSMENT TASKS:

#	Type of assessment task	Week	Total Grades
1	Assignments or Case Studies	Weeks 1-16	10%
2	Midterm examination (written)	Week 8	20%
3	Other Assessment Methods: e.g. Quizzes, Internet searches, Home works, Class activity, Exercises, Scratch Cards, Presentations, Group work etc	Weeks 1-14	30%
4	Final written examination	Week 17-16	40%



H- LEARNING RESOURCES:

1- Required textbook:

- 1) Carl Burits, 2007, Tietz fundamentals of clinical chemistry, 6th edition, NY, Elsevier.
- 2) Knight B, Sauko P, Knights A.2010. Forensic pathology, Arnold press.
- 3) Shepherd and Simpson 2009. Forensic medicine, Arnold press.
- 4) Clinical Toxicology 1st ed; Marsha D. Ford, Kathleen A. Delaney, Louis T. Ling; Saunderson Company 2009

2- Essential references:

- 1) Clinical Toxicology 1st ed; Marsha D. Ford, Kathleen A. Delaney, Louis T. Ling; Saunderson Company 2009
- 2) American Society of Clinical Chemistry (ASCC)
- 3) Clinical Laboratory Improvement Amendments (CLIA)
- 4) Accreditation agency for clinical laboratory (CAP)

Notes:

- Assignments topics and requirements shall be announced by the end of Week-1, the deadline for submission is 12pm Thursday of Week-10 (each semester).
- Assignments and written assessment tasks must be verified against plagiarism, the maximum acceptable percentage is determined by the department (according to each level).
- Continuous assessments may include quizzes, internet searches, home-works, exercises, class activity, scratch cards, presentations, group work, etc.
- Practical exams may contain hands-on experiments, laboratory work, simulations, or demonstrations.
- Written exams will include multiple-choice questions (MCQ), short essay questions, and long essay questions.