Course Description Form

1. Course Name:
Clinical Toxicology (Theoretical+ Practical)
2. Course Code:
Phpht 25_514--
3. Semester / Year:
First semester-2025/2026
4. Description Preparation Date:
01/09/2025
5. Available Attendance Forms:
Excel sheets
6. Number of Credit Hours (Total) / Number of Units (Total)
2 hours Theoretical + 1 hours Practical (36 hour/3 units)
7. Course administrator's name (mention all, if more than one name)
Theoretical
Name: Asst. Prof. Dr. Ammar A. Younis Email: ammara@uomosul.edu.iq Name: Asst. Prof. Dr. Zena Sattam Hamed Email: zenasattam@uomosul.edu.iq Name: Lecturer. Dr. Mohammed Nathem Mohammed Ali Email: mohammedpharma79@uomosul.edu.iq Name: Lecturer. Dr. Sarraa Dhiaa Kasim Email: phsarraakasim82@uomosul.edu.iq Name: Lecturer. Eman Abdullah sulaiman Email: eman.sulaiman2@uomosul.edu.iq Name: Dr. Marwan M. merkhan Email: marwanmerkhan@uomosul.edu.iq
Practical
Name: Assistant Professor Dr. Fawaz A. Alassaf Email: Fawaz.Alassaf@uomosul.edu.iq Name: Assistant Professor Zena Sattam Hamed Email: zenasattam@uomosul.edu.iq Name: Lecturer. Dr. Sarraa Dhiaa Kasim Email: phsarraakasim82@uomosul.edu.iq Name: Lecturer. Eman Abdullah sulaiman Email: eman.sulaiman2@uomosul.edu.iq

Name: Assistant Lecturer .Shahad Salah Mohammed Ali
Email: ph.shahad.salah@uomosul.edu.iq
Name: Assistant Lecturer. Shahad Mohsin Khaleel
Email: shahadmohsin@uomosul.edu.iq

8. Course Objectives

Course Objectives	• Preparing the student to understand the basic principles of initial assessment and emergency management procedures for patients with acute poisoning, with a focus on supporting vital functions and preventing toxin absorption. • Introducing the student to common toxins in over-the-counter drugs such as caffeine, theophylline, antihistamines and decongestants, non-steroidal anti-inflammatory drugs (NSAIDs), paracetamol, and salicylates, including their mechanisms of toxicity and therapeutic management. • Familiarizing the student with toxicity resulting from prescription medications such as cardiac drugs, antidiabetic agents, and drugs affecting the central nervous system. • Understanding the effects of stimulant and narcotic substances such as opioids, cocaine, phencyclidine (PCP), marijuana, and lysergic acid (LSD), with discussion of their therapeutic and addictive aspects. • Highlighting chemical and environmental toxins such as hydrocarbons, household poisons (disinfectants, antiseptics, camphor, moth repellents), along with their mechanisms of toxicity, prevention, and intervention. • Clarifying the risks of toxic herbal and plant preparations, as well as poisonous plants and toxic mushrooms, with study of related clinical cases.

9. Teaching and Learning Strategies

Strategy	• Lectures and Interactive Presentations • Case-Based Learning • Interactive Workshops and Seminars • Self-Directed Learning and Research Projects • Assessment Strategies

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	2	**A1**: To explain the steps of initial assessment (Airway, Breathing, Circulation) for the poisoned patient. **B1**: To analyze clinical information and initial investigations in order to determine the severity of poisoning.	Initial evaluation and management of the poisoned patient.	• Interactive lectures • Dialogue and discussion • Self-learning	Quizzes and Exams
2	2+1	**A1**: To explain the pharmacological properties of caffeine and theophylline and their mechanisms of action on the nervous system and the heart. **A2**: To describe the pharmacological effects of antihistamines and decongestants. **B1**: To differentiate between the clinical manifestations of caffeine/theophylline poisoning and antihistamine/decongestant poisoning. **A1**: To explain the basic principles of laboratory investigations in toxicology.	Over the counter: caffeine, theophylline; Antihistamine and decongestant Laboratory principles or toxicological screening	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration.	Quizzes and Exams
3	2+1	**A1**: To explain the pathophysiological mechanism of paracetamol toxicity. **A2**: To list the clinical signs of salicylate poisoning. **A1**: To describe the role of laboratory investigations. **B1**: To compare the manifestations of paracetamol poisoning	Acetaminophen, Salicylates Cases on Acetaminophen; Salicylates, evaluation of urine salicylates.	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration.	Quizzes and Exams

		with those of salicylate poisoning.			
4	2+1	**A1**: To explain the mechanism of action of non-steroidal anti-inflammatory drugs (NSAIDs) and their effects on prostaglandins. **A2**: To describe the toxicity of fat-soluble vitamins versus water-soluble vitamins. **B1**: To analyze the clinical and laboratory findings of NSAID poisoning, such as anemia and renal failure. **B1**: To correlate urinary analysis results with the clinical manifestations of toxic cases.	Non-steroidal anti-inflammatory drugs, Vitamins Urine analysis of toxins and chemicals	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration.	Quizzes and Exams
5	2+1	**A1**: To explain the mechanism of toxicity resulting from beta-blocker overdose. **A2**: To list the clinical signs and symptoms of beta-blocker poisoning. **B1**: To analyze the clinical and laboratory findings in poisoning cases. **C1**: To participate in discussing a treatment plan for real or simulated clinical cases.	Toxicity of prescription medications: Cardiovascular drugs; Beta blockers Cardiac glycosides toxicity: Digitalis	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration.	Quizzes and Exams
6	2+1	**A1**: To explain the mechanism of toxicity for each category. **B1**: To analyze electrocardiograms (ECGs) and laboratory findings. **B1**: To analyze clinical cases related to the ingestion of toxic foods or supplements.	Calcium channel blocker, ACE inhibitors Cases on toxicity with foods and dietary supplements	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration.	Quizzes and Exams

7	2+1	**A1**: To explain the toxic effects of each class of antiarrhythmic drugs. **B1**: To analyze electrocardiograms (ECGs) to identify arrhythmias resulting from antiarrhythmic drug poisoning. **C1**: To apply therapeutic interventions in cases of antiarrhythmic drug poisoning. **B1**: To analyze laboratory reports related to toxin detection.	Antiarrhythmic agents Identification of some common poisons in biological samples.	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration.	Quizzes and Exams
8	Mid-term exam				
9	2+1	**A1**: To list the clinical signs and symptoms of poisoning. **B1**: To compare the toxicity of insulin and oral antidiabetic drugs in terms of onset and duration of symptoms. **B1**: To differentiate between acute and chronic poisoning with anti-Parkinsonian drugs.	Hypoglycemic drugs Evaluation of cases of toxicity with anti-parkinsonian	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration	Quizzes and Exams
10	2+1	**A1**: To explain the mechanism of toxicity of tricyclic antidepressants (TCAs) and anticholinergic phenothiazines. **B1**: To compare the manifestations of TCA and phenothiazine poisoning in terms of the severity of cardiac and neurological complications. **A1**: To explain the basic principles of assessing drug toxicity in humans.	CNS depressants; tricyclic antidepressants; anti-cholinergic phenothiazines. Evaluation of drug toxicity on human	• Interactive lectures • Dialogue and discussion • Self-learning Laboratory demonstration	Quizzes and Exams

11	2	**A1**: To explain the mechanism of action of central nervous system stimulants such as cocaine, amphetamines, and methamphetamines, and their effects on the nervous and cardiovascular systems. **A2**: To clarify the mechanisms of toxicity. **A3**: To list the clinical signs and symptoms of poisoning. **B1**: To analyze vital signs and laboratory findings associated with poisoning. **C1**: To apply emergency life-support procedures.	CNS stimulant	• Interactive lectures • Dialogue and discussion • Self-learning	Quizzes and Exams
12	2	**A1**: To explain the mechanism of action of each drug and their effects on the central nervous system and cardiovascular system. **A2**: To describe the mechanisms of toxicity for each substance. **C1**: To apply emergency interventions and supportive measures in cases of overdose or toxicity.	Drug of Abuse: Opioids; cocaine; phencyclidine; marijuana; lysergic acid	• Interactive lectures • Dialogue and discussion • Self-learning	Quizzes and Exams
13	2	**A1**: To explain the nature of common chemical and environmental toxins, and their sources at home and in industry. **B1**: To compare the toxicity of household and industrial chemicals in terms of hazard and mechanism. **C1**: To implement procedures to reduce absorption: skin washing, gastric lavage, activated charcoal.	Chemical and Environmental toxins: hydrocarbons; household toxins; antiseptic; disinfectants; camphor; moth repellents	• Interactive lectures • Dialogue and discussion • Self-learning	Quizzes and Exams

14	2	**A1**: To explain the common types of plant toxins and herbal preparations used medically and commonly in the community. **A2**: To clarify the mechanisms of toxicity of poisonous plants and toxic mushrooms, and the relationship between dose and effect. **A3**: To understand the mechanism of action of drugs in this group. **B1**: To analyze drug interactions and side effects.	Botanicals and plants- derived toxins: herbal preparation; toxic plants; poisonous mushrooms	• Interactive lectures • Dialogue and discussion • Self-learning	Quizzes and Exams
15	Students' seminars				

11. Course Evaluation	
Evaluation Breakdown for a Total Score of 100: • 20M Theoretical assessment ; (paper-based mid-term exam) • 20M practical assessment (attendance + quiz) • 60M paper-based theoretical final exam _____ Total 100 M	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if a	• Gossel TA, Bricker JD, (Eds.); Principles of Clinical Toxicology; 3th edition. (2001) • Viccellio P, (Ed.); Handbook of Medicinal Toxicology; latest edition
Main references (sources)	Goldfrank's toxicologic mergencies; Eleventh Edition
Recommended books and references (scientific journals, reports...)	Lippincott's Manual of T oxicology by Lippincott Williams and Wilkins, Wolters Kluwer. 2012
Electronic References, Websites	○ PubMed (https://pubmed.ncbi.nlm.nih.gov/) ○ Medscape (https://www.medscape.com/) ○ UpToDate (https://www.uptodate.com/)