جمهورية مصر العربية

وزارة التعليم العالي

الوزير

قرار وزاري

رقم (١٨٦٨) بتاريخ ٩ / ٦ /٢٠٢٢

بشأن تعديل اللائحة الداخلية لكلية الطب جامعة المنصورة
(مرحلة الدراسات العليا) بنظام الساعات المعتمدة

وزير التعليم العالي والبحث العلمي ورئيس المجلس الأعلى للجامعات

** بعد الاطلاع على القانون رقم ٤٩ لسنة ١٩٧٢ في شأن تنظيم الجامعات والقوانين المعدلة له.

** وعلى قرار رئيس الجمهورية رقم ٨٠٩ لسنة ١٩٧٥ بإصدار اللائحة التنفيذية لقانون تنظيم الجامعات والقرارات المعدلة له.

** وعلى القرار الوزاري (٧٣٥) بتاريخ ٢٠٢٢/٣/٢ بشأن إصدار اللائحة الداخلية لكلية الطب جامعة المنصورة (مرحلة الدراسات العليا) بنظام الساعات المعتمدة.

** وعلى موافقة مجلس جامعة المنصورة بجلستيه بتاريخ ٢٠٢٠/٧/٢٧

** وعلى موافقة لجنة قطاع الدراسات الطبية بجلستها بتاريخ ٢٠٢٢/٢/٢٢

** وعلى موافقة المجلس الأعلى للجامعات بجلسته بتاريخ ٢٠٢٢/٥/٢٨

قرر

(المادة الأولى)

يضاف مادة جديدة تحت رقم (٣ مكرر) إلي اللائحة الداخلية لكلية الطب جامعة المنصورة مرحلة الدراسات العليا (بنظام الساعات المعتمدة) الصادرة بالقرار الوزاري رقم (٧٣٥) بتاريخ ٢٠٢٢/٣/٢ علي النحو التالي:

مادة (٣ مكرر) الدبلومات المهنية

تمنح جامعة المنصورة بناء علي طلب كلية الطب البشري الدبلومات المهنية الأتية:-

١- .....

٢- .....

١٠- كيمياء الطب الشرعي وعلم السموم التحليلي (برنامج نوعي)

(المادة الثانية)

يلحق باللائحة الداخلية المشار إليها بعالية الخطة الدراسية والإمتحانية المرفقة والخاصة بالدبلومه المهنية في كيمياء الطب الشرعي وعلم السموم التحليلية بقسم الطب الشرعي والسموم الإكلينيكية.

(المادة الثالثة)

على جميع الجهات المختصة تنفيذ هذا القرار.

وزير التعليم العالي والبحث العلمي
ورئيس المجلس الأعلى للجامعات

(أ.د/ خالد عبد الغفار)

لائحة الدبلومة المهنية في الكيمياء الطبية الشرعية وعلم السموم التحليلي

Forensic Chemistry and Analytical Toxicology professional diploma FCATD400

القسم المانح للدرجة: الطب الشرعي والسموم الإكلينيكية

المقررات الدراسية وتوزيع الساعات المعتمدة

	المقرر	Course	الكود	الساعات المعتمدة	
				المقرر	الإجمالي
الفصل الدراسي الأول		Foundation in forensic chemistry and analytical toxicology	FCATD400F	٢	١٠
		Forensic chemistry and analytical toxicology 1	FCATD400P1	٨	
الفصل الدراسي الثاني		Forensic chemistry and analytical toxicology 2	FCATD400P2	١٠	١٤
		Quality assurance in medical laboratory.	FCATD400QAML	٤	
كراسة الأنشطة	أنشطة علمية تشمل تدريب عملي وورش عمل	**Logbook activities including practical training, assignments and workshops**	FCATD 400Pr		
	إجمالي الساعات المعتمدة				٢٤

نظام الامتحان وتوزيع الدرجات :) شهادة الدبلومة المهنية في الكيمياء الطبية الشرعية وعلم السموم التحليلي

امتحان السيمستر الأول

المقرر	الاختبار	الدرجة			إجمالى
		تحريري	شفوي	عملي	
أسس الكيمياء الطبية الشرعية وعلم السموم التحليلي	اختبار تحريري مدته ساعة ونصف ورقة اولي	٥٠			٥٠
الكيمياء الطبية الشرعيةوعلم السموم التحليلي جزء ١	اختبار تحريري مدته ساعة ونصف ورقة تانية + إختبار شفوي+إختبار عملي	٥٠	٢٠	٣٠	١٠٠
إجمالي الدرجة					١٥٠

إمتحان السيمستر الثاني

المقرر		الاختبار			إجمالي
		تحريري	شفوى	عملي	
الكيمياء الطبية الشرعيةوعلم السموم التحليلي جزء ٢	اختبار تحريري ورقة أولي مدته مدته ساعة ونصف + احتبار شفوى + اختبار عملي.	٥٠	٢٠	٣٠	١٠٠
ضمان الجودة في المختبرات الطبية	اختبار تحريري ورقة ثانية مدته مدته ساعة ونصف + احتبار شفوى + اختبار عملي.	٣٠		٢٠	٥٠
		إجمالي الدرجة			١٥٠

ملحوظة:الدرجة الكلية للدبلومة ٣٠٠ درجة

<u>قائمة بمن لهم الحق بالالتحاق بالدبومة المهنية:</u>

١- الحاصلون علي بكالوريوس كليات الطب والصيدلة وطب أسنان والعلوم والطب البيطري .

٢. خطاب قبول جهة العمل.

رئيس قسم الطب الشرعي والسموم الإكلينيكية

أ.د.أمال عبدالسلام البقري

PROGRAMME SPECIFICATION

Professional Diploma of Forensic Chemistry and Analytical Toxicology

الدبلوم المهني في كيمياء الطب الشرعي وعلم السموم التحليلي

Faculty of Medicine- Mansoura University

(A) Administrative information

1) Programme Title & Code	Forensic Chemistry and analytical toxicology diploma (FCAT D400)
2) Final degree	Diploma
(3) Department (s)	Forensic Chemistry and Analytical toxicology
(4) Director	Prof. Dr.Sahar Abdelaziz Eldakroory
(5) Date of approval by the Department`s council	تاريخ مجلس القسم ٢٠٢٠/٥/٣ 3/5/2020
(6) Date of last approval of programme specification by Faculty council.	

B- Professional Information:

1- Program Aims:

The broad aims of the programme are as follows:

1. To give our candidate knowledge and competencies related to selecting the proper sample type for toxicological analysis in different medicolegal conditions in both antemortem and postmortem cases
2. To give our candidate knowledge, competencies and skills related to selecting and performing appropriate analytical test using the most suitable instrumental technique with appropriate interpretation and reporting of the test result.
3. To give our candidate knowledge, competencies and skills related to following the good laboratory practice guidelines to ensure physician and patient safety and accuracy of test results.
4. To give our candidate knowledge, competencies and skills related to legal procedures and ethics in practicing forensic toxicological analysis.

2-Intended Learning Outcomes (ILOs) for Program

a- Knowledge and Understanding:

At the end of the program the student should be able to:

A1. Describe toxicokinetic of different drugs and toxins with appropriate sample collection either in antemortem or postmortem cases

A2 Identify toxins of importance in different medicolegal cases as driving, sexual assaults and sports

A3. Describe the principle of different instrumental techniques used in forensic toxicology laboratory.

A4. Describe the methodology for detection of different toxins using suitable instrumental technique

A5 Illustrate the principles of quality management in medical laboratories for ensuring accurate test results, patient and workers safety

b- Intellectual skills

At the end of the program the student should be able to:

B1 Select the most suitable sample for toxicological analysis based on the medicolegal situation of cases and the interval between the exposure and sample collection.

B2 Suspect and screen the appropriate drugs in different medicolegal conditions based on available data from history, examinations, and investigations in antemortem cases and history and autopsy findings in postmortem cases

B3 Select appropriate analytical technique either preliminary or confirmatory methods for presented cases in different medicolegal situations.

B4. Interpret laboratory results professionally based on available data

B5- Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).

B6 – Apply risk assessment in professional practice

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c- Professional and practical skills

At the end of the Program the student should be able to:

C1- Perform analysis for different specimens (e.g. urine, blood, hair, gastric content) using appropriate preliminary (immunoassay, color tests) and confirmatory (e,g, chromatography, spectrophotometry) tests methods in forensic toxicology practice for analysis of different types of drugs and toxins and report results appropriately

C2- Apply good Laboratory practice to ensure both patient and physician safety and accurate test result.

C3 Apply both managerial and technical procedures appropriately to fulfill the requirements of quality standards in medical laboratories

C4 Apply guidelines on handling cases presented for forensic toxicology analysis from sample collection passing through performing analysis, enduring quality of examination results till reporting and delivering the report

D- General and Transferable skills

At the end of the Program the students should be able to:

D1 Demonstrate compassion, integrity, and respect for all human rights and treat all subjects equally regardless to their believes, culture and behavior.

D2: Communicate effectively with patients, families, and the public.

D3: Communicate effectively with physicians, other health professionals, and health related agencies.

D4. Apply safety and infection control measures during practice.

D5: Maintain comprehensive, timely, and legible medical records, if applicable

D6: Conduct an effective lecture, presentation, case management according to the known standards and time schedule and participate in CME program and perform self-appraisal.

3-Academic Standards:

Academic Reference Standards for forensic and analytical toxicology Diploma Degree of Mansoura faculty of Medicine were compiled according to the National Academic Reference Standards (NARS) provided by the national authority for quality assurance and accreditation of education (NAQAAE) for postgraduate programs(published on February 2009). This program ARS were approved by the faculty council on / /2020.

4-Curriculum Structure and Contents

4.a- Duration of the programme: 2 semesters

4.b- programme structure:

1- The programme consists of two semesters;

Semester 1: composed of two courses:

1) Foundation in forensic chemistry and analytical toxicology
2) Forensic chemistry and analytical toxicology 1.

Semester II composed of two mandatory courses:

1) Forensic chemistry and analytical toxicology 2
2) Quality assurance in medical laboratories.

2- Candidates should fulfill a total of **24 credit hours.**

4.c.: Number of credit hours (minimum):

Semester I: 10 credit hours (105 theoretical and 90 practical).

Semester II: 14 credit hours (135 theoretical and 150 practical).

Programme courses:

	Duration	Courses	Course code	Credit hours		Total teaching hours	
				Theoretical	Practical	Theoretical	Practical
1st Semester	6 months	Foundation in forensic chemistry and analytical toxicology		2	-	30	-
		Forensic chemistry and analytical toxicology 1		5	3	75	90
2nd Semester	6 months	Forensic chemistry and analytical toxicology 2		7	3	105	90
		Quality assurance in medical laboratories.		2	2	30	60
Total	12 months			16	8	240	240

6-Program admission requirements

- Bachelor of medicine and surgery, dentistry, science, veterinary medicine, pharmacy with at least good level.
- Acceptance letter of site of work.

7- Regulations for progression and Program completion

-Student must complete minimum of 24 credit hours in order to obtain the diploma degree, which include the courses and activities of the log book.

-log book: this book will contain all the activity that will be done through the program and the practical training which will be conducted through the courses. The candidate will not be allowed to apply to the exam of the diploma unless completing 75% of log book activities.

Final exam:

	Courses	Exams	Exam marks			Total marks
			Written and MCQ	OSPE	Structured oral exam	
1st Semester	Foundation in forensic chemistry and analytical toxicology	**Witten and MCQ exams**	50			50
	Forensic chemistry and analytical toxicology 1	**Written and MCQ exams, OSPE, oral**	50	30	20	100
2nd Semester	Forensic chemistry and analytical toxicology 2	**Written and MCQ exams, OSPE, oral**	50	30	20	100
	Quality assurance in medical laboratories.	**Written and MCQ exams, OSPE**	30	20		50
Total	300 mark					

(6) Evaluation of Programme's intended learning outcomes (ILOs):

Evaluator	Tools*
Internal evaluator **(s)**	**Focus group discussion Meetings**
External Evaluator **(s)**	**Reviewing according to external evaluator checklist report.**
Senior student **(s)**	**None**
Alumni	**None**
Stakeholder **(s)**	**None**
Others	**None**

* TOOLS= QUESTIONNAIRE, INTERVIEW, WORKSHOP, COMMUNICATION, E_MAIL

Programme-Courses ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2……etc), then the course titles or codes are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

Courses	Program ILO's																			
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B6	B5	C1	C2	C3	C4	D1	D2	D3	D4	D5	D6
Foundation in forensic chemistry and analytical toxicology	x	X				X	x														
Forensic chemistry and analytical toxicology 1			X			X	x	x	X		x	X	X			X	X	x	x	x	x
Forensic chemistry and analytical toxicology 2				x		X	x	x	X		x	X	X		x	X	X	x	x	x	x
Quality assurance in medical laboratories.					X			x	X	x	x		X	x	x	X	X	x	x	x	x

Programme-Aims ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2……etc), then the program aims are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

Program aims		Program ILO's																			
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	D1	D2	D3	D4	D5	D6
١	x	X				X	x														
2			X	x		X	x	x	x	x		X	X		x	X	X	x	x	x	x
3			X	x	X	X	x	x	x	x		X	X		x	X	X	x	x	x	x
4	x	X		x	X	X	x	x	x	x	x	X	X	x	x	X	X	x	x	x	x

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Graduate attributes ILOs Matrix

Programme ILOs are enlisted in the first row of the table (by their code number: a1, a2……etc), then the graduate attributes are enlisted in first column, and an "x" mark is inserted where the respective course contributes to the achievement of the programme ILOs in question.

Graduate attributes	Program ILO's																			
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B6	B5	C1	C2	C3	C4	D1	D2	D3	D4	D5	D6
Apply specialized knowledge gained in professional practice.			x	X	X	x	x	x	x			x	X	x	X				x		
Determine professional problems and propose solutions.			x	X	X	x	x	x	x			x	X	x	X				x		
Master professional skills and use appropriate technology.			x	X	X	x	x	x	x			x	X	x	X				x	x	x
Communicate and lead teams to work through systemic professional work.			x	X	X						X	x	X	x	X	x	X	x	x		
Make decisions according to information available	x	X	x	X	X	x	x	x	x			x			X	x	X	x	x		x
Employ resources efficiently			x	X	X						X	x	X	x	X	x	X	x	x	x	x
Participate community development and biological diversity conservation	x	X	x	X	X											x	X	x	x	x	
Reflect commitment to integrity, credibility and profession rules accepting accountability			x	X	X							x				x	X	x	x	x	x
Realize the need for self-development and continuous learning	x	x	x	X	X					x				x							x

COURSE SPECIFICATION
Faculty of Medicine- Mansoura University
(A) Administrative information

(1) Programme offering the course:	Forensic chemistry and analytical toxicology diploma (FCATD)
(2) Part of the programme:	Semester 2
(3) Date of approval of programme specification by Faculty council	
(4) Course title:	**Quality Assurance in Medical laboratories**
(5) Course code:	**FCAT** D400QAML
(6) Total teaching hours:	4 credit hours (**2 theoretical**: 30 hour/15 week) (**2 Practical** 60 hours/15 week)

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

1. To give our candidate the ability to apply the principles of quality management in medical laboratories for ensuring accurate test results, patient and workers safety

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A1: List principles of quality management and key dimensions of quality.

A2: Enumerate different components of the quality management system in medical laboratories

A3: Select verification methods of both qualitative and quantitative test methods

A 4: Identify both external and internal quality control programs

B- Intellectual skills

B1: Verify both qualitative and quantitative test methods.

B2: Categorize different risks in medical laboratories and design appropriate preventive and corrective actions for them

B3 Explain different non conformities and investigate their root causes using appropriate tool

C- Professional& Practical skills

C1: Manage different disasters that can occur in medical laboratories

C2: Construct appropriate control chart and interpret its results

C3: Perform adequate procedure in as regard reporting and release of different results in accordance with the requirements of ISO 15189:2012

C4: Perform suitable internal audit and inspect the application of required ethical guidelines in medical laboratories

D- Communication & Transferable skills

D1 Demonstrate compassion, integrity, and respect for all human rights and treat all subjects equally regardless to their believes, culture and behavior.

D2: Communicate effectively with patients, families, and the public.

D3: Communicate effectively with physicians, other health professionals, and health related agencies.

D4. Apply safety and infection control measures during practice.

D5: Maintain comprehensive, timely, and legible medical records, if applicable

D6: Conduct an effective lecture, presentation, case management according to the known standards and time schedule and participate in CME program and perform self-appraisal.

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(3) Course content:

Subjects	Lectures	Practical
Principles of quality management and Key Dimensions of Quality as regard application in medical laboratories	5	5
Components and requirements of the laboratory quality management system (both managerial and technical requirements	15	30
Verification of laboratory test methods	5	10
Laboratory quality control (external and internal quality control program)	5	15
Total Teaching Hours	30	60

(4) Teaching methods:

4.1: Lectures .
4.2: Practical training in the laboratory
4.3: case scenario

(5) Assessment methods:

5.1: Written exam, MCQ for assessment of A1-A4, B 1-B3. / OSPE exam for assessment of C1-C4, D 1-6.
5.2: Assessment schedule:
Percentage of each Assessment to the total mark: (50 marks)
Written exam & MCQ: 30 marks (60%)
Structured practical exam: 20 marks (40 %)
Other assessment without marks: Logbook activities

(6) References of the course:

Text books:
The Janet A brown The Healthcare Quality Handbook, 2016
ISO 15189:2012 requirements for medical laboratories

(7) Facilities and resources mandatory for course completion: Lecture halls, data show, computers with required software e.g. excel sheet

Diploma Director: Prof. Dr. Sahar Abdelaziz Eldakroory

COURSE SPECIFICATION
Faculty of Medicine- Mansoura University
(A) Administrative information

(1) Programme offering the course:	Forensic chemistry and analytical toxicology diploma (FCATD)
(2) Part of the programme:	Semester 1
(3) Date of approval of programme specification by Faculty council	
(4) Course title:	**Foundation in forensic chemistry and analytical toxicology**
(5) Course code:	**FCATD400F**
(6) Total teaching hours:	**2 credit hours (30 hour/15 week)**

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

- Provide knowledge and competencies of basics required for practicing forensic Toxicological analysis

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A1 Define the Basic concepts of pharmacokinetics, toxicokinetics and Drug metabolism

A2 Describe Postmortem distribution of toxins

A3 List Proper sample collection for different classes of toxins for both antemortem and postmortem analysis

A4 Interpret toxicological results for both antemortem and postmortem analysis

A5 Identify the relation between different conditions and drug administration e.g. driving, sexual assault, and sports

A6 Describe the legal procedures and ethics in practicing forensic toxicological analysis

B- Intellectual skills

B1 Select and collect the appropriate sample for both living and dead cases

B2 Suspect and screen the appropriate drugs in different medicolegal conditions based on available data from history, examinations, and investigations in antemortem cases and history and autopsy findings in postmortem cases

(3) Course content: Compulsory

Lectures: (15 week).

Course title	Hours/ Lectures
Principle of pharmacokinetics and toxicokinetic	5
Substances encountered in forensic and toxicology analysis	4
Specimen collection (antemortem and postmortem)	4
Postmortem distribution of drugs	4
Drugs and driving	3
Drug facilitated sexual assault	3
Drug abuse and sports	3
Legal procedures and ethics in forensic toxicology analysis	4
Total hours	30

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(4) Teaching methods:

4.1: lectures with discussions, quizes

4.2: problem -solving case scenarios

(5) Assessment methods:

5.1: Written and MCQ exams for assessment of A1-6, B1-2

Assessment schedule:

Final exam at 6th month from admission to diploma degree with total of 50 marks

Other assessment without marks: Logbook activities

(6) References of the course:

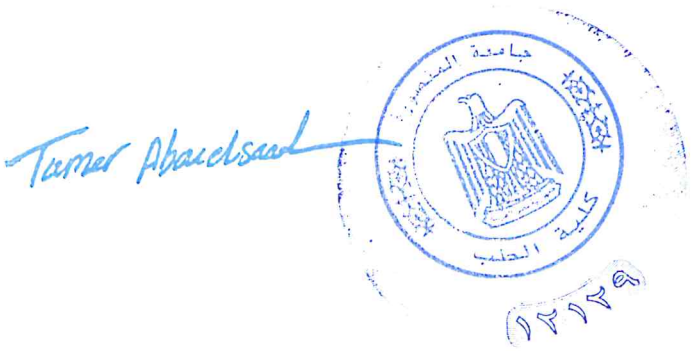
Text books:

- Adam Negrusz and Gail Cooper, Clarke's Analytical Forensic Toxicology. Pharmaceutical Press; 2nd Revised edition (May 28, 2013)

(7) Facilities and resources mandatory for course completion:

Lecture halls and data show.

Diploma Director: Prof. Dr. Sahar Abdelaziz Eldakroory



COURSE SPECIFICATION
Faculty of Medicine- Mansoura University
(A) Administrative information

(1) Programme offering the course:	Forensic chemistry and analytical toxicology diploma (FCATD)
(2) Part of the programme:	Semester 1
(3) Date of approval of programme specification by Faculty council	
(4) Course title:	**Forensic chemistry and analytical toxicology 1**
(5) Course code:	FCATD 400P1
(6) Total teaching hours:	**8 credit hours (5 theoretical & 3 practical)** **(Theoretical:** 75 hour/15 week) **Practical** : 90/15 week

Professional information

(1) Course Aims:

The broad aim of the course is to Provide in-depth knowledge of different techniques used in toxicological analysis

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A1. Identify the principle and technique for detection of different toxins using immunoassay methods.
A2. Describe the principle and technique for detection of different toxins using spectrophotometry methods.
A3. Discuss the principle for detection of different toxins using high performance liquid chromatography, and liquid chromatography mass spectrometry.
A4. Discuss the principle for detection of different toxins using gas chromatography, and gas chromatography mass spectrometry.
A5. Describe the technique for detection of different toxins thin layer chromatgraohy

B- Intellectual skills

B1 Select the proper technique for detection of different toxins.

C- Professional/practical skills

C1- perform analysis of different samples e.g. urine, blood, hair, gastric content using color tests and thin layer chromatography
C2- perform analysis of different samples e.g. urine, blood, hair, gastric content using spectrophotometry beginning with instrument performance check, till interpretation and presentations of results
C2- perform analysis of different samples e.g. urine, blood, hair ,gastric content using high performance liquid chromatography, beginning with method selection ending with proper reporting and interpretation of results.

D- Communication & Transferable skills

D1 Demonstrate compassion, integrity, and respect for all human rights and treat all subjects equally regardless to their believes, culture and behavior.
D2: Communicate effectively with patients, families, and the public.
D3: Communicate effectively with physicians, other health professionals, and health related agencies.
D4. Apply safety and infection control measures during practice.
D5: Maintain comprehensive, timely, and legible medical records, if applicable
D6: Conduct an effective lecture, presentation, case management according to the known standards and time schedule and participate in CME program and perform self-appraisal.

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(3) Course content: Compulsory

Lectures and practical training: (15 weeks).

Title	Theoretical	Practical
Immunoassays	15	30
Colour test and thin layer chromatography	10	30
Ultraviolet, visible and fluorescence spectrophotometry	10	10
Chromatography techniques. • Gas chromatography • High-performance liquid chromatography	 15 15	 - 20
Mass spectrometry	10	-
Total	75	90

(4) Teaching methods:

4.1: lectures with discussions, quizes

4.2: problem -solving case scenarios

4.3 practical training in toxicological laboratory

(5) Assessment methods:

5.1:Written exam & Structured oral exam for assessment of A1-5, B1, Practical exam for assessment of C1-3, D1-6

5.2 Assessment schedule:

Percentage of each Assessment to the total mark: 100 marks

Written and MCQ exams: 50 marks (50%)

Structured oral exam: 20 marks (20%).

Practical exam: 30 mark (30%)

Other assessment without marks**:** Logbook activities

(6) References of the course:

Text books:

Adam Negrusz and Gail Cooper, Clarke's Analytical Forensic Toxicology. Pharmaceutical Press; 2nd Revised edition (May 28, 2013)

(7) Facilities and resources mandatory for course completion:

Lecture halls and data show. **Toxicology laboratory**

Diploma Director: Prof. Dr. Sahar Abdelaziz Eldakroory

COURSE SPECIFICATION

Faculty of Medicine- Mansoura University

(A) Administrative information

(1) Programme offering the course:	Forensic chemistry and analytical toxicology diploma (FCATD)
(2) Part of the programme:	Semester2
(3) Date of approval of programme specification by Faculty council	
(4) Course title:	**Forensic chemistry and analytical toxicology 2**
(5) Course code:	**FCATD 400P2**
(6) Total teaching hours:	**10 credit hours (7 theoretical, 3 practical)** (theoretical: 105 hour/15 week, Practical : 90/15 week)

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(B) Professional information

(1) Course Aims:

The broad aim of the course is to Provide in-depth knowledge of different techniques used in toxicological analysis

(2) Intended Learning Outcomes (ILOs):

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A1. Describe the technique for analysis of alkaline drugs, acidic drugs, neutral drugs, drugs of abuse using different instrumentation
A2. Identify the methodology for analysis of pesticides using different techniques
A3. Identify the methodology for analysis of gases using different techniques .
A4. Identify the methodology for analysis of volatile substances using different techniques
A5. Identify the methodology for analysis of metals using different techniques
A6 Identify the methodology for analysis of anions using different techniques

B- Intellectual skills

B1 Select the proper technique for detection of different toxins.

C- Professional/practical skills

C1- Perform extraction of alkaline drugs, acidic drugs, neutral drugs, drugs of abuse, and pesticide in different samples e.g. urine, blood, hair, gastric content and detection using thin layer chromatography

C2 Perform extraction of alkaline drugs, acidic drugs, neutral drugs, drugs of abuse, and pesticide in different samples e.g. urine, blood, hair, gastric content and detection using high performance liquid chromatography,

C3 Perform extraction of alkaline drugs, acidic drugs, neutral drugs, drugs of abuse, and pesticide in different samples e.g. urine, blood, hair ,gastric content and detection using spectrophotometry.

D- Communication & Transferable skills

D1 Demonstrate compassion, integrity, and respect for all human rights and treat all subjects equally regardless to their believes, culture and behavior.

D2: Communicate effectively with patients, families, and the public.

D3: Communicate effectively with physicians, other health professionals, and health related agencies.

D4. Apply safety and infection control measures during practice.

D5: Maintain comprehensive, timely, and legible medical records, if applicable

D6: Conduct an effective lecture, presentation, case management according to the known standards and time schedule and participate in CME program and perform self-appraisal.

(3) Course content: Compulsory

Lectures and practical training: (15 weeks).

Title	Theoretical	practical
Analysis of drugs (therapeutic drugs and drugs of abuse)	40	50
Analysis of pesticides	20	20
Analysis of gases	15	5
Analysis of volatile substances	15	5
Analysis of metals	10	5
Analysis of anions	5	5
Total	105	90

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(4) Teaching methods:

4.1: lectures with discussions, quizes

4.2: problem -solving case scenarios

4.3 practical training in toxicological laboratory

(5) Assessment methods:

5.1:Written exam & Structured oral exam for assessment of A1-6, B1, Practical exam for assessment of C1-3, D1-6

5.2: Assessment schedule:

Percentage of each Assessment to the total mark: 100 marks

Written and MCQ exams: 50 marks (50%)

Structured oral exam: 20 marks (20%).

Practical exam: 30 mark (30%)

Other assessment without marks: Logbook activities

(6) References of the course:

Text books:

- Adam Negrusz and Gail Cooper, Clarke's Analytical Forensic Toxicology. Pharmaceutical Press; 2nd Revised edition (May 28, 2013)

(7) Facilities and resources mandatory for course completion:

Lecture halls and data show.

Toxicology laboratory

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