



Program of Doctorate Degree (MD) of Clinical Toxicology (2023)

University: Minia

Faculty: Medicine

Department: Forensic Medicine & Clinical Toxicology

Code: CT100

A- Basic Information:

- 1. Program title:** MD Clinical Toxicology
- 2. Final award:** Doctorate (MD) in Clinical Toxicology
- 3. Program type:** single double multiple
- 4. Responsible department:** Forensic Medicine & clinical Toxicology Department
- 5. Departments involved in the program:** Forensic Medicine & clinical Toxicology Department and public health department
- 6. Program duration:** 3.5 years
- 7. Number of program courses:** three
- 8. Coordinator:** Prof Dr. Mohamed Ismail & Dr. Rana Adel
- 9. External evaluators:** Prof. Dr Dina Shokri
- 10. Program management team:**

Lecturer. Asmaa Mohammed Heshmat

Lecturer. Rana Adel Ammar

Lecturer. Mennatallah Mahmoud Ahmed

Assistant Lecturer. Radwa Abdel-Raouf

Assistant Lecturer. Alaa Abdel-Moaz

Assistant Lecturer. Aya Gamal Ramadan

B- Professional Information:

1- Program aims:

Graduate of Doctorate Degree in Clinical Toxicology, the candidate should be able to:

Acquire scientific knowledge essential for the practice of clinical toxicology according to the international standards. Basic skills necessary for proper management (diagnosis and treatment) of intoxicated patients including diagnostic, problem solving and decision-making skills. Provision of sound ethical principles related to medical practice. Active participation in community needs assessment and problems solving. Developing learning abilities necessary for continuous medical education. Upgrading research interest and abilities. It acquires an honourable specialist practitioner who is able to diagnose & treat the acutely intoxicated patients under ethical standard.

Intended Learning Outcomes:

2.1. (a) Knowledge and understanding:

By the end of the study of doctorate program in Clinical Toxicology the candidate should be able to:

- a.1. Identify the basics of general toxicology.
- a.2. Identify the basics of systemic toxicology.
- a.3. Identify the basics of specific toxicology.
- a.4. illustrate the different classes of toxic substances.
- a.5. Explain the mechanism of toxicity by different poisons.
- a.6. Describe toxic doses, the clinical picture and complications of intoxication by different poisons on the different body systems.
- a7. Classify differential diagnosis of toxins.
- a.8. Discuss the treatment of intoxication by different poisons.
- a9. Summarize the genetic, molecular and immunological principles related toxicology
- a10. illustrate toxicological aspects in special population groups (children & elderly)
- a.11. Describe the basics and ethics of scientific research.
- a12. Identify the ethical and legal principles of professional practice in the field of clinical toxicology
- a13. Discuss medical professionalism & common medical errors which can occur during practice of medicine
- a 14. Describe the principles of quality in professional practice in the field of clinical toxicology

a 15. Describe the mutual influence between professional practice and its impacts on the environment

a16. Tell different environmental pollutants.

2.2. (b) Intellectual skills

By the end of the doctorate program in Clinical Toxicology the candidate should be able to:

b.1.categorize data acquired through history taking to reach a provisional diagnosis for cases.

b.2. conclude from different diagnostic alternatives the ones that help reaching a final diagnosis without burden on the patient or waste the time and money of the department

b.3.value the data of different investigations in context of the clinical situation.

b.4. correlate between knowledge for Professional problems' solving.

b.5. correlate clinical information & laboratory investigations into management.

b.6. design a research study and / or write a scientific study on a research problem.

b.7. Assess risk in professional practices in the field of clinical toxicology .

b.8. Plan for the development of performance in the field of clinical toxicology.

b.9. Relate causes of misdiagnosis of cases and how to make the right decision.

b.10. Estimate researches and issues related to clinical toxicology.

b.11. Interpret scientific discussion administration based on scientific evidences and proofs while dealing with toxicological cases.

3.2. Skills:

3.2.1 (c) Professional and practical skills

By the end of the study of doctoral program in Clinical Toxicology the candidate should be able to:

c.1.Design a management plan for common toxicities.

C2. Use gastric lavage.

C3. Use endotracheal intubation.

C4. Use of mechanical ventilation and its role in management..

C5. Analyse toxicological cases, write a report on them and present the findings.

C6. Value the use of advanced diagnostic imaging techniques in management of toxicological cases.

C7. Establish laboratory investigations needed properly & successfully according to the case.

C8. Design new methods, tools and ways of professional practice in clinical toxicology.

3.2.2. (d) General and transferable skills

By the end of the study of doctoral program in Clinical Toxicology, the candidate should be able to:

- d1. Communicate effectively with other health care providers.
- d2. Communicate effectively with seniors.
- d3. Communicate effectively to a patient's emotional & psychosocial concerns.
- d4. Use information technology to serve the development of professional practice in clinical toxicology.
- d5. Conclude rules and indicators for assessing the performance of others.
- d6. Value the importance of life-long self-learning and show a strong commitment to it.
- d7. Use different sources to obtain information and knowledge in field of clinical toxicology.
- d8. Appraise the value of the team, and team's leadership in various professional contexts.
- d9. prioritize time efficiently in seminars or group discussion

3- Program Academic Reference Standards

- Minia faculty of medicine adopted the general national academic reference standards provided by the national authority for quality assurance and accreditation of education (NAQAAE) for all postgraduate programs. (Date 18/5/2009 and NO. 6854, in session NO.177 of faculty council approval).
- Minia faculty of medicine has developed the academic reference standard (ARS) for MD program and approved in faculty council decree No 7528, in its session No 191 dated 15/3/2010. MD faculty ARS was updated with faculty council approval 20/2/2023 {**Annex 1**}.
- Then, Forensic Medicine & Clinical Toxicology department has developed the ILOS for doctorate (MD) program in Clinical Toxicology and the Date of program specifications 1st approval by department council. (13/5/2013) and it was updated with department council. (Dated: 5/3/2023) {**Annex 2**}.

4. Program External References

-External reference (Benchmark): program of the University of University of Dokuz Eylul, <https://saglikbil.deu.edu.tr/en/toxicology>.

-Comparison between the intended learning outcomes (ILOS) of the MD of clinical Toxicology program and that of the University of University of Dokuz Eylul <https://saglikbil.deu.edu.tr/en/toxicology>. {**Annex 3**}.

5 - Curriculum Structure and Contents

5. A. Program duration: 3.5 years.

5. B. Program structure:

Subject	Hour/week		
	Lectures	Practical	Clinical
First part			
Uses of computer in medicine	1	2	
Research design & methodology and medical statistics	1	2	
Second part			
Clinical Toxicology	3	2	

- Basic sciences (compulsory) courses: Two. Percentage: 25%.
- Specific courses related to the specialty: One. Percentage: 75%.
- Training programs and workshops, field visits, seminars & other scientific activities: Distributed along the whole program.

5. C. Levels of program in credit hours system: Not applicable

5. D. Program courses:

Number of courses: Three

N.B. {Courses' specifications are present in Annex 4} & {Correlations of Program ILOs with courses are present in Annex 5}.

Course Title	Total No. of	No. of hours			Program ILOs
		Lect.	Practical	tutorial	
FIRST PART (Level of course):					
Research design & methodology:	45	15	30		a1,a2,a3,a4,a5, b1,b2,b3,b4
Uses of computer in medicine:	45	15	30		d1,d2

Training programs and workshops, field visits, seminars& other scientific activities	Continuous	a1,a2,a3,a4,a5, b1,b2,b3,b4		
SECOND PART (Level of course):				
<u>Clinical Toxicology</u>	260	156	104	a1,a4,a5,a6,a7,a8,a9,a10,a11,a12, a13,a14,a15,a16 b1,b2,b3,b5,b6,b7, b8,b9,b10,b11 c1,c2,c3, c4,c5,c6,c7,c8
Training programs and workshops, field visits, seminars& other scientific activities	Continuous	d1,d2, d3,d4, d5,d6,d7,d8, d9		

6- Program admission requirements

1. General requirements:

A-Candidates should have either:

1. MBBS degree from any Egyptian faculty of medicine or
2. Equivalent degree from medical schools abroad approved by the Ministry of higher education

B. Master Degree in clinical toxicology.

C. Follow postgraduate regulatory rules of Minia faculty of medicine.

2. Specific requirements:

A. Candidates graduated from Egyptian universities should have at least "Good Rank" in their final year / cumulative year's examination and grade "Good Rank" in forensic medicine and toxicology course too.

B. Master Degree in clinical toxicology with at least "Good Rank".

C. Candidate should know how to speak and write English well.

D. Candidate should have computer skills.

7- Regulations for progression and program completion

Duration of program is 3.5 years, starting from registration till acceptance of the thesis; divided to:

First Part: (6 months):

- All courses as specified in the internal bylaw
- 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 April — 2nd in October.
- For the student to pass the first part exam, a score of at least 60% in each curriculum is needed.
- Those who fail in one curriculum need to re-exam it only.

Second Part: (≥ 24 months):

- Program related specialized Courses.
- At least 24 months from registration 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 is a prerequisite for candidates to be assessed and undertake part 1 and part 2 examinations; as following:
- Two sets of exams: 1st in April— 2nd in October.
- 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.
- All candidates should have training for 24 months, they should spend at least 6 months in poisoning control centre, 6 months in ICU and during this period the candidate should complete the elective courses.

Thesis/essay: (24-48 months):

-protocol of the subject could be documented after 18 months after registration of degree.

-Thesis could start after registration and should be completed, defended and accepted after passing the 2nd part final examination, and after passing of at least 24 months after documentation of the subject of the thesis.

-Accepting the thesis is enough to pass this part with publication of two papers one in international journal and the other locally.

8. Teaching and learning methods:

Teaching and learning methods	The assessed ILOs
Lectures	a1,a2, a3,a4,a6, a7,a8, a9, a10,a11,a12,a13,a14, a15, a16 b1,b2,b3,b4,b5,b6,b8, b9, b10,b11
Practical sessions Case based discussions Movie based learning	c1,c2, c3,c4,c5,c6, c7,c8
Self-training activities seminars, presentations and assignments. Training courses & workshops. Thesis discussion. Conference attendance	d1,d2,d3,d4,d5,d6,d7,d8, d9

9-Methods of student assessment:

Method of assessment	The assessed ILOs
1. Written Exams: <ul style="list-style-type: none"> • Short essay • MCQs • Complete • True or false and correct the wrong • Commentary • Problem solving 	a1,a2,a3,a4,a5,a6,a7,a8,a9,a10,a11,a12,a13,a14,a15,a16 b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11
2. Practical/Clinical Exams (long & short cases sheet)	c1,c2, c3,c4,c5,c6, c7,c8 d1. d2. d3
3. Oral Exams	a1,a2,a3,a4,a5,a6,a7,a8,a9,a10,a11,a12,a13,a14,a15, a16 b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11 d1,d2,d3,d4,d5,d6,d7,d8,d9

Weighing of assessment:

It is mandatory to pass all the papers of written exams separately.

Course	Written	oral	practical	Total
Research design & methodology	100	100	100	300
Uses of computer in medicine	100	100	100	300
Clinical toxicology (first paper)	200 1 st paper 100 (60%) 2 nd paper 100 (60%)	100	100	400

9. Methods of Program Evaluation:

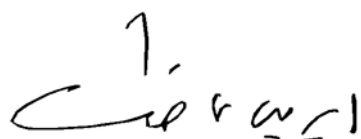
Evaluator	Method/tool	Sample
1. Senior students (Students of last year)	Questionnaires	Attached to the file
2. Graduates (Alumni)	Questionnaires	Attached to the file
3. Stakeholders	Meeting Questionnaires	Attached to the file
4. External & Internal evaluators and external examiners	Reports	Attached to the file
5. Quality Assurance Unit	Reports Questionnaires	Attached to the file

Program Coordinators:

1. Ass. Prof. Dr. Mohamed Ismail
2. Lecturer. Rana Adel

Head of Department:

Professor Dr/ Irene Atef Fawzy



Date of program specifications 1st approval by department council: 13/5/2013

Date of last update & approval by department council: 5/3/2023

Annex (1): Comparison between National Academic Quality Assurance & Accreditation (NAQAAE) General Academic Reference Standards (GARS) and Faculty Academic Reference Standards (ARS))

برامج الدكتوراه NAQAAE	Faculty Doctorate (MD) Program
1 مواصفات الخريج: خريج برنامج الدكتوراه في أي تخصص يجب أن يكون قادرا على:	1. Graduate attributes: Graduate of doctorate (MD) program in any specialty should be able to:
1.1. إتقان أساسيات ومنهجيات البحث العلمي.	1.1. Mastery of basic research skills and types of study design.
1.2. العمل المستمر علي الإضافة للمعارف في مجال التخصص	1.2. Contribute to development, application, and translation of new medical knowledge in his scholarly field through research.
1.3. تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص والمجالات ذات العلاقة.	1.3. use analytical and critical skills in observing, collecting and interpreting data.
1.4. دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا ومطورا للعلاقات البينية بينها.	1.4. Integrate biomedical sciences with clinical information to explore scientific basis of medical practice for improvement of management of diseases.
1.5. إظهار وعيا عميقا بالمشاكل الجارية والنظريات الحديثة في مجال التخصص.	1.5. Demonstrate an awareness of current health problems and recent theories in his scholarly field
1.6. تحديد المشكلات المهنية و إيجاد حلولاً مبتكرة لها.	1.6. Identify and create solutions for occupational problems and medical malpractice conditions.
1.7. إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص	1.7. perform a wide range of professional skills in his scholarly field.
1.8. التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية.	1.8. Develop and improve new methods and approaches in the professional medical practice of the specific field.

1.9. استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية	1.9. Use information technology to improve his professional medical practice including online medical information manage information and researches.
1.10. التواصل بفاعلية وقيادة فريق عمل في سياقات مهنية مختلفة.	1.10. communicate effectively as a member or leader of health care group or other professional group and gain leadership skills.
1.11. اتخاذ القرار في ظل المعلومات المتاحة.	1.11. Make informed decisions based on available data (e.g. patient information, up to date scientific evidence and clinical judgement).
1.12. توظيف الموارد المتاحة بكفاءة وتنميتها والعمل على إيجاد موارد جديدة .	1.12. Effective management, development & improvement of available resources and have the competency to get new resources.
1.13. الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة.	1.13. Be aware of his community needs related to his field and have the ability to improve & maintain health care and carryout system-based improvement.
1.14. التصرف ب ما يعكس الالتزام بالنزاهة والمصادقية وقواعد المهنة.	1.14. Demonstrate ethical behavior, moral reasoning, honesty, integrity, dependability, and commitment to service and health equity.
15.1. الالتزام بالتنمية الذاتية المستمرة ونقل علمه و خبراته للآخرين.	1.15. Critically reflect on one's own performance to set learning and improving goals and sharing his knowledge.
المعايير القياسية العامة: 2 NAQAAE General Academic Reference Standards "GARS" for MD Programs	2. Faculty Academic Reference Standards (ARS) for MD Program
المعرفة والفهم: 2.1 بانتهاؤ دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا علي الفهم والدرابة بكل من:	2.1. Knowledge and understanding: Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:
2.1.1. النظريات والأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.

2.1.2. أساسيات ومنهجيات وأخلاقيات البحث العلمي وأدواته المختلفة	2.1.2. Basic, methods and ethics of medical research.
2.1.3. المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص	2.1. 3. Ethical and medicolegal principles of medical practice.
2.1.4. مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. 4. Identify Principles and fundamental of quality in professional medical practice.
2.1.5. المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.
2.2. المهارات الذهنية: . بانتهاج دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	2.2. Intellectual skills: Upon completion of the doctorate program (MD), the graduate must be able to:
2.2.1. تحليل وتقييم المعلومات في مجال التخصص والقياس عليها والاستنباط منها	2.2.1 Analysis and evaluation of information to correlate and deduce from it.
2.2.2. حل المشاكل المتخصصة استنادا على المعطيات المتاحة	2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.
2.2.3. إجراء دراسات بحثية تضيف إلى المعارف .	2.2.3. Carryout research projects related to his scholarly field.
2.2.4. صياغة أوراق علمية .	2.2.4. Write and publish scientific papers.
2.2.5. تقييم المخاطر في الممارسات المهنية .	2.2.5. Assess risk in professional medical practice.

2.2.6 . التخطيط لتطوير الأداء في مجال التخصص	2.2.6. Establish goals, commitments and strategies for improved productivity and performance.
2.2.7 . اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2.7. Making professional decisions in different professional contexts.
2.2.8 . الابتكار/ الإبداع	2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation in research.
2.2.9 . الحوار والنقاش المبني على البراهين والأدلة	2.2.9. Using Evidence-based strategies to during discussion or teaching others.
2.3 . مهارات المهنية: بانتهاج دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	2.3. Professional skills: Upon completion of the doctorate program (MD), the graduate must be able to:
2.3.1 . إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master the basic as well as modern professional practical and/or clinical skills.
2.3.2 . كتابة وتقييم التقارير المهنية	2.3.2. Write and evaluate professional reports.
3.3.3 . تقييم وتطوير الطرق والأدوات القائمة في مجال التخصص	3.3.3. Evaluate and improve the methods and tools in the specific field
2.3.4 . استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.3.4. use of technological means to serve Professional practice
2.3.5 . التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين.	5.3.2. Planning for the development of professional practice and improve of the performance of others
2.4 . المهارات العامة والمنتقلة: بانتهاج دراسة برنامج الدكتوراه يجب أن يكون الخريج قادرا على:	2.4. General and transferable skills Upon completion of the doctorate program (MD), the graduate must be able to:
2.4.1 . التواصل الفعال بأنواعه المختلفة	2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.

2.4.2 . استخدام تكنولوجيا المعلومات ب ما يخدم تطوير الممارسة المهنية	2.4.2. Use of information technology to serve Professional Practice Development.
2.4.3 . تعليم الآخرين وتقييم أداءهم	2.4.3. Demonstrate effective teaching and evaluating others.
4.2.4. .التقييم الذاتي والتعلم المستمر	2.4.4. Self-assessment and continuous learning.
2.4.5 . استخدام المصادر المختلفة للحصول على المعلومات والمعارف	2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth
2.4.6 . العمل في فريق وقيادة فرق العمل	2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.
2.4. 7. .إدارة اللقاءات العلمية والقدرة علي إدارة الوقت	2.4.7. Manage of scientific meetings and the ability to manage Time effectively.

ANNEX II: ARS VS. MD program of clinical toxicology

<p>2. Faculty Academic Reference Standards (ARS) for MD Program</p>	<p>MD Program of clinical toxicology</p>
<p>2.1. Knowledge and understanding:</p> <p>Upon completion of the doctorate Program (MD), the graduate should have sufficient knowledge and understanding of:</p>	
<p>2.1.1. Theories, basics and updated knowledge in his scholarly field and related basic sciences.</p>	<p>a.1. Identify the basics of general toxicology.</p> <p>a.2. Identify the basics of systemic toxicology.</p> <p>a.3. Identify the basics of specific toxicology.</p> <p>a.4. illustrate the different classes of toxic substances & environmental pollutants.</p> <p>a.5. Explain the mechanism of toxicity by different poisons.</p> <p>a.6. Describe toxic doses, the clinical picture and complications of intoxication by different poisons on the different body systems.</p> <p>a7. classify differential diagnosis of toxins.</p> <p>a.8. Discuss the treatment of intoxication by different poisons.</p> <p>a9. summarize the genetic, molecular and immunological principles related toxicology</p> <p>a10. illustrate toxicological aspects in special population</p>

	groups (children & elder).
2.1.2. Basic, methods and ethics of medical research.	a.11. Describe the basics and ethics of scientific research.
2.1. 3. Ethical and medicolegal principles of medical practice.	a12. Discuss the ethical and legal principles of professional practice in the field of clinical toxicology a13. Discuss medical professionalism & common medical errors which can occur during practice of medicine
2.1. 4. Identify Principles and fundamental of quality in professional medical practice.	a 14. Describe the principles of quality in professional practice in the field of clinical toxicology
2.1.5. Knowledge related to effects of professional practice on public health and methods of maintenance and system-based improvement of public health.	a 15. Describe the mutual influence between professional practice and its impacts on the environment a16. tell different environmental pollutants.
2.2. Intellectual skills: Upon completion of the doctorate program (MD), the graduate must be able to:	
2.2.1 Analysis and evaluation of information to correlate and deduce from it.	b1. categorize data acquired through history taking to reach a provisional diagnosis for cases.

<p>2.2.2. Problem solving skills based on analysis of available data for common health problems related to his scholarly field.</p>	<p>b.2. conclude from different diagnostic alternatives the ones that help reaching a final diagnosis without burden on the patient or waste the time and money of the department</p> <p>b.3. value the data of different investigations in context of the clinical situation.</p> <p>b.4. Correlate between knowledge for Professional problems' solving.</p> <p>b.5. correlate clinical information & laboratory investigations into management</p>
<p>2.2.3. Carryout research projects related to his scholarly field.</p>	<p>b6. design a research study in field of clinical toxicology.</p>
<p>2.2.4. Write and publish scientific papers.</p>	<p>b6. write a scientific study on a research problem.</p>
<p>2.2.5. Assess risk in professional medical practice.</p>	<p>B7. Assess risk in professional practices in the field of clinical toxicology .</p>
<p>2.2.6. Establish goals, commitments and strategies for improved productivity and performance.</p>	<p>B8. Plan for the development of performance in the field of clinical toxicology.</p>
<p>2.2.7. Making professional decisions in different professional contexts.</p>	<p>B9. relate causes of misdiagnosis of cases and how to make the right decision.</p>
<p>2.2.8. Demonstrate intellectual curiosity necessary for scientific discovery and innovation through active participation</p>	<p>b10. Estimate researches and issues related to clinical toxicology</p>

in research.	
2.2.9. Using Evidence-based strategies to during discussion or teaching others.	b11. Interpret scientific discussion administration based on scientific evidences and proofs while dealing with toxicological cases.
2.3. Professional skills: Upon completion of the doctorate program (MD), the graduate must be able to:	
2.3.1. Master the basic as well as modern professional practical and/or clinical skills.	C1. design a management plan for common toxicities. C2. use gastric lavage. C3. use endotracheal intubation. C4. use Mechanical ventilation and its role in management..
2.3.2. Write and evaluate professional reports.	C5. Analyse toxicological cases, write a report on them and present the findings.
3.3.3. Evaluate and improve the methods and tools in the specific field	C6. value the use of advanced diagnostic imaging techniques in management of toxicological cases.
2.3.4. use of technological means to serve Professional practice	C7. Establish laboratory investigations needed properly & successfully according to the case. C6. Apply the use of advanced diagnostic imaging techniques in management of toxicological cases.
5.3.2. Planning for the development of professional practice and improve of the performance of others	C8. Design new methods, tools and ways of professional practice in clinical toxicology.

<p>2.4. General and transferable skills</p> <p>Upon completion of the doctorate program (MD), the graduate must be able to:</p>	
<p>2.4.1. Communicate (in writing and orally) effectively and respectfully with peers, faculty, colleagues, and other members of the health care team, understanding the role of consultations and referrals.</p>	<p>d1. Communicate effectively by its different types with other health care providers.</p> <p>d2. Communicate effectively by its different types with seniors.</p> <p>d3. Communicate effectively to a patient's emotional & psychosocial concerns.</p>
<p>2.4.2. Use of information technology to serve Professional Practice Development.</p>	<p>d4. use information technology to serve the development of professional practice in clinical toxicology.</p>
<p>2.4.3. Demonstrate effective teaching and evaluating others.</p>	<p>d5. Conclude rules and indicators for assessing the performance of others.</p>
<p>2.4.4. Self-assessment and continuous learning.</p>	<p>d6. Value the importance of life-long self-learning and show a strong commitment to it.</p>
<p>2.4.5. use physical information resources (print, analog), online (electronic, digital,) text, audio-video, book and journal to address medical questions and knowledge to sustain professional growth</p>	<p>d7. Use different sources to obtain information and knowledge in field of clinical toxicology.</p>
<p>2.4.6. Work as a member in larger teams and as well as a team leader knows how to develop "teaming strategy" to plan how people will act and work together.</p>	<p>d8. Appraise the value of team, and team's leadership in various professional contexts.</p>

2.4.7. Manage of scientific meetings and the ability to manage Time effectively.	d.9. prioritize time efficiently in seminars or group discussion
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Date of last update & approval by department council: 5/3/2023

**-ANNEX III: Comparison between ARS of MD program in clinical Toxicology
&**

External benchmarks.

M.D of Clinical Toxicology University of Dokuz Eylul	ILOs in M.D and clinical Toxicology programme, Faculty of medicine, Minia University	Approximate achievable ILOs
1- clinical Toxicology Module:	a1,a2, a3, a6 ,b5,b6,b7, b8,b9,b10,b11, d1, d2, d6, d8	75%

Date of last update & approval by department council: 5/3/2023

Annex 5 : Matrix of Coverage of MD Program ILOs By Course

course	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skill	D. General & Transferable skills
	A	B	C	D
Research design and methodology	a1,a2, a3,a4, a5	b1,b2,b3,b4 ,b5,b6,b8, b9,	C1, c2	d1,d2,d3

Uses of computer in medicine	A1, a2, a3, a4, a5, a6, a7, a8, a9,a10, a11,a12,a13,a14,a15,a16	b1,b2,b3,b4	c1,c2,c3,c4,c5	d1,d2,d3, d4
Clinical toxicology	a1,a2, a3,a4, a5	B1, b2, b3	c1,c2,c3,	d1,d2
Thesis	A1, a2, a3, a4, a5, a6, a7, a8, a9,a10, a11,a12,a13,a14,a15,a16	b1,b2,b3,b4 ,b5,b6,b8, b9, b10, b11,	c1,c2,c3,c4,c5,c6, c7, c8,	d1,d2,d3,d4,d5,d6,d7 ,d8,d9

Date of last update & approval by department council: 5/3/2023

B- Matrix of Coverage of program ILOs by Methods of teaching and learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skill	D. General & Transferable skills
	A	B	C	D
Lecture	a1,a2, a3,a4,a6, a7,a8, a9, a10,a11,a12,a13,a14, a15,a16	b1,b2,b3,b4 ,b5,b6,b8, b9, b10, b11,		
Practical			c1,c2,c3,c4,c5,c6, c7, c8,	d1,d2,d3
Presentation/ seminar Journal club Thesis discussion Training courses & workshops				d1,d2,d3,d4,d5,d6,d7 ,d8,d9

Date of last update & approval by department council: 5/3/2023

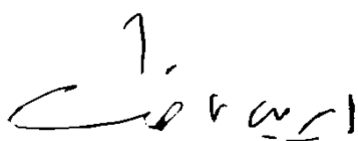
C. Matrix of Coverage of program ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skill	D. General & Transferable skills
	A	B	C	D
Written exam	a1,a2, a3,a4,a6, a7,a8, a9, a10,a11,a12,a13,a14 ,a15,a16	b1,b2,b3,b4,b5,b6,b8 , b9, b10, b11,		
Practical exam			c1,c2,c3,c4,c5,c6, c7, c8	d1,d2,d3,
Oral Exam	a1,a2, a3,a4,a6, a7,a8, a9, a10,a11,a12,a13,a14 , ,a15,a16	b1,b2,b3,b4,b5,b6,b8 , b9, b10, b11		d1,d2,d3,d4,d5,d6 d7,d8,d9

Program coordinators: ass. Prof Mohamed Ismail

Dr/ Rana Adel

Head of the department : prof dr. Ireni Atef Fawzy



Date of program specifications 1st approval by **department council:** 13 /5/2013.

Date of last update & approval by department council 5/3/2023

Course Specifications of Research Methodology in MD of Clinical Toxicology (First part)

Course specification of :

“Medical Statistics and Research Methodology”

In MD degree

University: Minia

Faculty: Medicine

Department offering the course: Community Medicine department

Department offering the programme: forensic & clinical toxicology deparatement

Programme(s) on which the course is given: First part MD clinical toxicology.

Academic year/ Level: First part of MD

1. Course Information		
Academic Year/level: First part MD	Course Title: Medical Statistics and Research Methodology	
<p>Number of teaching hours:</p> <ul style="list-style-type: none"> - Lectures: 30 hours - Practical/clinical: 15 hours - Total: 45 hours 		
2. Overall Aims of the course	<p><i>By the end of the course the student must be able to:</i></p> <ol style="list-style-type: none"> 1. Gain skills necessary for proper practice in the field of Research Methods including diagnostic, problem solving and decision making skills. 2. Apply ethical principles of scientific research with good awareness about patient’s rights. 3. Use precisely the research methodology in researches 4. Influence the students to adopt an analytical thinking for evidence-based medicine 5. Enable graduate students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data 6. To use precisely computer programs SPSS, Epi Info 	

	and Excel in data analysis
3. Intended learning outcomes of course (ILOs): <i>Upon completion of the course, the student should be able to:</i>	
A. Knowledge and understanding	<p>A.1. Define terms of research methodology .</p> <p>A.2. Describe the spectrum of research methodology .</p> <p>A.3. Explain the strategies and design of research .</p> <p>A.4. Describe the study design, uses, and limitations .</p> <p>A.5. Explain evidence-based Medicine</p> <p>A.6. Define causation and association .</p> <p>A.7. Tell the principles and fundamentals of ethics.</p> <p>A.8. Describe the different sampling strategies</p> <p>A.9. Summarize the advantages and disadvantages of different sampling strategies</p> <p>A.10. Summarize different methods of sample size calculation</p> <p>A.11. Recognize the sources and the recent methods in data collection and analysis.</p> <p>A.12. Identify the types of variables</p> <p>A.13. Identify types of tabular and graphic presentation of data</p> <p>A.14. Describe the normal curves and its uses</p> <p>A.15. Identify the characters of normal distribution curve</p> <p>A.16. Identify measures of central tendency and measures of dispersion</p> <p>A.17. Explain regression analysis, its use and differentiate its types</p> <p>A.18. Define the screening tests pertinent to selected diseases and the at-risk approach in the application of screening tests</p> <p>A.19. Explain the usefulness of screening tests</p>
B. Intellectual Skills	<p>B.1. Apply research methods to different community health problems.</p> <p>B.2. Apply appropriate research strategies for use .</p> <p>B.3. Select appropriate research methods .</p> <p>B.4. Teach and advocate appropriately in the research design.</p> <p>B.5. Describe the normal curves</p>

	<p>B.6. Describe and summarize data</p> <p>B.7. Select the proper test of significance for a specific data.</p> <p>B.8. Interpret selected tests of significance and the inferences obtained from such tests</p>
C. Professional and Practical Skills	<p>C.1. Plan a research proposal for community diagnosis.</p> <p>C.2. Design questionnaires.</p> <p>C.3. Conduct research.</p> <p>C.4. Judge association and causation.</p> <p>C.5. Criticize for bias and confounding factors</p> <p>C.6. Design data entry file</p> <p>C.7. Validate data entry</p> <p>C.8. Manage data files</p> <p>C.9. Construct tables and graphs</p> <p>C.10. Calculate different samples sizes</p> <p>C.11. Calculate measures of central tendency and measures of dispersion</p> <p>C.12. Calculate sensitivity, specificity, and predictive values</p>
D. General and transferable Skills	<p>D.1. Lead a research team to conduct a specific study .</p> <p>D.2. Take part and work coherently with his associates to in research.</p> <p>D.3. Write scientific papers.</p> <p>D.4. Appraise scientific evidence</p> <p>D.5. Analyze and interpret data</p> <p>D.6. Use standard computer programs for statistical analysis effectively</p>

4. Course Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Research methods			
<p><u>Introduction :</u></p> <ul style="list-style-type: none"> - Introduction to research. - Terminology and Rationale - Originality 		3	
<p>- Study design :</p> <ul style="list-style-type: none"> -Cross sectional study and the prevalence rate -Cohort study, incidence rate, relative & attributable risk -Case-control study, Odd's ratio sampling -Experimental study and clinical trials 		4	

- Sources of Errors in Medical Research - Bias and confounding and its Control.		3	
- Validity and reliability		2	
- The questionnaire design		2	
- Writing the Research Paper or Manuscript - Protocol Writing		2	2
- Critic technique for the literature review		2	2
- Association and causation		1	
- Evidence -based approach in medical practice		2	1
- Ethics of medical research		2	
Statistics			
Sampling		1	
Introduction to Sample Size Calculation		1	1
Data presentation		1	1
Tests of significance		2	
Introduction to SPSS		1	1
Proportion test			1
Chi-square test			1
Student T test, Paired T test			1
ANOVA test			1
Correlation (simple and multiple)			1
Regression			1
Screening		1	1
Total		30	15
5. Teaching and Learning Methods	<p>Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online learning. 60% of study method is offline and 40% of study is online</p> <p>Online learning materials are available at Minia University site</p> <ul style="list-style-type: none"> ▪ Lectures: Face to face lectures, Pre-recorded video lectures ▪ Practical lessons ▪ Assignment ▪ Online quizzes 		
6. Teaching and Learning Methods for students with limited Capacity	<ul style="list-style-type: none"> • Outstanding student rewarded certificate of appreciation due to high level of achievement • Limited students divided into small group to make learning more effective 		
7. Student Assessment			

<p>D. Student Assessment Methods</p>	<p>7.1- Research assignment: to assess general transferable skills, intellectual skills.</p> <p>7.2- Written exams:</p> <ul style="list-style-type: none"> • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. <p>7.3- Practical Exams: to assess practical skills, intellectual skills.</p> <p>7.4- Oral Exams: Oral exams to assess knowledge and understanding, attitude, communication</p> <p>7.5- Structured oral exams: to assess knowledge.</p>
<p>E. Assessment Schedule (Timing of Each Method of Assessment)</p>	<p>Assessment 1: Final written exam week: 24-28</p> <p>Assessment 2: Oral exam week: 24-28</p> <p>Assessment 3: Practical exam week: 24-28</p>
<p>F. Weighting of Each Method of Assessment</p>	<ul style="list-style-type: none"> - Final Written Examination 100% - Oral Examination 100% - Practical Examination 100% - Total 100%
<p>8- List of References</p>	
<p>A. Course Notes/handouts</p>	<ul style="list-style-type: none"> - Department notes, lectures and handouts
<p>B. Essential Books</p>	<ul style="list-style-type: none"> - The Lancet Handbook of Essential Concepts in Clinical Research
<p>C. Recommended Textbooks</p>	<p><u>Research methods:</u></p> <ul style="list-style-type: none"> - Introducing Research Methodology; A Beginner's Guide to Doing a Research Project - Understanding Clinical Research, Renato Lopes and Robert Harrington; ISBN-10: 0071746781 ISBN-13: 978-0071746786 - Users' guides to the medical literature: a manual for evidence-based clinical practice: Guyatt, G.,

	<p>D. Rennie, M. Meade and D. Cook (2002), AMA press Chicago.</p> <ul style="list-style-type: none"> - Research Methods in Community Medicine: Surveys, Epidemiological Research, Programme Evaluation, Clinical Trials, 6th Edition Joseph Abramson, Z. H. Abramson <p><u>Computer:</u></p> <ul style="list-style-type: none"> - Discovering statistics using IBM SPSS statistics, Field, A. (2013). sage. - Medical Statistics: A Guide to SPSS, Data Analysis and Critical Appraisal, Belinda Barton, Jennifer Peat - 2nd Edition Everitt, Brian S. - Medical statistics from A to Z: a guide for clinicians and medical students. Cambridge University Press, 2021. - Bowers, David. Medical statistics from scratch: an introduction for health professionals. John Wiley & Sons, 2019. - Aviva, P. (2005): Medical Statistics at a Glance, Blackwell Company, 2nd , ed., Philadelphia
<p>D. Periodicals, websites</p>	<ul style="list-style-type: none"> - https://phrp.nihtraining.com/users/login.php - http://www.jhsph.edu/ - Journal of Biomedical Education - https://lagunita.stanford.edu/courses/Medicine/MedStats-SP/SelfPaced/about?fbclid=IwAR3nfirLM4wnuEqqUjLjk8TCR7lzPdnpGqwin06L-GjFq32a62w3j6R5s9c

Course Coordinators:

➤ **Coordinators:**

1) **Lecturers:** Dr / Shaimma Mahmoud, Dr/ Chrestina Monir

○ **Head of Department:**

Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023



نموذج رقم (١١)

جامعة/أكاديمية : المنيا

كلية / معهد: الطب

قسم: الصحة العامة والطب الوقائي

Medical Statistics and Research Methodology	مسمى المقرر

Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Introduction : - Introduction to research. - Terminology and Rationale - Originality		A.1, A.2,			
- Study design : -Cross sectional study and the prevalence rate -Cohort study, incidence rate, relative & attributable risk -Case-control study, Odd's ratio sampling -Experimental study and clinical trials		A.3, A.4,	B.1, B.2, B.3, B.4,	C.1,	
- Sources of Errors in Medical Research - Bias and confounding and its Control.			B.3,	C.5	
- Validity and reliability					

- The questionnaire design				C.2,	
- Writing the Research Paper or Manuscript - Protocol Writing			B.3,	C.3,	D.1, D.2, D.3
- Critic technique for the literature review					
- Association and causation		A.6,		C.4,	
- Evidence - based approach in medical practice		A.5,			
- Ethics of medical research		A.7			
<u>Statistics</u>					
Sampling		A.8, A.9, A.11			D.4
Introduction to Sample Size Calculation		A.10		C.10	D.4
Data presentation		A.13, A.14	B.6	C.9	D.4
Tests of significance		A.15, A.16	B.5	C.11	D.4
Introduction to SPSS		A.12	B.6	C.6, C.7, C.8	D.5, D.6
Proportion test		A.11	B.7, B.8		D.5, D.6
Chi-square test		A.11	B.7, B.8		D.5, D.6
Student T test, Paired T test		A.11	B.7, B.8		D.5, D.6
ANOVA test		A.11	B.7, B.8		D.5, D.6
Correlation (simple and multiple)		A.11	B.7, B.8		D.5, D.6
Regression		A.17	B.7, B.8		D.5, D.6
Screening		A.18, A.19	B.7, B.8	C.12	D.4

Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	A.1, A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.10, A.11, A.12, A.13, A.14, A.15, A.16, A.17, A.18	B.1, B.2, B.3, B.4, B.5, B.6, B.7, B.8		
Practical			C1, C.3, C4, C.5, C.6, C.7, C.8, C.9, C.10, C11, C.12	
Assignment	A.11, A.13, A.18	B.7, B.8	C.2, C.6, C.8, C.9, C.10, C.12	D.1, D.2., D.4, D.5, D.6

Date of last update & approval by department council: 6 / 3 / 2023

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written paper based exam	A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.14, A.15, A16, A18	B.3, B.5,		
Practical exam (Statistical exam)			C.1, C.2, C.5, C.6, C.7,C.8, C.9, C.10, C.11, C.12	
Oral exam	A.10, A11, A.12, A13, A.15, A.16, A.17, A18	B.1, B.2, B.6, B.7, B.8		D.1, D.2, D.5, D.6

- **Course Coordinators:**
 - **Coordinators:**
 - 2) **Lecturers:** Dr / Shaimma Mahmoud, Dr/ Chrestina Monir
- **Head of Department:**
Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023



Course specification of :**“Use of Computer in Medicine”
in MD degree****University:** Minia**Faculty:** Medicine**Department offering the course:** Community Medicine department**Department offering the programme:** forensic medicine and clinical toxicology departemnt**Programme(s) on which the course is given:** First part MD for clinical toxicology**Academic year/ Level:** First part of MD

1. Course Information	
Academic Year/level: First part MD	Course Title: Use of Computer in Medicine
<ul style="list-style-type: none"> • Number of teaching hours: <ul style="list-style-type: none"> - Lectures: 20 hours - Practical/clinical: 10 hours - Total: 30 hours 	
2. Overall Aims of the course	<i>By the end of the course the student must be able to:</i> <ol style="list-style-type: none"> 1. Recognize knowledge about the software and their applications in Medicine 2. Gain skills necessary for using and managing health care information systems
3. Intended learning outcomes of course (ILOs): <i>Upon completion of the course, the student should be able to:</i>	
A. Knowledge and understanding	A.1. Define each part of computer hardware and its function A.2. Have a basic understanding of various computer applications in medicine - for instruction, information managing, and computer based medical record, etc. A.3. Define telemedicine and its importance A.4. Recognize importance of health information technology in improvement of healthcare A.5. Describe electronic medical records and obstacles facing it A.6. Identify the concept of big data analysis
B. Intellectual Skills	B.1. Criticize adoption of telemedicine B.2. Discover factors constraining adoption of telemedicine
C. Professional and Practical Skills	C.1. Design framework for understanding of health information system performance

D. General and transferable Skills	D.1. Utilize computers in conducting research D.2. Appraise adoption of telemedicine D.3. Discover skills to carry out the process of improving health information system performance		
4. Course Contents			
Topic	No. of hours	Lecture	Tutorial/ Practical
Use of Computer in Medicine			
General concepts Introduction to Microsoft PowerPoint	6	4	2
Health Information Systems (HIS)	6	4	2
Telemedicine	6	4	2
Software Used in the Health Care	6	4	2
Big Data Analysis in Health	6	4	2
Total	30	20	10
5. Teaching and Learning Methods	<p>Since COVID-19 pandemic, blended learning approach was adopted that mixes virtual face-to-face interaction activities with the online learning. 60% of study method is offline and 40% of study is online Online learning materials are available at Minia University site</p> <ul style="list-style-type: none"> ▪ Lectures: Face to face lectures, Pre-recorded video lectures ▪ Practical lessons ▪ Assignment ▪ Online quizzes 		
6. Teaching and Learning Methods for students with limited Capacity	<ul style="list-style-type: none"> • Outstanding student rewarded certificate of appreciation due to high level of achievement • Limited students divided into small group to make learning more effective 		
7. Student Assessment			
A. Student Assessment Methods	<p>7.1- Research assignment: to assess general transferable skills, intellectual skills.</p> <p>7.2- Written exams:</p> <ul style="list-style-type: none"> • Short essay: to assess knowledge. • Commentary: to assess intellectual skills. <p>7.3- Practical Exams: to assess practical skills, intellectual skills.</p> <p>7.4- Oral Exams: Oral exams to assess knowledge and understanding, attitude, communication</p> <p>7.5- Structured oral exams: to assess knowledge.</p>		

B. Assessment Schedule (Timing of Each Method of Assessment)	Assessment 1: Final written exam week: 24-28 Assessment 2: Oral exam week: 24-28 Assessment 3: Practical exam week: 24-28
C. Weighting of Each Method of Assessment	Final Written Examination 100% Oral Examination 100% Practical Examination 100% Total 100%
8. List of References	
A. Course Notes/handouts	Department notes, lectures and handouts
B. Essential Books	Essential Medical Statistics, Betty R. Kirkwood and J. A. Sterne (2000), 2nd edition
C. Recommended Textbooks	Data Management and Analytics for Medicine and Healthcare: Begoli, Edmon, Fusheng Wang, and Gang Luo. Springer, 2017.
D. Periodicals, websites	- National Institutes of Health: http://www.nih.gov - American Medical Informatics Association: http://www.amia.org/

○ **Course Coordinators:**

➤ **Coordinators:**

3) **Lecturers: Dr / Shaimma Mahmoud, Dr/ Chrestina Monir**

○ **Head of Department:**

Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023

نموذج رقم (١١)

جامعة/ أكاديمية :المنيا

كلية / معهد: الطب

قسم: الصحة العامة والطب الوقائي

Use of Computer in Medicine	مسمى المقرر

Matrix of Coverage of Course ILOs By Contents

Contents (List of course topics)	Week No.	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understandi ng	B. Intellectual Skills	C. Professiona l & Practical skills	D. General & Transferable Skills
		A	B	C	D
Use of Computer in Medicine					
General concepts Introduction to Microsoft PowerPoint		A.1, A.2,			D.1
Health Information Systems (HIS)		A.4, A.5		C1	D.3
Telemedicine		A.3	B.1, .2		D.2
Software Used in the Health Care		A.5, A.6			D.1
Big Data Analysis in Health		A.6			

Date of last update & approval by department council: 6 / 3 / 2023

Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods Teaching Learning	of &	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Lecture		A.1 to A.6	B.1,		
Practical				C1	
Assignment		A.4	B.2		D1.D.2,D3

Date of last update & approval by department council: 6 / 3 / 2023

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods Assessment	of	Intended Learning Outcomes (ILOs)			
		A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
		A	B	C	D
Written paper based exam		A.1, to A.6	B.1		
Practical computer exam (For SPSS, PowerPoint)				C1	D.1
Oral Exam		A.4, A..6	B.2	C.1	D.2, D.3

- **Course Coordinators:**
 - **Coordinators:**
 - 4) **Lecturers:** Dr / Shaimma Mahmoud, Dr/ Chrestina Monir
- **Head of Department:**
Professor Dr. Nashwa Nabil Kamal

Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council: 6/ 3 / 2023

Course Specifications of clinical Toxicology in medical doctoral Degree of Clinical Toxicology (Second part)

University: Minia

Faculty: Medicine

Department: Forensic medicine & Clinical Toxicology

1. Course Information	
<ul style="list-style-type: none"> Academic Year/level: 2nd part 	<ul style="list-style-type: none"> Course Title: clinical Toxicology
<ul style="list-style-type: none"> Number of teaching hours: <ul style="list-style-type: none"> Lectures: Total of 156 hours; 3 hours/week Practical/clinical: Total of 104 hours; 2hours/week 	
2. Overall Aims of the course	<i>By the end of the course the student should be able to have the professional knowledge about dealing and management of all toxicological cases.</i>
3. Intended learning outcomes of course (ILOs):	
<i>Upon completion of the course, the student should be able to:</i>	
A. Knowledge and Understanding	<p>. By the end of this course, students should</p> <ul style="list-style-type: none"> a1. Recognize all knowledge about general toxicology. a2. Recognize all knowledge about systemic toxicology. a3. Recognize all knowledge about specific toxicology.
A. Intellectual Skills	<ul style="list-style-type: none"> b.1 Conduct research studies, and/or write a scientific study on a research problem. b.2 Identify toxicological emergencies and find solutions. b.3 Analyze reading of research and issues related to the toxicological emergency. b.4 Interpret clinical finding with laboratory results
B. Professional and Practical	<ul style="list-style-type: none"> c.1 Apply the basic and modern professional skills in the area of clinical toxicology.

Skills	c.2 Management of acute intoxicated patients.		
C. General and transferable Skills	d.1 Assess himself and identify of personal learning needs. d.2 Learn himself continuously		
B. Course Contents			
Topic	Lecture	Practical/Clinical	Total No. of hours
<u>I- Clinical Toxicology</u>			
<u>General toxicology</u>			
-Coma	3	2	5
- Convulsion	3	2	5
- Shock	3	2	5
-Antidotes	3	2	5
-Toxidromes	3	2	5
-Toxicokinetics & -Toxicodynamics	3	2	5
-Management of acute intoxicated	3	2	5
-Drug interactions	3	2	5
-Drug abuse	3	2	5
- Toxicological sampling and analysis & Interpretation of results of analysis	3	2	5
-Teratogenicity	3	2	5
-Carcinogenicity	3	2	5
-Genotoxicity	3	2	5
-Geriatric toxicology	3	2	5
- Advanced pediatric toxicology	3	2	5
- Developmental toxicology	3	2	5

- Environmental toxicology	3	2	5
<u>Systemic toxicology</u>			
-Hepatotoxicity	3	2	5
-Haemotoxicity	3	2	5
-Cardiotoxicity	3	2	5
-Neurotoxicity	3	2	5
Nephrotoxicity	3	2	5
-Respiratory toxicity	3	2	5
-Dermatotoxicity	3	2	5
-Ophthalmotoxicity	3	2	5
-ENT toxicity	3	2	5
-GIT toxicity	3	2	5
-Immunotoxicity	3	2	5
- Endocrinal toxicity	3	2	5
- Reproductive toxicity	3	2	5
-Acid-base disorders	3	2	5
-H ₂ O & electrolyte disorders	3	2	5
<u>Specific toxicology</u>			
-Poisons classification & Factors affecting toxicity	3	2	5
-Corrosives	3	2	5
-Heavy metals	6	4	10
-Toxic gases	6	4	10
- Toxic plants	6	4	10
-Pesticides	3	2	5
-Food poisoning	6	4	10
-Animal poisoning	6	4	10

-Insects poisoning	3	2	5
-Drugs intoxication	12	8	20
-Alcohol intoxication	6	4	10
Total	156	104	260
C. Teaching and Learning Methods	<p>5.1-lectures (slide / data show).</p> <p>5.2-practical lessons (clinical meeting departmental / interdepartmental) and cases based discussions.</p> <p>5.3- Assignments for the students to empower and assess the general and transferable skills (presentations including clinical case).</p>		
D. Teaching and Learning Methods for students with limited Capacity	<p>6.1-lectures (slide / data show).</p> <p>6.2-practical lessons (case based discussions)</p> <p>6.3- Assignments for the students to empower and assess the general and transferable skills (presentations including clinical case).</p>		
E. Student Assessment			
A. Student Assessment Methods	<p>7.1 Final written exam to assess Knowledge, understanding and intellectual skills.</p> <p>7.2 Final oral exam to assess understanding and intellectual skills.</p> <p>7.3 Final clinical exam to assess practical skills. (long & short cases sheet)</p>		
B. Assessment Schedule (Timing of Each Method of Assessment)	Exams should be held on 4 days		
C. Weighting of Each Method of Assessment	<p>-Final-written Examination (Exam in 2 days / 3hours for each day) 200 marks</p> <p>-Oral Examination (Exam in 1 day) 100 marks</p> <p>-Clinical Examination in Minia Poison Control Center</p>		

	(Exam in 1day) 100% -Total 400 marks
F. List of References	
A. Course Notes/handouts	Department notes, lectures and handouts
B. Essential Books	Nelson L., Hoffman R., Howland M. N., et al. (2019): Goldfrank's Toxicologic Emergencies (11th ed.), New York, USA: McGraw-Hill Education / Medical, 2096 pages. ISBN: 9781259859618
C. Recommended Text Books	Barile A. (2019): Handbook of Barile's Clinical Toxicology, Principles and Mechanisms, 3rd edition. CRC Press, 622 Pages
D. Periodicals, websites	https://www.omicsonline.org/clinical-toxicology.php . https://www.sciencedirect.com/ .

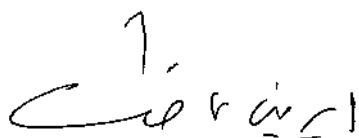
○ **Course Coordinators:**

➤ **Coordinator:**

- 1) **Assistant Professor/** Mohamed Ismail Hafez
- 2) **lecturer/** Rana Adel

○ **Head of Department:**

Professor Dr. Ireni Atef Fawzy



Date of program specifications 1st approval by department council: 13 /5/2013.

Date of last update & approval by department council 5/3/2023

قسم: الطب الشرعى والسموم الأكلينيكية.

Matrix of Coverage of Course ILOs By Contents

Contents List of course topics	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
General toxicology	a1	b1, b2, b3, b4	C1, c2	d1, d2
Specific toxicology	a2	b1, b2, b3, b4	C1, c2	d1, d2
Systemic toxicology	a3	b1, b2, b3, b4	C1, c2	d.1, d.2.

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Matrix of Coverage of Course ILOs by Methods of Teaching & Learning

Methods of Teaching & Learning	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Lecture	a1, a2, a3	b1, b2, b3, b4		d1, d2
Practical (case based discussions)			C1, c2	d1, d2
Presentation/seminar Journal club Thesis discussion Training courses & workshops				d.1, d.2.

Date of last update & approval by department council 5/3/2023

Matrix of Coverage of Course ILOs by Methods of Assessment

Methods of Assessment	Intended Learning Outcomes (ILOs)			
	A. Knowledge & Understanding	B. Intellectual Skills	C. Professional & Practical skills	D. General & Transferable Skills
	A	B	C	D
Written exam	a1, a2, a3,	B.1, B.2, b3,b4		
Practical exam			C1,c2	d.1, d.2,
Oral exam	A1, a2, a3	B.1, B.2, b3,b4		d.1, d.2,

○ **Course Coordinators:**

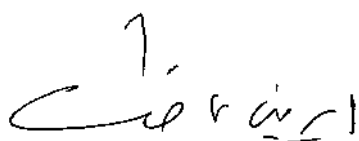
➤ **Coordinator:**

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