1. **Basic Information:**

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| **Course title:** | Doctorate (MD) thesis in Clinical Pharmacology |
| **Course code:** | **MDTH** |
| **Department:** | Clinical Pharmacology department |
| **Program on which the course is given:**  | Doctorate (MD) in Clinical Pharmacology  |
| **Faculty:** | Medicine |
| **University:** | Zagazig |
| **Academic level:** | **Level: second part** **3rd Academic year** | **Semester:**  | **Year: 2020- 2021** |
| **Approval date:**  | Last modification: May 2021Department council (393) |

1. **Course Aims:**

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| 1 | build the competency of the candidate in performing scientific research on adequate basics and strategies  |
| 2 | practice the general and transferable skills with observation |

1. **Intended Learning Outcomes (ILOs):**
2. **Knowledge and understanding:**

At the end of this course, student should be able to:

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| KU1 | Explain ethics and legal implication for the professional practices in clinical pharmacology. |
| KU1 | Describe the principles and basis of quality in the professional practices of Clinical pharmacology. |
| KU3 | Explain the basics and ethics of scientific research |

1. **Intellectual Skills:**

At the end of this course, student should be able to:

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| IS1 | Analyze and evaluate the knowledge in clinical pharmacology to solve medical problems |
| IS2 | Solve special problems in clinical pharmacology with unavailability of some inputs. |
| IS3 | Join different types of knowledge to solve the professional challenge. |
| IS4 | Perform statistical reports about a scientific problem |
| IS5 | Evaluate risks in the professional practices of clinical pharmacology |
| IS6 | Plan for development of performance in the field of clinical pharmacology. |

1. **Professional and Practical Skills:**

At the end of this course, student should be able to:

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| PS1 | Work effectively in a group in biological science laboratories. |
| PS2 | Deal with different tissue samples. |
| PS3 | Use information and communication technology. |
| PS4 | Present information clearly in written, electronic and oral formats. |
| PS5 | Communicate efficiently, respectively and clearly with supervisors. |
| PS6 | Demonstrate effective communication with individuals regardless of their social, cultural, ethnic backgrounds or their disabilities. |
| PS7 | Write the document of thesis. |

1. **General and Transferable Skills:**

At the end of this course, student should be able to:

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| GS1 | Develop database search in the library & internet. |
| GS2 | Use information and communication technology effectively. |
| GS3 | Solve problems related to work management and among colleagues |
| GS4 | Practice the different types of effective communication. |
| GS5 | Use different resources to gain information and practical skills. |
| GS6 | Work in a team in different professional situation. |
| GS7 | Manage the time effectively. |
| GS8 | Learn by self and in a continuous manner |

1. **Contents:**

|  |  |  |
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| **Week No.** | **Topic** | **No. of hours** |
| 1 | Protocol | 6 |
| 2 | Protocol | 6 |
| 3 | Review of literature | 6 |
| 4 | Review of literature | 6 |
| 5 | Review of literature | 6 |
| 6 | Review of literature | 6 |
| 7 | Review of literature | 6 |
| 8 | Review of literature | 6 |
| 9 | Review of literature | 6 |
| 10 | Review of literature | 6 |
| 11 | Review of literature | 6 |
| 12 | Review of literature | 6 |
| 13 | Methods design and performance of the practical part | 6 |
| 14 | Methods design and performance of the practical part | 6 |
| 15 | Methods design and performance of the practical part | 6 |
| 16 | Methods design and performance of the practical part | 6 |
| 17 | Methods design and performance of the practical part | 6 |
| 18 | Methods design and performance of the practical part | 6 |
| 19 | Methods design and performance of the practical part | 6 |
| 20 | Methods design and performance of the practical part | 6 |
| 21 | Methods design and performance of the practical part | 6 |
| 22 | Methods design and performance of the practical part | 6 |
| 23 | Methods design and performance of the practical part | 6 |
| 24 | Methods design and performance of the practical part | 6 |
| 25 | Methods design and performance of the practical part | 6 |
| 26 | Methods design and performance of the practical part | 6 |
| 27 | Methods design and performance of the practical part | 6 |
| 28 | Statistical Analysis of results | 6 |
| 29 | Statistical Analysis of results | 6 |
| 30 | Discussion of the results | 6 |
| 31 | Discussion of the results | 6 |
| 32 | Discussion of the results | 6 |
| 33 | Discussion of the results | 6 |
| 34 | English and Arabic summary | 6 |
| 35 | References collection | 6 |
| 36 | References collection | 6 |

1. **Teaching and Learning Methods:**

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| --- | --- |
| ILO | Method |
| Knowledge and UnderstandingKU.1-3 | Seminar about the research methodology, ethics and legal implications.Search in web sites for self-directed learning |
| Professional/practical skills (PS) PS.1-4 | Perform the methodology of the thesis under supervision.Extended Direct Observation (EDO) |
| Intellectual skills (IS)IS.1-6 | Self-directed learningProblem solving |
| General and Transferable SkillsGS.1-8 | Teaching ethics EDO Self-directed learning |

1. **Student Assessment Methods**:
	1. **Assessment methods:**

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| Supervisors reports every 3 months. |
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| Tool | Purpose (ILOS) | Frequency |
| Protocol seminar | KU.1, PS.1, 2, IS.2, 3, GS.1, 2 | Before registration of the thesis protocol |
| Follow up (EDO) | KU.5, PS.4, 5 | Practical course |
|  Supervisor reports | IS.1-6, PS.1-4 and GS.1, 8  | Every 3 months |
| Thesis results seminar | KU.2, 3, IS.1-6, PS.1-4, GS.1-8 | Once Before the public discussion |
| Public discussion | KU.2, 3, IS.1-5, PS.1-4, GS.1-6 | Once after approval of the department council |

* 1. **Assessment schedule:**

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| --- | --- | --- |
| Assessment 1 | Mid-term |  |
| Assessment 2 | Quiz |  |
| Assessment 3 | Practical  |  |
| Assessment 4 | Oral  |  |
| Assessment 5 | Written  |  |

* 1. **Weighing of Assessments:**

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| --- | --- |
| Mid-Term Examination |  |
| Final-Term Examination |  |
| Quiz |  |
| Practical Examination |  |
| Other types of assessment |  |
| Total | 100% |

1. **List of References:**

|  |  |  |
| --- | --- | --- |
| **No.** | **Reference** | **type** |
| **1** | * + **Basic and Clinical Pharmacology,** 14th edition **(2018),** Bertram G. Katzung, McGraw-Hill companies, Inc.
 | textbook |
| **2** | * + **RANG and DALE'S Pharmacology, 9**th edition **(2018)**, CHURCHUL LIVINGSTONE.
 | textbook |
| **3** | * + **Lippincott's Illustrated Reviews: Pharmacology, 7th edition (2018), Lippincott Williams & Wilkins, a Wolters Kluwer business.**
 | textbook |

1. **Matrix of course contents versus ILOs:**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Course contents** | **Study** **Week** | **ILOs** |
| **knowledge and understanding** | **intellectual skills** | **professional and practical skills** | **general and transferable skills** |
| **1** | **Protocol**  | 1-2 | KU3 | IS 1-3 | PS 7 | GS 2, 4 |
| **2** | **Review of literature** | 3-12 | KU 1, 3 | IS 1, 3 | PS 4, 7 | GS 2, 4 |
| **3** | **Methods design and performance of the practical part** | 13-27 | KU 2, 4 | IS 1-3, 5, 6 | PS 1-7 | GS 1-4 |
| **4** | **Statistical analysis of results** | 28, 29 | KU 2 | IS 4 | PS 7 | GS 2 |
| **5** | **Discussion of results** | 30-33 | KU3 | IS 1-3, 6 | PS 3,4, 7 | GS 1-6 |
| **6** | **English and Arabic summary** | 34 | ---- | IS 6 | PS 4  | GS 4 |
| **7** | **Reference collection** | 35,36 | KU 1 | IS 6 | PS 4, 5 | GS 2 |

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|  | **Name** | **Signature** |
| **Course Instructor:** |  |  |
| **Course Coordinator:** | **Prof. Dr. Mohammed Shehatta****Prof. Dr. Ebtesam Abdelal Ahmed** |  |
| **Head of Department**: | Prof. Dr. Dalia M.AbdelMoteleb. |  |
| **Approval Date** | **9 May 2021** |