توصيف برنامج ماجستير الكيمياء الحيوية

وحدة ضمان الجودة

كلية:الصيدلة فرع:القنطرة

Master of Pharmaceutical Sciences -Biochemistry

Program Specifications

A. Basic Information:

Program title	Master of Pharmaceutical Sciences - Biochemistry
Department	Biochemistry
Faculty/ University:	Pharmacy - Sinai University
Program nature	Single disciplinary
Number of Program Courses	Four compulsory general courses (8 credit hours) Four compulsory special courses (8 credit hours) One elective course (2 credit hours)
Coordinator	Dr. Ibrahim Ghaleb
Date of approval	2 years

B. Professional Information:

1. The Programs Aims:

A Master's degree in Biochemistry aims to provide students with a deep understanding of the fundamental principles of biochemistry and the skills necessary to conduct cutting-edge research in the field. But generally, the objectives of the program are to:

1. Provide students with advanced knowledge and skills in biochemistry, including the study of the chemical processes and structures of living organisms.
2. Develop students' ability to design and conduct research in biochemistry, including the use of advanced laboratory techniques and technologies.
3. Foster critical thinking and problem-solving skills in students, enabling them to analyze complex biochemical phenomena and develop creative solutions.
4. Prepare students for careers in academia, industry, or government, where they can apply their knowledge of biochemistry to a wide range of fields, including medicine, biotechnology, and environmental science.
5. Provide opportunities for students to collaborate with faculty and peers on research projects, and to present their findings at scientific conferences and in peer-reviewed publications.

2. Program Intended Learning Outcomes (PLOs):

On successful completion of the Master Degree Program, students will be able to:

A. Knowledge and Understanding:

A.1. Understand the basic principles of biochemistry, as well as the rapidly expanding fields of molecular biology, biotechnology, and metabolic pathways.

A.2. Describe concisely the most recent data and techniques in biochemistry, genomics, and biotechnology.

A.3. Outline the requirements for appropriate laboratory conduct and quality control in the broad subject of biochemistry.

A.4. Display full awareness of ethics in all fields of scientific research.

B. Intellectual Skills:

B.1. Establish the legal requirements for professional conduct.

B.2. Exercise experimental design, data collection and analysis, and interpreting research findings.

B.3. Manipulate with the possible hazards during work.

B.4. Suggest significant solutions for biochemical results and outcome errors.

B.5. Rewrite concrete reports on the obtained results with conclusive significances.

B.6. Take professional decisions in the area of specialization.

C. Professional and Practical Skills:

C.1. Design a laboratory protocol for a requested biochemical issue.

C.2. Use different types of equipment, software and have the ability to quickly learn and adapt to new tools.

C.3. Write reliable scientific reports in biochemical research and medical laboratories.

D. General and Transferable Skills:

D.1. Interact effectively with patients and biochemistry professionals.

D.2. Learn how to lead a team, develop strategies for time management and achieving goals.

D.3. Find relevant information from reliable sources, analyze data, and present findings professionally.

D.4. Write effectively, speak persuasively, think creatively, and work collaboratively with others.

D.5. Present effectively their findings to both scientific and non-scientific audiences.

3. Curriculum Structure and Contents:

Program duration: Minimum 2 years after registration and 5 years maximum.

Program structure: The program is structured as:

a) Courses:

- **Compulsory general courses (8 credit hours)**

Course title	Code	Depart.	Credit hours
Biostatistics	PPO814	Pharmacology	2
Scientific Research Ethics	PPP810	Pharmacology	2
Scientific Writing	PPP811	Pharmacology	2
Scientific Research Methodology	PBC805	Biochemistry	2

- **Compulsory special courses (8 credit hours)**

Course title	Code	Depart.	Credit hours
Basic Biochemistry	PBC806	Biochemistry	2
Clinical Biochemistry	PBC807	Biochemistry	2
Advanced Molecular Biology	PBC808	Biochemistry	2
Clinical Nutrition	PBC809	Biochemistry	2

- **Elective course (2 credit hours)**

Course title	Code	Depart.	Credit hours
Bioinformatics	PMBE801	Biochemistry	2
Genetics	PBCE802	Biochemistry	2

b) Thesis:

The student will submit a thesis for the master in biochemistry field approved by the judging panel, the department and the college.

4. Program admission requirements

Holding a bachelor degree in pharmaceutical sciences from a university in the Arab Republic of Egypt or an equivalent degree from another scientific institute recognized by the Supreme Council of Universities.

English proficiency certificate with the minimum scores required (TOEFL score of 500 or ILETS score 6).

5. Student assessment and grading methods:

Method	ILOS
Written exam	Knowledge and Understanding and Intellectual Skills
Activity	Intellectual Skills and General and Transferable Skills
Seminars	Knowledge and Understanding ,Intellectual Skills & General and Transferable Skills
Follow up	Professional and practical Skills & General and Transferable Skills
Thesis	Knowledge and Understanding, Intellectual Skills, Professional and practical Skills & General and Transferable Skills

Grade	Percentage	Grade	Points
Excellent	≥ 95	A+	4
	90 – < 95	A	3.8
	85 – < 90	A-	3.6
Very good	80 – < 85	B+	3.3
	75 – < 80	B	3
Good	70 – < 75	C+	2.7
	65 – < 70	C	2.4
Pass	60 – < 65	D	2
Failed	< 60	F	0

Program Coordinator: Ass. Prof. Ibrahim Ghaleb

Head of Department: Ass. Prof. Hanan Attia

Vice Dean for Postgraduate Studies: Prof. Yasser Kandil

Dean of the Faculty: Prof. Hala El-Mesallamy