

The German University in Cairo



Faculty of Pharmacy and Biotechnology

Postgraduate Diploma of Pharmaceutical Biotechnology

Program Catalogue

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Program Vision

The postgraduate Diploma of Pharmaceutical Biotechnology is committed to academic excellence, and provides a solid foundation in the Pharmaceutical Biotechnological Sciences in preparation for careers in Pharmaceutical Biotechnology.

Program Mission

The program is offered for the purpose of conferring advanced qualifications in Pharmaceutical Biotechnology by developing scientific knowledge and research capabilities in the different disciplines of pharmaceutical biotechnology. Graduates from the program will receive a high quality education of imperative breadth and depth to qualify them for leading positions in pharmaceutical biotechnology and allowing them to pursue a Master degree in their field of study. This could be achieved by:

1. Equipping the students with knowledge and practical skills that enhance their laboratory, research and professional competencies
2. Being able to bring a creative approach to the development and promotion of new biotechnology products.
3. Performing applied advanced research in the field of pharmaceutical biotechnology.
4. Enabling the students to continue their postgraduate studies, Master of Biotechnology.
5. Enhancing of the students' soft skills and equipping them with needed technical skills to compete for jobs in the field nationally and internationally.

Career Opportunities

This practical based and research-oriented diploma will equip the student with needed skills to pursue future career in medical, pharmaceutical, health care, and research places related to Pharmaceutical biotechnology including industrial and business fields as well as research institutes and those who are pursuing master degrees. Graduates will be able to compete for jobs in the field nationally and internationally.

Topics to be studied include Gene and protein technology, Biopharmaceuticals development and production, bioinformatics, epigenetics and nanoparticles applications in biotechnology. Suitable for Pharmacy, Biotechnology, Science, Medicine, Veterinary and Dentistry graduates.

The Program equips the students with all needed skills to pursue future careers and assume leadership positions in the following fields:

1. Medical, Pharmaceutical, and Health Care places related to the area of pharmaceutical biotechnology
2. Industrial and business fields related to pharmaceutical biotechnology
3. Research institutes
4. Pursuing Master in biotechnology, Microbiology and other related fields

Graduate Attributes of the diploma of Pharmaceutical Biotechnology

The diploma of Pharmaceutical Biotechnology Program aims at developing knowledge and research capabilities and potential for critical scientific thinking, and deepening and/or broadening knowledge in pharmaceutical biotechnology through advanced postgraduate courses.

After finishing the diploma, the graduates will:

- Have the ability to apply their knowledge and understanding, and problem solving abilities, in new or unfamiliar environments within broader (or multidisciplinary) context related to pharmaceutical biotechnology;
- Have the ability to integrate knowledge and handle complexity , and formulate judgments with incomplete or limited information, but that include reflecting on ethical responsibilities linked to the application of their knowledge and judgments;
- Have the ability to communicate their conclusion , and the knowledge and rational underpinning theses to specialists clearly and unambiguously;
- Have developed learning skills that will allow them to continue to study in a manner that may be largely self- directed or autonomous, and to take responsibility for their own professional development.
- Have equipped with the sufficient multidisciplinary knowledge and skills in the field of Pharmaceutical Biotechnology to be able to take charge and responsibility in areas related to different disciplines of concerned specialization.
- Have used their educational attainments for the benefit for human and public health in accordance with legal, ethical and bioethical principles.

Program Learning Outcomes

The abilities and skills of the program may be divided into three broad categories:

- a. Pharmaceutical biotechnology -related cognitive abilities and skills , i.e. abilities and skills relating to intellectual tasks including problem solving;
- b. Pharmaceutical biotechnology -related practical skills , i.e. skills relating to the conduct of advanced laboratory work;
- c. Generic skills that may be developed in the context of pharmaceutical biotechnology and are of general nature and applicable in many other context.

The main abilities and skills that students are expected to have after completing the Diploma in Pharmaceutical Biotechnology Program at the German University in Cairo, GUC, are as follows:

a. Cognitive abilities and skills

- Ability to demonstrate knowledge and understanding of essential facts, concepts, principles related to the subject area of research.
- Ability to apply such knowledge and understanding to the solution of qualitative and quantitative problem of unfamiliar nature encountered during performing the research project
- Ability to adopt and apply research methodology to the solution of unfamiliar problems.

b. Practical skills

- Skills required for the conduct of the advanced laboratory procedures and use of instruments on different research works.
- Ability to plan and carry out experiment independently and be self critical in evaluation of the experimental procedures and outcomes.

c. Generic skills

- Ability to assimilate, evaluate and present research results objectively.
- Communicate the research task both in an oral presentation and in writing.

Faculty of Pharmacy & Biotechnology

*Postgraduate Diploma of Pharmaceutical
Biotechnology*



Curriculum

First Semester (20 ECTS CP)					
Code		Course Name	Hours		ECTS CP
			L	P	
PHBT	1101	Mechanisms of Microbial and Immunological Diseases	2	-	4
PHBT	1102	Gene and Protein Technology I	2	-	4
PHBT	1103	Gene and Protein Technology I Practical	-	4	4
PHBT	1104	Bioinformatics	2	2	4
PHBT	1105	Biopharmaceuticals Development and Production	2	-	4
Total		SWS 14	8	6	<u>20</u>

Second Semester (20 ECTS CP)					
Code		Course Name	Hours		ECTS CP
			L	P	
PHBT	1201	Gene and Protein Technology II	2	-	4
PHBT	1202	Gene and Protein Technology II Practical	-	4	4
PHBT	1203	Nanotechnology Applications in Biotechnology	2	2	4
PHBT	1204	Epigenetics	2		4
PHBT	1205	Seminar in Pharmaceutical Biotechnology	2	-	4
Total		SWS 14	8	6	<u>20</u>