

# Strategic Research Plan

## Faculty of Pharmacy – Mansoura University

### 2026/2027 – 2022/2023



Dean of the College

Prof. Dr. Manal Ibrahim Eid

Vice Dean  
Postgraduate Studies and  
Research

Dr. Khaled Bashir Selim

The Graduate Studies Committee has been  
accredited

On 16/6/2022 in its extended session  
The approval of the College Council was on  
18/6/2022

Mansoura University  
Faculty of Pharmacy  
Vice Dean Office  
Graduate Studies and Research

جامعة المنصورة  
كلية الصيدلة  
مكتب وكيل الكلية  
للدراسات العليا والبحوث

السيدة الأستاذة الدكتور / عميد الكلية  
تحية طيبة وبعد ...

أتشرف بإحاطة سيادتكم علماً بموافقة لجنة الدراسات العليا رقم (248) الممتدة بتاريخ 2202/6/16 على المدكرة المقدمة من السيد أ.د./ وكيل الكلية للدراسات العليا والبحوث بشأن اعتماد الخطة الإستراتيجية للبحث العلمي  
2027/2022 .  
برجاء التقضل بالإطلاع والتوجيه بما يلزم .  
وتفضلوا سيادتكم بقبول فائق الاحترام والتقدير ...

وكيل الكلية للدراسات العليا والبحوث  
أ.د./ خالد بشير شعبان سليم  
C. 001 7 116

عرض علي  
مجلس الكلية  
الموافقة  
C. 001 7 / 18

Mansoura, 35516-Tel: 050/2200236  
رمز بريدي 35516 تليفون 050 / 2200236  
محمد موسى



## Areas of scientific research of the faculty

### Five Years Research Plan

The Faculty Council also approved on 24/1/2022, based on the approval of the Graduate Studies and Research Committee on 16/1/2022, the approval of the councils of the scientific departments on the mentioned dates on the five-year research plans of the scientific departments to include the following topics:

- 1- Discovery of new vehicles
- 2- Developing new methods of drug control
- 3- Contribute to solving health problems of national importance
- 4- Contribute to solving scientific and technical problems in the pharmaceutical industries

### Research plan for scientific departments

Departemnet	Date of approval of the Department Council	Research Plan
Microbiology and Immunology	9/1/2022	<ol style="list-style-type: none"><li>1- The use of nanotechnology in the treatment of resistance and virulence of microbes</li><li>2. Inhibition of cellular communication of microbes and virulence factors</li><li>3- Studying the virulence factors of some microbes isolated from hospitals and foodstuffs and how to reduce their danger</li><li>4- Microbiological studies on fungal infection</li><li>5- Production of some important enzymes using biotechnology</li><li>6- Immunity and how microbes escape from the immune system</li><li>7- Studying the effect of drugs used in treatment, the causes of microbial resistance to them, and how to increase their therapeutic effectiveness</li></ol>

		<p>8. Use biotechnology to prepare vaccines and antibodies</p> <p>9- Identification of microbes using microray technology</p> <p>10- Effect of non-histonic proteins on liver cancers</p> <p>11- Analysis of immune markers of viral infections</p> <p>12- Using biotechnology to produce antimicrobials</p>
Medicinal Chemistry	6/12/2021	<p>1- "Contribute to solving health problems by working on the design and construction of new compounds with chemotherapeutic efficacy such as anticancers, microbes, parasites, anti-inflammatories, medicines for the treatment of diabetes and other diseases.</p> <p>2- Contribute to solving scientific and technical problems by estimating the active substances in pharmaceutical forms circulating in the Egyptian market.</p> <p>3- Contribute to activating the role of computer studies in proving the effectiveness of new compounds and studying their toxicity and physicochemical properties.</p>
Biochemistry	9/1/2022	<p>1 - liver disease.</p> <p>2- Diabetes and associated complications</p> <p>3 - diseases of the circulatory, nervous and respiratory systems.</p> <p>4- Tumors and their indications.</p>
Pharmacology and Toxicology	13/12/2021	<ul style="list-style-type: none"> <li>• Discovery of new compounds with therapeutic efficacy in cardiovascular diseases, liver and kidney diseases, diabetes and cancer diseases.</li> </ul>

		<ul style="list-style-type: none"> <li>• The use of active substances from natural sources with biological experiments to ensure the effectiveness of new substances.</li> <li>• Studying many of the diseases facing the Egyptian society, especially in the Delta region, and identifying new vital paths to target them therapeutically and reduce the progress of the disease.</li> <li>• Studying the effect of many safe applied materials and their efficiency in the treatment of these diseases such as: liver diseases - gynecology - heart disease - cancerous tumors.</li> <li>• Using Cell culture and stem cell technology</li> <li>• Conducting epidemiological studies on some pathogenic microbes using molecular biology and biotechnology techniques in the study of bacterial genes.</li> </ul>
Pharmaceutics	14 / 12 / 2021	<ol style="list-style-type: none"> <li>1) 1- Development of nanometric drug delivery systems in various fields of treatment.</li> <li>2) Achieving better benefit for the patient by preparing new formulations that release the drug at the required rate and deliver it to the target place and thus a better therapeutic effect while reducing side effects.</li> <li>3) Study the stability and physical and chemical properties of the new pharmaceutical preparations to choose the best ones in preparation for their study in experimental animals and humans.</li> </ol>

- 4) Studying the evaluation of drugs used to treat some epidemic diseases such as Covid-19 and endemic in Egypt, such as liver, kidney, ulcer and diabetic foot drugs in terms of their effectiveness and providing nanometric formulations to reduce side effects and maximize their therapeutic effectiveness, through the ongoing projects in the department, which contribute to the completion of a lot of research that serves the environment.
- 5) The department looks forward to constructive and fruitful cooperation with Egyptian pharmaceutical companies to provide new developments in the field of nanopharmaceuticals, evaluate them and work to solve the problems facing these companies, whether in production or evaluation.
- 6) Formulate and evaluate nanosystems to improve the therapeutic efficacy and bioavailability of drugs extracted from natural (unsynthesized) plants to reduce common side effects with synthetic drugs.
- 7) Evaluation of drug delivery systems through clinical studies and previous laboratory studies and their biological evaluation in experimental animals, which contributes to studying the therapeutic efficacy of these systems and identifying their side effects.

<p>Pharmaceutical Analytical Chemistry</p>	<p>10 / 1 / 2022</p>	<p>1- - Developing and applying new analysis methods using highly efficient devices and techniques for raw materials and pharmaceutical preparations used in the treatment and control of endemic diseases and communicable and non-communicable diseases. 2- Devising new analytical methods to study the stability of pharmaceutical preparations and study their efficiency in terms of physical and chemical properties for preparations used in the treatment and control of endemic diseases and communicable and non-communicable diseases. 3- Study and evaluation of metabolites in biological fluids for pharmaceutical preparations used in the treatment of endemic diseases and communicable and non-communicable diseases. 4- Developing modern analytical methods to estimate some biochemical indications to diagnose many diseases facing the Egyptian society, especially in the Delta region, and to contribute to overcoming their spread and treatment. 5- Innovating new technologies to detect and remove drug residues and environmental pollutants from clinical wastewater and environmental water.</p>
<p>Clinical Pharmacy and Pharmacy Practices</p>	<p>4/1/2022</p>	<ul style="list-style-type: none"> <li>- Studying many of the diseases facing the Egyptian society and identifying new biomarkers to diagnose these diseases and overcome their spread and treatment.</li> <li>- Studying the impact of many safe drugs and their efficiency in treating these diseases such as liver disease - diabetes - heart disease - critical cases - cancerous tumors.</li> <li>- Conducting epidemiological studies on some pathogenic microbes using molecular biology and biotechnology techniques in the study of bacterial genes.</li> <li>- Improving the effectiveness of treatments used in diseases and reducing the incidence of side effects.</li> <li>- Apply personalized medicine to choose the appropriate treatment for the right patient.</li> <li>- Apply pharmacoeconomics studies to reduce expenses and maximize treatment results.</li> <li>- Comparison of the effectiveness of different treatments in different diseases.</li> </ul>



		<ul style="list-style-type: none"><li>- Comparison between the effectiveness of the same drug in different methods of use (intravenous injection - intramuscular - oral treatment - etc. ....).</li><li>- Contribute to sound clinical practice.</li><li>- Contribute to reducing drug errors and drug interactions.</li><li>- Activating the role of drug information centers.</li></ul>
Pharmaceutical Organic Chemistry	5/1/2022	<ul style="list-style-type: none"><li>- Design and construction of new compounds with therapeutic efficacy such as anti-cancer, antimicrobial, antiviral, anti-motaoxidase and anti-Alzheimer's.</li><li>- Studying many of the diseases facing the Egyptian society, especially cancer, infection with microbes, viruses, Alzheimer's and some other diseases that depend on the MAO enzyme, and identifying and constructing the compounds that are used to confront these diseases.</li></ul>