



Research Plan for the Postgraduate Studies Sector

2025-2030

Helwan University Vision

To be a distinguished model in knowledge and innovation investment, with a competitive advantage at the local, regional, and international levels.

Helwan University Mission

Helwan University is committed to achieving institutional excellence by fostering sustainable investment in knowledge and innovation. This commitment is realized through the provision of an educational environment that stimulates creativity and individuality, a comprehensive framework that supports advanced scientific research addressing national and global challenges, and the establishment of effective strategic partnerships that contribute to community enrichment and the advancement of sustainable development.

A Word from the Vice President for Postgraduate Studies and Research

In light of the rapid global transformations in technology, economy, and education, and in response to the evolving demands of sustainable development, it has become imperative for scientific research within universities to adapt, keeping pace with these challenges and offering practical, knowledge-based, and innovative solutions. In this context, Helwan University, through this research plan, seeks to foster a culture of applied scientific research, support researchers across all disciplines, and provide an academic environment that encourages excellence and creativity.

This plan has been developed through a fruitful collective effort involving the university's various faculties and sectors. It represents a clear and comprehensive vision that places scientific research at the forefront of the university's priorities and aligns it directly with societal issues and needs, in accordance with the highest academic and scientific standards.

We believe that this plan will serve as a supportive organizational framework for researchers at Helwan University and a strategic guide for their research activities over the next five years.

The university remains firmly committed to providing all necessary financial and moral support to strengthen the research ecosystem, promote collaborative research, and activate partnerships with local and international research institutions that will amplify the impact of knowledge and advance the university's vision as a leading national academic and research institution.

We pray for success and guidance for all our colleagues and researchers, and we call upon everyone to be active partners in implementing this plan and achieving its goals—for the benefit of the university and the nation.

Prof. Emad Mohamed Abu El-Dahab

Vice President for Postgraduate Studies and Research
Helwan University

Introduction

Amidst the rapid global transformations, scientific research and innovation have become fundamental pillars for achieving sustainable development and driving economic and social progress. Advanced nations have come to recognize that investing in knowledge and scientific research is the key to enhancing their competitive capabilities and establishing leadership on both regional and international levels. In this context, Egypt's "Vision 2030" aspires to build a creative and innovative society that produces science, technology, and knowledge through an integrated system that ensures the developmental value of innovation and research, while strengthening the role of universities and research institutions in supporting comprehensive development.

In line with this vision, Helwan University—one of Egypt's prominent higher education and research institutions—believes deeply in its responsibility to contribute to societal development by promoting applied scientific research aligned with national priorities and strategic objectives. The university aims to evolve into a fourth-generation institution, one that integrates education, research, innovation, and entrepreneurship. Achieving this vision requires the development of a stimulating research environment, the localization of knowledge, and the maximization of research output by linking it directly to societal needs and labor market demands. The Helwan University Research Plan (2025–2030) is a natural outcome of the tangible progress the university has made in the field of postgraduate studies and scientific research in recent years. It is also rooted in the university's advanced infrastructure and its strategic entities, such as the Innovation and Scientific Research Complex, the Research Support Center, the Interdisciplinary Research Center, and other specialized research institutes. This plan has been carefully designed based on rigorous methodological principles that reflect the diversity of disciplines across the university and the unique nature of each research field, while remaining aligned with both national and international research and innovation trends.

This plan aims to unleash the potential of researchers, enabling them to excel and innovate. It supports applied research and entrepreneurial projects, promotes intellectual property awareness, and works to foster a culture of innovation both within and beyond the university campus. The plan also introduces a new focus on interdisciplinary research, emphasizing the integration and convergence of various fields to address complex issues from multiple perspectives. This enhances the university's ability to produce practical knowledge that serves society and opens new horizons for innovation at the intersection of the natural, engineering, human, social, and artistic sciences.

It is an ambitious roadmap—one we hope will serve as a guiding light for the research community at Helwan University as they continue to achieve scientific advancements that benefit both humanity and the nation.

Chapter One

Report on the Achievements of the Previous Research Plans (2015–2020) and (2021–2025)

The previous strategic plans of Helwan University outlined eight main strategic areas, among which "Scientific Research and Innovation" was identified as a core pillar for achieving academic excellence and strengthening the university's role in sustainable development.

These strategic areas included:

1. Education and Learning
- 2. Scientific Research and Innovation**
3. Community Engagement
4. International Interaction and Regional Impact
5. Information and Communication Technology
6. Human Resources
7. Infrastructure
8. Financial Sustainability

For each area, a set of strategic objectives and corresponding projects were established, along with clearly defined performance indicators to measure progress toward achieving these goals.

With regard to the field of Scientific Research and Innovation, the focus was placed on attaining excellence in research and innovation, supported by key performance indicators (KPIs) to assess the effectiveness of this domain. Through these goals and initiatives, Helwan University seeks to enhance its position as a leading institution in the field of research and innovation and to contribute effectively to sustainable development on both the national and international levels.

Key Achievements of the University's Research Plan (2015–2020)

The final report on the 2015–2020 research plan indicated that 6 out of 9 targeted policies related to achieving excellence in scientific research and innovation were successfully implemented, representing an activation rate of **66.6%**. The report also recommended activating or establishing several strategic entities to support the management, execution, and realization of the goal of research and innovation excellence, as follows:

➤ **Existing but Underutilized Entities During the Plan Period:**

- Center for Marketing Research and Educational Services
- Technology Innovation and Commercialization Office (TICO)
- Center for Technological Development

➤ **Entities Yet to Be Established:**

- Center for Technology Incubators and Science Parks (now activated)

The report also documented the following key achievements in the field of scientific research and innovation:

1. Accreditation of **three research laboratories** by EGAC (Egyptian Accreditation Council) in the Faculties of Applied Arts, Science, and Engineering (Mataria branch).
2. Establishment of the **Nanotechnology Research and Studies Center** at Helwan University.
3. Establishment of the **New and Renewable Energy Research and Studies Center** at the university.
4. Development and/or establishment of **10 research laboratories and centers**.
5. Securing **27 externally and locally funded research projects**.
6. Signing of **28 cooperation agreements and partnerships** with local and international institutions in the fields of research and academic exchange.
7. Contribution to resolving **39 community issues** through the university's strategic plan.
8. Procurement of laboratory equipment and devices through project funding exceeding **EGP 140 million**.

Key Achievements of the University's Research Plan (2020–2025)

List of Executive Projects (2021–2025) in the field of scientific research and innovation:

- Establishment of the **Mechatronics Technology Laboratory** (Sixth Funding Cycle)
- Establishment of **Technology Incubators at the Science and Technology Valley** (Sixth Funding Cycle)

These two projects are currently **under implementation** as part of the university's infrastructure development initiatives.

Chapter Two

Helwan University Research Plan (2025–2030)

First: General Strategic Framework

About Helwan University

- Helwan University was established on July 26, 1975, under Law No. 70 of 1975, on an area of 350 acres. The university's roots go back to the 19th century during the reign of Mohamed Ali of Egypt, who founded the “**Technical Training School or Vocational School.**” (*Madrasat al-'Amaliyyat*). The disciplines of that school formed the basis for many institutes that later became part of Helwan University.
- Helwan University includes some of the oldest faculties not only in Egypt but also in the Middle East. For instance, the Faculty of Applied Arts was founded in 1839, while the Faculties of Fine Arts and Art Education were established in 1908 and 1936, respectively.

Faculties of Helwan University:

1. Faculty of Applied Arts (1839)
2. Faculty of Fine Arts (1908)
3. Faculty of Art Education (1932)
4. Faculty of Music Education (1935)
5. Faculty of Home Economics (1937)
6. Faculty of Art Education (1932)
7. Faculty of Physical Education – Girls (1937)
8. Faculty of Physical Education – Boys (1937)
9. Faculty of Social Work (1947)
10. Faculty of Engineering – Mataria (1955)
11. Faculty of Engineering – Helwan (1959)
12. Faculty of Commerce and Business Administration (1961)

13. Faculty of Tourism and Hotels (1962)
14. Faculty of Science (1980)
15. Faculty of Education (1982)
16. Faculty of Technology and Education (1989)
17. Faculty of Arts (1995)
18. Faculty of Computers and Artificial Intelligence (1995)
19. Faculty of Law (1995)
20. Faculty of Pharmacy (1995)
21. Faculty of Nursing (2006)
22. Faculty of Medicine (2013)
23. Postgraduate Faculty of Interdisciplinary Studies and Research (2014)
24. Technical Institute of Nursing (2014)
25. National Institute of Intellectual Property (2016)

The National Strategy for Higher Education and Scientific Research in Egypt

In March 2023, the Ministry of Higher Education and Scientific Research launched the National Strategy for Higher Education and Scientific Research in Egypt. The strategy aims to enhance the educational and research system, foster an environment conducive to investment, provide the necessary infrastructure, support efforts to diversify higher education institutions, and align scientific research with the priorities of the national development plan and the goals of sustainable development (Egypt Vision 2030). It is founded on three main pillars: the Sustainable Development Strategy – Egypt Vision 2030, the transformation towards fourth-generation universities, and the integration of the higher education and scientific research system with Egypt's comprehensive development plan. The roadmap is guided by seven core principles: integration, interdisciplinary specializations, communication, active participation, sustainability, international benchmarking, and innovation and entrepreneurship. Article 23 of the Egyptian Constitution affirms the State's commitment to ensuring the freedom of scientific research and adopting the knowledge economy as a path to achieving national sovereignty. It also means that no less than 1% of the gross national product be allocated to scientific research, with a gradual increase in accordance with international standards.

Helwan University Strategic Plan

In alignment with Egypt's national agenda and Egypt Vision 2030 in the field of scientific research—and within the broader context of the State's orientation toward digital transformation, innovation, and the knowledge economy—Helwan University has developed a clear future-oriented policy. This policy is consistent with national priorities and aims to create an enabling scientific environment for faculty members and their

assistants to conduct impactful research and to leverage innovative scientific achievements in addressing societal challenges while supporting the State's development, industry, and economic plans. The plan also includes the activation of international cooperation channels with global universities and research centers to position the university appropriately within the global scientific community, and to contribute to shaping a leading future for the Egyptian State. In this context, and as a continuation of the University's Strategic Plan (2021–2025), Helwan University has developed its Strategic Plan (2025–2030) in accordance with the following frameworks:

- Egypt Vision 2030 for Sustainable Development
- The National Strategy for Higher Education and Scientific Research 2030
- The National Strategy for Science, Technology, and Innovation 2030
- The Law on Incentives for Science, Technology, and Innovation and its Executive Regulations
- Publications of the National Authority for Quality Assurance and Accreditation
- Digital transformation of universities and the transition of Egyptian universities into smart universities
- The Egyptian Government's Action Program: "Together, We Build a Sustainable Future"

The organizational framework for the University's Strategic Plan was developed by the Strategic Planning Unit at Helwan University, culminating in the final version of the Strategic Plan, which was approved by the University Council in the first quarter of 2025.

Second: Foundational Principles and Institutional Alignment

Alignment of Helwan University's Research Plan 2025–2030 with the University's Vision and Mission

Helwan University Vision

"To be a distinctive model in knowledge and innovation investment, with a competitive advantage at the local, regional, and international levels."

Helwan University Mission

"Helwan University is committed to achieving institutional excellence by promoting sustainable investment in knowledge and innovation through the provision of a stimulating educational environment that fosters creativity and uniqueness, along with a system that supports advanced scientific research contributing to addressing national and global challenges, and building effective strategic partnerships that enrich society and achieve sustainable development."

The research plan of Helwan University aims to create a supportive scientific environment for faculty members and their assistants to conduct purposeful research and to harness these innovative scientific achievements to address societal challenges and support national developmental, industrial, and economic plans. It also seeks to strengthen international collaboration with global universities and research centers.

From the above, it is evident that the Helwan University Research Plan (2025–2030) aligns with the University’s vision, mission, and strategic plan.

Reference Sources Used by the Committee for Developing the University’s Research Plan (2025–2030)

These sources include national strategic documents, previous university plans, and internal and external environmental analyses:

- The Strategic Plan for Scientific Research of the Ministry of Higher Education
- Helwan University Strategic Plan 2025–2030
- The official website of Helwan University
- Data on the number and types of research laboratories available at the university
- Data on available scientific equipment and ongoing research projects
- Data on research publications by the university over recent years
- Data on faculty members, the number of postgraduate students, and their areas of specialization

Mechanism for Developing the University Research Plan (2025–2030)

1. A research plan development team is formed, consisting of Vice Deans for Postgraduate Studies and Research from each faculty (or their representatives). The team is organized into six sectors, with each sector encompassing a group of faculties.
2. The team reviews relevant reference sources, including national strategic plans, the strategic plan of the Ministry of Higher Education and Scientific Research, the Helwan University Strategic Plan 2025–2030, and progress reports from the previous five-year plan (2020–2025).
3. Through a series of meetings, the team conducts a gap analysis, identifying strengths, weaknesses, challenges, and obstacles that may affect the implementation of the research plan.
4. The team defines the strategic goals and objectives that the research plan aims to address.
5. The team identifies the key projects and initiatives to be implemented during the 2025–2030 planning period.
6. Each sector team determines the research areas relevant to the University’s strategic objectives and national vision. These are discussed through meetings organized by the sector coordinator.

7. A research plan template, including the identified research areas, is sent to the faculties to define specific research themes under each area. This input is provided by faculty members and researchers.
8. The sector coordinator organizes a series of meetings to discuss the submitted research themes, assess their alignment with the designated research areas, and consolidate them into the final sector research plan.
9. The team establishes performance indicators to monitor and evaluate the achievement of the research plan's objectives.
10. The complete draft of the research plan is submitted to the review team for auditing and final review before being approved by the Council of Postgraduate Studies and Research.

Third: Situational Analysis

Strengths of the Scientific Research System at Helwan University

- Helwan University includes **two engineering faculties** and a **Faculty of Technology and Education**, forming a distinguished scientific hub capable of achieving significant accomplishments in technological and industrial fields.
- The University has **two Faculties of Physical Education** (one for male students and one for female students), enabling it to make notable contributions in the fields of sports and community service.
- Helwan University hosts several faculties in the **arts and creative disciplines**, such as the **Faculty of Applied Arts, Faculty of Fine Arts, Faculty of Art Education**, and **Faculty of Music Education**—faculties that are nationally and regionally unique in their specialization.
- The University includes the **Faculty of Home Economics**, which is also a uniquely specialized faculty.
- Helwan University owns a **facility on Orabi Street** in downtown Cairo.
- The University has a **strong academic base**, with **24 specialized faculties**, more than **7,000 faculty members and teaching assistants**, over **200,000 undergraduate students**, and **2,000 international students** enrolled at the university.
- A large number of students are enrolled in **Master's and Doctoral programs** across various disciplines.
- Helwan University has shown a **significant and continuous increase in international research publications**.
- The University enjoys a **strong academic reputation**.

Research Centers and Centers of Excellence Supporting the Implementation of the Strategic and Research Plan at Helwan University

Helwan University has established several research centers and strategic entities that play a pivotal role in supporting and activating the university's strategic and research plan. These include:

1. Hub for Creativity and Scientific Research
2. Technology Incubators Office
3. International Relations Office
4. University International Ranking Unit
5. Scientific Research Support Fund
6. Technology Innovation and Commercialization Office
7. Intellectual Property and Patent Office
8. Entrepreneurship Club
9. Interdisciplinary Research Center
10. Project Management Unit
11. Art and Culture Complex

Challenges and Obstacles to Advancing the Research Plan at Helwan University

- The current systems and regulations in place at the University do not effectively support research and innovation.
- Lack of effective partnerships between the University and national economic institutions.
- Limited number of applied research outputs that contribute to community development and problem solving.
- Insufficient scientific collaboration between different disciplines and research teams within the University to produce interdisciplinary research.
- Misalignment between the tasks required of researchers and the academic promotion criteria.
- Inadequate core funding to support scientific research at the University.
- Lack of sufficient research laboratories and unavailability of laboratory facilities.
- Research output is often limited to publications aimed solely at academic promotion.
- Weak marketing of Helwan University at the local, regional, and international levels as a center of expertise contributing to development projects.
- Industry often engages researchers on an individual basis, which prevents the University from claiming intellectual property rights.
- Lack of interest among university researchers in applying for projects from agencies and institutions that fund goal-oriented research.
- Lack of strict guidelines to prevent repetitive or unoriginal master's and doctoral theses that have little impact on advancing research or solving societal problems.
- Migration of highly qualified faculty members to work in Arab and European universities, and the failure of some overseas scholarship recipients to return after earning their doctoral degrees.

Fourth: Strategic Objectives and Key Areas

The research plan aims to achieve the following strategic objectives:

1. Providing a stimulating and supportive environment for scientific research and innovation.
2. Enhancing competitiveness to implement pioneering research projects that contribute to achieving sustainable development.
3. Expanding partnerships and competitive projects in the field of scientific research and innovation.
4. Building effective partnerships with educational and economic institutions.
5. Linking knowledge applications and the outcomes of scientific research and innovation to national priorities and sustainable development goals.
6. Strengthening academic, research, and investment integration to address national challenges and meet societal and economic needs.
7. Building a globally competitive position for the university through enhancing international partnerships and exchanging expertise.
8. Increasing the university's ability to secure international projects.
9. Improving the university's public and media image locally, regionally, and internationally.

University Research Plan Objectives (2025–2030)

- Establish distinguished research centers to conduct applied research projects in areas of national priority.
- Activate the university's scientific competencies across all disciplines to carry out purposeful research that serves society, industry, and the environment.
- Develop new research areas related to community service and environment and promote interdisciplinary specializations.
- Publish scientific journals in all modern research fields, increase their number, and qualify them for inclusion in internationally recognized peer-reviewed indexes.
- Expand international scientific cooperation and joint research between Helwan University and national and international academic and research institutions and build partnerships with Egyptian scientists abroad.
- Increasing the university's resources through applied projects of research centers of excellence to serve industry and technological development projects.
- Encourage researchers to apply for local and international research projects and scientific awards, and enhance their scientific capacities through training programs.
- Promote international scientific publication to improve the university's global ranking.
- Establish a university science and technology valley, a research center for artificial intelligence and its applications, and a center for actuarial science studies; expand the creation of technology incubators.

- Expand the establishment of spin-off companies based on research outputs, in accordance with Science, Technology, and Innovation Incentives Law No. 23 of 2018.
- Complete the development of central laboratory units at the university to support ongoing scientific research.
- Establish new consultancy offices and increase their number to provide scientific and research consulting services in all fields related to community development.
- Work towards increasing the number of international conferences hosted by the university and boost the enrollment of international postgraduate students.
- Increase support for competitive research projects focused on interdisciplinary studies, climate change, and environmental challenges.

Main Fields and Focus Areas Targeted by the University Research Plan (2025–2030)

In line with the national strategic needs, the university's research plan will focus on the following fields and thematic areas:

- **Mineral Resources**
Forming research teams conduct geophysical and geological studies for the exploration of natural resources such as materials and minerals, and for the processing and extraction of rare earth elements.
- **Water**
Geological exploration of groundwater; manufacturing solar-powered water pumps for irrigation; studies to evaluate the quality and usability of groundwater; developing technologies for water desalination; and artificial rainfall (cloud seeding).
- **Alternative Energy**
This includes the development and production of solar energy, and the enhancement of wind energy for electricity generation as new energy sources; developing methods for electrical energy storage; improving power systems; and designing and manufacturing devices for the generation and utilization of biogas as a renewable and alternative energy source.
- **Health and Medicine**
This includes the design and production of effective pharmaceutical compounds to treat diseases affecting the Egyptian society, as well as extracting therapeutic substances from natural plants found in the local environment.
Scientific cooperation with pharmaceutical companies for evaluating drug compounds; rehabilitation nursing for the elderly; nursing care for children with physical and mental disabilities; modernization of hospital and nursing management systems; new strategies for women's and family health; advanced applications in the nursing care of chronic disease patients; modern methods for diagnosing and treating hepatitis viruses; new approaches to addiction treatment; gene therapy; organ transplantation research; human genome studies; virology, epidemiology, and infection control.
- **Marketing, Business Administration, and Investment**
Establishing consultancy offices and conducting studies to resolve investment contracts and disputes; providing consulting services and

studies in arbitration, contracts, and trade exchanges; developing mechanisms to enhance the competitiveness of Egyptian exports; and studying business incubators and their role in boosting production in Egyptian villages.

➤ **International and Tourism Marketing**

Consulting offices and studies in business administration and human resource management; employing artificial intelligence in the field of business management.

➤ **Environmental Pollution and Wastewater Treatment**

Studying environmental pollution in the Helwan area, including water contamination caused by industrial waste; developing new methods for treating wastewater contaminated with metals and pollutants; and conducting research to propose an integrated system for waste management, recycling, and its economic utilization for energy generation.

➤ **Economics and Community Development**

Studying inflation in Egypt—its causes and potential solutions; evaluating optimal economic strategies to support the Egyptian economy and increase foreign currency revenue; studying the activation of tourism economics in Egypt and examining regional and international economic blocs to strengthen the competitiveness of the Egyptian economy.

➤ **Law**

Consultancy offices and studies in the field of international disputes; research and consulting in areas related to cybercrime.

➤ **Biotechnology**

Utilizing biotechnology in the production of biologically active materials.

➤ **Information and Communication Technology**

Geographic information systems (GIS) and remote sensing; artificial intelligence; theoretical computer science; bioinformatics and medical informatics; robotics systems and software; space sciences and satellites; and the development of secure communication networks.

➤ **New Materials Science, Nanotechnology, and Their Applications**

Research on the production of new low-cost polymeric materials; studying applications of nanomaterials in medicine, wastewater treatment, and toxic material removal.

➤ **Humanities and Social Sciences**

Studies the phenomenon of violence and crime in society— Studies on the phenomenon of drug abuse and methods of addressing it – Research in human development for the purpose of sustainable development of the society— Studies on modern scientific methods in the training and development of human resources – Studies on modern techniques in theatrical arts – Research on digital media and its role in influencing ideas – Developing and advancing children's media – Studies on media ethics, rumors, and social responsibility.

This is in addition to the fields and topics listed in the tables in Chapter Three.

Fifth: Implementation and Follow-Up

Mechanisms for Implementing the University's Research Plan

- The research teams assigned to each proposed project are responsible for identifying suitable funding sources, whether local or international, while ensuring close coordination with the funding entities to align objectives and outcomes.
- The university provides in-kind and logistical support to projects that succeed in obtaining external funding, with the aim of achieving the agreed-upon outcomes with funding bodies. This enhances the university's capacity to carry out developmental research projects with tangible impact.
- The implementation of the research plan is monitored by specialized experts within the university, in addition to representatives from funding entities, Vice Deans for Postgraduate Studies, Research and Environmental Affairs and Deans of Faculties to ensure that work proceeds in accordance with established plans.
- Each faculty is required to submit an annual detailed report to the Vice President for Postgraduate Studies and Research, outlining the achievements related to the approved research plan. This contributes to performance evaluation and improvement.
- The annual reports submitted by faculties are reviewed in the relevant university committee councils to monitor the progress of the research plan, identify potential obstacles, propose appropriate solutions, and take necessary actions to ensure the consistent implementation of the plan.

Proposed Research Projects for Implementation within the Research Plan (2025–2030)

The plan includes proposals to establish scientific research consultancy centers at the Helwan University campus on Orabi Street in downtown Cairo, or at the main university campus. These centers aim to enhance the university's role in serving the community and to generate financial returns that can be reinvested in creating new research laboratories and building research partnerships with production and industrial entities. Examples include:

- **Translation Consultancy Center (Faculty of Arts):**
Aims to promote cultural revival through reverse translation of Arabic literary works into foreign languages, contributing to a better global understanding of Arab culture.
- **Consultancy Center for International Disputes and Cybercrime:**
Offers advisory services in international law and cybercrime, supporting institutions in addressing modern legal challenges.
- **Online Postgraduate Programs in the Faculty of Social Work for International Students:**
Provides Master's and PhD programs in the faculty of social work via online platforms, enabling international students to access high-quality distance education.

- **Consultancy Center for Innovative Studies, Contract Settlement, and Investment Dispute Resolution:**
Delivers advanced analysis in areas such as insurance and investment, helping businesses make informed financial decisions.
- **Technical Support and E-Course Production Center for Educational Institutions:**
Develops educational content and curricula tailored to target groups, designed for distribution on digital learning platforms.
- **Engineering and Technological Consultancy Center:**
Comprises specialized units in renewable energy, industrial and production automation, urban development, and environmental engineering, providing advanced technical solutions to societal challenges.
- **Research and Service Center for Industrial Problem-Solving and Development of Engineering Products**
Offers design and engineering solutions to industrial institutions based on the specialties of the Faculty of Applied Arts, enhancing the quality of local products.
- **Design and Production Center for Apparel and Leather Goods**
Focuses on the development of fashion and leather products, supporting local industries in these sectors.
- **Industry Modernization, Training, and Handicraft Revival Center** (Faculty of Applied Arts)
- **Consultancy Center for Geophysical and Geological Studies**
- Engages in the exploration of natural resources and the study of groundwater, contributing to sustainable development. (Faculty of Science)
- **Athlete Rehabilitation Center**
Provides rehabilitation services for athletes in cooperation with the Ministry of Youth and Sports, enhancing public physical health. (In partnership between the Faculties of Physical Education for Boys and Girls, the Faculty of Medicine, and the Faculty of Nursing)
- **Consultancy Center for Business Administration and Human Resources in Hospitality and Tourism Marketing**
Offers consultancy services that integrate business management with the hospitality and tourism sectors, supporting the growth of this vital industry.
- **Research Center for the Manufacturing and Development of Electric Vehicle Components**
- **Laboratory for the Production and Storage of Green Hydrogen from Solar Energy**
- **Research Center for the Manufacturing and Development of Robotics and Related Artificial Intelligence**

In addition to a number of proposed projects, including:

- **Project for Converting a Four-Wheel Drive Vehicle into a Hybrid Electric Car**
(Faculty of Engineering – Helwan)
- **Project for Designing a High-Voltage Line from Solar Cells for Home Use to Power Fluorescent Lamps**
(Faculty of Engineering – Helwan)

- **Project for Optimizing the Performance of a Wind-Driven Claw-Pole Synchronous Generator Connected to the Infinite Grid**
(Faculty of Engineering – Helwan)
- **Project for Manufacturing a 2-Ton Environmentally Friendly Charcoal Kiln**
(Faculty of Engineering – Mataria)
- **Project for Designing a Machine to Recycle Plastic Waste (water bottles) and Utilize Its Products for Industrial Applications**
(Faculty of Technology and Education)
- **Smart Grid Applications in the Hydrogen Economy Sector**
(Faculty of Technology and Education)
- **Project for Enhancing Energy Efficiency in Electric Vehicles**
(Faculty of Technology and Education in cooperation with the Faculty of Engineering – Helwan)
- **Project for Developing a Hybrid System for Seawater Desalination Using Solar Energy**
(Faculty of Technology and Education)
- **Project on Floating Solar Power Plants for Seawater Desalination**
(Faculty of Technology and Education)

Examples of Successful Adoption and Support Initiatives Related to the Upcoming University Research Plan (2025–2030)

Several successful projects have been implemented at the university in recent years in infrastructure, scientific research, education, learning, and training. These initiatives have had a positive impact on advancing progress at both the university and national levels, and they will serve as valuable foundations for the implementation of the 2025–2030 research plan. Notable examples include:

- The establishment of the Nanotechnology Research Center.
- The establishment of the University Center for New and Renewable Energy Research and Studies.
- The establishment of *Two-Dimensional and Three-Dimensional Digital Printing Center*.
- Project: “Establishment of a Graphic Design and Sustainable Design Consulting Unit.”
- Project: “Upgrading the Computer Laboratories at the Faculty of Pharmacy to Establish a Center for Drug Design, Pharmacokinetics, and Drug Measurement.”
- Project: “Energy Alliance – Under the Slogan 'Made in Egypt'.”
- Project: Establishment of the University Entrepreneurship Club.
- Project: “Online Laboratory Learning Environment for Teaching Engineering, Science, and Technology” at the Faculty of Engineering, Helwan.
- Helwan University Furniture Business Incubator.

- Project: Research and Educational Services Marketing Center.
- Technology Innovation Commercialization Office (TICO).
- Information Technology, Databases, and Website Management Unit (currently the Scientific Computing Center).
- Center for Technological Development.

Key Performance Indicators for Evaluating the Achievement of Objectives

No.	Performance Indicator	Annual Target Benchmark
1	Number of training courses offered to enhance researchers' competencies at the university.	20% annual increase
2	Budget allocated for scientific research activities.	20% annual increase
3	Number of published research papers per faculty member in journals indexed in Scopus or Web of Science.	20% annual increase
4	Number of patents registered under the university's name.	10% annual increase
5	Number of research projects funded by the university for Helwan University affiliates.	10% annual increase
6	Number of scientific conferences organized by the university.	10% annual increase
7	Number of research publications related to the Sustainable Development Goals (SDGs).	20% annual increase
8	Number of SDG-related research projects funded by the university.	20% annual increase
9	Number of competitive research projects funded by national or international bodies.	10% annual increase
10	Percentage of research projects implemented in partnership with the industrial or governmental sectors.	10% annual increase
11	Number of university-affiliated researchers participating in developmental or applied research projects.	20% annual increase
12	Number of research outcomes converted into products or practical solutions.	20% annual increase
13	Number of activated strategic partnerships and alliances with academic and economic institutions.	20% annual increase
14	Number of joint projects between university faculties and centers that provide added value to society and the economy.	20% annual increase
15	Number of interdisciplinary research projects addressing societal and economic needs.	20% annual increase
16	Number of research projects whose results have been utilized in industry, development, or other specialized fields.	10% annual increase
17	Number of joint research projects with international scholars.	20% annual increase
18	Number of research papers published collaboratively by Helwan University scholars abroad and those within the university.	20% annual increase
19	Number of funded research projects involving both local and international Helwan University scholars.	30% annual increase
20	Number of internationally funded research projects by Helwan University affiliates.	30% annual increase
21	University ranking in global classifications and academic reputation indices.	Improvement in ranking
22	Number of faculty members receiving scientific awards or patents.	50% increase over the research plan duration
23	Number of scientific journals published by Helwan University indexed in international databases.	50% increase over the research plan duration
24	Percentage increase in international citations of research published under Helwan University's name.	100% increase over the research plan duration
25	Availability of comprehensive databases on the university website in both Arabic and English, including lists of conferences, seminars, symposia, recordings, annual research output, and funded projects (internal and external).	Available in Arabic and English (Yes/No)

Sixth: Final Recommendations

- Develop and approve a comprehensive university research policy to ensure that research efforts are directed toward high-impact developmental areas in alignment with Egypt's Vision 2030.
- Establish a plan to support and sustain successful projects.
- Hold semi-annual meetings involving relevant departments and specialized committees to monitor the progress of research projects, identify potential challenges, and work on removing obstacles to ensure the achievement of desired goals.
- Work on amending the regulations governing the units, consultancy centers, and incentive policies to ensure the effective participation of researchers and faculty members in enhancing the performance of these units and centers.
- The university adopts the proposed Research Plan (2025–2030) in emerging fields and supports its implementation to serve both institutional and national development.
- The university seeks to activate research outcomes through collaboration with ministries, state institutions, and industry by means of funded projects, agreements, and joint cooperation protocols to ensure the practical application of research results.
- The university commits to supporting the continuity of laboratories and research centers established with local or external funding, and to completing their administrative and technical frameworks to become effective production centers.
- Encourage entrepreneurship projects and technology incubators that serve national development.
- Expand to maximize the university's human resources and infrastructure by establishing advanced consultancy centers, distinguished training centers, state-of-the-art laboratories, and research centers, in addition to strengthening partnerships with the private sector and state institutions to support development and community services.

Research Plan Preparation Team 2025–2030

First: Humanities and Social Sciences Sector

- Prof. Hala Ahmed Ali Gomaa — Vice Dean for Graduate Studies and Research, Faculty of Tourism and Hotels (Sector Coordinator)
- Prof. Amani El-Sayed — Vice Dean for Graduate Studies and Research, Faculty of Arts
- Prof. Mamdouh Zaki Owais — Vice Dean for Graduate Studies and Research, Faculty of Commerce
- Prof. Enas Maher El-Husseiny Bdeir — Dean and Vice Dean for Graduate Studies and Research, Faculty of Home Economics
- Prof. Amal Lotfy — Dean, Faculty of Law
- Prof. Ayman Ahmed Hassan Galala — Vice Dean for Graduate Studies and Research, Faculty of Social Work
- Prof. Yasser Mohamed Gad Allah Mahmoud — Acting Dean, National Institute of Intellectual Property
- Prof. Manar Abdel Rahman Shaheen — Vice Dean for Graduate Studies and Research, Faculty of Physical Education (Girls)
- Prof. Mohamed Fawzi Abdel Shakour — Vice Dean for Graduate Studies and Research, Faculty of Physical Education (Boys)

Second: Education Sector

- Prof. Rashida El-Sayed Ahmed — Vice Dean for Graduate Studies and Research, Faculty of Education (Sector Coordinator)
- Prof. Manar Abdel Rahman Shaheen — Vice Dean for Graduate Studies and Research, Faculty of Physical Education (Girls)
- Prof. Mohamed Fawzi Abdel Shakour — Vice Dean for Graduate Studies and Research, Faculty of Physical Education (Boys)
- Prof. Enas Maher El-Husseiny Bdeir — Dean and Vice Dean for Graduate Studies and Research, Faculty of Home Economics
- Prof. Magda El-Afifi Mahmoud — Vice Dean for Graduate Studies and Research, Faculty of Music Education
- Prof. Ahmed Hatem Said — Dean and Vice Dean for Graduate Studies and Research, Faculty of Art Education
- Prof. Ayman Ahmed Hassan Galala — Vice Dean for Graduate Studies and Research, Faculty of Social Work
- Prof. Amani El-Sayed — Vice Dean for Community Service and Environmental Development, Faculty of Arts

Third: Engineering and Technology Sector

- Prof. Wael Ibrahim Ahmed Ali — Dean and Vice Dean for Graduate Studies and Research, Faculty of Technology and Education (Sector Coordinator)
- Prof. Ahmed Mostafa Abdel Halim — Vice Dean for Graduate Studies and Research, Faculty of Engineering, Helwan University
- Prof. Noha Ahmed Nabil — Vice Dean for Graduate Studies and Research, Faculty of Engineering, El-Mataria
- Prof. Mahmoud Mohamed Mahmoud El-Khouly — Vice Dean for Graduate Studies and Research, Faculty of Computers and Artificial Intelligence

- Prof. Magdy Abdo Ibrahim El-Hagri — Dean and Vice Dean for Graduate Studies and Research, Faculty of Science
- Prof. Eman Mohamed Ali Abu Talib — Vice Dean for Graduate Studies and Research, Faculty of Applied Arts
- Prof. Ahmed Mahmoud Saber — Vice Dean for Graduate Studies and Research, Faculty of Fine Arts
- Prof. Enas Maher El-Husseiny Bdeir — Dean and Vice Dean for Graduate Studies and Research, Faculty of Home Economics

Fourth: Arts Sector

- Prof. Eman Mohamed Ali Abu Talib — Vice Dean for Graduate Studies and Research, Faculty of Applied Arts (Sector Coordinator)
- Prof. Ahmed Mahmoud Saber — Vice Dean for Graduate Studies and Research, Faculty of Fine Arts
- Prof. Ahmed Hatem Said — Dean and Vice Dean for Graduate Studies and Research, Faculty of Art Education
- Prof. Magda El-Afifi Mahmoud — Vice Dean for Graduate Studies and Research, Faculty of Music Education
- Prof. Enas Maher El-Husseiny Bdeir — Dean and Vice Dean for Graduate Studies and Research, Faculty of Home Economics

Fifth: Basic Sciences and Health Applications Sector

- Prof. Afaf Salah Abdel Mohsen — Vice Dean for Graduate Studies and Research, Faculty of Nursing (Sector Coordinator)
- Prof. Magdy Abdo Ibrahim El-Hagri — Dean and Vice Dean for Graduate Studies and Research, Faculty of Science
- Prof. Mohamed Abdo Mohamed Khodr — Vice Dean for Graduate Studies and Research, Faculty of Pharmacy
- Prof. Iman Mohamed Bayoumi — Vice Dean for Graduate Studies and Research, Faculty of Medicine
- Prof. Manar Abdel Rahman Shaheen — Vice Dean for Graduate Studies and Research, Faculty of Physical Education (Girls)
- Prof. Mohamed Fawzi Abdel Shakour — Vice Dean for Graduate Studies and Research, Faculty of Physical Education (Boys)
- Prof. Naeem Mohamed Rabah — Acting Dean, Faculty of Nutrition Science

Sixth: Interdisciplinary Research Sector

- Prof. Sahar Kamal Mohamed Abdel Nabi — General Coordinator for Plan Preparation and Director of the Interdisciplinary Research Center (Sector Coordinator) All faculties

Reviewed

Prof. Emad Mohamed Abu El-Dahab – Vice President of the University for Graduate Studies and Research

Prof. Galal Hamza El-Gomaei – Emeritus Professor, Faculty of Science

Prof. Ali Omar Abdullah – Emeritus Professor, Faculty of Tourism and Hotels – Former Vice President of the University for Graduate Studies and Research

Chapter Three

First: The Humanities Sector

This sector includes the following faculties:

Tourism and Hotels – Social Work – Commerce – Arts – Law – Home Economics – and the National Institute of Intellectual Property.

This plan covers a five-year period from 2025 to 2030.

No	Field	Theme	Activities					Implementing Entity	Outputs	Funding Sources			
			Seminars	Conferences and Symposia	Thesis Registration	Research Projects	Academic Research			Self-Funding	University	Industry Sector	Research Projects
1	Sustainable Development and Maximizing the Utilization of Available Resources (Social Capital – Social Responsibility – Management and Development of Human and Material Resources	- Green transition policies in light of global climate change - Rationalizing the consumption of natural resources as a pathway to achieving sustainable environmental development - Raising awareness about choosing eco-friendly household appliances and cookware, and their impact on the carbon footprint and energy consumption - Contemporary trends in environmental management, including strategies for adaptation, priority management, diversity management, and electronic governance - Emerging trends in digital development skills, digital knowledge management, digital empowerment, and digital entrepreneurship, along with associated values of modernization and development as key demands of the present era - Modern concepts of the smart economy, green economy, productive economy, silver economy, and purple economy - The role of women in rural development and an analysis of their economic contributions - Sustainable administrative development in the sports field across various domains and institutions - The role of sports in enhancing youth awareness of national identity through the achievement of sustainable development goals - The role of sports in promoting values, digital citizenship, Egyptian identity, and cultural exchange - Investing in human capital and its impact on economic development - The use of green bonds as a tool for financing sustainable infrastructure projects in developing economies - Exploring the impact of climate change on economic development strategies - The circular economy and its impact on sustainable development - Analyzing the effectiveness of various programs and policies in reducing poverty and improving living standards - Structural transformations in the Egyptian economy and their effects on economic development - Examining how technological innovations contribute to improving sustainable development indicators in developing countries - The role of inclusive digital transformation in international development - The role of green finance in supporting sustainable development: A case study of Middle Eastern economies - The impact of new industrial zones on rural and urban development - The role of micro, small, and medium enterprises (MSMEs) in achieving inclusive economic growth - The role of Egypt's economic reform program in advancing sustainable development - The role of human resource development in targeting local development strategies, with application to North African countries - Digital entrepreneurship and sustainable development - Why is finance intrinsically linked to economic development? - The role of corporate social responsibility in achieving sustainable development goals - Combating corruption and its relationship to sustainable development - Promoting tourism awareness within society - The academic study of tourism and its economic role in job creation - Developing various tourist destinations in Egypt - Developing local communities and local products within the Egyptian tourism industry - Utilizing new and safe energy sources in tourism projects to protect the environment (e.g., biofuels) - Studying major climate changes and their impact on Egypt's tourism destinations - Sustainability in the hospitality industry - Ethical consumption and fair trade in hospitality - Social impact and sustainable development in the hospitality industry - Environmental preservation to maintain global competitiveness - Applying professional methods in social work to achieve sustainable development goals - Professional intervention with groups contributing to sustainable development - The role of social work institutions in achieving sustainable development goals	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Arts - Faculty of Physical Education - Faculty of Commerce and Business Administration - Faculty of Tourism and Hotels - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓

		- Understanding and comparing various sustainable development strategies - Fostering social responsibility in the use of modern technological tools - Environmental sustainability and economic development: A case study of developing countries - The economic geography of the sustainable energy industry - Utilizing natural resources to achieve sustainable development - Sustainable development and the societal role of information institutions - Communication strategies in public relations to achieve sustainable development goals (Egypt Vision 2030) - The role of public relations in raising awareness of the green economy's importance in achieving sustainable development goals - A geographic analysis of the role of small and medium enterprises in economic development											
2	Partnership with Civil Society to Achieve Economic and Social Development	- The role of developmental and life skills in serving and developing the community - Collaboration with aid and international cooperation agencies and their role in developing local communities, such as the USATD organization, and highlighting its contribution to enhancing tourism programs, services, and distinctive local products - The environment and its preservation to meet global competitiveness standards - Defining the types of relationships that should exist between social work and civil society organizations - Cooperation with various efforts made by NGOs, ministries, and civil society institutions in implementing local and environmental development programs - Strengthening the role of civil society institutions in achieving sustainable environmental development	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
3	Societal Challenges and Crises Facing Individuals, Families, and Organizations	- Women's psychological resilience and its role in achieving family balance - Family-based motivational mechanisms to enhance achievement motivation and behavioral modification in children - Family negotiation skills and their role in achieving social leadership among family members - Mechanisms for managing emotional responses and their impact on family and community cohesion - Cultural diversity and multiple identities in contemporary societies - Analyzing the impact of globalization on national and ethnic identities - The role of culture in shaping behavior and values - Evaluating the effectiveness of various social policies - Studying the relationship between social policies and social equality - The role of community participation in policy-making - Social responsibility and value systems - Psychological and national identity and ways to strengthen them - Social stratification and class systems - The impact of income, wealth, and opportunity disparities - Analyzing public policies aimed at reducing social gaps - The role of social identity (ethnicity, gender, class) in shaping life experiences - The impact of social media on individual behavior and interpersonal relationships - The effects of artificial intelligence on labor markets and identity - Studying the ethical and legal dimensions of emerging technologies - The relationship between climate change, migration, and conflict - Analyzing environmental behavior among individuals and communities - Exploring the role of environmental justice in achieving sustainable development - Studying the social factors that affect public health - Analyzing community responses to pandemics and health crises - The role of social solidarity in addressing public health challenges - Substance use and addiction: psychological and social approaches to prevention - Research on extremism and terrorism from a psycho-social perspective - Marital life skills and approaches to handling family problems - Rumors and methods of combating them - Tolerance, empathy, and acceptance of the other - Psychological problems in children, adolescents, adults, and the elderly - Geographical analysis of forced migration and its impact on redrawing political maps - Demographic changes in urban and rural areas as a result of migration - Age structure of populations and its effects on economic patterns - Studying the impact of urban expansion on agricultural land - Geographic analysis of population aging and its impact on healthcare services - The effect of green spaces on the quality of life in large cities - Spatial analysis of informal settlements and the challenges of integrating them into urban planning - Preparedness of hospitality companies and tourism institutions for crisis recovery - Developing programs for school crisis management - Crisis, disaster, and risk management in the digital information era - Enhancing scientific knowledge about the importance of social planning in crisis and disaster response - Encouraging youth to volunteer in various social institutions and contribute to addressing societal crises	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Arts - Faculty of Tourism and Hotels - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓

4	Evaluating Humanities Sector Policies considering Recent Societal Changes in Egyptian Society	- Studies on the role of training programs in developing administrative competencies and leadership skills - The modern Western epistemological model as portrayed in The New Organon - The role of robotic process automation (RPA) in knowledge management systems - Research on innovative strategic management of production processes - The role of technological innovations in improving sustainable development indicators in developing countries - Developing models for analyzing and evaluating social welfare policies - Addressing the social dimension in urban planning policies - Analyzing social welfare policies across various fields in pursuit of alternative policy models - Issues and challenges facing the social work profession and social workers, and developing professional development programs at the societal and policy levels - Investment policies related to social welfare planning - Policies and regulations governing the presence of refugee communities and their impact on national policy frameworks - Developing social skills to achieve social justice within the framework of social welfare policies - Policies, regulations, and standards governing human behavior toward the environment and climate change	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Commerce and Business Administration - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
5	Enhancing Quality of Life for Vulnerable and High-Need Populations	- Improving the quality of life for all members of the Egyptian family (children, adolescents, youth, the elderly, and women) - Enhancing the quality of life for the most vulnerable groups (breadwinning women, widows and divorcees, and rural communities) - Sports recreation projects and programs for people with special needs across various groups (the elderly, persons with disabilities, patients, orphans, street children, juvenile delinquents, and prisoners) - Contributions of socialization institutions in promoting the concept of education through sports recreation and leisure during early life stages - Sports programs serving various professional fields (programs for health clubs, elderly homes, psychological, physical, physiological, and social rehabilitation centers) - Developing specialized skills to construct a planning model for improving and measuring quality of life - Participating in the axes of the National Project for the Development of the Egyptian Family to enhance family quality of life - Evaluating the effectiveness of professional interventions with special groups and vulnerable populations - Assessing professional intervention efforts in the field of social protection - Social support for breadwinning women and women in debt - Violence against women and awareness of women's rights	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Arts - Faculty of Physical Education and Sports Sciences - Faculty of Commerce and Business Administration - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
6	The Economic and Social Impact of the Humanities Disciplines	- Challenges in managing family and child-focused institutions as a pathway to achieving sustainable economic development and enhancing administrative efficiency - Empowering working and breadwinning women to manage family affairs in ways that improve health conditions and increase family productivity - Patterns of sustainable development distribution in impoverished areas - The knowledge-based economy and its relationship to economic performance, exports, globalization, and the determinants of political and scientific knowledge - Enhancing growth and competitiveness of tourism enterprises through cooperation with international banks - Opportunities for entrepreneurs in emerging tourist regions - Applications of the green economy in the tourism industry - Methods for measuring the social and economic return of social care institutions - Evaluating professional intervention efforts to assess costs, programs, and social projects	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Commerce and Business Administration - Faculty of Tourism and Hotels - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
7	Evaluating and Enhancing Service Provision for Persons with Disabilities	- Developing guidance programs designed in sign language and Braille to raise awareness about the proper care and use of household tools and appliances. - Interactive furniture and its relation to the standards of safe residential environments for special groups (elderly – children – persons with special needs). - Contemporary trends in concepts related to vulnerable and special groups such as persons with disabilities, the elderly, survivors of abuse, female heads of households, and others. - Psychological counseling and guidance programs and the effect of sports on certain psychological and social variables (learning difficulties – persons with disabilities). - Developing national standardized measures for assessing the health, physiological, biological, psychological, mental, physical, and anthropometric characteristics of persons with disabilities. - Sports programs designed to serve persons with disabilities from vocational, psychological, social, and health perspectives. - Social rehabilitation for persons with disabilities. - Empowering persons with disabilities to access their rights across all sectors. - Modifying societal attitudes towards persons with disabilities. - Social integration of persons with disabilities.	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Arts - Faculty of Physical Education and Sports Sciences - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓

8	Supporting innovation, entrepreneurship, and the economic and social empowerment of community groups	- Assessing the investment feasibility of capsule hotels and self-service hotels. - Floating and flying hotels: The future of global hospitality. - Analyzing the guest experience in fully AI-operated hotels. - The impact of space tourism on the hotel sector over the next decade. - Experiencing unique hospitality services through effective loyalty program design and implementation, and the role of sensory experiences in creating unforgettable stays. - Exploring unforgettable guest experiences, such as cooking workshops and adventure activities. - Managing small project resources as a gateway to sustainable development. - Applying professional methods in group work to foster creativity and innovation. - Developing innovation skills in social projects. - Working with organizations and communities in the fields of entrepreneurship and social innovation. - Developing skills for applying innovative digitization in social care institutions. - Enhancing cognitive skills related to strategies and technological innovations that support rapid adaptation to changing work environments. - Personality development and fostering innovation and creativity among children. - Personality development and promoting innovative and creative aspects in the field of social defense. - Promoting the concept of entrepreneurship among youth. - Social planning and entrepreneurship. - Empowering women in Egyptian society. - Empowering persons with disabilities to access their rights across all sectors.	✓	✓	✓	✓	✓	- Faculty of Home Economics - Faculty of Tourism and Hotels - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
9	Linguistic sciences and their relation to diverse cultures and intercultural communication	- Ethnicity in literary criticism - Pluralism and narrative in literature - Psychoanalytic criticism and trends in translation criticism - Experimental literature and reflective literature - Trans-Pacific diaspora - The African future - New historicism and cultural materialism - Multiculturalism - Aesthetics / New aesthetics - Multimodal discourse analysis, posthumanism, and language studies - Identity, cultural studies, and gender studies in language and translation - Cognitive linguistics - Language death and preservation - Motivation theories in language learning - Studies on the phenomenon of intertextuality - Linguistic and discourse analysis - Contemporary trends in literature and linguistics - Intercultural studies in language and literature - Modern Spanish and Spanish-American theatre and poetry - African literature written in foreign languages - Emerging linguistic terminology during emergency pandemics	✓	✓	✓	✓	✓	Faculty of Arts	- P Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
10	Literature and the diverse expressive arts	- The arts in Egypt from the Umayyad era to the end of the Muhammad Ali Dynasty - The arts of the Islamic East and the Far East - The arts of the Western Islamic world and Al-Andalus - Postmodern theatre techniques - Theatre in the Far East - American musical theatre - The evolution of stage lighting technology - Theatre architecture between East and West - Performing arts in postmodern theatre - Modern directing trends in Western theatre - Theatrical styles in Egyptian and European theatre - Theatrical scenography - Theatrical costume design in Egyptian and Western theatre - Trends in modern and contemporary criticism - Playwriting techniques - Theatrical aesthetics in modern theatre - The relationship between literature and other arts such as cinema and theatre - Journalism and its role in promoting literature, arts, and culture	✓	✓	✓	✓	✓	Faculty of Arts	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
11	Arabic heritage and literature	- Applied philosophy - Sustainable development and the societal role of philosophy - Philosophy of culture and identity - Modern and contemporary Arab thought and aesthetics - Literature and the ancient Egyptian language	✓	✓	✓	✓	✓	- Faculty of Arts - Faculty of Tourism and Hotels	- Publication of scientific research, - Completion of research projects,	✓	✓	✓	✓

		- Semantic evolution of ancient Egyptian roots - Publication of newly discovered texts from excavations (Hieroglyphic, Hieratic, Demotic, Coptic) - Islamic coinage throughout Islamic eras - Islamic painting and manuscripts - Islamic arts from the beginning of the Islamic era to the end of the Muhammad Ali Dynasty - Archaeological inscriptions and Arabic papyri - Cultural heritage and authentic local experiences: The importance of cultural heritage in hospitality, and how hotels can create authentic local experiences, including food and culture - Tangible and intangible cultural heritage, including multiculturalism and cultural heritage awareness							- Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops				
12	Studies in history, archaeology, civilization, and art across various historical periods	- Ancient Egyptian antiquities across its various periods (Old, Middle, New, Late, Ptolemaic, Roman) - Ancient Egyptian art across its different periods (Old, Middle, New, Late, Ptolemaic, Roman), including minor arts (jewelry – amulets and talismans) - Civilization: Thought and religion in ancient Egypt, including its minor elements, deities, various beliefs, the afterlife, and funerary texts - History of Pharaonic Egypt, as well as modern and contemporary Egyptian history - History of Europe - Islamic history and Islamic civilization - History, archaeology, art, and civilization in Egypt across various historical periods; modern Egypt's archaeological landmarks and sites; the evolution of artistic features through different eras; ancient Egyptian religion and language; cultural heritage through the ages; modern and contemporary Egyptian society and daily life	✓	✓	✓	✓	✓	- Faculty of Arts - Faculty of Tourism and Hotels	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
13	Applications of Information Technology, Artificial Intelligence, and Digital Transformation Across Various Disciplines	- Challenges of digital transformation and its implementation within institutions - Identifying group-related challenges associated with digital transformation - Defining the roles of the social worker within the framework of digital transformation - Determining mechanisms for utilizing digital transformation in group work methods - Professional methods for group work within the digital transformation context - Professional skills in light of digital transformation - Requirements for preparing the social worker as a generalist practitioner in the age of digital transformation - Applications of artificial intelligence and its benefits in cultural heritage preservation - The role of digital infrastructure in regional development - Artificial intelligence and its applications in the humanities and social sciences - Artificial intelligence and language studies - Applications of artificial intelligence in language teaching and learning - Technology in translation studies - Data management and big data applications in information institutions - The role of artificial intelligence in: - Big data analytics - Enhancing the banking sector - Business operations - Marketing decision-making - Achieving sustainable development - The role of edge AI in: - Supply chains - Business process automation - Manufacturing - Financial institutions - Retail - The role of quantum computing in: - Supporting strategic and operational decision-making in institutions - Industry improvement	✓	✓	✓	✓	✓	- Faculty of Arts - Faculty of Tourism and Hotels - Faculty of Sport Sciences - Faculty of Commerce and Business Administration - Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓

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		- Applications of Operations Research in Economic and Managerial Contexts and Large-Scale Optimization Problems - Optimization Problem Applications Using Artificial Intelligence Algorithms - Studying Changes in Financial Markets and Economic Models Over Time, and Analyzing Motion and Image Data							- Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops				
18	Emerging Fields in Business Administration (Human Resources – Production and Operations – Marketing – Finance and Investment)	- Modern Leadership Styles in Sports and Recreational Institutions - Legislation and Regulations in the Sports Field - Entrepreneurship and Sports Business Incubators: Challenges and Scientific Foundations in Management and Recreation - Economics and Sports - Investment in the Sports Sector - Digital Transformation in Sports Management - The Olympic Movement and Olympic Culture - Human Resource Agility and Its Relationship with Institutional Excellence - Diversity Management in Human Resources - High-Involvement Work Practices - High-Performance Work Systems and Their Relationship with Competitive Advantage - Abusive Supervision and Its Relationship with Counterproductive Work Behaviors - Flexible Work Arrangements and Their Relationship with Work–Family Conflict - Green Intellectual Capital - Ethical Leadership and Its Role in Enhancing Organizational Commitment - Human Resource Information Systems (HRIS) - Compensation Systems Management - Political Marketing - The Role of Artificial Intelligence in Enhancing Customer Experience - The Role of Virtual and Augmented Reality in Purchase Decision-Making - The Role of Digital Technologies and Communication Mechanisms in Enhancing Marketing Communication Effectiveness - Sustainable Marketing Practices in Developing Entrepreneurship - The Impact of Metaverse Media Technologies on Robotic Marketing - Fintech and the Development of Financial Institution Performance - Financial Evaluation of Companies and Financial Assets from an Egyptian Perspective - The Nature of Futures Contracts in the Foreign Exchange Market and Their Applicability to the Egyptian Financial Market - Exploring the Impact of Technology on Employee Roles and the Future of Work in the Hospitality Sector - Workforce Development and Training - E-Marketing in the Hospitality Sector, Including: - The Impact of Social Media Marketing Strategies on Increasing Hotel Bookings - Analyzing the Role of Digital Influencers in Hotel Promotion - The Effectiveness of Customer Relationship Management (CRM) Systems in Enhancing Guest Loyalty - Applying Big Data Analytics to Improve Hotel Marketing Performance - The Impact of E-Commerce and Digital Payment Solutions on Hotel Sector Growth - Marketing Using Artificial Intelligence Applications in Tourism Companies and Hotels	✓	✓	✓	✓	✓	- Faculty of Commerce and Business Administration - Faculty of Home Economics - Faculty of Tourism and Hotels - Faculty of Physical Education and Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
19	Accounting and Auditing Concepts	- Financial Reporting and Digital Transformation - Impact of the Expected Credit Loss Model Under IFRS 9 - Enterprise Life Cycle, Information Quality, and the Effect on the Level of Asymmetry - Firm Characteristics, Ownership Structure, and Dividend Distribution Policies - Impact of IFRS 18 "Presentation and Disclosure in Financial Statements" on the Quality of Financial Reporting - Cloud Computing and the Empowerment of the Internal Auditor's Role - Determinants of Internal Audit Effectiveness - Leveraging Information and Communication Technology (ICT) and Artificial Intelligence (AI) to Enhance Auditing Practices - The Impact of Implementing E-Payment Systems on Reducing Tax Evasion in Egypt - Tax Planning and Firm Value - The Impact of Artificial Intelligence Technologies on the Digitalization of the Tax Invoicing System - Assessing the Effectiveness of Government Accounting Systems in Achieving Egypt's Vision 2030 - Challenges Facing the Implementation of Accrual-Based Accounting in Government Entities	✓	✓	✓	✓	✓	Faculty of Commerce and Business Administration	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓

		• The Impact of Artificial Intelligence on Financial Data Analysis • The Effect of Accounting Information Systems on Performance Management in Financial Institutions in Egypt • The Contribution of Accounting Information Systems to Enhancing Financial Oversight of Institutional Performance • The Role of Biometric Authentication as a Control Tool in Accounting Systems of Financial Institutions • Measuring the Impact of Mobile Banking Applications on Bank Financial Performance • Costing Systems Using the Reverse Cost Flow Method for Cost Optimization • The Impact of Digital Transformation on the Role of the Management Accountant in the Modern Business Environment • Using Environmental Management Accounting to Develop Environmental Management Systems and Preserve Enterprise Resources											
20	Intellectual Property	• Artificial intelligence and intellectual property. • Intellectual property and climate change. • Intellectual property and sports. • The role of the competent authorities in protecting intellectual property. • The impact of digital openness on the protection of personal freedoms. • Economic evaluation and achieving justice in intellectual property disputes. • Determinants of online piracy of cinematic films. • Crimes of infringement against trademark owners. • Assessing the role of intellectual property protection in technology transfer in Egypt. • The role of collective management of moral rights. • Intellectual property and its role in economic development. • Evaluating the role of economic courts in supporting trademark rights holders. • Determinants of the economic evaluation of well-known trademarks. • Evaluating the accuracy of decisions issued by the Trademark Office. • The role of artificial intelligence applications in protecting intellectual property. • Artificial intelligence in examining the inventive step requirement. • The rights of electronic publishers in Egypt. • The use of artificial intelligence technologies in producing audiovisual works. • Intellectual property rights in the development of the handicrafts industry. • Public performance using artificial intelligence technologies. • Intellectual property rights for tourism products in Egypt.	✓	✓	✓	✓	✓		• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	✓	✓	✓	✓
21	Private Law	Social Legislation: • The legal status of workers in multinational enterprises • Technology and artificial intelligence in labor law • Insurance funds and their impact on the national economy • Non-compete obligations of employees in franchise contracts • Recent developments in labor law and labor cases • Recent developments in social insurance cases • Contractual suspension of employment contracts • Recent developments in early retirement Private International Law: • General theory of conflict of laws, including issues related to characterization theory and renvoi • Issues of international commercial arbitration and the governing law in its forms and stages • International conflict of laws in the forms of contracts and legal acts • The applicable law to foreign investment contracts • Matters related to international judicial jurisdiction • The applicable law to international inheritance • Obstacles to the application of foreign law • Enforcement of foreign court judgments Department of Civil and Commercial Procedure: • Recent legal amendments and their impact on civil and commercial procedures • The role of summary justice in protecting civil and commercial rights	✓	✓	✓	✓	✓	• Faculty of Law	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	✓	✓	✓	✓

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Second: Educational Sector
Includes Faculty of
Education – Sports Sciences
(Girls – Boys) – Technology and
Education – Arts Education –
Music Education – Home
Economics – Social Work
Over five years (2025 to 2030)

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
1	Digital Transformation and Smart Technology in Education	- Technology innovations and their impact on curriculum elements, teaching strategies, and teacher-learner relations - Use of social media tools and their connection to virtual educational practice - Designing digital educational platforms and using LMS in educational institutions - Assistive tools and technological aids for learning specialized sports skills - Professional intervention to develop social workers' and teachers' attitudes towards AI applications - Developing technological competencies of education and social service workers in AI use - Role of expert systems and AI applications in educational development and social service practice - Developing the digital environment in education and social service institutions - Digital transformation in planning institutions and social care - E-learning and strategies for improving educational outputs - Learning environments and digital resources for special needs (people of determination and gifted) - VR technology in educational environments and system development - Fourth industrial revolution applications in education (robots, AI, nanotechnology, quantum computing, biotech, IoT, 3D printing, hologram technology) - Re-employing psychological theories in educational technology and constructivist changes - Updating art and music curricula in light of modern technology	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work Faculty of Music Education Faculty of Arts Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
2	Community Participation in Addressing Educational Issues	- Contemporary educational thought streams, modern educational theories and applications for curricula, programs, teaching strategies, practical training, teacher preparation - Educational marketing theories and AI in education - Developing citizenship skills, cultural identity preservation, promoting diversity, cultural exchange, digital citizenship, and rejecting violence and intolerance - Foundations for building knowledge society - Raising awareness among learners about social problems (addiction, family breakdown, divorce, violence against women, etc.) - Scientific studies in general education foundations and specifically physical education and sports - Specialized research for updating student selection tests in sports sciences and education colleges - Integration, inclusion, and curriculum adaptation strategies in inclusive schools and classes - Developing new programs required by field reality in curricula and teaching methods (citizenship, sustainable development, quality of life) - Comparing contemporary curricula and sports education programs locally, regionally, and internationally - Integration between arts and community institutions' needs to achieve sustainable development	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work Faculty of Arts Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
3	Sustainable Professional Development in Educational, Training, and Guidance Fields	- Promoting sustainable professional development, continuous training, and adult education for all education stakeholders (student-teacher, teacher, educational trainer, counselor, educational intellectual) - Employing modern educational theories and applied psychology fields in teacher and specialist development - Future educational trends and teacher roles and skills in the 21st century	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees,	✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Action research and preparing teacher-researchers - Teacher preparation in inclusive schools and classes - Developing administrative skills including managing productive capacities, strategic planning, predictive capabilities, administrative excellence, professional competencies, and organizational change - Human development for athletes across all sports sectors - Teaching methods in arts and music education and developing different skills						Faculty of Music Education Faculty of Arts Education	Organizing conferences, seminars and workshops				
4	Psychological and Educational Rehabilitation and Guidance for People of Determination and Their Families	- Family support strategies to empower people of determination - Early intervention strategies involving the family as foundation - Professional intervention programs in social work to raise awareness of dealing with persons with disabilities - Social and professional rehabilitation for persons with disabilities - Legal policies to empower people of determination to obtain their rights - Study of psychological and educational variables affecting academic performance - Role of civil society organizations in promoting social integration and attitude change towards people of determination - Detecting talents and designing care programs - Role of arts, cultural and recreational programs in self-expression, social identity development, community participation, and use of AI and technology for empowerment - Cultural and social frameworks in physical activity and adapted sports - Educational planning and organization of adapted sports for people of determination - Psychological and social aspects of physical activity and adapted sports, with technology applications	√	√	√	√	√	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
5	Sports Rehabilitation and Social Integration for People of Determination	- Cultural and social frameworks in physical activity and adapted sports - Educational planning for adapted sports - Organizing, managing, and training adapted sports activities for people of determination - Technology applications in physical activity and adapted sports - Psychological and social aspects in physical activity and adapted sports - Guidance and psychological-social counseling programs and their effects on psychological and social variables for people of determination	√	√	√	√	√	Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
6	Design of Psychological Guidance Programs and Their Impact on Some Psychological and Social Variables	- Providing psychological, social, and educational guidance services and programs to various community categories (people of determination and their families, adults, orphan students, other groups) - Enhancing mental health and social support for adolescents and youth; preventing negative psychological and social pressures - Studying impact of modern technologies on mental health - Research linked to critical studies, surveys, modern trends, and developments in educational and psychological counseling - Providing educational solutions for common contemporary behavioral problems among students and teachers - Psychological growth and fitness in school and university sports - Values and attitudes in sports and physical activity - Health and quality of life for physical activity and sports - Professional efficiency in sports psychology - Applied psychology for players, coaches, parents, referees, and administrators	√	√	√	√	√	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
7	Improving the Quality of Life for Marginalized Groups in Egyptian Society	Improving life quality for marginalized groups including children, adolescents, youth, elderly, women	√	√	√	√	√	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
8	Early Childhood Education	- Behavior modification studies and value enhancement for early childhood - Child health and school health research - Study of digital media impact on child personality aspects - Motor education role in solving movement problems during growth stages - Applied studies in motor learning principles and environment for learning motor skills - Application of motor learning and control theories in solving movement problems - Physical growth and motor development during childhood and their role in acquiring correct motor skills - Setting normative levels for basic movement models during motor development stages - Traditional and digital early childhood curricula and programs - Employing AI in early childhood curricula and programs - Inclusion of environmental education concepts in early childhood curricula - Developing concepts for kindergarten children (linguistic, logical-mathematical, scientific, physical, chemical, space, environmental, historical, geographical)	√	√	√	√	√	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
9	Using Technological Methods in the Motor Field	- Biomechanical properties of motor performance - Analysis of biomechanical changes during motor learning stages - Development of sports performance skills - Developing objective tests to measure and evaluate physical and skill performances using biomechanical fundamentals - Developing research methods in biomechanical research for sports skills - Qualitative analysis of motor performances - Professional preparation for motor analysis specialists in physical and skill performance diagnosis - Ergonomics applications in sports - Building national standard scales as a database for sports selection	√	√	√	√	√	Faculty of Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
10	Sports Recreation	- Outdoor and recreational activities in pre-university education - Contributions of sports recreation to inclusive education, citizenship, prevention and treatment of modern civilization harms, and solving major societal problems in Egypt and the Arab world (unemployment, addiction, social isolation, family breakdown) - Contemporary philosophical trends in sports recreation, play, and physical activity education - Recreation and human rights: advancing legislation and governmental laws in sports for all aligned with current needs - Contributions of socialization institutions in culture development concerning leisure and sports recreation - Shaping positive attitudes towards participation in sports recreation activities and programs - Planning and developing sports recreation programs and strategies and evaluating them - Data collection tools in scientific research on leisure and sports recreation - Sports-for-all projects and programs according to demographic variables - Camps and their impact on behavioral change, attitude modification, concept adjustment, and value building	√	√	√	√	√	Faculty of Education Faculty of Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
11	Education for Sustainability and Environmental Citizenship	- Environmental sustainability education (environmental education, population education, climate literacy) - Specialized research programs for all community categories and both genders to combat sedentary lifestyles and its dangers, promoting fitness for health and wellness - Promoting entrepreneurial excellence skills in specialization through applied research projects - Building curricula and educational programs that achieve sustainable development goals and promote green culture - Supporting academic and professional quality of life for learners and teachers by employing suitable educational approaches - Studies linked to developing and promoting environmental citizenship values among all Egyptian society segments	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
12	Enhancing Investment in Human Capital	- Fields of education economics (green, sustainable, digital) - Developing human capital in the knowledge era - Intellectual capital in education and social care institutions - Educational efficiency and economic and societal returns - Education funding and expenditure - Media and public relations in the sports field - Economics of the sports field - Crisis management and tourism in sports - Evaluative studies of university sports facilities and compliance with international technical and legal standards - Using scientific research in designing teaching strategies for creativity, innovation, and effective learning - Promoting linking scientific research with curriculum development aligned with contemporary changes - Developing thinking skills (entrepreneurial, interdisciplinary, innovative, future-oriented) suitable for 21st-century educational challenges	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
13	Strategic Partnerships and Alliances and Their Role in Solving Educational Problems	- Developing innovative measurement and diagnostic tools for psychological, educational, and social phenomena to solve specialty problems - Introducing new assessment methods such as alternative and fair evaluation for students at all levels - Modern trends in measurement and evaluation and their role in serving state sports science institutions - Implementing modern theories and programs of measurement and evaluation in sports sciences - Measuring the relationship between physical activity, sports excellence, and health and geographical variables - Individual differences and sports selection programs - Evaluating professional preparation programs for specialists in measurement and evaluation - Building psychological, social, and cognitive scales and tests in sports and social fields.	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
14	Measurement and Evaluation	- Developing innovative measurement and diagnostic tools for psychological, educational, and social phenomena to solve problems in the field of specialization. - Developing new assessment methods, such as alternative and fair assessment for students at all educational levels. - Modern trends in measurement and evaluation and their role in serving state institutions concerned with sports sciences.	✓	✓	✓	✓	✓	Faculty of Education Faculty of Home Economics Faculty of Sports Sciences Faculty of Social Work		✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Mechanisms for implementing modern theories and programs for measurement and evaluation in the field of sports sciences. - Measuring the extent to which physical activity and athletic excellence are related to health and geographic variables. - Individual differences and sports selection programs. - Evaluating professional preparation programs for measurement and evaluation specialists. - Developing psychological, social, and cognitive scales and tests in the sports and social fields.											
15	Sports Training	- Sports training programs and plans in preparing and regulating physical loads - Developing and improving technical and skill performance - Innovative devices and tools in sports training - Measuring and evaluating sports training programs and player technical performance - Sports coach and programs for skill refinement and capability development - Sports talent selection - Problems hindering the creation of world-class and Olympic champions - Innovations in sports training	√	√	√	√	√	Faculty of Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
16	Elderly	- Future studies in adult education and sustainable development - Sustainable professional development for sports specialists and social workers dealing with the elderly - Health and social reinforcements for the elderly - Psychological and social care for the elderly - Sports and social programs for the elderly - Legal and social legislation for the elderly - AI and elderly sports - Silver economy and education	√	√	√	√	√	Faculty of Education Faculty of Sports Sciences Faculty of Social Work	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

**Third: Engineering and
Technology Sector**
Faculties of Engineering- Helwan,
Engineering- Matariya, Computer
Science and Artificial
Intelligence-Technology and
Education- Science- Fine Arts,
and Applied Arts
Over five years (2025 to 2030)

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
1	New Energy and Interdisciplinary Sustainability	- Wastewater treatment using magnetic composites - Using black shale for energy production - Preparation of new materials for fuel cells - Using fungi as alternative biofuel and ethanol source - Green hydrogen - New materials for uranium separation for energy generation - Improving battery efficiency and energy storage management - Energy consumption optimization systems - Solar energy applications in water desalination, cooling, and air conditioning - Solar and wind energy applications for thermal and electrical power - Designing self-powered contracts - Adopting new energy sources for communications and electronics - Renewable energy integration with electric grids - Green and sustainable wireless networks - Sustainable green manufacturing - Architecture, urbanism, and new renewable energy - Developing generation systems integrated into infrastructures and buildings with sustainable applications - Sustainable environmental design and combustion machines for green architecture	✓	✓	✓	✓	✓	Faculty of Engineering, Helwan Faculty of Engineering, El-Matariya Faculty of Technology and Education Faculty of Fine Arts Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
2	Electrical Power Systems	- Renewable energy systems - Solar and wind power for electricity generation - Smart grid development and control systems - Electrical interconnection and grid requirements - Fuel cell system design and recovery - Energy management and control - Photovoltaic system protection schemes - Hybrid power system protection - Fixed small power grids and performance optimization - Digital control and automation for safe and stable network operation - Materials engineering and nanotech applications in electrical systems	✓	✓	✓	✓	✓	Faculty of Engineering, Helwan Faculty of Technology and Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
3	Communication Systems and Information Networks	- Wireless mobile communications including 5G, 6G and beyond - Internet networks and software-defined networks - Digital communications and encryption techniques 3D communications, virtual and augmented reality - Antenna design and wave propagation - Quantum and semantic communications - Optical communication networks and integration with smart networks - Collaborative edge computing networks - AI applications in communication networks - DSP approaches in integrated optics design - Communications networks for smart grids	✓	✓	✓	✓	✓	Faculty of Engineering, Helwan Faculty of Technology and Education Faculty of Computer Science and Artificial Intelligence	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
4	Satellite Engineering and Sensor Networks	- Non-terrestrial networks - Satellite communication systems - Satellite data analysis in engineering applications	✓	✓	✓	✓	✓	Faculty of Engineering, Helwan	- Publication of scientific research, - Completion of research projects,	✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Mobile wireless sensor networks - Security of multimedia wireless sensor networks							- Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops				
5	Electronics and Integrated Circuits	- Analog and digital circuit design - Photonics and organic electronics - Nanoelectronics and nanodevices - Integrated circuit technology - Advanced control and microelectronics - Embedded systems and IoT - Energy harvesting systems - Optical and nanotechnology applications for electronics - AI circuits and neural networks - IoT circuits and systems	√	√	√	√	√	Faculty of Engineering, Helwan	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
6	Computing and Systems	- Operations research and applications - Linear programming for water resource management under uncertainty - Statistics, data science, and analysis across fields - Computer system and microprocessor design - Embedded software and operating systems - Signal, image, speech processing, and pattern recognition - Multimedia processing - Energy conversion and harvesting, CAD tools - Cloud computing and big data analytics - Distributed storage - Quantum computing - AI applications in high-performance computing - Software and electronic service development - Data governance and big data security - Computer networks and wireless network security challenges	√	√	√	√	√	Faculty of Engineering, Helwan University, Faculty of Computer Science and Artificial Intelligence, Faculty of Science, Faculty of Technology and Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
7	Cybersecurity and Information Protection	- Network and cyber communication security - Cybersecurity for smart systems and IoT - Cybersecurity in digital twins - Blockchain for digital security - AI in cyber threat detection - Modern cryptographic methods and AI-enhanced network monitoring - Secure multi-party computation - Optical signal security - Multimedia sensor network security - Multimedia encryption and watermarking - Operations research in network and system security	√	√	√	√	√	Faculty of Engineering, Helwan University, Faculty of Computer Science and Artificial Intelligence, Faculty of Technology and Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
8	Biomedical Engineering	- Prosthetics and assistive devices design - Integrating advanced tech like sensors and actuators in prosthetics - Medical textiles - Medical signal and imaging processing - Biomedical device and robotic design	√	√	√	√	√	Faculty of Engineering, Helwan, Faculty of Applied Arts	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees,	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		• Biomechanics and materials • Modeling and simulation techniques in medical engineering • Personalized medicine and early diagnosis biotech • Biosensors, IoT, bioinformatics applications • Nanotechnology in biomedical engineering							Organizing conferences, seminars and workshops				
9	Artificial Intelligence and Digital Transformation	• Computing, machine learning, and cognitive technologies • Generative AI • Machine learning and AI in engineering applications • AI in applied mathematics • Digital transformation technologies (AI, IoT, big data, digital modeling) • AI in design and production meeting client expectations • AI in manufacturing efficiencies and cost reductions • ICT and smart cities/architecture • Modern tech in architecture education • AI in architecture research • Digital architecture and manufacturing • Smart infrastructure development • AI in network management and autonomous control • Smart system development with AI methods • Signal, image, speech processing	√	√	√	√	√	Faculty of Engineering, Helwan University, Faculty of Computer Science and Artificial Intelligence Faculty of Engineering, Matariya University Faculty of Technology and Education Faculty of Science Faculty of Applied Arts Faculty of Fine Arts	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
10	Automation and Intelligent Systems	• AI in industrial automation • Robotics and dynamic system control • Optical communication in robotics • Automated control and AI for engineering efficiency • Simulation and control software for mechanical systems • Pneumatic and hydraulic control systems • Intelligent control for transport and energy networks • Energy system control • Digital control and robotics • Noise prediction and control in vehicles	√	√	√	√	√	Faculty of Engineering, Helwan Faculty of Engineering, Matariya Faculty of Technology and Education	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
11	Mechatronics and Mechanical Design	• Intelligent mechatronic system design and modeling • Robotics applications in manufacturing • Autonomous mobile robots • Integration of mechanical, electronic, and control systems • AI to improve mechatronic system performance • Intelligent control systems in mechatronics • Automotive mechatronics • Design and manufacture of magnetic particle flow operations • Aluminum alloy recycling with casting • Mechanical properties, diagnostics, maintenance of industrial and medical machines • Friction and wear properties • Nano-lubricant development • Environmentally friendly anti-friction materials • Fault detection in slow-speed lubricated rotary machines	√	√	√	√	√	Faculty of Engineering, Helwan Faculty of Technology and Education Faculty of Engineering, Matariya	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Tribology in electric vehicle components - Adhesion, friction, and wear in polymers											
12	Modern Vehicle Dynamics and Design	- Designing and developing vehicle components for performance and safety - Maintenance and fault diagnosis systems for all vehicle types, especially electric and hybrid - Electronic and electrical systems design - Vehicle dynamic modeling (steering, stability, ride comfort) - Driving simulation models - Nano-fluids for vehicle performance - Vehicle testing and simulation - Crash dynamics - Augmented reality in vehicle maintenance - Computerized maintenance management - Predictive maintenance with AI - Smart new energy vehicles - Automated traffic systems aligned with vehicle dynamics - Vehicle chassis and body design - Driverless vehicle design - Emission performance evaluation of engines with various fuels - Combustion system research and testing	√	√	√	√	√	Faculty of Technology and Education Faculty of Engineering, Matariya	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
13	Production Engineering and Smart Manufacturing Technology	- Industrial engineering research on energy efficiency and production processes - Industrial revolution and sustainable manufacturing technologies - Smart manufacturing and industrial engineering technologies - Improving production with digital modeling - Digital twin systems and industrial data analysis 3D and 4D printing applications in manufacturing - AI applications in manufacturing - Advanced casting and welding technologies - Supply chain and crisis management - Sustainable production (reducing environmental impact, recycling) - Advanced materials and technology integration between science and industry - Smart biomaterials and prosthetics - Welding technology - Advanced metal manufacturing with 3D printing - Innovative metal forming at lower temperatures using severe plastic deformation - Coolant efficiency and sustainability in nano-fluid metal cutting - Industrial waste conversion to usable products - Manufacturing and characterizing porous composites - Aluminum alloy recycling by casting	√	√	√	√	√	Faculty of Engineering, Helwan Faculty of Engineering, Matariya Faculty of Applied Arts Faculty of Technology and Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
14	Reconstruction and Sustainable Local Cities	- Sustainable and innovative strategies for rebuilding damaged cities and regions - Resource efficiency to face environmental and economic challenges - Sustainable cities and communities - Smart urban planning - Green infrastructure for smart cities - Smart and sustainable urban transport systems	√	√	√	√	√	Faculty of Engineering, Matariya		√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Energy efficiency in sustainable smart city buildings - Innovative materials and techniques for environmental sustainability and carbon footprint reduction - Energy-guided consumption in smart cities through innovative cooling and air conditioning systems - Fire protection systems and renewable energy use in new and reconstructed cities - Development of recycled building materials and concrete - Project management and Building Information Modeling (BIM) - Integrated methodologies in planning, design, execution, and manufacturing to improve efficiency - Use of digital simulation, virtual/augmented reality, and intelligent big data analytics - Smart management techniques for energy, water, ventilation, lighting, and operation maintenance											
15	Nanotechnology and Advanced Materials Applications	- Differentiating various nanomaterials and their heat transfer efficiency - Materials engineering and nanotech for innovative materials development - Cost reduction in engineering applications via nanotech - Designing smart materials to improve construction properties - Nanotech for industrial and infrastructure development - Nanoparticles for heat transfer improvements and water desalination - Synchrotron radiation in nanomaterials - Nanotech in paints and dyes - Nanotech in textiles - Nanotech in archaeological restoration - Materials science and nano applications in architecture - Nanomaterials in industrial and medical uses - Advanced nanomanufacturing techniques - Advanced materials for engineering applications - Nanotech in manufacturing processes - Nanotech applications for improving material and powder properties - Production of smart composites - Preparation of selective nanoelectrodes for electrochemical sensing in water samples - Nanotech for reducing engine emissions - Nanoelectronics and their role in 6G - Performance and efficiency of nano-scale electronic components	√	√	√	√	√	Faculty of Engineering, Helwan Faculty of Engineering, Matariya Faculty of Technology and Education Faculty of Science Faculty of Applied Arts Faculty of Fine Arts	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
16	Water Engineering and Sustainability	- Developing water management and sustainability technique - Water desalination system improvements - Water consumption analysis in infrastructure and buildings - Renewable energy applications in water treatment and pumping - Efficient water transport and mechanisms - New systems for mechanical power engineering with economic feasibility - Evaluation of groundwater reservoirs in Egypt - Development and management of water resources and maximizing use of flood waters - Management of natural resources (water, minerals, energy) - Low-cost materials for wastewater treatment and desalination - New models for element separation from water for industrial use - Water research in architecture and urban planning - Earth sciences and architecture research	√	√	√	√	√	Faculty of Engineering, Matariya Faculty of Technology and Education Faculty of Fine Arts Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
17	Environment, Climate Change, and Recycling	- Renewable energy and sustainable transport to support environmental development and reduce carbon footprint - Infrastructure improvements to address climate change - Studies of causes of climate change and increasing efficiency of damaging systems - Development of recycled construction materials and products - Improving recycling system efficiency - Using recycled materials in manufacturing and transport - Renewable energy in recycling operations - Sea level rise impact studies - Environmental impact assessments for flood risks and maximizing benefits - Assessment of fresh and saltwater locations in Egypt - Pollution sources and effects on soil, water, and air - Geological studies for petroleum wells discovery and evaluation - Geophysics and petroleum exploration - Remote sensing applications for mineral resource and ore discovery - Geological process roles in environmental restoration - Conservation and restoration of antiquities - Geological mapping and tectonics in development projects - Human impact on geological processes - Supporting civil projects with soil and rock data - Geophysics in archaeological discoveries - Preparing new materials and composites to reduce CO2 emissions - Recycling solid waste and old concrete - Alternative fuels in cement production - Sustainable product design - Using eco-friendly and recyclable/biodegradable materials in product design - Innovative sustainable design solutions for environmental challenges - Environmental architecture and green urbanism - Sustainability and environment (multi-system research) - Regional and urban planning for sustainable housing - Globalization and identity in architecture and urbanism - Developing new technologies for emission reduction, energy efficiency, sustainable materials use, and climate resilience - Advanced metal forming with eco-friendly lubricants and cleaners, plus metal recycling during manufacturing - Waste disposal and recycling - Alternative fuel production from industrial waste and reducing industrial air pollution - Environmental monitoring and applications	√	√	√	√	√	- Faculty of Engineering, Matariya - Faculty of Technology and Education - Faculty of Applied Arts - Faculty of Fine Arts - Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
18	Mathematics and Physics for Engineering Applications	- Applied research in fields concerned with energy, environment, and water - Research on optical fibers and their applications in communications and information transfer - New executable algorithms in architectural geometry - Rationalizing energy usage through mathematical modeling - Biofluids in the human body and the effect of magnetic fields on them	√	√	√	√	√	- Faculty of Technology and Education - Faculty of Engineering, Matariya - Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

Fourth: The Arts Sector
Including the Faculties of
Applied Arts, Fine Arts, Art
Education, Technology and
Education, and Music Education
over five years (2025 to 2030)

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
1	Application of Technology, Digital Transformation, and Artificial Intelligence Arts, Design, and Music	• The role of modern technology in designing and producing functionally efficient applied products • Design and production of smart products • Information and communications technology and its relationship to various arts • Digital technology and the use of multimedia in the fields of arts and music • Employing augmented virtual reality technology in the fields of arts and music • Teaching arts in light of 21st century skills in line with the labor market. • Using digital technology in design to promote a green environment and meet consumer demands. • The role of artificial intelligence in developing innovative design, formation, and production processes that keep pace with modern requirements. • The role of modern technology, digital tools, and artificial intelligence in developing design machinery and equipment, manufacturing systems, and production lines. • The use of specialized software (CAD and 3D design) to support the creative process of product design and manufacturing. • The impact of ergonomics on improving functional performance. • Studies on the various intellectual and formative approaches in modern artistic trends and their connection to technology and digital transformation.	√	√	√	√	√	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
2	Multimedia and its Pivotal Role in Shaping Contemporary Arts, Music, and Design	• Using modern multimedia technologies in teaching art, design, and music • Interactive design using multimedia technologies in various artistic fields • The role of multimedia in training and developing interactive skills • The role of multimedia in stimulating creativity and innovation in the fields of art, design, and music through digital programs and interactive applications • Multimedia for creating online learning platforms and constructing artistic designs in three-dimensional environments	√	√	√	√	√	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
3	Updating Academic Programs and Curricula in Arts, Music, and Design to Keep abreast of Contemporary Developments	• Applying digital technologies to simplify art, music, and design education. • Mechanisms for advancing teaching and learning, e-learning, and augmented reality. • Developing methods for solving problems facing students in disciplines requiring technical skills and design creativity. • Designing e-books and interactive books in the fields of art, music, and design. • Computer and mobile applications and their effectiveness in learning design and visual composition. • Curricula and digital educational technology methods in design and applied skills in art, design, and production. • Designing art programs for various audiences. • Updating art programs and curricula in light of quality standards.	√	√	√	√	√	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
4	Arts and Design in Their Various Applications, and Music Composition	• Integrating sustainable design principles into curricula, academic theses, research, and research projects. • New musical composition methods and their potential for use in Arab musical creativity. • Design process management. • Design and criticism in various artistic fields.	√	√	√	√	√	Applied Arts Fine Arts Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
5	Integration of Arts and Environmental Design to Achieve Sustainability	• Sustainable product and artwork design.	√	√	√	√	√	Applied Arts Fine Arts	• Publication of scientific research,	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		• Environmental design and the role of art in enhancing the visual image of different environments. • The impact of environmental factors on the arts across different eras and civilizations. • Environment, art, and sustainability (multidisciplinary research). • Studying the impact of environmental and geographical factors on the characteristics of popular music in different cultures. • Noise and noise pollution and their impact on humans. • Using arts and music to raise awareness of the dangers of climate change and environmental problems. • Studying the impact of environmental factors on artistic design and production. • International and local requirements for production and combating environmental pollution in communities. • Studies and research related to the use of green technology. • The impact of global fashion trends on sustainability. • Sustainable design practices and consumer behavior.						Art Education Music Education Home Economics	• Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops				
6	Impacts of Local and Regional Market Changes on Creativity in Arts, Design, and Music	• Studying the impact of modern technology on artistic and design creativity. • Studies in ancient and contemporary arts. • The impact of political and social life on artistic and design trends. • The role of arts and design in solving societal problems and achieving sustainable development in light of the development of technology and artificial intelligence. • The arts and their role in developing and upgrading slums and their role in raising public awareness and general culture. • The media and their role in disseminating arts, music, culture, and social communication. • Studies for community advancement and sustainable cultural, visual, and audio development. • Research in visual and audio communication arts and human development using 21st-century communication skills. • Problems of the local and regional market and their impact on industry. • Studies of traditional crafts to meet societal needs. • The impact of customs, traditions, cultures, and the environment on consumer tastes in local and regional markets. • Integration between the arts and community institutions to achieve sustainable development.	√	√	√	√	√	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√
7	Art History as a Tool for Promoting Artistic Appreciation in Society	• Studying the history of art and music across different civilizations and eras, analyzing their development, styles, and techniques. • Using digital technologies in teaching art history and developing artistic appreciation, to create interactive and engaging educational experiences. • Scientific documentation of the artistic and musical works and achievements of pioneers of art (Memory of History). • The complementary relationship between visual arts, literature, and music. • Art history and developing cultural awareness in society. • The visual and aesthetic values of cultural heritage. • Drawing inspiration from heritage to revive identity, preserve it from extinction, and develop taste in local markets. • Artificial intelligence and the study of art history and criticism. • Critical writings on artwork in light of emerging theories.	√	√	√	√	√	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
8	Nature and Heritage in Supporting Cultural Identity	• Using arts, music, and design to preserve cultural heritage and promote national identity. • The concept of citizenship, Egyptian identity, and cultural pluralism. • Innovative artistic formulations and treatments inspired by artistic heritage. • Analyzing and critiquing the mutual influence between Arab and Western cultures in arts and music. • Digital documentation. • Studying nature to enrich the intellectual and artistic aspects of artworks to promote sustainability.	✓	✓	✓	✓	✓	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	✓	✓	✓	✓
9	The Role of Arts, Design, and Music in Supporting Training and Qualification for Special Needs	• Using modern technologies to design innovative products and services for special needs groups. • Developing art and music education programs to rehabilitate and train people with special needs. • Developing multimedia educational programs for people with disabilities and studies for gifted individuals to develop their creative and innovative abilities. • Developing training programs in various design fields for people with disabilities. • Studies and research related to the study of ergonomic design considerations for special needs groups. • Using modern technological means to rehabilitate people with disabilities in the fields of art and design. • Addressing the challenges that hinder the rehabilitation of people with disabilities to learn design and manufacturing skills. • Art therapy	✓	✓	✓	✓	✓	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	✓	✓	✓	✓
10	Arts and Design as Creative Tools for Human Resource Development, Entrepreneurship, and Deepening Community Partnership	• Digital technologies for product marketing • Using modern technologies, such as artificial intelligence and virtual reality, in developing artistic products and services • Studies on how to increase the economic resources of small businesses and handicrafts. • Studies on linking education to investing in the creative abilities of young graduates in various artistic disciplines. • Training programs (transformational training) to develop skills for establishing small businesses and enhancing competitiveness. • Small and micro-entrepreneurial projects in the field of arts to serve the community.	✓	✓	✓	✓	✓	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	✓	✓	✓	✓
11	Integrating Arts, Design, and Music with Plans for Tourism Sector Development	• Design of tourist facilities and their role in promoting tourism • The role of multimedia in encouraging visits to tourist and archaeological sites • The role of multimedia and visual media in stimulating public visits to museums and opera houses • The role of music forums, conferences, and talent development programs in promoting tourism • Employing Egyptian heritage to promote tourism domestically and internationally • Designing diverse styles and designs for souvenirs that serve diverse economic segments and cultures for tourists	✓	✓	✓	✓	✓	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees, • Organizing conferences, seminars and workshops	✓	✓	✓	✓
12	Intellectual Property in the Age of Information and Accessibility	• The role of intellectual property as a tool for preserving inherent rights in arts and music.	✓	✓	✓	✓	✓	Applied Arts Fine Arts Art Education Music Education Home Economics	• Publication of scientific research, • Completion of research projects, • Awarding Master's and PhD degrees,	✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
									Organizing conferences, seminars and workshops				

Fifth: The Basic, Applied, and Health Sciences Sector

Includes the colleges of:
Science, Pharmacy, Nursing, Medicine,
Nutrition, Sports Sciences (Girls), and
Sports Sciences (Boys)
over five years (2025- 2030).

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
1	New and Renewable Energy	- Using microbes to enhance the efficiency of microbial fuel cells. - Using fungi as an alternative source for ethanol and biofuel production. - Producing biofuel from plant waste and algae.	√	√	√	√	√	Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
2	Nanotechnology and its Applications	- Preparation of nanomaterials and their applications in water, soil, agricultural crops, and various industries. - Development of nanomaterials and their applications in biotechnology, microbiology, disease diagnosis, and treatment. - Magnetic properties of nanomaterials. - Preparation of nanomaterials from bacteria and fungi for use in various applications. - Isolation of local strains of yeast and fungi and improvement of their production capacity using genetic mutations and nanotechnology. - Research on the employment of nanotechnology in the fields of spinal cord injuries and upper and lower extremity injuries. - Use of nanotechnology applications in food preservation, reducing microbial contamination, and extending shelf life. - Formulating new drug delivery systems using nanotechnology. - Biological evaluation of new drug delivery systems using nanotechnology. - Improving the delivery of natural drugs. - Using nanotechnology as a delivery system for some new compounds to target specific receptors, proteins, or genes at the molecular level to treat diseases.	√	√	√	√	√	Faculty of Science Faculty of Medicine Faculty of Nutritional Sciences Faculty of Sports Sciences Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
3	Medical Microbiology, Immunology, and Its Applications	- Production and exploitation of enzymes from various microbes in industrial and medical fields. - Extraction of active substances from bacteria and their applications. - Production of microbial plant hormones and their impact on agricultural crops. - The impact of microorganisms on water, food, and medicine, and their use to reduce pollution. - The use of microorganisms in the production of biocomponents and their applications in various fields. - Overcoming the negative impact of pathogenic microorganisms. - Solving the problem of microorganism resistance to antibiotics and exploring the mechanisms of microbial resistance to treatments and their response to different types of treatment. - The impact of pathogens and climate change on the immune response. - The effect of some new compounds on the functions of immune cells. - Immunological research and antibody technology, and the role of vitamins and minerals (such as vitamin D and zinc) in strengthening the immune system. - Monitoring the spread and outbreak of viral, bacterial, and fungal diseases and their impact on public health. - Autoimmune diseases, allergies, and the role of the immune system in infectious and non-infectious diseases. - Methods of infection control and prevention in hospitals and the community. - Study the epidemiology of infectious and non-communicable diseases in Egypt in an effort to improve public healthcare.	√	√	√	√	√	Faculty of Science Faculty of Medicine Faculty of Nutritional Sciences Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- The importance of various immunodiagnostic tests and study the prevalence of immunodiagnostic markers. - Evaluate the immunomodulatory effects of natural compounds. - Explore the role of the microbiome in immune regulation and study the human microbiome and its relationship to disease. - Investigate immune dysfunction in chronic and autoimmune diseases. - Explore bacteriophage therapy for multidrug-resistant infections. - Characterize microbial resistance patterns and the spread of resistance genes across various sources, including clinical samples, healthy populations, and food samples. - Study the synergistic effects of nanoparticles with antibiotics and their impact on biofilm formation and virulence inhibition. - Evaluate the antimicrobial activities and virulence of natural products. - Enhance vaccine strategies and public health interventions by improving the coverage and effectiveness of vaccines for preventable viral diseases.											
4	Applications of Artificial Intelligence and Technology	- Health Informatics. - Endoscopic Interventions. - Endoscopic Brain and Spine Surgery. - Robotic Interventions. - Catheter Interventions. - Cerebrovascular and Interventional Surgery. - Functional Brain Surgery and Neuromonitoring. - Applications of Artificial Intelligence in Predicting Sports Injuries. - Sports Physiology and AI Applications. - Using AI in Designing Diets for Chronic Diseases. - Using AI in Analyzing Community Dietary Patterns. - Conducting Advanced AI-Based Computer Scanning to Discover New Antifungals. - Data Mining and Analysis to Select Promising Compounds and Evaluate Their Biological Activity. - Applying AI to Repurpose Drugs as Anticancer Agents.	√	√	√	√	√	Faculty of Medicine Faculty of Nutritional Sciences Faculty of Sports Sciences Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
5	Physiology and Its Applications	- Physiological and molecular studies on some soil fungi in response to radiation. - Molecular biology, diagnosis, and treatment of diseases and their relationship to environmental pollution. - Use of cytogenetic techniques in the classification and evolution of some rodents. - Physiological studies to study the mechanism of disease occurrence using experimental animal models. - Study of the effects of compounds, natural products, microparticles, and environmental pollutants on cells and various body systems. - The impact of health practices and dietary habits on body physiology and their role in changing and preventing pathological mechanisms. - The physiological effects of different training methods and their role in improving health. - The effect of aerobic and anaerobic physical activities on physiological variables in the body. - Physiological responses to developing components of physical fitness associated with athletic performance and achievement. - The physiology of the body's biological rhythm and response to athletic training. - Recovery in sports.	√	√	√	√	√	Faculty of Science Faculty of Medicine Faculty of Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- The impact of athletic practice on body physiology, hormonal changes, the nervous system, neurotransmitters, genes, and heredity in various sports. - Physiological responses under the influence of physical stress and natural and artificial environmental changes. - Sports physiology and genetic factors associated with athletic excellence. - Physiological optimization of training components to develop general and specific fitness components during the training season.											
6	Biotechnology and Molecular Biology	- Production and purification of enzymes and their applications. - Use of molecular biology technology to diagnose and monitor diseases. - Preparation and applications of biosensors. - Study of the molecular basis of diseases and pathogens and the discovery of early diagnostic methods. - Environmental biotechnology and biomaterial production. - Applications of biotechnology and molecular biology in medical and industrial fields, fortified functional food industries, and the production of targeted nutritional supplements. - Evaluation of new drugs through tissue culture, including new drugs of chemical or natural origin. - Stem cell research and cancer research. - Study of genetic diversity and its relationship to disease. - The effect of gene deactivation on various biological processes, how gene expression is regulated, and the changes that occur in diseases such as cancer. - The effect of decreasing the expression of various genes on various cellular and biological processes. - Analysis and functional associations of the SIRT gene family. - Microarrays to identify differentially expressed genes (DEGs) in various diseases. - Integrating multi-omics data (genomics, gene expression, and proteomics) to uncover disease-related biomarkers and therapeutic targets. - Utilizing fungal by-products in biotechnological applications. - Enhancing fungal fermentation processes to improve compound production.	√	√	√	√	√	Faculty of Medicine Faculty of Science Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
7	Drug Discovery and Development and Its Applications	- Synthesis of new compounds for pharmaceutical and therapeutic applications. - Use of molecular biology technology to develop new drugs. - Studies on ways to overcome the side effects of chemotherapy and produce new compounds using innovative methods that have effective biological activity for cancer treatment. - Biopolymers and liposomes as a drug delivery system and wound healing. - Radiolabeling of some drugs using nanotechnology for use in diagnosis and therapy. - Production of some organic pharmaceutical compounds using nanotechnology. - Synthesis and evaluation of organic cyclic compounds as potential drugs for various diseases. - Production of biologically active compounds such as antibacterial, anticancer, antiviral, anti-inflammatory, and other drugs. - Design of peptides, protein analogues, and nucleotide analogues with biological activity, as well as various compounds such as coumarin, quinoline, and sulfonamides. - Molecular modeling of compounds, evaluation of the biological activity of synthesized compounds, and study of the relationship between chemical structure and biological activity.	√	√	√	√	√	Faculty of Science Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
8	Pharmaceutical Analysis	- Develop a new method for using carbon nanoparticles. - Evaluate the potential of these compounds to sense drugs and biologically active compounds.	√	√	√	√	√	Faculty of Pharmacy	Publication of scientific research,	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Apply various analytical methods for use in pharmaceutical analysis of pharmaceutical preparations. - Develop and validate advanced analytical methods for identifying new drugs introduced in local and international markets. - Apply modern analytical techniques to identify pharmaceutical preparations, wastewater, and biological samples (quality control). - Green evaluation of modern, advanced analytical techniques using various methods.							- Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops				
9	Pharmaceutical Technologies in Drug Manufacturing	- Improving the physicochemical properties of pharmaceutical preparations. - A modern drug delivery system. - Repurposing a registered drug to treat new diseases. - Pharmacotherapy targeting.	√	√	√	√	√	Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
10	Bioinformatics	- Proteomic and genomic studies. - Studies of genetic variation and biological pathways. - Using bioinformatics to handle big data. - Using bioinformatics tools to process and analyze high-throughput sequencing data (such as RNA-Seq).	√	√	√	√	√	Faculty of Science Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
11	Types of Addiction and Its Management	- Study the causes and prevention of the harmful effects of addiction on an individual's physical and mental health. - Determine the prevalence of addiction in society. - Study methods of psychological rehabilitation for the disease using computer programs and multimedia in nursing care. - Study the impact of smoking on the smoker and their surrounding environment.	√	√	√	√	√	Faculty of Medicine Faculty of Nursing	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
12	Alternative Medicine, Compounds, and Their Applications	- Preparation of solvents for the extraction of natural compounds and natural products for various applications. - Expanding the growth of medicinal plants, increasing the resulting active ingredients, identifying them, and applying their use in medical purposes. - Dynamic effects of carotenoids on membranes. - The role of natural and synthetic compounds in treatment, and the discovery and biomining of compounds from natural sources. - Semi-synthetic modification and nanotechnology of natural products to improve pharmacokinetic and dynamic properties. - Development of new strategies in complementary and alternative medicine. - Studying the acarboxylase effect of secondary metabolites in medicinal plants. - Evaluation of tissue culture of some medicinal plants and their biological effects, and studying the pharmacological activities of medicinal plants. - Studying the factors affecting the growth of medicinal plants and improving the yield of essential oils from various plants. - Using plants in the biological control of pollutants and disease resistance. - An ecological model for plant growth and studying the physiological factors affecting plant diversity.	√	√	√	√	√	Faculty of Medicine Faculty of Sciences Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Using metabolites as a means of evaluating the effectiveness of medicinal plants. - Studying the molecular basis of drugs and natural products. - Tissue culture to evaluate various new drugs (both of chemical and natural origin).											
13	Occupational Diseases and Environmental Hazards, Air and Water Pollution, etc.	- Study water pollutants using mollusks, insects, and fish as model organisms. - Conduct preliminary studies on experimental animals to determine the causes of environmental pollution in the region. - Study the negative impact of environmental pollution and environmental change on the region's population and how to prevent disease. - Study modern diagnostic and treatment methods. - The role of community health nursing in preventing various occupational diseases. - Rehabilitation programs for postural deformities prevalent in various areas of life resulting from various occupational activities.	√	√	√	√	√	Faculty of Medicine Faculty of Nursing Faculty of Sports Sciences Faculty of Pharmacy Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
14	Preventive Health	- Cancer prevention using natural dyes. - The protective effects of antioxidants against the biological hazards of heavy metals and the role of antioxidants in preventing chronic inflammation. - The effect of individual nutritional supplements on improving health performance and disease prevention. - The relationship between dietary fiber and digestive health and colon cancer prevention. - The effect of bioactive compounds (such as polyphenols) on the prevention of viral and bacterial infections. - The role of diet in preventing obesity and malnutrition in children. - Improving public health among athletes and non-athletes. - Sports and health clubs and their impact on community and environmental health. - Sports and production related to the health of workers in various organizations and institutions. - Sports and modern diseases (exploratory, educational, and service aspects). - Health variables for special groups, including the elderly and other groups. - Postural deviations at different age levels, education, and postural culture.	√	√	√	√	√	Faculty of Medicine Faculty of Nutritional Sciences Faculty of Sports Sciences Faculty of Pharmacy Faculty of Sciences Faculty of Nursing	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
15	Medical Biochemistry	- Studying the causes of diseases and discovering early diagnostic methods. - New factors for predicting genetic diseases and developing treatment plans.	√	√	√	√	√	Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
16	Tumor Diagnosis and Treatment	- Applications of biochemistry in the diagnosis and treatment of tumors. - Extraction of natural products, preparation of nanomaterials, and study of their effect on cancer cells. - Study of factors affecting the immune suppression receptors of tumor cells. - Discovery of mechanisms specific to each type of tumor through cell transfection. - Development of tumor treatment by combining chemotherapy and immunotherapy. - Scientific research to evaluate new compounds for the treatment of tumors. - Study of methods of early diagnosis, determination of tumor proliferation rates, complications, causes, prevention methods, and modern treatment methods. - Use of the latest technologies in the treatment of critical cases.	√	√	√	√	√	Faculty of Medicine Faculty of Nursing Faculty of Sciences Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Study of the most prevalent diseases in society and their relationship to biological, social, psychological, and environmental factors in society. - Identification of new proteins as selective targets for cancer therapy. - The role of nursing in the prevention of cancer. - Application of new obstetric trends in providing care for cancer problems such as breast, cervical, and ovarian cancer.											
17	Modern Trends in Disease Diagnosis and Nursing	- Clinical studies of various diseases and the discovery of diagnostic markers. - Analysis of molecular mechanisms of diseases: studying genetic mutations and their impact on proteins and cell functions. - Use of the latest technologies in treating critical cases. - Preventing the occurrence and transmission of infections between patients and healthcare team members. - Integrated nursing care for the patient to achieve optimal patient treatment outcomes.	√	√	√	√	√	Faculty of Medicine Faculty of Nursing Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
18	Natural Resource Management and Pollution Control	- The protective effects of some herbs against pollution. - The use of green chemistry as an environmentally friendly method for preparing materials. - Recycling solid waste. - Studying the use of plants to eliminate various pollutants. - Studying the effect of pollutants on plant growth and agricultural crops. - Using plants in biological control of harmful weeds. - Using microorganisms in various applications. - Propagating and preserving endemic wild plants of medicinal and economic importance. - Improving the growth of agricultural crops, increasing productivity, and enhancing their resistance to stress. - Using tissue culture techniques to improve strategic crops. - Developing new plant strains using traditional and modern molecular methods using mutagens. - Studying the effects of pesticides, herbicides, pests, and pollutants on the genetic makeup of economically important plants, especially crop plants. - Studying ways to increase the production and quality of vegetable oils. - Developing plant strains resistant to stress and climate change. - Using freshwater animals as bioindicators of pollution. - Sources of pollution and their effects on soil, water, and air.	√	√	√	√	√	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
19	Cells, Tissues, and Genetics	- Cell signaling technology. - Gene editing. - The role of genes in the occurrence of cellular diseases. - Applications of recombinant DNA technology. - Uses of stem cells in treatment plans for various diseases. - Cell therapy for immune diseases, vascular diseases, atherosclerosis, and diabetes. - Studying the effect of certain toxins or chemicals on the histological structure and immunology of various tissues and organs in experimental animals. - Studying the role of microRNA in detecting various types of cancer, genetic diseases, and genetic toxicity from environmental pollutants and radiation. - Using cytogenetics in segmentation and development methods. - The role of certain genes, inflammation, and metabolism in the occurrence of cancer. - Studying microorganisms and their relationship to diseases.	√	√	√	√	√	Faculty of Sciences Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Applying new reproductive approaches to provide care for cancer problems such as breast and cervical cancer. - Production of active substances using biotechnologies such as cell and plant tissue culture and genetic transformation.											
20	Educational Technology and Nursing Practices	- Evaluating and developing the quality of nurses' performance in applied and administrative practices, along with job satisfaction. - Ways to improve health awareness for both patients and their families. - Developing leadership skills in nursing and developing effective communication skills. - Implementing and evaluating the quality of nursing care provided to newborns and mothers. - Improving clinical outcomes for newborns and critically ill children. - Research on information analysis in healthcare. - Integrating scientific research efficiency with nursing informatics and exploring future informatics trends. - Leadership and management of nursing care, knowledge, skills, and positive attitudes toward hospital management.	√	√	√	√	√	Faculty of Nursing	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
21	Invertebrates and Parasites	- Natural products and their applications in treating parasitic diseases. - Fish parasites and their economic importance. - Natural products extracted from insects and invertebrates and their therapeutic applications. - The impact of climate change on invertebrates. - Comparative studies of the lifestyles of some invertebrates and their impact on the surrounding environment. - The use of genetic and molecular methods in identifying and classifying some invertebrate species. - The use of some invertebrates as bioindicators of environmental pollution. - The use of electron microscopy to determine the microstructure of some invertebrates. - Study of the life cycle of some parasites in different hosts.	√	√	√	√	√	Faculty of Sciences Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
22	Food Safety and Security	- Using nanomaterials as sensors in the food industry. - Conducting physiological studies on the post-harvest shelf life of grains and crops. - Understanding the lipid content of some plants and algae and its potential uses. - Developing innovative technologies to increase the shelf life of food products while maintaining their nutritional value. - Using biodegradable nano-packaging materials containing food shelf life indicators. - Using artificial intelligence to monitor the food supply chain. - Pasteurization technology and its role in reducing vitamin and mineral loss. - Using smart sensor systems to monitor food temperature and humidity during transportation and storage.	√	√	√	√	√	Faculty of Sciences Faculty of Nutrition Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
23	Chronic Diseases (Prevention and Treatment)	- Diabetes, hepatitis, obesity and related diseases, nutritional disorders, chronic hypertension, and hyperlipidemia. - Gastroenterology. - Pulmonary diseases and neurology. - The psychological burden of communicable and non-communicable diseases. - Molecular evaluation of nutritional supplements as future nutritional support for patients. - Nutritional genomics to provide personalized and precise nutrition for cancer prevention and follow-up of cancer patients. - The role of diet in reducing the risk of type 2 diabetes.	√	√	√	√	√	Faculty of Nutrition Sciences Faculty of Pharmacy Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Therapeutic nutrition as a means of lowering blood pressure and controlling high cholesterol. - Low-carbohydrate diets in improving insulin resistance and managing obesity.											
24	Nuclear and Radiation Physics, Theory, and Applications	- Radiation and protection from radiation hazards. - The use of radiation in the diagnosis and treatment of diseases. - Biophysical effects of radiation. - Dose optimization in medical imaging. - Effective QCD models. - Areas of theoretical physics.	√	√	√	√	√	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
25	Environmental and Geological Studies	- Exploration of minerals and ores in Egyptian lands. - Study of rocks and their potential exploitation. - Classification of strata based on fossil content. - Tectonic mapping and study of geological structures. - Studies of vertebrate evolution in Egyptian rocks. - Study and application of geophysical theories.	√	√	√	√	√	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
26	Environmental Studies and Biodiversity	- Study the impact of climate change on microorganisms and plants in the environment. - Study the impact of microorganisms on humans, plants, and food sources. - Study the genetic differences between microorganisms and plants in different environments. - Find effective methods to combat the negative effects of various microbes. - Extract new bioactive compounds from actinobacteria and evaluate their medical and environmental applications. - Eliminate various pollutants present in the environment to preserve biodiversity. - Identify and characterize new viruses and develop environmentally friendly methods for virus control. - Identify the genetic fingerprint of important plants in the Egyptian environment before they become extinct. - Use algae to improve environmental properties. - Preserve Egyptian plant species from extinction and assist in planning conservation strategies - classify and list endangered plants and propagation methods. - The impact of various weed species on crop productivity. - Study freshwater microbes. - Study the biodiversity of Egyptian animals using DNA barcodes.	√	√	√	√	√	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
27	Mathematics and Its Applications	- Space mechanics. - Applications of mathematical modeling in decision-making to solve medical and economic problems. - Use of numerical analysis to achieve optimal control.	√	√	√	√	√	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
28	Material Physics, Solar and Space Sciences	- Crystallography in biomaterials and its applications. - The use of lasers in material characterization. - Research in the field of nonlinear optics. - Research in optical fibers and their applications in communications and information transmission.	√	√	√	√	√	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees,	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		The use of spectroscopy in pharmaceutical applications.							Organizing conferences, seminars and workshops				
29	Laser Applications in Disease Treatment	- Laser applications in medicine (such as treating eye diseases and dermatology) - Biological risks of using lasers in ophthalmology.	✓	✓	✓	✓	✓	Faculty of Sciences Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
30	Preparation of New Materials and Their Applications	- Preparation of multifunctional materials and processing of raw materials for application in various industries. - Construction of cyclic materials with antiviral, antimicrobial, and anticancer effects. - Preparation of new materials used as drug carriers. - Use of green chemistry as an environmentally friendly method for material preparation. - Preparation of new materials with fluorescent properties and their applications. - Preparation of new materials with porous properties and high-temperature tolerance. - Synthesis of sugar derivatives and evaluation of their biological activity. - Synthesis of bioactive compounds using photocatalysis and study of reaction mechanisms. - Preparation of organic materials with catalytic activity. - Preparation of organometallic compounds and polymers for fuel purification. - Research in the building materials and concrete industries.	✓	✓	✓	✓	✓	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
31	Changes Climate and its effects	- Study the impact of climate change on plant distribution and life. - Study the effect of ultrasound on seed germination. - Use of plant and microbial extracts to mitigate the effects of climate change. - Study the ability of various crops to withstand drought and climate change.	✓	✓	✓	✓	✓	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
32	Embryology, congenital malformations, and comparative anatomy	- Study of advanced methodology and progress in the field of artificial insemination and microinjection in rats and humans. - Comparative study of the skeletal system, genitourinary system, and cranial nerves in vertebrates. - The origin and evolution of reptiles, amphibians, birds, and mammals.	✓	✓	✓	✓	✓	Faculty of Sciences Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
33	Entomology and biodiversity research	- Study of the composition of the midgut of various insects. - Fractionation and purification of various proteins and peptides from the hemolymph and various organs of insects. - Study of the different enzymatic activities of the midgut of various insects. - Use of insects in waste recycling. - Medicinal uses of insect extracts.	✓	✓	✓	✓	✓	Faculty of Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
34	Women's and children's health	- Mental and physical health of women and children. - Nutritional intervention programs to improve the health of children and mothers in poor communities.	✓	✓	✓	✓	✓	Faculty of Medicine Faculty of Nursing	Publication of scientific research,	✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		- Early nutrition and its impact on children's mental and physical development. - The role of essential fatty acids and iron in developing children's intellectual abilities. - Improving the nutritional status of children with gluten sensitivity and lactose intolerance. - Studying the problems of menopause and how to manage them. - Malnutrition diseases such as underweight, short stature, micronutrient deficiencies, and various types of anemia. - Prevalent diseases, infectious diseases, and epidemics in children. - Pediatric neurosurgery. - Implementing and evaluating nursing care provided to children with malnutrition. - The importance of breastfeeding, vaccinations, and accident prevention in children. - Nursing care for children undergoing hemodialysis. - Complementary therapies in treating children and newborns.						Faculty of Nutrition Sciences	- Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops				
35	Sports medicine, trauma and road traffic accident medicine, and burn medicine	- Physical rehabilitation for injuries. - Physical rehabilitation for individuals with motor, sensory, or mental disabilities. - Using massage in integrated physical rehabilitation programs for injured athletes, recovery, and recovery from fatigue. - Surgical intervention for injuries and post-injury rehabilitation. - Treatment of post-surgical complications. - Raising public awareness about the causes of accidents and how to deal with them. - Psychological first aid. - Spinal injuries. - Skull base surgeries. - The effect of carbohydrates and proteins on performance and muscle recovery. - Evaluation of the effectiveness of common supplements such as creatine, amino acids, and caffeine on athletic performance. - The effect of high-fat versus high-carbohydrate diets on athletic performance. - Analysis of the effect of plant-based diets on athletic performance. - Nutrition tailored to athletes according to the type of sport. - Proper nutrition regimens before, during, and after exercise.	✓	✓	✓	✓	✓	Faculty of Sports Sciences Faculty of Medicine Faculty of Nursing Faculty of Nutrition Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
36	Pharmaceutical practice	- Applications of machine learning algorithms to predict drug response - Genetic polymorphisms and their impact on drug pharmacokinetics. - Genetic polymorphisms and their impact on clinical outcomes. - Clinical pharmacogenomics in the field of immuno-oncology. - Efficacy and safety of novel immunotherapies in oncology. - Efficacy and safety of antidiabetic drugs through their intervention in the cardiometabolic region and assessment of the cardioprotective effect using highly sensitive markers. - Use of artificial neural networks (ANNs) to construct informed drug doses. - Physiology-based pharmacokinetic (PBPk) models to improve therapeutic decisions in specific populations.	✓	✓	✓	✓	✓	Faculty of Pharmacy	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
37	Surgery and critical care	- Critical Care and Emergency Medicine - Ophthalmology - Otorhinolaryngology - Cardiothoracic Surgery - Plastic Surgery - Vascular Surgery	✓	✓	✓	✓	✓	Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees,	✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		Pediatric Surgery							Organizing conferences, seminars and workshops				

Sixth: Interdisciplinary Research Sector

**Covering all the Universities
Faculties**

**Over five years for the period
(2025- 2030)**

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
1	Medical Tourism in Egypt	- Medical rehabilitation (physical therapy, prosthetics, speech disorder therapy) - Educational rehabilitation (adapted curricula, inclusive schools) - Vocational rehabilitation (training for jobs suited to their abilities) - Social rehabilitation (developing social skills for integration)	√	√	√	√	√	Faculty of Nursing Faculty of Social Work Faculty of Education Faculty of Arts Faculty of Sports Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
2	Artificial Intelligence Applications in Sports Science	- Managing digital transformation, artificial intelligence, and digital entrepreneurship in the sports field - Analytical and technical studies of tournaments and matches locally and internationally to develop national performance levels - Specialized sports technology programs for community groups (street children – addicts – juveniles and adults – orphanages – other special groups) - Virtual reality technology in positive psychology	√	√	√	√	√	Faculty of Sports Sciences Faculty of Artificial Intelligence Faculty of Arts	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
3	Legislation and laws in sports fields	- Legislation, legal systems, and regulations (updating – development methods – implementation) in various sports and recreational organizations. - Issues of corruption and misconduct, methods and strategies for combating them, and systems of accountability, auditing, and oversight in various sports and recreational organizations.	√	√	√	√	√	Faculty of Sports Sciences Faculty of Law	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
4	Sports Marketing and Media	- Non-terrestrial networks - Satellite communication systems - Satellite data analysis in engineering applications - Mobile wireless sensor networks - Security of multimedia wireless sensor networks	√	√	√	√	√	Faculty of Sports Sciences Faculty of Commerce and Business Administration Faculty of Arts	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
5	Legislation and laws in the tourism fields	- The new tourism law project that was discussed by the People's Assembly. - A study of the legislation related to protecting tourists during their stay in the Egyptian tourist destinations and the necessity of reducing the risks and problems they face.	√	√	√	√	√	Faculty of Tourism and Hotels Faculty of Law	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
6	Drug Discovery, Development, and Application	The journey of the drug from its discovery, extraction, preparation, and testing, up to the stage of application.	√	√	√	√	√	Faculty of Medicine Faculty of Pharmacy Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
7	Interdisciplinary Programs for the Care of Individuals with Special Needs	- Medical rehabilitation (physical therapy, prosthetics, speech disorder therapy) - Educational rehabilitation (adapted curricula, inclusive schools) - Vocational rehabilitation (training for jobs suited to their abilities)	√	√	√	√	√	Faculty of Medicine Faculty of Nursing Faculty of Social Work	- Publication of scientific research, - Completion of research projects,	√	√	√	√

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
		Social rehabilitation (developing social skills for integration)						Faculty of Education Faculty of Arts Faculty of Sports Sciences	- Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops				
8	Music and the Development of the Tourism Sector	- The role of multimedia and visual media in encouraging museum visits and the role of opera for audiences. - The role of music forums, conferences, and talent development programs in promoting eco-tourism.	✓	✓	✓	✓	✓	Faculty of Tourism and Hotels Faculty of Music Education	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
9	Artificial Intelligence and Drug Design	- Conducting advanced computer surveys based on artificial intelligence to discover new antifungal agents. - Data mining and analysis to select promising compounds. - Evaluating the biological activity of selected compounds. - Identifying new proteins as selective targets for cancer treatment. - Applying artificial intelligence to repurpose old drugs and chemicals for new uses as anticancer agents.	✓	✓	✓	✓	✓	Faculty of Pharmacy Faculty of Artificial Intelligence	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
10	Radiopharmaceuticals	- Radio-labeling some drugs using nanotechnology for diagnosis and treatment. - Producing new compounds with effective biological activity for cancer treatment; producing some organic compounds using nanotechnology. - Evaluating the biological activity of the compounds.	✓	✓	✓	✓	✓	Faculty of Pharmacy Faculty of Science Atomic Energy Authority	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
11	Genetics	- Studying genetic polymorphisms and their relation to disease occurrence. - The effect of reducing the expression of various genes on diverse cellular and biological processes. - Studying how gene expression is regulated and the changes that occur in diseases such as cancer. - Functional analysis and correlations of the SIRT gene family.	✓	✓	✓	✓	✓	Faculty of Pharmacy Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
12	Biotechnology	- Using fungal by-products in biotechnological applications. - Enhancing fungal fermentation processes to improve compound production.	✓	✓	✓	✓	✓	Faculty of Pharmacy Faculty of Science	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	✓	✓	✓	✓
13	Immunology	- Studying the prevalence of immunodiagnostic markers associated with various immune diseases. - Studying the importance of different immunodiagnostic tests. - Evaluating the immunomodulatory effects of natural compounds. - Exploring the role of the microbiome in immune regulation. - Investigating immune dysfunction in chronic diseases and autoimmune disorders.	✓	✓	✓	✓	✓	Faculty of Pharmacy Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees,	✓	✓	✓	✓

No.	Field	Theme	Activities					Responsible for Implementation	Outputs	Funding sources			
			Academic Research	Research Projects	Thesis Registration	Conferences and Symposia	Seminars			Research Projects	Industry Sector	University	Personal Funding
									Organizing conferences, seminars and workshops				
14	Therapeutic Nutrition	- Evaluating dietary supplements at the molecular level as future nutritional support for patients. - Genomic nutrition research to provide personalized and precise nutrition for cancer prevention and improving survival after cancer diagnosis.	√	√	√	√	√	Faculty of Pharmacy Faculty of Medicine Faculty of Nutrition Sciences	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√
15	The Study of Microorganisms and their Relationship with Diseases	- Monitoring the spread and outbreak of viral diseases. - Enhancing vaccine strategies and public health interventions by improving coverage and efficacy of vaccines for preventable viral diseases.	√	√	√	√	√	Faculty of Pharmacy Faculty of Medicine	- Publication of scientific research, - Completion of research projects, - Awarding Master's and PhD degrees, - Organizing conferences, seminars and workshops	√	√	√	√