CIVIL ENGINEERING PROGRAM

VISION, MISSION and GOALS

VISION	The vision of the Civil Engineering Program with its three scientific departments of (Structural Engineering, Public Works and Irrigation & Hydraulics Engineering) is to achieve excellence and leadership in the engineering education of different fields of Civil Engineering nationally, regionally and internationally to better serve individuals, society and environment. The vision is to provide, as well, top-quality education for graduates through society-related training activities that make them competitive academically, professionally and ethically. Furthermore, the vision concentrates on producing high quality graduates with profound capabilities, including continuous learning and coping with rapidly evolving technological innovations in the fields of civil engineering to offer high quality professional services nationally, regionally and internationally.

MISSION	The mission of the Civil Engineering Program is to provide education and research environment through: 1. Encouraging faculty, supporting staff, administrators and technicians to sustain their efforts. 2. Continuously improving the teaching and research facilities and laboratories and providing access to up-to-date information resources. 3. Attracting funds from government, private sector and alumni to develop scientific researches. 4. Continuously updating the teaching curricula in cooperation with industry and other stakeholders. 5. Facilitating career opportunities, internships and scholarships to its graduates with the continuity of communication with them.

	6. Equipping the graduates with the essential skills that qualify them to assume their social responsibilities after graduation. 7. Enhancing the role of information technology in the educational, research and administrative activities and in community services. 8. Providing students with an advanced professional education coupled with a solid base of knowledge and understanding of the basics of the different fields of specialization of the three scientific departments serving the Civil Engineering Program, namely; Structural Engineering, Public Works and Irrigation & Hydraulics Engineering. 9. Providing students with the practical and professional skills necessary for employment to work in a team-work together with peers in shared efforts to learn, understand, interact and create a culture that promotes and encourages risk-taking and challenges standards in creating, composing and presenting ideas in the fields of civil engineering.

GOALS	The Civil Engineering Program is targeting national and international recognition and accreditation. The main goal of the undergraduate program is, therefore, to provide an integrated curriculum with appropriate theoretical knowledge and technical skills enabling students to develop capabilities and attitudes that are essential for their future successful career, in which they can respond to professional market demands and contribute positively to fulfill the needs of their society'' and country. **The program aims at qualifying students to understand system constituents, behavior, analysis, design, construction, and development in the following areas:** ● Analysis and Mechanics of Structures ● Materials Engineering and Technology ● Reinforced Concrete Structures ● Steel and Metallic Structures ● Construction Management and Engineering ● Geomatics Engineering ● Geotechnical and Foundation Engineering ● Roads, Traffic and Airports Engineering ● Railways Engineering

	● Sanitary and Environmental Engineering ● Transportation and Traffic Engineering and Planning ● Irrigation, Drainage and Irrigation Design ● Fluid Mechanics and Hydraulics ● Water Resources Engineering ● Harbors and Inland Navigation Engineering ● Civil Drawing ● Hydrology and Ground Water ● Environmental Engineering **The planned main attainments of the B.Sc. Civil Engineering graduates are:** ● Graduates will practice different fields of civil engineering in the private and public sectors in Egypt, the Middle East Region, and elsewhere; or successfully pursue advanced studies and careers in academia or in other research environments. ● Graduates will have obtained technical and non-technical knowledge/skills that contribute to personal and employer success, and benefit the communities they serve. ● Graduates will recognize conflicts and adhere to professional ethical standards. ● Graduates will apply sustainability principles in their civil engineering projects and designs, and will contribute to the welfare of the society and the development of the profession through responsible practice of engineering and conscientious involvement in professional organizations. ● Graduates will advance in responsibility and leadership in their careers and engage in continuous professional development to respond to rapidly evolving technological and social challenges, and will aim for advanced degrees and professional licensure. **The Civil Engineering program will ensure that the intended learning outcomes (ILOs), which describe a set of skills that students are expected to have at the time of graduation, will fulfill the following abilities/capabilities:** 1. Ability to apply fundamentals of mathematics, basic sciences, and engineering to analyze and solve structural engineering problems. 2. Ability to design and conduct laboratory experiments, and analyze and interpret results.

	3. Ability to design a system, component, or process to meet desired needs within realistic constraints in recognized major civil engineering areas, such as economic, environmental, social, political, ethical, health and safety, and sustainability constraints. 4. Ability to participate and function effectively in teamwork. 5. Ability to identify, formulate, and solve different civil engineering problems. 6. Ability to identify and analyze ethical issues when they arise, and conform to highest professional standards and codes of ethics while dealing with them. 7. Ability to communicate effectively in oral, written and graphical forms. 8. Ability to read, interpret, and prepare technical and engineering drawings. 9. Ability to acquire broad education necessary to understand the impact of engineering solutions on safety, health, welfare and the well-being of society and the environment. 10. Ability to attain new knowledge independently, and recognize the need for life -long learning as a necessity for progress in the profession. 11. Ability to show awareness of emerging technologies in local and global context, and contemporary issues related to society. 12. Ability to use techniques, skills, and modern engineering tools for problem solving and design that are both necessary for practicing engineering profession. 13. Ability to conduct analysis, design and construction of different civil engineering projects. 14. Ability to show competence in tackling civil engineering problems that are important to Egyptian and regional construction industries. 15. Ability to prove proficiency in design, and to identify professional practice issues in recognized major areas of civil engineering.