



COMPLIANCE AND READINESS REPORT FOR SELF-ASSESSMENT

Academic Program: B.Sc. in Civil Engineering
Shatt Al-Arab University College | Department of Civil Engineering

Introduction & Historical Context

The Department of Civil Engineering at Shatt Al-Arab University College was established in 2022 AD as a strategic response to the escalating demand for qualified engineering professionals within the construction, infrastructure, and urban development sectors of the Basra Governorate and the wider southern region of Iraq. The preparation of this comprehensive Institutional Compliance and Readiness Report in 2026 AD marks a vital milestone, coinciding directly with the graduation of the program's inaugural cohort. This document serves as a rigorous, reflective self-assessment tool to verify academic quality, educational robustness, and institutional readiness against national and international standards for engineering accreditation.

Criterion 1: Program Educational Objectives (PEOs)

The Civil Engineering program maintains well-defined and measurable educational objectives designed to address the dynamic demands of the local engineering market, aligned tightly with the strategic vision of the College and University. The program is engineered to produce graduates who, within a few years of graduation, are fully capable of:

- **Demonstrating Professional Practice Competency:** Executing field engineering roles with high efficiency across the design, management, and supervision phases of diverse infrastructure projects.
- **Commitment to Continuous Professional Development:** Engaging in lifelong self-directed learning, staying abreast of scientific and technological breakthroughs, and pursuing advanced graduate studies or premium certifications.
- **Upholding Ethical and Social Responsibilities:** Adhering strictly to professional engineering ethics, the regulatory frameworks of the Iraqi Engineers Union, and driving localized sustainable development.

PEO Review Loop and Evaluation Mechanism

To ensure continuous market relevance, these objectives are systematically reviewed. With the graduation of the first cohort in 2026 AD, the department initiated its first major PEO review cycle,

deploying extensive survey tools targeting newly graduated alumni, industrial employers, and the Department's Advisory Committee.

Criterion 2: Student Outcomes (SOs)

The department adopts an integrated matrix of Student Outcomes that guarantees each graduate possesses the cognitive, technical, and professional competencies required to tackle complex real-world engineering challenges instantly upon graduation:

- **Analytical & Creative Problem Solving:** An ability to identify, analyze, formulate, and solve complex structural and civil engineering problems by applying fundamental principles of mathematics, science, and engineering.
- **Real-World Design & Development:** An ability to design structural systems, facilities, and civil components (including buildings, bridges, and water networks) satisfying strict specifications and codes while balancing economic, safety, and environmental constraints.
- **Experimental Investigation & Research:** An ability to conduct standard laboratory tests, field measurements, interpret numerical data, and synthesize data-driven conclusions based on sound engineering principles.
- **Collaborative & Leadership Skills:** An ability to function effectively as a member or leader within multi-disciplinary teams, manage site operations, and exhibit professional communication and negotiation proficiency.
- **Professional, Ethical & Global Awareness:** An ability to recognize ethical and professional engineering responsibilities and understand the socioeconomic and environmental impacts of engineering solutions globally.

Evaluation and Measurement Tools

Student performance against these outcomes is rigorously tracked using direct metrics (including midterms, finals, laboratory portfolios, and national ministerial evaluation exams) and indirect metrics (including graduation project reviews and mandatory summer field training evaluations).

Table 1: Distribution of Graduation Projects for the Inaugural Cohort (Class of 2026)

Engineering Sub-Discipline / Project Track	Projects Completed	Distribution (%)	Representative Applied Project Titles (Basra Province Environment)
Structural Engineering & Concrete Technology	5 Projects	38.5%	Structural design of a multi-story building in central Basra utilizing high-strength concrete.

Soil Mechanics & Geotechnical Engineering	3 Projects	23.0%	Evaluating deep pile foundations efficiency in soft clayey soils adjacent to the Shatt Al-Arab riverbank.
Transportation, Highway & Bridge Engineering	2 Projects	15.4%	Traffic congestion analysis and optimization of critical intersections adjacent to the University Campus.
Water Resources & Environmental Engineering	2 Projects	15.4%	An empirical study on the salinity plume (tidal wedge) in Shatt Al-Arab waters and its impact on hydraulic infrastructure.
Construction Project Management	1 Project	7.7%	Implementation of Total Quality Management (TQM) and cost optimization techniques in residential complex projects.

Criterion 3: Curriculum Structure

The curriculum for the B.Sc. in Civil Engineering at Shatt Al-Arab University College spans four sequential academic years. It maintains a mathematically rigorous and structurally logical balance between fundamental foundational sciences and core technical engineering modules:

- **Fundamental Foundation (Years 1 & 2):** Concentrates heavily on engineering mathematics, applied physics, engineering mechanics (statics and dynamics), strength of materials, computer programming, and advanced computer-aided design (CAD).
- **Core & Advanced Civil Engineering (Years 3 & 4):** Focuses heavily on reinforced concrete design, steel structures, bridge engineering, advanced soil mechanics, foundation engineering, highway design, open channel hydraulics, environmental engineering, hydrology, and project management with quantity surveying.

Criterion 4: Continuous Improvement

The department implements a closed-loop quality management system centered around the cyclical measurement of student outcomes. Data collection streams encompass ministerial competency examinations, graduation project defenses, and localized stakeholder surveys. With the culmination of the 2026 academic cycle, all collected data points are analyzed by the Departmental Scientific Committee to institutionalize curriculum revisions, acquire state-of-the-art laboratory instrumentation, and implement faculty development workshops.

Criterion 5: Students

Admissions follow strict transparent policies mandated by the Ministry of Higher Education and Scientific Research (MOHESR) in Iraq. The department places ultimate priority on academic

advising, student monitoring, and career path alignment for graduating seniors entering the workforce via technical workshops run jointly with the Iraqi Engineers Union.

Table 2: Student Enrollment and Cohort Progression (2022 – 2026)

Academic Year	First-Year (Freshmen)	Second-Year (Sophomores)	Third-Year (Juniors)	Fourth-Year (Seniors Graduates) /
2022 - 2023	109 Students	—	—	—
2023 - 2024	348 Students	109 Students	—	—
2024 - 2025	329 Students	351 Students	103 Students	—
2025 - 2026	746 Students	329 Students	351 Students	103 Students
Current Total (2026)	746	329	351	Total Graduates: 103 Students

Criterion 6: Faculty Members

The department boasts a highly qualified academic faculty holding Ph.D. and M.Sc. degrees from nationally and internationally reputable universities. Faculty members actively drive academic excellence, mentor the graduation design teams, and regularly contribute high-impact peer-reviewed publications within global indexing databases such as Scopus and Clarivate Analytics.

Table 3: Faculty Distribution and Academic Ranks (Academic Year 2025/2026)

Academic Rank / Title	Ph.D. (Structural/ Geotechnical)	Ph.D. (Water/Transport /Mgt.)	M.Sc. (General Civil Eng.)	Total Cadre Count
Professor	1	0	0	1
Associate Professor	2	0	0	2
Lecturer	3	2	2	7
Assistant Lecturer	6	2	1	9
Total Faculty Strength	12	4	3	19 Faculty Members

Criterion 7: Facilities and Institutional Support

The infrastructure of Shatt Al-Arab University College is customized to host high-tier engineering education, offering a modern learning environment that empowers the program to execute its structural objectives efficiently:

Table 4: Inventory and Capacity of Specialized Civil Engineering Laboratories

Specialized Laboratory Name	Est. / Upgrade Year	Primary Equipment & Testing Apparatus	Operating Capacity per Session
Construction Materials & Concrete Lab	2022 (Upgraded 2025)	Digital compression machines, tensile testing apparatus, standard sieve shakers, cement hydration baths.	25 Students / Session
Soil Mechanics & Geotechnical Lab	2024	Direct shear test apparatus, triaxial compression systems, Atterberg limit devices, consolidation cells.	25 Students / Session
Engineering Surveying Field Equipment	2022 (Upgraded 2026)	Digital auto-levels, Electronic Total Stations, advanced handheld and geodetic GPS units.	25 Students / Session
Fluid Mechanics & Hydraulics Lab	2024	Open tilting hydraulic flumes, pressure measurement benches, synchronous teaching pumps, flowmeter modules.	25 Students / Session
Computer & Engineering Software Center	2023 (Upgraded 2026)	30 high-performance workstations equipped with licensed engineering software (AutoCAD, STAAD Pro, ETABS).	30 Students / Session

Criterion 8: Governance, Leadership & Quality Assurance

The Department of Civil Engineering operates under a decentralized, transparent governance model. The Departmental Council, standing Scientific Committees, and the Quality Assurance Unit collaborate to maintain excellence through:

- **Course Syllabi & Portfolio Management:** Regular updating of course descriptions, course files, and program specifications at the end of every academic semester.
- **Academic Twinning & Partnerships:** Activating collaboration and twinning agreements with public universities in the region to exchange technical knowledge and unify testing methodologies.

- **National Accreditation Alignment:** Full alignment with the standards set by the Iraqi Council for Engineering Accreditation under the Ministry of Higher Education and Scientific Research.

Criterion 9: Facilities and Services (Facilities)

- **Current Status & Infrastructure:**
 - The Department of Civil Engineering provides fully equipped, state-of-the-art laboratories featuring a diverse range of modern testing machinery and experimental setups to fulfill the program's practical requirements.
 - Appropriate, well-structured classrooms are available, integrated with contemporary educational technologies and instructional aids to enhance the learning environment.
 - The university library is stocked with recent textbooks, references, and hardcopy engineering resources; however, seamless electronic access and digital library subscriptions are currently undergoing integration.
- **Areas for Improvement (Under Evaluation):**
 - Continuous infrastructure upgrading and laboratory maintenance are actively performed to keep pace with the curriculum's evolution. Nevertheless, systematic student satisfaction surveys targeting the functional efficiency of facilities and services are yet to be formally implemented.
- **Compliance Level: Fully Compliant (Conditional)**
 - The program is deemed Fully Compliant upon the complete execution of the corrective actions specified in the attached Continuous Improvement and Action Plan, aimed at addressing the unfulfilled benchmarks identified during this cycle.

Table 5: Action Plan

Identified Gap	Corrective Action	Responsibility	Timeline
Absence of Student Satisfaction Surveys	Standardize and launch digital surveys via the student portal to measure facility and lab efficiency.	Quality Assurance Unit & Department Council.	Q1 - 2026
Lack of Electronic Library Access	Procure institutional subscriptions to global digital repositories (e.g., IEEE, Science Direct, Springer).	University Library Administration.	Q2 - 2026