

Program Educational Objectives

Program Educational Objectives (PEOs)

The program seeks to enable its graduates to achieve professional and academic progress in communications and intelligent digital systems engineering during the early years after graduation and to contribute to meeting the needs of society and the labor market. A period of three to five years is proposed for monitoring the attainment of the following objectives.

PEO1 Competence and advancement in engineering practice

Graduates will practice competently in specialized engineering roles in communications and intelligent digital systems and advance professionally by applying mathematical, scientific, and engineering foundations to the analysis, design, implementation, operation, and performance evaluation of systems, in accordance with technical standards and employers' needs.

PEO2 Innovation and community service

Graduates will contribute to developing practical solutions or innovative projects that address communications and digital transformation challenges in the service and industrial sectors by integrating communications, networking, signal processing, and intelligent digital systems technologies, while considering information security, resource efficiency, and sustainability.

PEO3 Professional responsibility and teamwork

Graduates will assume increasing professional responsibilities within multidisciplinary teams and contribute to project planning and implementation and communication with specialists and stakeholders. They will uphold professional ethics, safety, and privacy protection while considering the social, economic, and environmental effects of their engineering decisions.

PEO4 Lifelong learning and academic development

Graduates will continue to develop their knowledge and expertise to keep pace with emerging technologies through self-directed learning, professional training, specialized certifications, or postgraduate study and applied research, thereby strengthening their careers and their ability to adapt to workplace requirements.

The proposed follow-up period is a departmental organizational decision, not a mandatory period prescribed by ICAEE. The final wording will be published after review and approval in accordance with university procedures.

Alignment with the departmental mission and curriculum

The wording is based on the department's mission to provide specialized education, generate knowledge and practical solutions, and support industrial and governmental projects. The table presents proposed alignment that requires review and approval; it does not represent actual assessment results.

PEO	Alignment with the mission and stakeholders' needs	Examples from the attached curriculum that support preparation
PEO1	Depth of specialization and meeting the need for engineers in communications and digital systems.	Mathematics, Physics, and Chemistry; Communications Fundamentals; Digital Communication; Antennas and Wave Propagation; Digital Electronics.
PEO2	Practical solutions, innovation, digital transformation, and community service.	Digital Signal Processing; Digital Systems and Artificial Intelligence; Internet of Things and Green Energy; Smart City Communications; Security of Communication Networks; Graduation Project.
PEO3	Partnerships with industrial and governmental sectors and responsible practice.	Engineering Project Design and Planning; Administration and Engineering Economics; Arabic and English; laboratories and the Graduation Project.
PEO4	Knowledge generation and dissemination, keeping pace with developments, and building specialized expertise.	C and Python Programming; Modern Communications; Internet and Cloud Computing; laboratories and the Graduation Project.

Relationship between objectives and graduate outcomes

The seven outcomes follow the order used in the Advisory Board form: 1 problem solving; 2 design; 3 experimentation and data analysis; 4 communication; 5 professional and ethical responsibility; 6 lifelong learning; and 7 teamwork.

Objective	Primary supporting outcomes	Contribution
PEO1	1, 2, 3	Establishing engineering practice based on analysis, design, and experimental validation.
PEO2	1, 2, 3, 5	Developing practical solutions and evaluating their effects on society and the environment.
PEO3	4, 5, 7	Communication, coordination of collaborative work, and responsible decision making.
PEO4	6	Acquiring, evaluating, and applying new knowledge throughout a professional career.

This alignment is based on course titles and graduate outcomes. It does not replace a matrix linking course learning outcomes to graduate outcomes or the supporting assessment evidence. Alignment with the approved missions of the College and University should also be completed when preparing the accreditation submission.

Review evaluation and documentation

The requirements of Criterion 1 in the Iraqi engineering accreditation criteria, February 2018 edition, have been considered, particularly the consistency of the objectives with the mission and stakeholders' needs, their publication, and their periodic review. The objectives are expressed as achievements expected after graduation, while graduate outcomes remain competencies assessed at graduation. [1]

Proposed review process

The relevant committee will review the objectives every three years, or whenever a substantial change occurs in the mission or labor market, with participation from the Industrial Advisory Board, faculty members, students, graduates, and employers. Feedback, amendments, and their rationale will be documented. The revised wording will then be submitted to the relevant councils and published following approval. This review interval is proposed for the department; it is not a mandatory interval specified in the reference.

Proposed evidence for monitoring attainment after graduation

Objective	Evidence of attainment	Data sources
PEO1	Employment in relevant fields, progression in technical responsibilities, and evaluation of professional performance.	Graduate follow-up and a survey of the immediate supervisor.
PEO2	Documented participation in developing a solution, improving a system, or completing an applied project.	A brief professional record, project evidence, and employer feedback.
PEO3	Assuming coordination or task management responsibilities, with assessment of communication and professional conduct.	Graduate and employer surveys and examples of teamwork.
PEO4	Training, professional certifications, postgraduate study, or applied research.	The graduate's professional development record and supporting documents.

Annual collection of follow-up data is proposed once graduate cohorts fall within the three-to-five-year follow-up window. Assessment tools and target performance levels should be defined before implementation. Sample size and response rate should be reported, results analyzed, and improvement actions taken. Course grades alone should not be used as evidence of the attainment of objectives expected after graduation.