Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

University: Baghdad
College : Engineering
Number Of Departments In The College : 13
Date Of Form Completion :

Dean's Name

Date : / /

Signature

Head of the department of
Environmental Engineering
Date : / /

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

The Department of Environmental Engineering at University of Baghdad - College of Engineering has dedicated faculty applying state of the art technologies, utilizing excellent facilities, small classes, and a supportive staff to help students in the department to reach their academic and career goals. Our graduates, who can be found in agencies and businesses throughout the country, are the best indicator of our dedication to student success.
The main department educational program is to convert the student's way of thinking to well organized and more practical in handling engineering problem. The student prepared to face any engineering problem in any field and solves the problem in a scientific engineering manner .In addition, the department provides the student with a principle base of knowledge.

1. Teaching Institution	University of Baghdad/ College of Engineering
2. University Department/Centre	Environmental Engineering Department
3. Programme Title	Environmental Engineering
4. Title of Final Award	Bachelor degree in Environmental Engineering
5. Modes of Attendance offered	Direct and Electronic
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

The Department of Environmental Engineering provides opportunities to obtain the knowledge, skills and professional perspective needed for:

1-Graduate Environmental Engineers to serve in all sectors such as Ministries of Environment, Industry, Petroleum, and others. Also, to provide entry to environmental engineering practice and the pursuit of advanced studies.
2-Provide students with a sound foundation in the basic principles and engineering in the field of design and engineering analysis.
3-Develop the theoretical study and skills to enable students to apply these skills in the areas of work such as real solutions to real problems and the ability to make appropriate decisions.
4-Ensure that there is awareness of the importance of environmental protection in all industrial sectors, and develop methodologies to work out, in addition to search for legal ways to apply them.
5-Improve the teaching and research skills of the faculty members to meet international standards and the goals of the Department by joining training programs abroad and continuing professional development through gaining leadership skills in order to provide career success.
6-Improve the abilities of administration and technical supporting staff.
7- Maximum use of resources and potentials of the department.
8-Encourage the cooperation with Universities and Academic Centers in developed countries.
9-Encourage the cooperation with local Governmental Institutes.
10-Encourage the publishing in International Journal with impact factors.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. Attract and welcome undergraduate students to our Bachelor of Science program in Environmental Engineering, and to graduate B.S. students who are innovative problem solvers, who become leaders in their organizations, and who possess the knowledge and skills required for a wide range of careers and career changes.

A2. Recognized by our peers as a highly effective leader in the conducted interdisciplinary research and the development of innovative approaches to solve environmental engineering problems.

A3. Attract and welcome graduate students into advanced study and to graduate Master of Science and Doctoral students who possess both breadth and depth in their chosen focus area and are heavily recruited by industry and academia for their academic strengths and their leadership skills.

A4.Continuous development of curricula and studying plans for all stages and levels of studying at the Department to keep up with the latest developments in environmental engineering.

B. The skills goals special to the programme .

B1. Concentrating on scientific research and its leading role in helping to serve the society and solving its problems through conducting application researches

B2. Maintain an intellectually challenging, yet supportive and welcoming environment that encourages and enables our students, faculty and staff to achieve their best in a diverse community.

B3. Create, disseminate and integrate knowledge of engineering, science and technology that expands our environmental engineering knowledge base, which in turn enables the betterment of human society.

B4. Cooperating with related public sector institutions to supply scientific and engineering advice, and preparing different training courses in the development and capacity building for their engineering staffs.

Teaching and Learning Methods

Environmental Engineering Department at the College of Engineering- Baghdad University began as a postgraduate program at the Civil Engineering Department in 1986. In 1997, the present department was established as the Department of Environmental Engineering for postgraduate studies. Undergraduate studies were included in 2005 making the Department a full-fledged one at the College of Engineering.

Comprehensive curricula were prepared for the undergraduate studies to ensure that basic theoretical and applied aspects of environmental engineering are covered. The B.Sc. degree awarded by the department well-prepares its holder for his/her professional or academic career. Graduates are cautioned though that there is no substitute for experience. Their degrees are being gate-passes for the long arduous road engineering capability. Success in achieving this goal will depend not only on hard work but also on proper utilization of acquired engineering principles and knowledge as well as the systematic methodology to problem tackling. This approach results in proactive graduates willing to serve both state and society in various environmental engineering fields.

Assessment methods

Graduate students with high skills

C. Affective and value goals

C1. Prepare students for successful careers in environmental engineering

C2. Provide employers with a well-educated workforce that is ready and able to perform valuable environmental engineering services immediately after graduation.

C3. Encourage the growth of knowledge-based industry and stimulate economic growth in Iraq

C4. Engage in lifelong learning, e.g., through additional formal education, continuing education, professional development, research, and self-study, in order to use state-of-the art knowledge to design safe and effective environmental systems and programs and to provide high quality services to the general public, employers, clients, and other professionals.

Teaching and Learning Methods

Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the knowledge, skills, and behaviors that students acquire as they progress through the program.

Assessment methods

Graduate students with high skills

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. An Ability to apply knowledge of mathematics, science, and engineering

D2. An ability to design and conduct experiments, as well as to analyze and interpret data

D3. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

D4. An ability to identify, formulate, and solve engineering problems

Teaching and Learning Methods

The use of techniques, skills, and modern engineering tools necessary for engineering practice

Assessment Methods

Graduate students with high skills

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating
First year	EnE 100		39
Second year	EnE 200		38
Third year	EnE 300		37
Fourth year	EnE 400		38

12. Awards and Credits

Bachelor Degree
Requires (x) credits

13. Personal Development Planning

personal development planning, or PDP, encompasses the importance of recording, reflection and planning in helping to manage the learning and development in an efficient and effective way. In the same vein, career development planning focuses on the principles and processes that are involved in effective career development, and examines the benefits of developing and/or updating a career plan during your studies and beyond.

The primary objective for PDP is to improve the capacity of individuals to understand what and how they are learning, and to review, plan and take responsibility for their own learning. This will help students:

- Become more effective, independent and confident self-directed learners
- Understand how they are learning and relate their learning to a wider context
- Improve their general skills for study and career management
- Articulate personal goals and evaluate progress towards their achievement
- Develop a positive attitude to learning throughout life.

14. Admission criteria .

An applicant for admission to an undergraduate program of Environmental Engineering Department, College of Engineering, University of Baghdad, must satisfy the following minimum requirements:

- The applicant should have an Iraqi secondary school certificate, or its equivalent, and majored in natural or technological sciences. The students must obtain high rate qualification for admission at engineering colleges.

-Acceptance is centrally controlled by the Ministry of Higher Education and Scientific Research.

-Distribution of students to the 13 engineering departments of the college of engineering, including the Department of Environmental Engineering, is made according to the capacity plan of the departments and the rating average of the applicants and their will. The capacity plan of the Department of Environmental Engineering in the last three years was 30 students. The number of students accepted in the Department is determined by the College Council based on the capacity and resources of the College.

-An applicant who has graduated from a secondary school outside Iraq must have completed twelve years of combined primary and secondary school studies from a recognized school. He or she is also required to provide an equivalency certificate from the Iraqi Ministry of Education.

15. Key sources of information about the programme

Environmental engineers support the well-being of people and the planet in areas where the two intersect. Over the decades the field has improved countless lives through innovative systems for delivering water, treating waste, and preventing and remediating pollution in air, water, and soil. These achievements are a testament to the multidisciplinary, pragmatic, systems-oriented approach that characterizes environmental engineering.

Environmental Engineering for the 21st Century: Addressing Grand Challenges outlines the crucial role for environmental engineers in this period of dramatic growth and change. Five pressing challenges of the 21st century identify that environmental engineers are uniquely poised to help advance: sustainably supply food, water, and energy; curb climate change and adapt to its impacts; design a future without pollution and waste; create efficient, healthy, resilient cities; and foster informed decisions and actions.

Curriculum Skills Map

please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
First year	EnE 100			×			×		×	×		×			×	×	×		
Second year	EnE 200			×	×		×		×	×		×	×	×	×	×	×	×	×
Third year	EnE 300			×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Fourth year	EnE 400			×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×