Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation Department

Academic Program and Course Description

2025-2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program. The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments. This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: To be a leading and distinguished Civil Engineering academic program at the local and regional levels, with international recognition in education, scientific research, and community service, by preparing competent civil engineers capable of innovation and sustainable development.

Program Mission: The program seeks to prepare engineering cadres who possess:

-Solid scientific knowledge and practical skills in various civil engineering disciplines.

-The ability to conduct applied scientific research and serve the community.

-A commitment to professional and ethical values.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes:

Knowledge:

K1: Ability to apply principles of mathematics, science, and engineering to solve engineering problems.

K2: Knowledge of theoretical and applied concepts in core areas of civil engineering.

K3: Awareness of contemporary issues and modern developments in engineering locally and globally.

Skills:

S1: Ability to identify, formulate, and analyze engineering problems using modern tools and scientific methods.

S2: Design and implement systems, components, or engineering processes to meet specific requirements within economic, health, environmental, social, and ethical constraints.

S3: Conduct laboratory and field experiments, analyze data, and draw conclusions.

S4: Use modern technologies, engineering software, and IT tools effectively.

S5: Effective oral and written communication skills with various professional and academic levels.
S6: Ability to work in multidisciplinary teams and manage teamwork efficiently to achieve defined goals.

Values & Ethics:
E1: Commitment to ethical and professional responsibilities in engineering practice.
E2: Ability to make engineering decisions considering economic, social, and environmental dimensions.
E3: Engage in lifelong self-learning and professional development to keep pace with technological advances.
E4: Effective planning and management of engineering projects with focus on quality and risk reduction.
Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extracurricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Samarra University
Faculty/Institute: College of Engineering
Scientific Department: Department of Civil Engineering
Academic or Professional Program Name: Bachelor of Science in Civil Engineering
Final Certificate Name: Bachelor of Science in Civil Engineering
Academic System: Bologna Process System (First and Second Cycles), Semester-Based System (Third and Fourth Years)
Description Preparation Date: 20/9/2024
File Completion Date: 1/7/2025

Signature: Khalid H. Lateef
Head of Department Name: Asst. Prof .Dr. Khalid Hameed Lateef
Date: 1 / 7 /2025

Signature: Ahmed Mohamed Ahmed
Scientific Associate Name: Asst. Prof. Ahmed Mohammed Ahmed
Date: 1 / 7/2025

The file is checked by: Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department: Senior Engineer. Mohammed Khaled

Date: 1 / 7/2025

Signature:

Approval of the Dean
01 / 07/ 2025

1. Program Vision

To be a leading and distinguished Civil Engineering academic program at the local and regional levels, with international recognition in education, scientific research, and community service, by preparing competent civil engineers capable of innovation and sustainable development.

2. Program Mission

The program seeks to prepare engineering cadres who possess:
-Solid scientific knowledge and practical skills in various civil engineering disciplines.
-The ability to conduct applied scientific research and serve the community.
-A commitment to professional and ethical values

3.Program Objectives

- Acquire fundamental knowledge and essential skills in civil engineering, particularly in structural engineering, geotechnics, and transportation, to serve the community and facilitate integration into professional associations
- Establish sound engineering practices in civil engineering to meet societal needs
- Engage in lifelong learning to ensure ongoing professional development
- Gain innovative knowledge that enables graduates to solve problems effectively and adapt to emerging and rapidly evolving technologies in structural, geotechnical, and transportation engineering—while continuing lifelong learning activities

4. Program Accreditation

The program is in the process of submitting the Readiness Review Form along with the accompanying report to the Iraqi Council for Accreditation of Engineering Education (ICAEE)

5.Other external influences

Deanery of the College of Engineering

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage%	Reviews *
Institution	8	18	8.87	There are two academic systems in the department: the Bologna track and the semester-based system
College Requirements	0	0	0	
Department Requirements	45	185	91.13	
Summer Training	1			
Other				

*This can include notes whether the course is basic or optional

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours		Units
			theoretical	practical	
First Year / First Semester	UOE-1101	Computer	2	2	3.00
	CE112	Mathematics I	4	-	10.00
	CE113	Eng. Drawing	4	4	8.00
	CE114	Construction Materials	3	2	5.00
	UOE-1102	Arabic	2	-	2.00
	UOE-12012	Democracy and human rights	2	-	2.00
Total Credit Hours and Units			17	8	**30.00**
First Year / Second Semester	CE121	Eng. Mechanics	6	-	12.00
	CE122	Auto Cad	2	3	6.00
	CE123	Engineering Statistics	2	-	5.00
	CE124	Eng. Geology	2	2	5.00
	UOE-12011	English Language I	2	-	2.00
Total Credit Hours and Units			14	5	**30.00**
Second Year / First Semester	CE211	Strength of Materials I	3	-	6.00
	CE212	Fluid Mechanics I	2	2	6.00
	CE213	Mathematics II	2	-	5.00
	CE214	Engineering Surveying I	2	2	6.00
	UOE-2306	English Language II	3	-	2.00
	UOE-2304	Computer II	2	2	3.00
	UOE-2303	Baath regime crimes in Iraq	2	-	2.00
Total Credit Hours and Units			16	6	**30.00**
Second Year / Second Semester	CE221	Strength of Materials II	3	-	6.00
	CE222	Fluid Mechanics II	2	2	6.00
	CE223	Concrete Technology	2	2	4.00
	CE224	Building Construction	2	-	4.00
	CE225	Engineering Economics	2	-	4.00
	CE226	Construction Drawing	2	2	4.00
	UOE-2305	Arabic II	2	-	2.00
Total Credit Hours and Units			15	6	**30.00**
Third Year / First Semester	CE311	Theory of Structures I	3	-	3.00
	CE312	Reinforced Concrete Design I	3	-	3.00
	CE313	Soil Mechanics I	2	2	3.00
	CE314	Num. analysis	2	-	2.00
	CE315	Water Resources I	3	-	2.00
	CE316	Environmental Engineering	2	-	2.00

	CE 317	Traffic Engineering	2	-	2.00
	CE 318	English Language III	3	-	3.00
Total Credit Hours and Units			20	2	**20.00**
Third Year / Second Semester	CE321	Theory of Structures II	3	-	3.00
	CE322	Reinforced Concrete Design II	3	-	3.00
	CE323	Soil Mechanics II	2	2	3.00
	CE324	Eng. analysis	2	-	2.00
	CE325	Construction methods	3	-	3.00
	CE326	Sanitary Construction Services	2	-	2.00
	CE 327	Computer Applications	2	-	2.00
Total Credit Hours and Units			17	2	**18.00**
Fourth Year/ First Semester	CE 411	Sanitary Engineering I	2	-	3.00
	CE 412	Steel structures I	2	-	4.00
	CE 413	Foundation Engineering I	3	-	3.00
	CE 414	Surveying Engineering II	2	2	3.00
	CE 415	Estimation and Specifications	3	-	3.00
	CE 416	Highway Engineering I	2	2	3.00
	CE 417	Hydraulic Structures I	2	2	4.00
Total Credit Hours and Units			16	6	**22.00**
Fourth Year/ Second Semester	CE 421	Sanitary Engineering II	2	2	3.00
	CE 422	Steel structures II	2	-	4.00
	CE 423	Highway Engineering II	2	2	3.00
	CE 424	Reinforced Concrete Design III	3	-	3.00
	CE 425	Engineering Project Management	3	-	3.00
	CE 426	English Language III	2	-	2.00
	CE 427	Engineering Project	3	-	3.00
Total Credit Hours and Units			20	4	**24.00**

8. Expected learning outcomes of the program	
Knowledge:	
Learning Outcomes 1	A1: Ability to apply principles of mathematics, science, and engineering to solve engineering problems. A2: Knowledge of theoretical and applied concepts in core areas of civil engineering. A3: Awareness of contemporary issues and modern developments in engineering locally and globally.
Skills:	
Learning Outcomes 2	B1: Ability to identify, formulate, and analyze engineering problems using modern tools and scientific methods. B2: Design and implement systems, components, or engineering processes to meet specific requirements within economic, health, environmental, social, and ethical constraints. B3: Conduct laboratory and field experiments, analyze data, and draw conclusions. B4: Use modern technologies, engineering software, and IT tools effectively. B5: Effective oral and written communication skills with various professional and academic levels. B6: Ability to work in multidisciplinary teams and manage teamwork efficiently to achieve defined goals.
Values & Ethics:	
Learning Outcomes 3	C1: Commitment to ethical and professional responsibilities in engineering practice. C2: Ability to make engineering decisions considering economic, social, and environmental dimensions. C3: Engage in lifelong self-learning and professional development to keep pace with technological advances. C4: Effective planning and management of engineering projects with focus on quality and risk reduction.

9. Teaching and Learning Strategies

Teaching and Learning Strategies Adopted in the General Implementation of the Program:

1. Delivering theoretical lectures using PowerPoint presentations
2. Conducting laboratory experiments to practically apply theoretical concepts
3. Utilizing computer labs for hands-on training with software and applications
4. Presenting video lectures to support and enrich the instructional content
5. Assigning group projects to promote collaborative learning

10. Evaluation methods

1. Midterm and final examinations
2. Daily quizzes and short tests
3. Reports and assignments

11. Faculty

Faculty Members

Academic Rank	**Specialization**		**Special Requirements/Skills (if applicable)***	**Number of the teaching staff**	
	General	**Special**	**. Teaching Skills . Research Competence . Technical Skills**	**Staff**	**Lecturer**
Assistant Professor	Civil Engineering	Construction		3	
	Civil Engineering	Environmental		1	
Lecture	Civil Engineering	Construction		1	
	Building and construction	Construction		1	
	Civil Engineering	Soil Mechanics and Foundation		2	

		Engineering			
	Civil Engineering	Water Resources		1	
	Civil Engineering	Environmental		1	
	Chemical Engineering	Chemical		1	
	Geology	Sedimentology		1	
	Arabic	Gramar		1	
Assistant Lecture	Civil Engineering	Construction		6	
	Civil Engineering	Project Management		1	
	Civil Engineering	Civil		3	
	Civil Engineering	Highway		2	
	Hydraulics	Hydraulics		1	
	Geology	Engineering Geology		1	

* Please check the boxes corresponding to the individual learning outcomes of the program being assessed

Special Requirements/Skills (if applicable)*	
Teaching Skills	•Ability to design and deliver lectures effectively, incorporating modern teaching methods such as e-learning and interactive instruction • Development of course plans and periodic updating of academic content
Research Competence	• Conducting scientific research and publishing in peer-reviewed journals • Supervising undergraduate and graduate graduation projects
Technical Skills	Proficiency in engineering design software such as AutoCAD, SAP2000, ETABS, Microsoft Office

Professional Development

Mentoring new faculty members

The academic program aims to empower new faculty members across various educational fields through the following:

• Organizing training workshops to enhance teaching methods, course design, and student learning assessment, in addition to familiarizing faculty with university regulations and e-learning systems

•Conducting continuous evaluations of faculty performance to identify areas that require development

• Encouraging participation in instructional development programs offered by the university

12. Acceptance Criterion

The Department of Civil Engineering maintains strong ties with the Ministry of Higher Education and Scientific Research, as well as several other ministries in Iraq. Numerous seminars have been organized in collaboration with the Ministry of Higher Education. These partnerships contribute to providing faculty members with valuable practical experience. In this context, the Department has hosted lectures, workshops, and training sessions for faculty members over the past years, in addition to active participation in conferences and the publication of scientific research.

13. The most important sources of information about the program

The department's enrollment capacity is determined within the admission plan based on the department's available resources. This information is then submitted to the college administration, followed by the university, and subsequently to the Ministry for official approvals. Once centralized student admission is issued by the Ministry of Higher Education and Scientific Research, students are accepted according to their grades and preferences. Thereafter, applications to the college are submitted through the Registration Division of the College of Engineering, where the required official documents are collected. Upon confirmation of a student's admission to the Department of Civil Engineering, registration is completed and the student begins attending classes in the department

14. Program Development Plan

University Guide

- College Website
- University Website

15. Program Development Plan

To enhance the quality of education, improve graduate outcomes, and meet required competencies, the department has adopted the Bologna Process in Higher Education. This system includes the European Credit Transfer and Accumulation System (ECTS).

Program Skills Outline

				Required program Learning outcomes								
Year / Level	**Course Code**	**Course Name**	**Basic or optional**	**Knowledge**			**Skills**			**Ethics**		
				A1	**A2**	**A3**	**B1**	**B 2**	**B3**	**C1**	**C2**	**C3**
First Year / First Semester	UOE-1101	Computer	Basic	√								√
	CE112	Mathematics I	Basic	√		√	√		√		√	
	CE113	Eng. Drawing	Basic		√		√					√
	CE114	Construction Materials	Basic	√	√		√			√	√	
	UOE-1102	Arabic	Basic			√		√				√
	UOE-12012	Democracy and human rights	Basic			√			√	√		√
First Year / Second Semester	CE121	Eng. Mechanics	Basic	√			√				√	
	CE122	Auto Cad	Basic		√	√	√		√		√	√
	CE123	Engineering Statistics	Basic	√		√	√		√		√	
	CE124	Eng. Geology	Basic	√			√			√	√	
	UOE-12011	English Language I	Basic			√		√				√
Second Year / First Semester	CE211	Strength of Materials I	Basic	√	√		√			√	√	
	CE212	Fluid Mechanics I	Basic	√	√		√			√	√	
	CE213	Mathematics II	Basic									
	CE214	Engineering Surveying I	Basic	√			√	√			√	√
	UOE-2306	English Language II	Basic			√		√				√
	UOE-2304	Computer II	Basic	√								√
	UOE-2303	Baath regime crimes in Iraq	Basic			√			√	√		√
Second Year / Second Semester	CE221	Strength of Materials II	Basic	√	√		√			√	√	
	CE222	Fluid Mechanics II	Basic	√	√		√			√	√	
	CE223	Concrete Technology	Basic		√		√			√	√	
	CE224	Building Construction	Basic		√		√	√		√	√	
	CE225	Engineering Economics	Basic		√			√		√	√	
	CE226	Construction Drawing	Basic		√		√					√
	UOE-2305	Arabic II	Basic			√		√				√
Third Year / First Semester	CE311	Theory of Structures I	Basic	√	√		√			√	√	
	312CE	Reinforced Concrete	Basic		√		√	√		√	√	
	313CE	Design I	Basic	√	√		√			√	√	
	314CE	Soil Mechanics I	Basic	√		√	√		√		√	
	CE315	Num. analysis	Basic		√		√			√	√	
	CE316	Water Resources I	Basic		√		√		√	√	√	

	CE 317	Environmental	Basic		√		√	√			√	√
	CE 318	Engineering	Basic			√		√				√
Third Year / Second Semester	CE321	Theory of Structures II	Basic	√	√		√			√	√	
	322CE	Reinforced Concrete	Basic		√		√	√		√	√	
	323CE	Design II	Basic	√	√		√			√	√	
	324CE	Soil Mechanics II	Basic	√		√	√		√		√	
	CE325	Eng. Analysis	Basic		√		√	√		√	√	
	CE326	Construction methods	Basic		√		√			√	√	
	CE 327	Sanitary Construction Services	Basic	√	√	√	√		√		√	√
Forth Year / First Semester	CE 411	Sanitary Engineering I	Basic		√		√			√	√	
	CE 412	Design of Steel structures I	Basic		√		√	√		√	√	
	CE 413	Foundation Engineering I	Basic		√		√			√	√	
	CE 414	Surveying Engineering II	Basic	√			√	√			√	√
	CE 415	Estimation and Specifications	Basic		√			√		√	√	
	CE 416	Highway Engineering I	Basic		√		√	√			√	√
	CE 417	Hydraulic Structures I	Basic		√		√			√	√	
Forth Year / Second Semester	CE 421	Sanitary Engineering II	Basic		√		√			√	√	
	CE 422	Design of Steel Structure II	Basic		√		√	√		√	√	
	CE 423	Highway Engineering II	Basic		√		√	√			√	√
	CE 424	Reinforced Concrete Design III	Basic		√		√	√		√	√	
	CE 425	Engineering Project Management	Basic		√	√		√	√		√	√
	CE 426	English Language III	Basic			√		√				√
	CE 427	Foundation Engineering II	Basic	√	√		√			√	√	