

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



# **Academic Program and Course Description Guide**

2025

**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:** An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

**Program Mission:** Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

**Program Objectives:** They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

**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:** A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

**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 extra-curricular activities to achieve the learning outcomes of the program.

## Academic Program Description Form

University Name: ... *Southern Technical University*.....

Faculty/Institute: ..... *Engineering Technical College-MAYSAN*.....

Scientific Department: . *Building & Construction Technology Eng.*

Dep.....

Academic or Professional Program Name: . *Bachelor of Engineering*

*Sciences*.....

Final Certificate Name: .... *Bachelor of Engineering*

*Sciences*.....

Academic System: ... *Semester and annual*.....

Description Preparation Date: 1/4/2025

File Completion Date: 1/4/2025

Signature:



Head of Department Name:

Date:

Signature:



Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature



Approval of the Dean



## **1. Program Vision**

The Building and Construction Engineering Technology Program strives for excellence in applied engineering education by preparing highly qualified technical engineers. The program focuses on integrating theoretical knowledge with practical application to meet labor market needs. It also seeks to support innovation in modern construction technologies. The program adheres to academic and professional standards to enhance the quality of education. It aspires to contribute to sustainable development through effective partnerships with the public and private sectors

## **2. Program Mission**

The program's mission is to prepare technical engineers with high scientific and practical competence, who possess the skills, knowledge, and values necessary to work in the construction and building sectors, through a stimulating educational environment based on modern curricula, practical training, and advanced technologies.

## **3. Program Objectives**

1. Preparing graduates with a strong knowledge base in construction and building concepts, methods, and techniques.
2. Equipping students with the technical and applied skills that enable them to use modern technologies in engineering projects.
3. Developing students' analytical and problem-solving abilities.
4. Promoting concepts of professional and ethical responsibility and adherence to safety and quality standards.
5. Encouraging self-learning, continuous professional development, and keeping pace with scientific and technological developments.
6. Preparing graduates capable of working within multidisciplinary teams and communicating effectively in the workplace.

<b>4. Program Accreditation</b>				
N/A				
<b>5. Other external influences</b>				
N/A				
<b>6. Program Structure</b>				
<b>Program Structure</b>	<b>Number of Courses</b>	<b>Credit hours</b>	<b>Percentage</b>	<b>Reviews*</b>
<b>Institution Requirements</b>				
<b>College Requirements</b>				
<b>Department Requirements</b>	<b>45</b>	<b>184</b>		
<b>Summer Training</b>	<b>2</b>			
<b>Other</b>				

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

1. Program Description				
Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
1ststage/1 <sup>st</sup> semester	BCT111	ENGINEERING MECHANICS-I	60	
	BCT112	CONSTRUCTION MATERIALS-I	30	45
	BCT113	P. SURVEYING-I	30	60
	BCT114	P. MATHEMATICS	60	
	BCT115	Engineering Geology	60	
	STU103	HUMAN RIGHTS and DEMOCRACY	30	
1ststage/2nd semester	BCT121	ENGINEERING MECHANICS-2	60	
	BCT122	CONSTRUCTION MATERIALS-2	30	45
	BCT123	P. SURVEYING-2	30	60
	BCT124	ENGINEERING DRAWING	30	45
	STU103	Principle of Computer	15	30
	STU101	ENGLISH SKILLS-I	30	
2 <sup>nd</sup> stage/1 <sup>st</sup> semester	BCT211	Strength of Materials/1	60	
	BCT212	Fluid Mechanics/1	30	45
	BCT213	Plane Surveying/1	30	45
	BCT214	Advanced Mathematics 1	30	
	BCT215	Concrete Technology/1	30	45
	STU202	English Language/2	30	
	STU203	the crimes of the Baath regime in Iraq	30	
2 <sup>nd</sup> stage/2 <sup>nd</sup> semester	BCT221	Strength of Materials/2	60	
	BCT222	Fluid Mechanics/2	30	45
	BCT223	Plane Surveying/2	30	45
	BCT224	Advanced Mathematics 2	30	
	STU201	Computer Fundamentals	15	30
	BCT226	Building Constructions	60	
		Systematic Training 1	مستوفي	

<b>3<sup>rd</sup> stage/1st semester</b>	<b>BCT311</b>	Analysis and Design of Concrete Structures/1	60	
	<b>BCT312</b>	Concrete Technology/ 1	30	30
	<b>BCT313</b>	Soil Mechanics1	30	15
	<b>BCT314</b>	Engineering Management & Construction equipment1	45	
	<b>BCT315</b>	Theory of construction1	45	
	<b>BCT316</b>	Engineering Analysis	30	
	<b>BCT317</b>	Highway Engineering1	30	30
	<b>BCT318</b>	English Language/3	30	
<b>3<sup>rd</sup> stage/1st semester</b>	<b>BCT321</b>	Analysis and Design of Concrete Structures/2	60	
	<b>BCT322</b>	Concrete Technology/ 2	30	30
	<b>BCT323</b>	Soil Mechanics2	30	15
	<b>BCT324</b>	Engineering Management & Construction equipment2	45	
	<b>BCT325</b>	Theory of construction2	45	
	<b>BCT326</b>	Numerical Analysis	30	
	<b>BCT327</b>	Highway Engineering2	30	30
		Systematic Training 2	مستوفي	
<b>4<sup>th</sup> stage</b>	<b>BCT41</b>	Analysis and Design of Concrete Structures/2	90	
	<b>BCT42</b>	Foundation Engineering Technology	120	
	<b>BCT43</b>	Design of Steel Structure	90	
	<b>BCT44</b>	Estimation, Specification and Contracts	120	
	<b>BCT45</b>	Environmental Engineering	90	90
	<b>BCT46</b>	ISO	60	
	<b>BCT47</b>	Construction Drawing		90
	<b>BCT48</b>	English Language/4	30	
	<b>BCT49</b>	Engineering project		120



7. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes 1,3	<p>A*1– Demonstrate a comprehensive understanding of basic concepts in the fields of construction and building, including the analysis and design of structures, building materials, geotechnical engineering, and hydraulics.</p> <p>A*2– Explain the technical principles and standards adopted in the implementation of construction works in accordance with national and international regulations.</p> <p>A*3– Interpret the physical and mechanical properties of engineering materials and their impact on the performance of structures.</p> <p>A*4– Familiarity with recent technical and software developments in the field of construction engineering.</p>
Skills	
Learning Outcomes 2, 5,6	<p>B*1- Use modern engineering tools and software (such as AutoCAD, Revit, ETABS, etc.) to design and analyze construction facilities.</p> <p>B*2- Conduct standard laboratory tests of building materials and evaluate their results.</p> <p>B*3- Prepare and implement shop drawings and interpret engineering drawings.</p> <p>B*4- Apply the principles of project management, scheduling, and cost control at work sites.</p> <p>B*5- Diagnose technical problems and propose appropriate technical solutions.</p>
Ethics	
Learning Outcomes 4	<p>C*1- Commitment to professional and ethical conduct in the practice of engineering.</p> <p>C*2- Observance of occupational safety and environmental protection standards in project implementation.</p> <p>C*3- Demonstrate effective teamwork and communication skills with colleagues and stakeholders.</p> <p>C*4- Striving for self-learning and continuous development to keep pace with developments in the engineering sector.</p> <p>C*5- Demonstrate transparency and integrity in professional decision-making and resource management.</p>

## 8. Teaching and Learning Strategies

### First: Teaching Strategies

Focus on how to deliver engineering knowledge and concepts. The most prominent of these strategies are:

- .1Interactive Lectures: Presenting theoretical information in a manner that combines presentations and classroom discussions to engage students.
- .2Demonstrations: Especially in design and software topics, where work steps are explained in a practical way.
- .3Problem-Based Learning (PBL): Presenting realistic problems for students to analyze and propose engineering solutions.
- .4Self-Study and Directed Reading: Encouraging students to review additional sources and scientific references.
- .5Simulation and Modeling: Using engineering software to model and analyze structures.

Second: Learning Strategies focus on how students can participate in the educational process and develop their skills. These strategies include:

- .1Project-Based Learning: Implementing individual or group applied projects that simulate real-world work situations.
- .2Practical Learning in Laboratories: Conducting experiments on building materials, soils, and concrete models.
- .3Internship/Field Training: Spending a period of training at work sites to gain practical experience.
- .4Collaborative Learning and Teamwork: Student teams solve problems or implement joint projects.
- .5Student Presentations: Training students to present and discuss their ideas and projects scientifically.

### Third: Strategies for Developing Values and Professionalism

- .1Workshops on professional ethics and occupational safety .
- .2Hosting engineers from the labor market to present their experiences .

## 9. Evaluation methods

First: Knowledge and understanding assessment methods aim to measure the student's grasp of theoretical concepts and engineering principles.

- 1 .Midterm and final (written) exams: Measure in-depth understanding of scientific content.
- 2 .Quizzes: To monitor student comprehension throughout the semester.
- 3 .Homework: Enhances thinking, analysis, and the application of theories.

Second: Applied and analytical skills assessment methods focus on measuring the student's ability to practice engineering skills.

- 1 .Laboratory reports: Include explanations of work steps, results, and analysis.
- 2 .Design and engineering drawing projects: Assessed for accuracy, creativity, and problem-solving.
- 3 .Project presentations: Used to measure communication and data analysis skills.
- 4 .Practical assessment in the laboratory or workshop: Includes real performance tests using measuring tools.
- 5 .Field training and related reports: Assessed by training supervisors and final reports.

## 10. Faculty

### Faculty Members

Academic Rank	Specialization		Special Requirements /Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Ahmed Sami Nasser Al-Kanani		✓			✓	
Dr. Ahmed Ajeel Hassan Younis Al-Rahimi	✓				✓	
Dr. Nizar Hassan Mohammed Saudi Saudi		✓			✓	
Dr. Jawad Jaiul Saadoun Tamul Al-Musaidi		✓			✓	
Hussein Sadiq Latif Jassim Al-Jumaili	✓				✓	
Naglaa Zaidan Kazem Mansour Al-Lami	✓				✓	
AMEEN M.JASAM		✓				✓
Mortada Muhammad Rahma Sharif Al-Gharib	✓					✓
Staar Mozan		✓				✓
Muhannad Hussein Al-Saadi		✓				✓
JUFRAN JABAR		✓				✓
Tahseen Ali Muhaisen Ali Al Kaabi	✓					✓
AL-MURTDA AMEER	✓				✓	
Ali Wathiq Abdul Ghani Fahmi Al-Obaidi	✓				✓	
Salah Kazem Abdul Hassan Saleh Al-Hamidawi		✓			✓	
Ahmed Dhaen Kazem Naseer Al Kaabi		✓				✓
AMEER S.		✓				✓

<b>Professional Development</b>
---------------------------------

<b>Mentoring new faculty members</b>
--------------------------------------

Developing programs for the department's members and establishing the tasks of each of them. Developing guidance and guidance programs
--

<b>Professional development of faculty members</b>
--

Involving teachers in courses on learning and teaching strategies and teaching methods
--

<b>11. Acceptance Criterion</b>
---------------------------------

Graduates of the sixth secondary school, scientific branch
--

<b>12. The most important sources of information about the program</b>
--

Library / Internet / Electronic Library / Websites
--

<b>13. Program Development Plan</b>
-------------------------------------

<b>The development plan includes:</b>
---------------------------------------

<b>1– Continuous review of the implementation of the program and the demand to provide a teaching staff commensurate with the number of students</b>
--

<b>2– Demand to provide laboratories as infrastructure and equipment</b>
--

Program Skills Outline																	
Year/Level	Course Code	Course Name	Basic or optional	Required program Learning outcomes													
				Knowledge					Skills					Ethics			
				A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	B 5	C 1	C 2	C 3	C 4	C 5
1ststage/1st semester	BCT111	ENGINEERING MECHANICS-I	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT112	CONSTRUCTION MATERIALS-I	Basic	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT113	P. SURVEYING-I	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT114	P. MATHEMATICS	Basic	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT115	Engineering Geology	Basic	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT116	HUMAN RIGHTS and DEMOCRACY	Basic					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1ststage/2nd semester	BCT121	ENGINEERING MECHANICS-2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT122	CONSTRUCTION MATERIALS-2	Basic					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT123	P. SURVEYING-2	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT124	ENGINEERING DRAWING	Basic	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT125	Principle of Computer	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

	BCT116	ENGLISH SKILLS-I	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2nd stage/1st semester	BCT211	Strength of Materials/1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT212	Fluid Mechanics/1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT213	Plane Surveying/1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT214	Advanced Mathematics 1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT215	Concrete Technology/1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT216	English Language/2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT217	the crimes of the Baath regime in Iraq	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2nd stage/2nd semester	BCT221	Strength of Materials/2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT222	Fluid Mechanics/2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT223	Plane Surveying/2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT224	Advanced Mathematics 2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT225	Computer Fundamentals	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

	BCT226	Building Constructions	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Systematic Training 1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3rd stage/1st semester	BCT311	Analysis and Design of Concrete Structures/1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT312	Concrete Technology/ 1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT313	Soil Mechanics1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT314	Engineering Management & Construction equipment1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT315	Theory of construction1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT316	Engineering Analysis	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT317	Highway Engineering1	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT318	English Language/3	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3rd stage/1st semester	BCT321	Analysis and Design of Concrete Structures/2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT322	Concrete Technology/ 2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



	BCT323	Soil Mechanics2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT324	Engineering Management & Construction equipment2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT325	Theory of construction2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT326	Numerical Analysis	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT327	Highway Engineering2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Systematic Training 2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4th stage	BCT41	Analysis and Design of Concrete Structures/2	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT42	Foundation Engineering Technology	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT43	Design of Steel Structure	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT44	Estimation, Specification and Contracts	Basic	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT45	Environmental Engineering		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

	BCT46	ISO		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT47	Construction Drawing		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT48	English Language/4		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	BCT49	Engineering project		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓