Ministry of Higher Education and Scientific Research
Scientific Supervision And Evaluation Authority
Department of Quality Assurance and Academic Accreditation section

Program Description Guide

2024

Introduction:

The educational program is a coordinated and structured package of courses that include procedures and experiences that are organized in the form of a vocabulary of study whose main purpose is to build and refine the skills of graduates to make them qualified to meet the requirements of the labor market, which is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program.

The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that are being worked on to acquire students based on the objectives of the academic program, and the importance of this description is evident because it represents the cornerstone of obtaining program accreditation and is co-written by the teaching staff under the supervision of the scientific committees in the scientific departments.

This manual, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the developments and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual and quarterly), as well as the adoption of the description of the academic program circulated under the letter of the Department of Studies M3/2906 on 3/5/2023

regarding the programs that adopt the Bologna track as the basis for their work.

In this regard, we can only stress the importance of writing descriptions of academic programs and courses to ensure the smooth functioning of the educational process.

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

Academic Program Description Form for Colleges and Institutes

University Name: Northern Technical University

College/Institute: Kirkuk Technical Institute

Scientific Department: Civil Technical

Name of academic or professional program: Technical Diploma

Name of final certificate: Technical Diploma

Study system: Courses

Description preparation date: / /2025

File filling date: / /2025

Signature:

Name of Head of Department: Yashar Husein Ali

Date:

Signature: Dr. Sawash Shaheen

Scientific Assistant Name:

Date:

File checked by
Quality Assurance and University Performance Division
Quality Assurance and University Performance Division Head: Assist.Lecturer.. Alaa Abdulwahhab Azeez Baker
Date:
Signature:

Approval of the Dean
Prof. Dr. Ashti Mahdi Aref

Concepts and Terms:

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

Course Description: It provides a contingent summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve and demonstrate whether he or she has made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious vision of the future of the academic program to be a cutting-edge, inspiring, stimulating, realistic and viable program.

Program Mission: Briefly outlines the goals and activities needed to achieve them and outlines the program's development paths and directions.

Program Objectives: These are phrases that describe what the academic program intends to achieve over 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 (semester, yearly, Bologna track), whether they are a requirement (ministry, university, college and scientific department) with the number of study units.

Learning Outcomes: A consistent set of knowledge, skills, and values that the student has acquired after the successful completion of the academic program and must define the learning outcomes of each course in a way that achieves the goals of the program.

Teaching and Learning Strategies: These are the strategies used by a faculty member to develop student teaching and learning, and they are plans that are followed to reach learning goals. That is, they describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

وزارة التعليم العالي والبحث العلمي
جهاز الاشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي

استمارة وصف البرنامج الأكاديمي للكليات والمعاهد

اسم الجامعة: الجامعة التقنية الشمالية

الكلية/ المعهد: المعهد التقني كركوك

القسم العلمي: التقنيات المدنية

اسم البرنامج الأكاديمي او المهني: دبلوم تقني

اسم الشهادة النهائية: دبلوم تقني

النظام الدراسي: مقررات

تاريخ اعداد الوصف: 2025/ /

تاريخ ملئ الملف: 2025/ /

التوقيع:

اسم رئيس القسم: م. حسين علي

التاريخ:

التوقيع:

اسم المعاون العلمي: د. صواش شاهين

التاريخ:

دقق الملف من قبل
شعبة ضمان الجودة والأداء الجامعي
مسؤول شعبة ضمان الجودة والأداء الجامعي: م.م الاء عبدالوهاب عزيز
التاريخ:
التوقيع:

مصادقة السيدة العميد
أ.د. ناشتي مهدي عارف

1. Program Vision

The Department of Civil Technologies seeks to prepare graduates in the field of civil engineering and infrastructure projects as intermediate cadres in government departments and companies implementing projects, as well as in the field of the private sector , and to benefit from specialization in the practical and applied field.

2. Program Mission

Working on preparing and graduating technical competencies in the field of implementing multidisciplinary civil engineering works, and in developing the knowledge balance in the field of implementing engineering technologies by implementing urban projects to serve the local community, emphasizing social and cultural values and responding to the requirements of the local market.

3. Program Objectives

1. Acquire scientific and professional knowledge
2. **Developing applied skills**
3. **Promote innovation and problem-solving**
4. **Adherence to safety and sustainability standards**
5. **Preparing graduates for the labor market**
6. **Compliance with academic accreditation requirements**
7. **Promoting ethical and professional values**
8. **Integration with modern technologies.**

4. Program Accreditation

None (Applied for Program Accreditation)

5. Other External Influences
No

Program Structure Creating Methods							
Observations	**Two-semester module**	**Percentage**	**Number of courses at the second level**	**Two-semester module**	**Percentage**	**Number of courses** at the first level	**Program Structure** for the Three Branches of Study
	10	27.77	5	10	31.25	5	**University Requirements**
	0	0	0	7	18.75	3	**Institute Requirements**
	57	72.22	13	29	50	8	**Department Requirements**
							Summer Training
	67	100%	18	46	100%	16	**Total**

* **It is possible to include notes on whether the course is basic or elective.**

Program Structure for the Construction and Construction Branch							
Observations	**Two-semester module**	**Percentage**	**Number of courses at the second level**	**Two-semester module**	**Percentage**	**Number of courses** at the first level	**Program Structure** for the Three Branches of Study
	10	25	5	10	31.25	5	**University Requirements**
	0	0	0	7	18.75	3	**Institute Requirements**

	57	75	15	28	50	8	**Department Requirements**
							Summer Training
	67	100%	20	45	100%	16	**Total**

Program Structure for the Computer Drawing Branch							
Observations	**Two-semester module**	**Percentage**	**Number of courses at the second level**	**Two-semester module**	**Percentage**	**Number of courses** at the first level	**Program Structure** for the Three Branches of Study
	10	27.77	5	10	31.25	5	**University Requirements**
	0	0	0	7	18.75	3	**Institute Requirements**
	57	72.22	13	33	50	8	**Department Requirements**
							Summer Training
	67	100%	18	50	100%	16	**Total**

6. Program Description for Construction and Construction Branch			
Credit Hours	**Course Code**	**Course Name**	**Year/Level**

practical	theoretical			
	2	NTU100	Democracy and Human Rights	2024-2025/Level One/Semester One
	2	NTU101	English	
1	1	NTU102	Computer	
	2	TIK110	Math1	
2	4	CITB125	Engineering Mechanics	
3		TIK111	Mechanical Laboratories	
2	2	CITB120	Construction Materials	
3		CITB122	Geometric Drawing1	
	2	NTU103	Arabic Language	
1	1	NTU104	sport	
4	2 2	TIK112 CITB121	Math2 Area	2024-2025/Level One/Semester Two
3		CITB123	Engineering Drawing2	
2	2	CITB126	Building Materials & Asphalt	
	2	CITB127	Buildings & Factory Construction	
		CITB124	Summer Training	

Credit Hours		Course or course code	Course or course name	Year/Level
practical	theoretical			2024-2025/Level II/Semester I
	2	NTU200	English	
2	2	CITB221	Concrete Technology1	
2	2	CITB222	Soil Mechanics1	
2	1	CITB228	Computer Applications1	
4	2	CITB229	Quantitative Survey	
4	2	CITB230	Civil Fee	
2	1	CITB242	Building Maintenance	
	2	CITB226	Project1	
	2	NTU203	Crimes of the Baath regime	
	2	NTU202	Arabic Language	
	2	NTU201	Ethics	2024-2025/Level II/Semester II
	2 2	CITB232 CITB224	Railway & Airport Engineering Concrete Technology2	
2	2	CITB225	Soil Mechanics2	
4	2	CITB229	Guess & Specifications	

2	2	CITB230	Road Drawing and Irrigation	
2	1	CITB228	Calculator Apps2	
2		CITB227	Project 2	
1	1	NTU201	Computer	

Program Description of Road Construction Branch

Credit Hours		Course or course code	Course or course name	Year/Level
practical	theoretical			2024-2025/Level One/Semester One
	2	NTU100	Democracy and Human Rights	
	2	NTU101	English	
1	1	NTU102	Computer	
	2	TIK110	Math1	
2	4	CITH125	Engineering Mechanics	
3		TIK111	Mechanical Laboratories	
2	2	CITH120	Construction Materials	
3		CITH122	Geometric Drawing1	

	2	NTU103	Arabic Language	
1	1	NTU104	sport	
	2	TIK112	Math 2	2024-2025/Level I/Semester II
4	2		Area	
3		CITB123	Engineering Drawing 2	
2	2	CITB126	Building Materials & Asphalt	
	3	CITB127	Road construction	
		CITB124	Summer Training	
Credit Hours		Course or course code	Course or course name	Year/Level
practical	theoretical			2024-2025/Level II/Semester I
	2	NTU200	English	
2	2	CITB221	Concrete Technology1	
2	2	CITB222	Soil Mechanics1	
2	1	CITB228	Computer Applications1	
2	1	CITB229	Mapping	
3	2	CITB223	Advanced Space	
	2	CITB231	Road Construction Equipment	

2	2	CITB233	Road & Traffic Engineering	
	2	CITB226	Project1	
	2	NTU203	Crimes of the Baath regime	
	2	NTU202	Arabic Language	
	2	NTU201	Ethics	2024-2025/Level II/Semester II
3 2	2 2	CITB223 CITB224	Advanced Space Concrete Technology2	
2	2	CITB225	Soil Mechanics2	
4	2	CITB231	Structural Drawing	
3		CITB232	Construction Techniques	
	2	CITB233	Construction Machinery	
2	1	CITB228	Calculator Apps2	
2		CITB227	Project 2	
1	1	NTU201	Computer	

7. Program Description of Computer Drawing				
Credit Hours		Course or course code	Course or course name	Year/Level
practical	theoretical			2024-2025/Level

	2	NTU100	Democracy and Human Rights	One/Semester One
	2	NTU101	English	
1	1	NTU102	Computer	
	2	TIK110	Math1	
2	1	CITC126	Mechanical Drawing	
2	2	CITH120	Construction Materials	
3		CITH122	Geometric Drawing1	
	2	NTU103	Arabic Language	
1	1	NTU104	sport	
4	2	CITC121	Area	
	2	TIK112	Math2	2024-2025/Level I/Semester II
3		TIK111	Mechanical Laboratories	
2 2	4 1	CITC125 CITC127	Engineering Mechanics Electronic's Drawing	
3		CITC123	Engineering Drawing2	
5		CITC128	Descriptive Engineering	

		CITC124	Summer Training	

8.				
Credit Hours		Course or course code	Course or course name	Year/Level
practical	theoretical			
	2	NTU200	English	2025/Second Level/First Semester
2	1	CITC231	Sanitary Drawing	
5	2	CITC221	Principles of Architectural Painting	
2	1	CITC228	Computer Applications1	
4	2	CITC229	Quantitative Survey	
4	2	CITC222	Principles of Structural Drawing	
2	1	CITC242	Mapping	
2		CITC226	Project1	
	2	NTU203	Crimes of the Baath regime	
	2	NTU202	Arabic	

			Language	

Credit Hours		Course or course code	Course or course name	Year/Level
practical	theoretical			
	2	NTU204	Ethics	-2025/Second Level/Second Semester
4	2	CITC223	Advanced Architectural Drawing	
4	2	CITC224	Advanced Structural Drawing	
4	2	CITC225	Architectural Showcase	
2	2	CITC230	Road Drawing and Irrigation	
2	1	CITB243	Calculator Apps2	
2		CITC227	Project 2	
1	1	NTU201	Computer	

9. Expected Learning Outcomes of the Program
Knowledge
The graduate must be able to: **1. Understand the scientific principles of civil engineering including:** **- Materials Mechanics and Facility Analysis** **-Soil Properties, Soil Mechanics and Foundation Design** **2. Knowledge of local and international standards and specifications such as:** **- ACI Specification for Concrete** **3. Recognize contemporary challenges such as:** **The impact of climate change on infrastructure.** **- Smart Building Technologies and Sustainable Cities.** **4. Identify modern technologies:** **-Building Information Modeling (BIM)** **- The use of artificial intelligence in construction management.**
Skills
1. Technical Skills:

- Engineering Design: The ability to design civil structures (buildings, roads, water networks) using software such as AutoCAD
- Project Management: Planning, scheduling, and controlling construction projects using Primavera software.
2. Mathematical and analytical skills:
- Applying the principles of mathematics in solving engineering problems.
3. Laboratory and Practical Skills:
- Conducting tests on construction materials (concrete, soil)
- Use of laboratory equipment such as pressure and shear testing devices
-Field data collection and analysis such as land surveys using the Total Station device
4. Administrative and Organizational Skills:
- Preparation of technical reports and feasibility studies
–Project cost and resource management
5. Soft Skills:
- Teamwork: Ability to collaborate with multidisciplinary teams (engineers, architects, contractors)
- Effective Communication: Presentation of Ideas
- Commitment to professional ethics: safety, sustainability and social responsibility.
6. Skills related to sustainability and the environment:
- Applying green building concepts
- Design eco-friendly projects
–Use of sustainable materials and waste management technologies.

Values

1.To acquire the concepts and basics of field and laboratory work
.
2. Analyzing the problems facing its employees and how to develop the necessary solutions.
3. Evaluating the proposed solutions and selecting the best for them.
4. Supervising the sites of the implementation of engineering projects

10. Teaching and Learning Strategies

1. Interactive Lectures

2. Project–based learning, i.e. applying knowledge to practical projects.

3. Experiential education, i.e. field visits to construction sites.

4. Technology-based learning, i.e. mastering modern tools in civil engineering, such as the use of AutoCad engineering programs.

5. Cooperative learning, i.e. dividing students into teams to implement group projects.

6. Continuous evaluation, i.e., conducting short tests periodically.

7. Field training by following up the student during the training period.

8. Blended learning using e-learning platforms.

11. Evaluation Methods

1. Weekly reports and presentation of engineering paintings.

2. Daily, monthly exams and end-of-semester exams.

3. Discussions and dialogues on the topics being studied.

12. Faculty

Faculty members (all faculty members in the scientific department are mentioned along with external and internal lecturers)

Preparing the teaching staff		Special requirements/skills (if applicable)		Specialization		Faculty Names and Scientific Rank
lecturer	angel			special	year	
	√			Structural Engine	Civil Engineeri	Yashar Hussain Ali Mardan

				ering	ng	
	√			Water Resources Engineering	Civil Engineering	Mustafa Najda Qasim Mustafa
	√			Structural Engineering	Civil Engineering	Qahtan Adnan Sabir Hassan
	√			Sanitary Engineering	Civil Engineering	Diana Hussein Nemat / M.Sc.
	√			Steel Constructions	Civil Engineering	Benar Salahuddin Hussein / M.Sc.
	√			Irrigation	Agricultural Sciences	Janan Ural Hashem / M.A.

√				**Horticulture and Horticulture Engineering**	**Agricultural Sciences**	**Jihan Qasim**
√						**Paula Manaf Abdulrahman**
√						**Mohamed Abdulsalam**
√						**Nour Saad Abdul Jalil**
√						**Roya Mahdi**
√						**Mustafa Nawzad Tayfour**
√						**Hussein Mazhar Karim**

√						**Nawal Kamal Khurshid**
√						**Bracelet Mohsen**
√						**Hello Rostam.**
√						**Amal Numan**
√						**Idris Ihsan**
√						**Ahmed Abd**

Professional Development
Mentoring new faculty members
1. Quality Standards and Accreditation Training: Applying Quality Standards in Teaching: How to Prepare Teaching Plans, Course Files, and Documenting **Educational Activities** **2. Teaching and Evaluation Mechanisms: Modern teaching strategies such as blended learning, the use of technology in education, test preparation and results analysis.**

3. Academic and Supervisory Guidance: Assigning an experienced faculty member to accompany and provide support to the new member.

The new member attends classes to improve their performance.

4. Introducing the educational institution's regulations

5. Evaluation and Follow-up: Evaluate the new member after a specific period to ensure his commitment.

6. Continuous Development: Attend training courses to enhance teaching and scientific research skills and participate in workshops to improve the quality of courses.

Faculty Professional Development
Specialized Courses, Attending Scientific Seminars, Seminars, Presenting Scientific Developments Electronically, Preparing Scientific Research, Participating in Conferences and Scientific Conferences.

13. Admission Criteria

- The total obtained by the student after passing the general exams for the sixth grade (biology or applied) or professional.
- The applicant must be a graduate of the scientific or industrial branch (specialization in building and construction or engineering drawing).
- The results of the medical examination should be that the student is healthy and fit to study in the department .

Desire.

14. Key sources of information about the program
(1) Concrete Technology / Jalal Bashir Sarsam (2) Surveyor (William Irvan . (3) Construction Materials / Yousef Al-Dawaf , (4) Structural Machinery / Mohamed Ayoub Al-Ezzi . (5) Quantitative Survey / Medhat Fadil Fathalla (6) Resources in the Institute's library . (7) Resources available in the Institute's electronic library. (8) Resources available in the virtual library of the Ministry of Higher Education and Scientific Research . (9) Specialized websites on the Internet. (10) Shadow and Perspective / Emad Mohamed Azhar . (11) Introduction to Interior Design / Engineer Motasem Azmi Al-Karabli. (12) Construction of buildings / Zuhair Sako. 13) Building construction / D . Sharma

15. Program Development Plan
1. Initial Analysis and Review: Analyze the strengths and weaknesses of the program (e.g. courses, infrastructure, graduate competence) **2. Studying the needs of the labor market** **3. Updating the educational objectives of the program by developing scientific skills such as field training and dealing with modern equipment.** **4. Developing courses: for example, adding new courses such as modern**

technologies in construction and artificial intelligence or updating existing courses.

5. Improving teaching methods and evaluation

6. Professional Development of Faculty Members

Program Skills Outline															
Learning Outcomes Required from the Program															
Values				Skills				Knowledge				Basic or Optional	Course Name	Course Code	Year / Level
4C	3C	2C	1c	4B	3B	2B	1B	4A	3A	2A	1A				
	E		E		E			E	E		E	Specialist	Engineering Mechanics	CITB125	First Level 2022-2023
	E				E					E		institute	mathematics	TIK110	
E				E			E	E				Specialist	Construction Materials	CITB120	
	E				E					E		university	Computer Principles	NTU102	
	E		E		E			E	E		E	institute	Laboratories / Mechanics	TIK111	
E		E	E	E		E	E			E	E	Specialist	Geometric drawing	CITB122	
	E		E		E			E	E		E	university	English	NTU101	

	E				E					E		university	Arabic language	NTU104	
												university	Human Rights	NTU100	
	E		E		E			E	E		E	university	sport	NTU105	
	E				E					E		Specialist	space	CITB121	
E		E	E	E		E	E			E	E	university	democracy	NTU106	
	E				E					E		Specialist	Buildings & Factory Construction	CITB127	
	E				E		E	E				Specialist	Road construction	CITH127	
	E		E		E			E	E		E	Specialist	Mechanical Drawing	CITC126	
E		E	E	E		E	E			E	E	Specialist	Descriptive Engineering	CITC128	
	E				E					E		Specialist	Electrical Drawing	CITC127	

E		E	E	E		E	E			E	E	Specialis t	Concrete	CITB221	
E			E		E		E			E		Specialis t	Soil	CITB222	
	E				E					E		Specialis t	Quantitative Survey	CITB229	
E	E	E		E	E			E	E		E	Specialis t	Computer Applications	CITB228	
E		E	E	E		E	E			E	E	Specialis t	Civil Fee	CITB230	
	E		E		E			E	E		E	Specialis t	Building Maintenance	CITB242	
	E				E					E		universi ty	Ethics	NTU201	
E		E	E	E		E	E			E	E	Specialis t	Structural Drawing	CITB231	Phase Ⅱ 2023 - 2024
	E		E		E			E	E		E	Specialis t	Construction Machinery	CITB233	
	E				E					E		Specialis t	Construction Techniques	CITB232	

	E				E			E			E	Specialis t	Road & Traffic Engineering	CITH233	
E	E		E	E			E	E	E	E		Specialis t	Road Construction Equipment	CITH231	
E		E	E	E		E	E			E	E	Specialis t	Mapping	CITH242	
	E		E		E			E	E		E	Specialis t	Guess & Specifications	CITH229	
	E				E					E		Specialis t	Road Drawing	CITH230	
	E		E		E			E	E		E	Specialis t	Railway & Airport Engineering	CITH232	
E		E	E	E		E	E			E	E	Specialis t	Architectural Drawing	CITC221	
	E				E					E		Specialis t	Sanitary Drawing	CITC231	
E	E			E	E	E	E		E		E	Specialis t	Architectural Showcase	CITC225	

Remember all courses and by level

- **Please indicate the boxes corresponding to the individual learning outcomes from the program being evaluated**

● Academic Description of the First Level Courses

1. Course Name:	
Area	
2. Course Code:	
CITC121	
3. Semester /Year	
2024-2025	
4. Description Preparation Date	
2025-6-23	
5. Available Forms of Attendance	
Came	
6. Number of Credit Hours (Total) / Number of Units (Total)	
6 hours * 15 weeks = 90 hours	
7. Name of the Rapporteur Administrator (name all names, if there is more than one)	
Name:Jihan Qasim Hassan Email: jehan.qasem25@ntu.edu.iq	
8. Course Objectives	
1- Teaching the student what he needs from the theoretical and practical foundations of the subject of surveying. 2- Providing the student with the necessary skill to carry out civil engineering works using cadastral devices. - Providing him with the necessary information about the details of surveying devices and ways to use them in important applications in civil engineering. 3- Teaching the student how to use the calculation device and calculations related to various issues through practical exercises.	**Goals**

4- Providing the student with the skill of fixing projecting engineering works designed on the nat grou 5- Teaching the student on the different method measurement when there are obstac	

9. Teaching and Learning Strategies

Vocabulary - Textbooks - External Resources - Internet	**Strategy**

10. Course Structure

Evaluation Method	Teaching Method	Module Name / or Subject	Required Learning Outcomes	Hours		The week
Discussion/ Quizzes	Came	Definition of Area , Its Fields , Sections , Units of Measurement , Measurement of Horizontal Distances	Introduction to the Subject of Surveying	Practica 2 hours	Theoreti 1 hour	First
Discussion/ Quizzes	Came	Measuring horizontal distances on irregular slope ground, regular slope terrain, erecting and dropping columns and overcoming obstacles	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Second
Discussion/ Quizzes	Came	Tape wiping, barriers to measuring filling lengths when lifting	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Third
Discussion/ Quizzes	Came	Leveling, Definitions of the Leveling Process, Purposes of the Leveling Process, Calculation of Levels by Balance Surface Method	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Fourth
Discussion/ Quizzes	Came	How to Calculate Point Levels by Rising and Falling and Solving Examples	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	V
Discussion/ Quizzes	Came	Types of Leveling, Double, Reciprocal, Inverted	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Sixth

Discussion/ Quizzes	Came	Sources of errors and longitudinal sections, errors in leveling works, degree of accuracy and amount of error, longitudinal sections and section plotting	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Seventh
Discussion/ Quizzes	Came	Cross Sections, Find Cross-Section Point Levels, Draw Cross-section, Construction Line, Calculate and Plot Construction Line Slope	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Eighth
Discussion/ Quizzes	Came	Calculating land areas and cross-sections using demarcation methods, mathematical laws and coordinates, calculating areas using a planmeter	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Ninth
Discussion/ Quizzes	Came	Calculating the volumes of soil quantities for excavation and backfilling, checking and adjusting the leveling device, balancing the leveling lines	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	X
Discussion/ Quizzes	Came	Contour Lines , Their Properties , Contour Period Direct Method for Determining Contour Lines and Indirect Method	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Eleventh
Discussion/ Quizzes	Came	Drawing contour lines Method of calculating and dividing differences, drawing sections of contour lines	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Twelfth
Discussion/ Quizzes	Came	Deviations , Circular Deviations , Abbreviation , Local Gravity , Compass Polygon Lift	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Thirteenth
Discussion/ Quizzes	Came	Curves , Horizontal Curves , Types	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Fourteenth

Discussion/ Quizzes	Came	Vertical Curves, Calculati Related to Vertical Curve	Understanding the theoretical and practical framework and general applications of the lecture topic	Practica 2 hours	Theoreti 1 hour	Fifteenth

11. Course Evaluation

Number of paragraphs	Behavioral goals						Relative importance	Chapter Titles	Educational Content
	Evaluation	Analysis	Application	Understanding	Knowledge				
						Percentage			
9	1	2	4	4	4		15%	String and tape scanning	Chapter One
9	2	3	10	10	10		35%	Leveling and Methods of Calculating Levels	Chapter Two
9	1	2	9	9	9		30%	Longitudinal and transverse sections, calculation of areas and volume of earthworks	Chapter Three
9	2	3	5	5	5		20%	Contour lines, deviations, horizontal and vertical curves	Chapter Four
								/	Chapter Five
								/	Chapter Six

	6%	10%	28%	28%	28%	100%		Total

12. Learning and Teaching Resources	
• The Flat Area of the Author (Fouad Fandagli + Louay Muhammad Rashid) • Applied Exercises in the Flat Space of Author Nizam Al-Din Al-Hafiz • The practical space of the author Ahn Abu Hantash • Surveying by Dr. Yasser Ahmed Al-Say	**Textbooks**
• The space is for Ahmed Abu Hantash • The Flat Area of Dr. Jamal Saber Al-Fiq	**Main References (Sources)**
• https://youtu.be/YnDA-nAUyl8?si=q6UhJyDwMn0cRRUs	**References and Websites**

13. Course Name:
Math 2 Mathematics 2
14. Course Code:
TIK112
15. Semester /Year

Second Semester / 2024-2025
16. Description Preparation Date
20/6/2025
17. Available Forms of Attendance
Came
18. Number of Credit Hours (Total) / Number of Units (Total)
2 Hours / 2 Units
19. Name of the Rapporteur Administrator (name all names, if there is more than one)
Name: M.M. Yashar Hussain Ali Email:yashar@ntu.edu.iq
20. Course Objectives

Develop the student's ability to use mathematics in practical applications and benefit from it in other engineering lessons.	**Goals**
21. Teaching and Learning Strategies	
Vocabulary - Textbooks - External Resources - Internet	**Strategy**
22. Course Structure	

Evaluation Method	Teaching Method	Module Name / or Subject	Required Learning Outcomes	Hours		The week
				Practical	Theoretical	
Discussion / Quizzes	Lecture	Exponential function, hyper-cutting functions, applied.	Understanding the theoretical framework and general applications of the lecture topic		2	First week
Discussion / Quizzes	Lecture	Sequences .	Understanding the theoretical framework and general applications of the lecture topic		2	Second week
Discussion / Quizzes	Lecture	Curved functions, the derivative standard function with higher	Understanding the theoretical framework and		2	Week Three

		orders .	general applications of the lecture topic			
Discussion / Quizzes	Lecture	Foundations and Logarithms.	Understanding the theoretical framework and general applications of the lecture topic		2	Week Four
Discussion / Quizzes	Lecture	General Physical and Engineering Applications, Drawing Functions	Understanding the theoretical framework and general applications of the lecture topic		2	Week 5
Discussion / Quizzes	Lecture	Rotary volumes, curved arc length.	Understanding the theoretical framework and general applications of the lecture topic		2	Week Six
Discussion / Quizzes	Lecture	Physical and engineering applications (workload, torque, momentum, inertial torque).	Understanding the theoretical framework and general applications of the lecture topic		2	Seventh Week
Discussion / Quizzes	Lecture	General methods of integration include compensation and segmentation.	Understanding the theoretical framework and general applications of the lecture topic		2	Week Eight
Discussion / Quizzes	Lecture	General methods of integration include compensation and segmentation.	Understanding the theoretical framework and general applications of the lecture topic		2	Week Nine
Discussion /	Lecture	Use fractional,	Understanding		2	Tenth

Quizzes		exponential, and logarithmic fractions.	the theoretical framework and general applications of the lecture topic			week
Discussion / Quizzes	Lecture	Numerical Methods in Integration, Trapezoidal Rule, Rule (Calculation of the Volume of Soil Quantities, and Area of Longitudinal Sections)	Understanding the theoretical framework and general applications of the lecture topic		2	Week Eleven
Discussion / Quizzes	Lecture	Solve discrete, homogeneous, and linear differential equations with their various applications within the field of competence.	Understanding the theoretical framework and general applications of the lecture topic		2	Twelfth week
Discussion / Quizzes	Lecture	Find the highest and lowest value of a vertical curve.	Understanding the theoretical framework and general applications of the lecture topic		2	Thirteenth Week
Discussion / Quizzes	Lecture	Statistical Operations, Frequency Distributions, Histogram, Frequency Curve, Arithmetic Mean, Range, Standard Deviation, Variance and Relative Dispersion.	Understanding the theoretical framework and general applications of the lecture topic		2	Fourteenth week
Discussion / Quizzes	Lecture	Statistical Operations, Frequency Distributions, Histogram, Frequency Curve, Arithmetic Mean, Range, Standard	Understanding the theoretical framework and general applications of the lecture topic		2	Week Fifteen

		Deviation, Variance and Relative Dispersion.				

23. Course Evaluation

Approved Measurement Map

Number of paragraphs	Behavioral goals						Relative importance	Chapter Titles	
	Evaluation	Analysis	Application	Understanding	Knowledge	Percentage			
2	15%	15%	15%	15%	15%		15%	Exponential function, hyper-cutting functions, applied.	Educational Content
2	20%	20%	20%	20%	20%		20%	Sequences .	
3	15%	15%	15%	15%	15%		15%	Curved functions, the derivative standard function with higher orders .	
	15%	15%	15%	15%	15%		15%	Foundations and Logarithms.	
	10%	10%	10%	10%	10%		10%	Rotary volumes, curved arc length.	
	10%	10%	10%	10%	10%		10%	Numerical Methods in Integration, Trapezoidal Rule, Rule (Calculation of the Volume of Soil Quantities, and Area of Longitudinal Sections)	
	5%	5%	5%	5%	5%		5%	Solve discrete, homogeneous, and linear differential equations with their various applications within the field of competence.	
	10%	10%	10%	10%	10%		10%	Statistical Operations,	

								Frequency Distributions, Histogram, Frequency Curve, Arithmetic Mean, Range, Standard Deviation, Variance and Relative Dispersion.	
	100%	100%	100%	100%	100%	100%		Total	

24. Learning and Teaching Resources

References Resources

––Advanced Engineering Mathematics 8Ed – Erwin Kreyszig – Solutions Manual

BK97_Mathematical Background – Foundations of Infintesimal Calculus–

-https://drive.google.com/drive/folders/1mlWFgIUL-9DB_YzPOygxboQRy74bMhii

25. Course Name:

Electrical Drawing

26. Course Code:

CITC127

27. Semester /Year

Second Semester/2024−2025

28. Description Preparation Date

2025/6/22

29. Available Forms of Attendance

Came

30. Number of Credit Hours (Total) / Number of Units (Total)

3 Hours / 3 Units

31. Name of the Rapporteur Administrator (name all names, if there is more than one)

Name: Hussein Mazhar Karim

Email:husseinmudher@ntu.edu.iq

32. Course Objectives

1. **Learn standard electrical symbols and terminology**.

2. **Read and understand electrical diagrams** of all kinds (connection, path, distribution).
3. **Draw diagrams** manually and digitally using software such as AutoCAD Electrical.
4. **Simple electrical circuit design** (controller, lighting, motors).
5. **Linking theory to application** (troubleshooting, project implementation).
6. **Adherence to international safety standards** and standards (IEC/ANSI).
7. **Integration with other specializations** (mechanical, electronic).

General Objective: Master the basics of electrical drawing for application in maintenance, design, and engineering

33. Teaching and Learning Strategies

Vocabulary - Textbooks - External Resources - Internet	**Strategy**

34. Course Structure

I Tariqa Evaluation	Learning method	Module Name / or Subject	Required Learning Outcomes	Hours		Week
				Practi	Theoric	
Discussion/Quizzes	Lecture	Electrical Codes for Electronic and Electrical Circuits The function of each code in the circuit	Electrical Codes for Electronic and Electrical Circuits The function of each code in the circuit	2	1	First week and second week
Discussion/Quizzes	Lecture	Scientific Visit to the Electronic Circuits Laboratory at the Institute	Scientific Visit to the Electronic Circuits Laboratory at the Institute	2	1	Week Three
Discussion/Quizzes	Lecture	Teaching the student how to draw using a calculator	Teaching the student how to draw using a calculator			Week Four
Discussion/Quizzes	Lecture	Learn to draw many electronic circuits	Learn to draw many electronic circuits	2	1	Week 5
Discussion/Quizzes	Lecture	A simplified idea of the	A simplified idea of the implementation	2	1	Sixth week and seventh

		implementation of civil electrical installations Methods of connection from the source Single phase feed	of civil electrical installations Methods of connection from the source Single phase feed			week
Discussion/Quizzes	Lecture	Teaching to draw numerous electrical circuits	Teaching to draw numerous electrical circuits	2	1	Week Eight
Discussion/Quizzes	Lecture	Example of electrical installations for a residential house	Example of electrical installations for a residential house	2	1	And the ninth week
Discussion/Quizzes	Lecture	A Scientific Visit to the Electrical Installations Laboratory and Identifying Electrical Connections	A Scientific Visit to the Electrical Installations Laboratory and Identifying Electrical Connections	2	1	And the tenth week and the eleventh week
Discussion/Quizzes	Lecture	Detailing the electrical installations of a multi-storey building	Detailing the electrical installations of a multi-storey building	2	1	Twelfth week
Discussion/Quizzes	Lecture	Industrial Electrical Installations Distribution Panels Schemes	Industrial Electrical Installations Distribution Panels Schemes	2	1	Thirteenth Week
Discussion/Quizzes	Lecture	Teaching a diagram showing the establishment of an electrician for a workshop or	Teaching a diagram showing the establishment of an electrician for a workshop or a small factory	2	1	Fourteenth week

		a small factory				
Discussion/Quizzes	Lecture	Example of drawing electrical connections for a small plant with an illustration of heating circuits and power circuits	Example of drawing electrical connections for a small plant with an illustration of heating circuits and power circuits	2	1	Week Fifteen

35.Course Evaluation

Number	Behavioral goals					Relativ		Educatio
	Evaluation	Analysis	Application	Understanding	Knowledge			
2	10%	10%	10%	10%	10%	10%	Electrical Codes for Electronic and Electrical Circuits The function of each code in the circuit	
1	5%	5%	5%	5%	5%	5%	Scientific Visit to the Electronic Circuits Laboratory at the Institute	
1	10%	10%	10%	10%	10%	10%	Teaching the student how to draw using a calculator	
1	5%	5%	5%	5%	5%	5%	Learn to draw many electronic circuits	
1	10%	10%	10%	10%	10%	10%	A simplified idea of the implementation of civil electrical installations Methods of connection from	

							the source Single phase feed	
2	5%	5%	5%	5%	5%	5%	Teaching to draw numerous electrical circuits	
2	10%	10%	10%	10%	10%	10%	Example of electrical installations for a residential house	
1	5%	5%	5%	5%	5%	5%	A Scientific Visit to the Electrical Installations Laboratory and Identifying Electrical Connections	
1	10%	10%	10%	10%	10%	10%	Detailing the electrical installations of a multi-storey building	
1	10%	10%	10%	10%	10%	10%	Industrial Electrical Installations Distribution Panels Schemes	
2	10%	10%	10%	10%	10%	10%	Teaching a diagram showing the establishment of an electrician for a workshop or a small factory	
2	10%	10%	10%	10%	10%	10%	Example of drawing electrical connections for a small plant with an illustration of heating circuits and power circuits	
16	100%	100%	100%	100%	100%	100%		Total

36. Learning and Teaching Resources

- **Primary sources**:
- Kevin Forseth, Graphics for Architecture, New York, 1980.
- Rudolf Herz, Fribe, Dring., Ernst Neufert Architects" Data, Britain, 1970.
- -John Hancock Callender, Time - Saver Standards for Architectural Design Data.
- -R. Barry, The Construction of Buildings, Volume 1, Volume 2, Volume 3, Britain, 1971.
- -Frank Ching, Architectural Graphics, Second Edition, America, 1985.

•Suggested sources:

•Atef Al-Suhairi, Building Construction , University of Baghdad - Faculty of Engineering, 1991.

• Dr. Eng. Farouk Abbas Haidar, The Modern Encyclopedia in Building Construction Technology , Part One and Part Two.- Eng. Alice Jawad Salman, Installation of Buildings - Load-bearing Walls and their Architectural Details , Iraqi Company for Technical Printing Limited, 1988.

• Yousef Al-Dawaf, Construction of Buildings and Building Materials , Baghdad, Iraq, 1982

• Assistant Professor Artin Levon and Lecturer Zuhair Sako, Building Construction, University of Baghdad, Faculty of Engineering, 1988.

•Assistant Professor Adnan Al-Dahan, Assistant Professor Sarmad Fakhri Al-Nuaimi, Assistant Lecturer Bassel Hani Kamal, Building Construction and Factory Construction, Technical Institutes Authority, 1991.

•Studies and Research Department, Department of Designs and Studies, Public Corporation for Buildings, Model Details Volume , 1985.

•Assistant Lecturer Hussein Ali Awad, Methodological Book "Civil Drawing", Technical Institutes Authority.

•Assistant Lecturer Hashem Ajina, Assistant Lecturer Wissam Al-Ayoubi, Methodological Book Project "Architectural Drawing", Technical Institutes Authority, 1986

• Jalal Bashir Marsam and Hashem Aboud Al-Moussawi, Engineering Perspective, Technical Institutes Foundation , 1986.

•Abdul Rasool Abdul Hussein Al-Khafaf, Engineering Drawing, University of Technology, Baghdad, 1986

• Architect Imad Muhammad Az Shade and Perspective, University of Mosul, 1988.

• Dr. Waleed Abdel Moneim, Shadow and Shadow Lectures - 2000 - 2001.

- **Dr. Tarek Abdel Raouf: Shadow and Shadow Lectures, 2003 - 2004, 2004 - 2005**

1.	Course Name:
	Buildings & Factory Construction
2.	Course Code:
CITB127	
3.	Semester /Year
	Second Semester / 2024-2025
4.	Description Preparation Date
18/06/2025	
5.	Available Forms of Attendance
	daily
6.	Number of Credit Hours (Total) / Number of Units (Total)
	2 hours x 15 weeks = 30 hours / 2 units
7.	Name of the Rapporteur Administrator (name all names, if there is more than one)
	Name: M.M. Benar Salahuddin Hussein Email: pinar-salahaldin@ntu.edu.iq
8.	Course Objectives
Goals 1- Introduce the student to the tasks of the project implementation team a implementation methods. 2- Teach the student how to insulate the building's moisture for both basements and the walls. 3- The student will be introduced to concrete formwork and transportat	

methods in buildings.

4- Introduce the student to the manufactured building, its components, a the method of producing the details of the structural organs.

5- Introduce the student to the concept of sustainable engineering.

9. Teaching and Learning Strategies

1- Study vocabulary 2- Display photos and files (construction plans, work sites, and implementation) and display scientific videos. 3- Field Visits 4- Discussions and Activities	**Strategy**

10. Course Structure

Evaluation Method	Teaching Method	Module Name / or Subject	Required Learning Outcomes	Hours	The week
discussion	Lecture (Photo Show, Scientific Films	Introduction to the methods of implementation of construction projects and related parties	Introduction to the methods of implementing projects and the tasks of each of the members of the construction projects team	2	First
discussion	Lecture (Photo Show, Scientific Films)	Soil Excavations, Techniques Used in Groundwater Extraction	Understanding drilling methods and groundwater extraction	2	Second
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Moisture and its damage, moisture sealant layers for	Understanding the concept of moisture and its harms	2	Third

		both basements, walls and surfacing			
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Building walls with bricks and building walls with stone	Identifying the parts of the bricks used in construction, the methods of bonding and the types of stone preparation	2	Fourth
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Building walls with building blocks	Identify the types of building blocks Techniques for finishing walls from the outside and inside.	2	V
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Types of Floors and Ceilings	Explanation of the types of floors and ceilings and the methods of their implementation	2	Sixth
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Ways to finish floors. Secondary ceilings.	Flooring finishing methods for the ground floor, other floors, and ceilings. Thermal Insulation Techniques. Secondary ceilings (types and methods of installation)	2	Seventh
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Concrete Formwork	Identify the types of concrete formwork, the reasons that lead to the collapse of the formwork.	2	Eighth
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Health Facilities. Electrical Installations	Identify the types of pipes used for each of the health facilities. Identify the	2	Ninth

			electrical installations of buildings and their types.		
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Doors and windows, joints in buildings	Identifying Doors and Windows (Types, Requirements, Components) Joints in Buildings (Structural Joints, Expansion Joints)	2	X
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Ways of moving in buildings	Transportation Routes in Buildings, Stairs, Elevators	2	Eleventh
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Factory Construction	Identify the manufactured building and its characteristics	2	Twelfth
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Components of the factory construction plant	Identifying the components of the factory construction plant and the method of production Details of the structural members in the factory building and their installation methods	2	Thirteenth
Discussion/Quiz	Lecture (Photo Show, Scientific Films)	Joints in Factory Construction)	Identifying the joints in the manufactured construction (their types, components, methods of implementation)	2	Fourteenth
Discussion/Quiz	Lecture (Photo	Sustainable Engineering	Understanding Sustainable	2	Fifteenth

	Show, Scientific Films)		Engineering – Its Definition and Factors		

1. Course Name:
Engineering Mechanics
2. Course Code:
CITC125
3. Semester /Year
First Semester, Second / 2024–2025
4. Description Preparation Date
18/06/2025
5. Available Forms of Attendance
daily
6. Number of Credit Hours (Total) / Number of Units (Total)
6 hours x 15 weeks = 90 hours / 6 units
7. Name of the Rapporteur Administrator (name all names, if there is more than one)
Name: M.M. Benar Salahuddin Hussein Email: pinar-salahaldin@ntu.edu.iq
8. Course Objectives
Goals 1- Teach the student to analyze the forces and loads exerted on objects. 2- Teach the student to calculate **the reactions, momentum, and interr stresses** of geometric objects.

3- Analysis of structures and the creation of forces and stresses in their parts a result of external loads. 4- Free Body Diagrams, Shear Forces and Torque Diagrams Bend neatly. 5- Calculation of the center of mass and moment of inertia (Moments of Inertia)
9. Teaching and Learning Strategies
1- Lecture Explanation 2- View photo and video tutorials 3- Discussions **Strategy**

37. Course Name:
Construction Materi This course description provides a concise summary of the most importa characteristics of the course and the learning outcomes expected of the student achieve and demonstrate whether they have made the most of the availal learning opportunities. It must be linked to the description of the progra
38. Course Code:
CITB 120 – CITC 120 – CITH 120
39. Semester /Year
First Semester / 2024–2025
40. Description Preparation Date
18/06/2025
41. Available Forms of Attendance
Present only.
42. Number of Credit Hours (Total) / Number of Units (Total)
4 (2 Theoretical – 2 Practical) x 15 Weeks = 60 Hours / 4
43. Name of the Course Administrator

Name: Eng. Diana Hussein Nemat
Email: Diana.hussein@ntu.edu.iq

44. Course Objectives

- Introducing the student to the characteristics of structural materials and th production methods.
- Introducing the student to the modern alternatives that currently exist.
- Also, introduce the student to modern methods of production.
- Qualifying the student to carry out standard tests to know the extent of t conformity of the structural materials to the specifications.
- As well as determining the possibility of using it in construction, which ensu strength, safety and economy.
- Teaching the student the standard tests to know the extent of the conformity of t structural materials to the specifications.

45. Teaching and Learning Strategies

1. Follow the method of explanation and clarification of the study vocabulary. 2. Theoretical lectures. 3. Practical lectures. 4. Discussions and questions in the classroom in order to open the door for dialogue. 5. Homework and Reports and Discussion. 6. Classroom activities and student participation style.	**Strategy**

46. Course Structure

Evaluation Method	Teaching Method	Module Name / or Subject	Required Learning Outcomes	Hours	The week
Semester Exams **Writt**	Theoreti lectur Hands-experiences specializ laboratori Visiti constructi	A general description of the physical properties and standard specifications of building materials and their uses in buildings.	1. Identify the types of construction materials used in construction. 2. Details and types of	4	1

en Tests **Oral tests** **Laboratory Reports** **Field Exercises** **Final Exams (Practical – Theoretical)**	sit Scientific vis to laboratori	Clay Bricks: Its Properties, Uses and Methods of Manufacture	approved standard structural specifications. 3. Carrying out all laboratory experiments for building materials. 4. Determining the types of materials that are suitable for construction and the necessary quantities. 5. Identify the methods of mixing and dividing building materials according to the mixtures used in construction. 6. Identify industrial and composite building materials. 7. Identify the standard specifications of building	4	2
		Specifications of mud bricks, tests for clay bricks		4	3
		Lime Bricks - Gla Bricks, Properties a Manufacturi Metho		4	4
		Concrete Brick Concrete Bloc (Properties a Method Manufacture w Explanation of t Difference Betwe the Tw		4	5
		Thermostone, its properties, and methods of making it		4	6
		A visit to a bri factory and a buildi materials cen		4	7
		Building stone - its classification and types, uses of building stone according to its types		4	8
		Portland cement, its manufacture, chemical composition, types and specifications		4	9
		Concrete pipes, their manufacture,		4	10

		specifications, and use in construction purposes	materials used in the implementation of buildings. 8. Quality control over the weight and volume of the quantities of building materials used. 9. Supervise the conduct of field examinations of building materials. 10. Calculate the quantities required for the building materials in the table of quantities. 11. Addressing the errors and problems that the building is exposed to when implementing when there are inappropriate materials.		
		Concrete slabs, types, specifications, use in construction purposes		4	11
		Structural steel, its specifications, types, and uses.		4	12
		Details of steel, welding, bolts, rivets, and their uses		4	13
		Site visit to s structural steel, types, st connections, rive welds, and bo		4	14
		Eco-friendly building materials		4	15
47. Course Evaluation					
Theoretical Exam for the First Semester 10% Practical exam for the first semester 10%					

Theoretical Exam for the Second Semester 10% Practical Exam for the Second Semester 10% Business Grade of the Year 10% Final Practical Exam 10% Final Theoretical Exam 40%
48. Learning and Teaching Resources
Construction Materials Book (Jalal Bashir Sarsam – Saeed Abdel Aali)

49. Course Name:
Building Materials & Asphalt This course description provides a concise summary of the most important characteristics of the course and the learning outcomes expected of the student achieve and demonstrate whether they have made the most of the available learning opportunities. It must be linked to the description of the program.
50. Course Code:
CITH126- CITB126

51. Semester /Year
Second Semester / 2024-2025
52. Description Preparation Date
18/06/2025
53. Available Forms of Attendance
Present only.
54. Number of Credit Hours (Total) / Number of Units (Total)
4 (2 Theoretical – 2 Practical) x 15 Weeks = 60 Hours / 4
55. Name of the Course Administrator
Name: Eng. Diana Hussein Nemat Email: Diana.hussein@ntu.edu.iq
56. Course Objectives
- Introducing the student to the properties of building materials and asphalt and th production methods. - Introducing the student to the modern alternatives that currently exist. - Also, introduce the student to modern methods of production. - Qualifying the student to carry out standard tests to know the extent of t conformity of the building materials to the specifications. - As well as determining the possibility of using it in construction, which ensu strength, safety and economy. - Teaching the student to the standard tests to know the extent of the conformity the building materials to the specifications.
57. Teaching and Learning Strategies

1. Follow the method of explanation and clarification of the study vocabulary. 2. Theoretical lectures. 3. Practical lectures. 4. Discussions and questions in the classroom in order to open the door for dialogue. 5. Homework and Reports and Discussion. 6. Classroom activities and student participation style.	**Strategy**

58. Course Structure

Evaluatio	Teaching	Module Name / or	Required	Hour	The

n Method	Method	Subject	Learning Outcomes	s	week
Semester Exams **Written Tests** **Oral tests** **Laboratory Reports** **Field Exercises** **Final Exams (Practical – Theoretical**	Theoretical lectur Hands-experiences specializ laboratori Visiti constructi sit Scientific vis to laboratori	Binders and their types, binders that do not resist moisture (plaster,) properties and workmanship.	1. Identify the types of building materials used in construction.	4	1
		Moisture-resistant materials (cement mortar, cement mortar - Noura), lighting, method of manufacture, and properties.	2. Details and types of approved standard structural specifications.	4	2
		Gypsum products - their types, properties, secondary ceiling materials and types.	3. Carrying out all laboratory experiments for building materials.	4	3
		Application materia tiles and tiles and th types, manufacturi methods - applicati method - join	4. Determining the types of materials that are suitable for construction and the necessary quantities.	4	4
		Wood - its orig types used, methods using it, methods drying wood and t defects of wo		4	5
		Metals (ferrous and non-ferrous materials) and their uses in buildings, iron Methods of manufacture, types and uses	5. Identify the methods of mixing and dividing building materials according to the mixtures used in construction.	4	6
		Moisture Sealants a the Reason for Th		4	7

)		Use, High Moistu Sealants: Their Typ Methods Manufacture and Us	6. Identify industrial and composite building materials. 7. Identify the standard specifications of building materials used in the implementatio n of buildings. 8. Quality control over the weight and volume of the quantities of building materials used. 9. Supervise the conduct of field examinations of building materials. 10. Calculate the quantities required for the building materials in the table of quantities. 11. Addressing the errors and problems that the building is		
		Semi-elastic and flexible moisture repellents, their types, uses, methods of manufacture, and moisture-resistant liquid materials.		4	8
		Epoxy, its definition, properties, types, and uses.		4	9
		Thermal insulation materials, acoustic insulation materials.		4	10
		Pigments, glass		4	11
		Asphalt Materials Overview , Asphalt Material Properties.		4	12
		Types of asphalt and its uses in construction works .		4	13
		Tar Paste (Mast Uses, Properties a Standard Te		4	14
		Bituminous felt, properties, uses and field tests.		4	15

			exposed to when implementing when there are inappropriate materials.		

59. Course Evaluation
Theoretical Exam for the First Semester 10% Practical exam for the first semester 10% Theoretical Exam for the Second Semester 10% Practical Exam for the Second Semester 10% Business Grade of the Year 10% Final Practical Exam 10% Final Theoretical Exam 40%

60. Learning and Teaching Resources
Construction Materials Book (Jalal Bashir Sarsam − Saeed Abdel Aali) Practical Asphalt Book, Louay Ali Taha, Mosul Technical Institute, Muayyad Ab Rahim Ayoub, Mosul Technical Institute.