

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



Academic Program and Course Description Guide

2025

Academic Program Description Form

University Name: Northern Technical University

College / Institute: Al-Dour Technical Institute

Scientific Department: Electronic Techniques

Academic or Professional Program Name: Technical Diploma

Final Degree Name: Technical Diploma in Electronic Techniques

Study System: Course-based

Preparation Date: 1/9/2025

Completion Date: 15/9/2025

Signature:



Head of Department Name:

Assist. Prof. Dr. Falah Mohammed Abd

Date: 15/9/2025

Signature:



Scientific Assistant Name:

Prof. Dr. Hanan Shihab Ahmed

Date: 15/9/2025

Document Verified by:

Quality Assurance and University Performance Division

Quality Assurance and University Performance Division Manager Name: Assist. Lect. Haider Ali Mohsen

Date: 15/9/2025

Signature:



Dean's Approval

Prof. Dr. Maha Al-Taif Jasim

1- Program Vision

To provide knowledge in electronic techniques, acquire technical skills in operating and maintaining electronic devices, and create innovative technical solutions that promote sustainable development and meet the needs of the changing labor market.

2-Program Mission

To prepare intermediate technical staff possessing specialized technical knowledge and skills in electronics to meet labor market needs, with a focus on developing technical competencies through quality applied education, practical training, and innovation to serve the local and regional community.

3-Program Objectives

- 1- Apply quality standards in education and training to ensure achieving distinguished educational outcomes.
- 2- Develop curricula and study programs in line with scientific and technological advancements in the field of electronic techniques.
- 3- Support and encourage scientific research that contributes to finding innovative technical solutions for industrial and societal problems.
- 4- Build sustainable cooperative relationships with the industrial sector and local institutions to provide training and employment opportunities and support professional development for graduates.
- 5- Encourage students to implement innovative technical projects that contribute to improving the quality of life and developing local industries.
- 6- Provide technical and engineering consulting to various institutions and contribute to enhancing technical awareness in the community.

4-Program Accreditation

None

5-Other External Influences

- 1- Labor market: The needs of companies and factories for electronics specializations.
- 2- Developments in the fields of automation, communications, and intelligent systems.

3-Technological development and the rapid progress in electronic devices.
 4-Laws, regulations, academic accreditation standards, and quality assurance and education policies.

6- Program Structure

Program Structure	Number of Courses	Credits	Percentage	Notes
Institution (University) Requirements	10	20	19%	9 Core, 1 Elective
College Requirements	3	6	5.7%	3 Core
Department Requirements	24	79	75.2%	23 Core, 1 Elective
Summer Training	Completed	-----	----	
Other	None			

7-Program Description				
Year/Level	Course Code	Course Name	Theory Hours	Practical Hours
Level 1 – First and Second Semester	EOTO100	Principles of Electronics	2	2
	EOTO101	DC Circuits	2	2
	EOTO102	Principles of Digital Circuits	2	2
	EOTO103	Electronics Workshop	-	2
	EOTO104	Engineering Drawing	-	2
	EOTO105	Electronics	2	2
	EOTO106	AC Circuits	2	2
	EOTO107	Digital Circuits Applications	2	2
	EOTO108	Electrical Drawing	-	2
	EOTO109	Electrical Workshop	-	2
	TIDO100	Mathematics Fundamentals	2	-
	TIDO101	Calculus	2	-
	TIDO102	Mechanics Lab	-	2
	NTU100	Democracy and Human Rights	2	-
	NTU101	English Language	2	-
	NTU102	Computer	1	1
	NTU103	Arabic Language	2	-
	NTU104	Sports	1	1
Level 2 – First and Second Semester	EOTO210	Electronic Circuits 1	2	2
	EOTO211	Microprocessors 1	2	2
	EOTO212	Measuring Instruments 1	2	2

	EOTO213	Communications 1	2	2
	EOTO214	Electronic Devices Maintenance Workshop 1	-	2
	EOTO216	Electronic Circuits 2	2	2
	EOTO217	Microprocessors 2	2	2
	EOTO218	Measuring Instruments 2	2	2
	EOTO219	Communications 2	2	2
	EOTO220	Electronic Devices Maintenance Workshop 2	-	2
	EOTO221	Project	-	2
	EOTO222	Control Systems	1	2
	EOTO223	Programmable Logic Controller (PLC) Circuits	1	2
	EOTO224	Renewable Energy Systems	1	2
	NTU200	English Language	2	-
	NTU201	Computer	1	1
	NTU202	Arabic Language	2	-
	NTU203	Crimes of the Ba'ath Regime in Iraq	2	-
	NTU204	Professional Ethics	2	-

8-Expected Program Learning Outcomes

Knowledge

- A1- Understand the fundamental principles of electronic circuits, devices, and systems.
- A2- Acquire the basics and concepts of electronic techniques, control circuits, and communications.
- A3- Knowledge of computing principles, programming, and information technology tools used in the field.
- A4- Familiarity with professional ethics and standards of quality and safety in electronic work.

Skills

- B1- Ability to design, test, and maintain electronic systems and devices.
- B2- Analyze technical problems, develop appropriate solutions, evaluate them, and select the optimal one.
- B3- Use computers and simulation, measurement, and analysis software in the electronic field.
- B4- Work within a team, communicate effectively, and prepare technical reports.

Values

- C1- Commitment to professional ethics, taking responsibility, and leadership spirit in the work environment.
- C2- Adopt a culture of continuous self-learning and keep pace with technological developments.
- C3- Commitment to quality and professional safety standards in operating and maintaining devices.
- C4- Contribute to serving the community and providing innovative technical solutions.

9-Assessment Methods

Oral examinations / Written examinations / Observation / Student cumulative record.

10-Teaching and Learning Strategies

Theoretical lectures, discussion and dialogue, practical lectures, field visits, discussion seminars, laboratories, library activities, problem-solving, graduation project, and summer training.

11-Faculty Members

Academic Rank	General Specialization	Specific Specialization	Special Requirements/Skills	Staff	Lecturer
Assistant Professor	Computer Engineering	Computer Engineering		1	
Assistant Professor	Physics	Solid State Physics		1	
Assistant Lecturer	Media	Media		1	
Assistant Lecturer	Electrical Engineering	Electrical Engineering		1	
Assistant Lecturer	Media	Media		1	

12-Professional Development

Mentoring New Faculty Members

Following up on the annual updates to the study plan and ensuring the curriculum is updated to align with the plan announced by the scientific department. This includes explaining study plans and curricula, clarifying modern teaching methods, and providing training on preparing lectures and time management.

Faculty Professional Development

Conducting field visits to public and private sectors, as well as universities within the specialty, to stay informed about field developments in the area of specialization.

13-Admission Criteria

Admission criteria for morning studies are determined by the central admission plan adopted by the Ministry of Higher Education and Scientific Research.

14-Main Sources of Information about the Program

- 1-Methodological textbooks approved for each course, which are periodically updated by the relevant specialized sectoral committees.
- 2-Scientific references specializing in electronics, digital circuits, communications, and control systems issued by reliable publishing houses.
- 3-The digital library, engineering databases, scientific websites, and simulation platforms.
- 4-Scientific research and articles published in accredited engineering journals that keep pace with the latest developments.
- 5-International standards and specifications related to electronic devices and systems (such as IEEE and IEC).

15-Program Development Plan

- 1-Incorporate information covering all topics related to electronic technologies.
- 2-Keep up with recent scientific developments.
- 3-Participate in international and local conferences.
- 4-Participate in scientific workshops both inside and outside Iraq.
- 5-Host scientific experts in the field of specialization.

Program Skills Map															
Year/level	Course Code	Course Name	Core/ Elective	Program Learning Outcomes & Study Plan											
				Knowledge				Skills				Values			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First	EOTO100	Principles of Electronics	Core	*	*			*	*			*			
	EOTO101	DC Circuits	Core	*	*			*	*			*			
	EOTO102	Digital Circuits	Core	*	*	*		*	*			*			
	EOTO103	Electronics Workshop	Core	*	*	*		*	*			*	*		
	EOTO104	Eng. Drawing	Core	*	*	*		*	*			*	*		
	EOTO105	Electronics	Core	*	*			*	*			*	*		
	EOTO106	AC Circuits	Core	*	*			*				*	*		
	EOTO107	Digital Apps	Core	*	*			*				*	*		
	EOTO108	Elec. Drawing	Core	*	*			*				*	*		
	EOTO109	Elec. Workshop	Core	*	*			*	*			*			

	TIDO100	Math Fundamentals	Core	*	*			*	*			*			
	TIDO101	Calculus	Core												
	TIDO102	Mechanics Lab	Core	*	*			*	*			*	*		
	NTU100	Human Rights	Core	*	*			*	*			*	*		
	NTU101	English	Core	*	*			*	*			*	*		
	NTU102	Computer	Core	*	*			*	*			*	*		
	NTU103	Arabic	Core	*	*			*	*			*			
	NTU104	Sports	Elec	*	*			*	*			*			
	EOTO210	Electronic Circuits 1	Core	*	*			*	*			*			
	EOTO211	Microprocessors 1	Core	*	*			*	*			*			
	EOTO212	Measuring Inst. 1	Core	*	*			*	*			*			
	EOTO213	Communications 1	Core	*	*			*	*			*			
	EOTO214	Maint. Workshop 1	Core	*	*			*	*			*			
	EOTO216	Electronic Circuits 2	Core	*	*			*	*			*			

Second	EOTO217	Microprocessors 2	Core	*	*			*	*			*			
	EOTO218	Measuring Inst. 2	Core	*	*			*				*			
	EOTO219	Communications 2	Core	*	*			*	*			*			
	EOTO220	Maint. Workshop 2	Core	*	*			*	*			*			
	EOTO221	Project	Core	*	*			*	*			*			
	EOTO222	Control Systems	Core	*	*			*	*			*			
	EOTO223	PLC Circuits	Core	*	*			*	*			*			
	EOTO224	Renewable Energy	Elec	*	*			*	*			*			
	NTU200	English	Core	*	*			*	*			*			
	NTU201	Computer	Core	*	*			*	*			*			
	NTU202	Arabic	Core	*	*			*	*			*			
	NTU203	Ba'ath Crimes	Core	*	*			*	*			*			
	NTU204	Prof. Ethics	Core	*	*			*	*			*			