Ministry of Higher Education & Scientific Research

Supervision and Scientific Evaluation Directorate

Quality Assurance and Academic Accreditation

International Accreditation Dept.

Guide to Course Descriptions and Academic Programs for 2025

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Academic Program Specification Form for The Academic Year 2024

University: Northern Technical University

Faculty/Institute: Al-dour Technical Institute

Department: Electronic Techniques

Name of the academic or professional program: Technical Diploma in Electronic Techniques

Name of the final certificate: Technical Diploma in Electronic Techniques

Academic system: Curriculum

File preparation date: **22-1-2025**

File filling date:22-1-2025

Signature

The name of the head of the department

Assist. Lec. Nida Muhsin Ali

Signature

Dean's Assistant For Scientific Affairs

Assist. Prof. Dr. Hanan Shahb Ahmad

Check the file by

Quality Assurance and University Performance Division

Name of the director of the Quality Assurance and University Performance Division:

Signature

Asst. Lecturer Hayder Ali Mohssn

Dean's endorsement

Assist. Prof. Dr. Maha Elttayef Jasim

Vision of program

Providing knowledge of electronic technologies and acquiring technical skills in the operation and maintenance of electronic devices and creating innovative technical solutions to promote sustainable development and meet the needs of the changing work environment.

Program message

The number of intermediate technical cadres possess specialized knowledge and technical skills in the field of electronics to meet the needs of the workforce, focusing on the development of technical competencies with the quality of applied education, practical training and innovation to serve the local and regional community.

Program Goals

1. Application of quality standards in education and training to ensure the research of excellent educational outcomes.

2. Developing curricula and study programs in line with scientific and technological developments in the field of electronic technologies.

3. Supporting and encouraging scientific research that contributes to finding innovative technical solutions to industrial and social problems.

4. Building sustainable cooperative relations with the industrial sector and local institutions to provide training and employment opportunities and support the professional development of graduates.

5. Encouraging students to implement innovative technical projects to contribute to improving the quality of life and developing local industries.

6. Providing technical and technical advice to various institutions and contributing to the promotion of technical awareness in society.

Program accreditation

The department is seeking programmatic accreditation.

External influences

Government and private sector

6. Program structure for the first and second levels				
Program structure	**Number of Curriculum**	**Units**	**Percentage**	**Notes***
University Requirements	**10**	**20**	**%19**	**9 basic, 1 optional**
Institute Requirements	**3**	**6**	**%5.7**	**3 basic**
Department Requirements	**24**	**79**	**%75.2**	**78 basic, 1 optional**
Summer Training	**Completed**	–––––	–––––	**9 basic, 1 optional**
Other	**None**			**3 basic**

*** Notes may include whether the course is basic or optional.**

7-Program Description Department of Electronic Technologies First Level Curriculum				
Year / Level	Code of the Curriculum	Name of the Curriculum	Approved hours	
			Theoretical	Practical
First Level	EOTO100	Principles of Electronics	2	2
	EOTO101	DC Circuits	2	2
	EOTO102	Principles of Digital Circuits	2	2
	EOTO103	Electronic Workshop	-	2
	EOTO104	Engineering Drawing	-	2
	EOTO105	Electronics	2	2
	EOTO106	AC Circuits	2	2
	EOTO107	Applications of Digital Circuits	2	2
	EOTO108	Electrical Drawing	-	2
	EOTO109	Electrical Workshop	-	2
	TIDO100	Mathematical Foundations	2	-
	TIDO101	Differential and Integral Calculus	2	-
	TIDO102	Mechanics Labs	-	2
	NTU100	Democracy and Human Rights	2	-
	NTU101	English Language	2	-
	NTU 102	Computer	1	1
	NTU 103	Arabic Language	2	-
	NTU104	Sports	1	1

7-Program Description Department of Electronic Technologies Second Level Curriculum				
Year / Level	Code of the Curriculum	Name of the Curriculum	Code of the Curriculum	
			Theoretical	Practical
Second Level	EOTO210	Electronic circuits (1)	2	2
	EOTO211	Microcomputers (1)	2	2
	EOTO212	Measuring devices (1)	2	2
	EOTO213	Communications (1)	2	2
	EOTO214	Electronic devices maintenance workshop (1)	-	2
	EOTO216	Electronic circuits (2)	2	2
	EOTO217	Microcomputers (2)	2	2
	EOTO218	Measuring devices (2)	2	2
	EOTO219	Communications (2)	2	2
	EOTO220	Electronic devices maintenance workshop (2)	-	2
	EOTO221	The project	-	2
	EOTO222	Control systems	1	2
	EOTO223	Programmable logic controller circuits	1	2
	EOTO224	Renewable energy systems	1	2
	EOTO225	English language	2	-
	NTU 201	Computer	1	1
	NTU 202	Arabic language	2	-
	NTU 203	Crimes of the Baath regime in Iraq	2	-
	NTU204	Professional ethics	2	-

7. Expected learning outcomes of the program

Knowledge

1-Technical knowledge: Understanding the basic principles of electronic circuits, devices, and electronic systems.

2- Practical skills: Ability to design, test, and maintain electronic systems.

3- Ability to analyze and design: Analyze and solve electronic problems using modern tools and techniques.

4- Ability to work in teams and communicate: Work in teams and provide technical reports and presentations.

5- Sustainability and professional development: Keeping pace with technological developments and adhering to professional ethics.

6- Use of information technology: Programming and analysis using computing tools.

Skills

1 - Teamwork skills.

2- Ability to interact with information technology.

3- Leadership skills and responsibility.

4- Qualifies the student to pass the appointment interviews.

Values

1- The student acquires the concepts and basics of electronic technologies.

2- Analyze the problems facing its workers and how to develop the necessary solutions.

3- Evaluate the proposed solutions and choose the best ones.

4- Adopt a culture of self-learning to keep pace with technological developments.

8. Teaching and learning strategies

1. Explaining the scientific curriculum in detail using different means of clarification.

2. Study sessions focusing on the latest scientific developments related to the curriculum.

3. Field visits to industrial establishments to view various real projects and industrial allenges.

4. Conducting experiments and applied projects to apply theoretical concepts.

5. Working in groups to enhance cooperation and exchange of experiences.

6. Providing periodic assessments to measure students' progress and motivate them to continuous learning.

9. Evaluation methods

1. Exams (weekly, monthly, daily and end-of-year exam) in both theoretical and practical parts

2. Submitting monthly reports on various academic courses

3. Summer training.

10. Teaching staff

Faculty members

Academic Degree	Specialization		Special requirements/skills		Faculty members	
	General	Private			Staff	External lecturer
Assistant Professor	Engineering	Computers			1	
Assistant Lecturer	Information Technology	Information Systems			1	
Assistant Lecturer	Engineering	Mechanics			1	
Assistant Lecturer	Engineering	Civil			1	
Bachelor's	Engineering	Electricity			3	
	Languages	Persian			1	
	Computer Science	Computers			1	
Technical Diploma	Electronic Technologies				6	
	Accounting Technologies				1	
Master's	Electronic Technologies					1
Bachelor's	Engineering					1

Professional development

Orienting new faculty members

Participation in courses focusing on the integrity of the Arabic language, the nature of administrative work, and specialized courses in the field of laboratory work and research, in addition to courses on teaching methods and suitability.

Professional development for faculty members

1. Participation in local and international conferences

2. Participation in applied courses and workshops within the department's specializations

Acceptance standard

Students who graduated from middle school are accepted through the central admission system based on:

1- Branch (scientific and vocational)

2- Average score

12 .The most important sources of information about the program

1. The website of the university and institute
2. University guide
3. Central Library
4. References and sources for the institute and the department
5. The World Wide Web

13. Program Development Plan

1. Adding information on all topics related to electronic technologies.
2. Identifying modern scientific developments.
3. Participating in international and local conferences.
4. Participating in scientific workshops inside and outside Iraq.
5. Hosting scientific competencies in the field of specialization

Academic Program Description

This academic programme description provides a concise summary of the main features of the programme and the learning outcomes expected of the student, demonstrating whether he or she has made the most of the opportunities available. It is accompanied by a description of each Curriculum within the program.

A- Cognitive objectives	
A-1	The ability to apply knowledge in electronic fields.
A-2	Understand the professional and ethical responsibilities of the field of specialization.
A-3	The ability to evaluate the outcomes of the course with faculty, industrial and professional practitioners, as well as employers and graduate students to improve them.
A-4	Teach leadership skills, values of commitment, ethical behavior and respect for others.
B- Program specific skill objectives	
B-1	The ability to work and integrate into multidisciplinary teams.
B-2	The ability to design and conduct discussion sessions as well as analyze and interpret data.
B-3	The ability to use modern technologies, specialized skills and tools and the ability to identify and formulate electronic problems in the field of specialization.
C- Affective and value objectives	
C-1	The ability to communicate effectively with those concerned with the field of specialization.
C-2	Recognize the need and ability to engage in lifelong learning and broad learning necessary to understand the impact of solutions on the global level, electronic problems and the social environment.
C-3	Knowledge of contemporary issues in the field of specialization.
D- General and transferable skills (other skills related to employability and personal development)	
D-1	The student should be able to use the computer in design and use modern programs
D-2	The student should learn some laws and theories of mathematics that qualify him to apply the laws within the specialization
D-3	The student should learn the basics of occupational safety principles that contribute to preserving the self, devices, equipment and various
D-4	Teaching the student the basic international standards for human rights and successful democracy in developed countries
D-5	Teaching the student the basics of writing reports and using technical English through terminology within the specialization

Curriculum Skills Map																				
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																				
				Programmed Learning Outcomes																
Year /Level	Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development				
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	D5
First Level	EOTO100	Principles of Electronics	C	X				X	X			X				X	X			
	EOTO101	DC Electrical circuits	C	X	X			X	X			X	X			X	X			
	EOTO102	Principles of digital circuits	C	X				X	X			X	X			X	X			
	EOTO103	Electronic workshop	C	X				X	X			X				X	X			
	EOTO104	Engineering Drawing	C	X				X	X			X				X	X			
	EOTO105	Electronics	C	X				X	X			X				X	X			
	EOTO106	AC electrical circuits	C	X				X	X			X	X			X	X			
	EOTO107	Digital circuits applications	C	X				X	X			X	X			X	X			
	EOTO108	Electrical Drawing	C	X				X	X			X				X	X			
	EOTO109	Electrical workshop	C	X				X	X			X	X			X	X			
	TIDO100	Mathematics Foundation	C	X	X			X	X			X				X	X			
	TIDO101	Differentiation and Integration	C	X	X			X	X			X				X	X			

	TIDO102	**Mechanical Workshop**	C	**X**	**X**			**X**	**X**			**X**				**X**	**X**			
	NTU100	**Human Rights and Democracy**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU101	**English Language**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 102	**Computer**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 103	**Arabic Language**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU104	**Sport**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO210	**Electronic1 Circuit**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO211	**Microcomputer1**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO212	**Devices 1 Measurements**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO213	**Communication1**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO214	**Electronic**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO216	**Control systems**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO217	**Project1**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO218	**Electronic2 Circuit**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO219	**Microcomputers2**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO220	**Devices 2 Measurements**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO221	**Communication2**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO222	**Electronic**	C	**X**				**X**	**X**			**X**				**X**	**X**			
second	**EOTO223**	**Project2**	C	**X**				**X**	**X**			**X**				**X**	**X**			
Level	**EOTO224**	**logic Programmable (PLC) controller**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	EOTO225	**energy systems Renewable**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 201	**Electronic2 Circuit**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 202	**Microcomputer1**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 203	**Devices 1 Measurements**	C	**X**				**X**	**X**			**X**				**X**	**X**			

	NTU204	**Communication1**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 200	**English language**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 201	**Computer**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 202	**Arabic Language**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU 203	**Crimes of Al-Baath regime in iraq**	C	**X**				**X**	**X**			**X**				**X**	**X**			
	NTU204	**Professional Ethics**	C	**X**				**X**	**X**			**X**				**X**	**X**			

Curriculum guide

for the year (2024-2025) according to the curriculum system

Northern Technical University Technical Institute / Door Department of Electronic Technology / First Level

code	number of units	Number of practical hours	Number of theoretical hours	curriculum Name In English	Requirement type
NTU 100	2	-	2	Democracy and Human Rights	University requirements (10)units compulsory units8 + 2 optional modules
NTU 101	2	-	2	English Language	
NTU 102	2	1	1	Computer	
NTU 103	2	-	2	Arabic Language	
NTU 104	2	1	1	Sport	
NTU 105	2	-	2	French language	
TIDO100	2	-	2	Mathematics Foundation	Institute requirements 6 compulsory units
TIDO101	2	-	2	Differentiation and Integration	
TIDO102	2	-	2	Mechanical Workshop	
EOTO100	4	2	2	Principles of Electronics	Specialized requirements units32 compulsory units32 + 0 optional module
EOTO101	4	2	2	DC Electrical circuits	
EOTO102	4	2	2	Principles of digital circuits	
EOTO103	2	2	-	Electronic workshop	
EOTO104	2	2	-	Engineering Drawing	
EOTO105	4	2	2	Electronics	
EOTO106	4	2	2	AC electrical circuits	
EOTO107	4	2	2	Digital circuits applications	
EOTO108	2	2	-	Electrical Drawing	
EOTO109	2	2	-	Electrical workshop	
the total	50	23	27		

Curriculum guide

SCECOND LEVEL

code	number of units	Number of practical hours	Number of theoretical hours	curriculum Name In English	Requirement type
NTU200	2	-	2	English Language	University requirements (10)units compulsory units
NTU201	2	1	1	Computer	
NTU202	2		2	Arabic Language	
NTU203	2		2	The crimes of the Baath regime in Iraq	
NTU204	2	-	2	Professional Ethics	
EOTO210	4	2	2	Electronic Circuit 1	Specialized requirements 47 units 44 compulsory units + 3 optional module
EOTO211	4	2	2	Microcomputer 1	
EOTO212	4	2	2	Measurements Devices 1	
EOTO213	4	2	2	Communication 1	
EOTO214	2	2	-	Electronic instrumentation maintenance workshop 1	
EOTO216	4	2	2	Electronic Circuit 2	
EOTO217	4	2	2	Microcomputers 2	
EOTO218	4	2	2	Measurements Devices 2	
EOTO219	4	2	2	Communication 2	
EOTO220	2	2	-	Electronic instrumentation maintenance workshop 2	
EOTO221	2	2	-	Project	
EOTO222	3	2	1	Control systems	
EOTO223	3	2	1	Programmable logic controller (PLC)	
EOTO224	3	2	1	Renewable energy systems	
EOTO225	3	2	1	Computer applications	
the total	60	31	29		