

Northern Technical University

الجامعة التقنية الشمالية



بكالوريوس هندسة تقنيات الحاسوب

Bachelor's degree in Computer Techniques Engineering



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1. Overview

This catalogue is about the courses (modules) given by the program of Computer Techniques Engineering to gain either:

- Bachelor's degree in Computer Techniques Engineering /Computer Communications and Networking
- or
- Bachelor's degree in Computer Techniques Engineering/Computer Electronics.

The program delivers (75) Modules with more than (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

2. Program Specification for each degree

Programmed code	Duration	ECTS	Method of Attendance
BCCTE or BCETE	4 levels, 8 Semesters	240	Full Time

3. Undergraduate Courses/Modules 2023-2024

Level 1 – First Semester							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCTE101-S1	Digital Logic	2	2	3	7		
BCTE102-S1	Mathematics	3	0	3	5		
BCTE103-S1	Computer Organization	2	2	3	6		
BCTE104-S1	Engineering Drawing	1	2	2	3		
BCTE105-S1	Electrical Engineering Fundamentals	2	2	3	7		
BCTE106-S1	Democracy and Human Rights	2	0	2	2		
T:Theoretical, P:Practical, C:Credit		11	8	15	30		

Level 1 – Second Semester							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCTE101-S2	Digital Circuits	2	2	3	7		
BCTE102-S2	Engineering Mathematics	3	0	3	5		
BCTE103-S2	Computer Programming	2	2	3	6		
BCTE104-S2	Electronic Workshop	0	2	1	3		
BCTE105-S2	Electrical Circuits	2	2	3	7		
BCTE106-S2	English Language	2	0	2	2		
T:Theoretical, P:Practical, C:Credit		11	8	15	30		

Level 2 – First Semester							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCTE201-S1	Microprocessors	2	2	3	7		
BCTE202-S1	Analog Electronics Fundamentals	2	2	3	5		
BCTE203-S1	Object Oriented Programming	2	2	3	6		
BCTE204-S1	Applied Mathematics	3	0	3	3		
BCTE205-S1	data structures	2	2	3	6		
BCTE206-S1	Measurements & Sensors	1	2	2	3		
T:Theoretical, P:Practical, C:Credit		12	10	17	30		

Level 2 – Second Semester							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCTE201-S2	Computer Architecture	2	2	3	6		
BCTE202-S2	Electronic circuits	2	2	3	6		
BCTE203-S2	Computer Appications	1	2	2	4		
BCTE204-S2	Communication Fundamentals	2	2	3	6		
BCTE205-S2	Website design	1	2	2	4		
BCTE206-S2	Arabic language	2	0	2	2		
BCTE207-S2	Summer Training 1	0	2	1	2		
T:Theoritical, P:Practical, C:Credit		10	12	16	30		

Level 3 – First Semester Computer Communications and Networking							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCCTE301-S1	Control Engineering	2	2	3	6		
BCCTE302-S1	Microprocessor Supported Chips	2	2	3	6		
BCCTE303-S1	Digital Signal Processing	2	2	3	4		
BCCTE304-S1	Engineering Analysis	2	2	3	3		
BCCTE305-S1	Digital Communication Fundamentals	2	2	3	5		
BCCTE306-S1	Computer Networks Fundamentals	2	2	3	6		
T:Theoritical, P:Practical, C:Credit		12	12	18	30		

Level 3 – Second Semester Computer Communications and Networking							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCCTE301-S2	Controllors	2	2	3	4		
BCCTE302-S2	Operating Systems	2	2	3	5		
BCCTE303-S2	Signals and Systems	2	2	3	4		
BCCTE304-S2	Wireless sensor network and IoT	2	2	3	5		
BCCTE305-S2	DigitalCommunicationSystems	2	2	3	5		
BCCTE306-S2	Computer Networks Systems	2	2	3	5		
BCCTE307-S2	Summer Training 2	0	2	1	2		
T:Theoritical, P:Practical, C:Credit		12	14	19	30		

Level 3 – First Semester Computer Electronics							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCETE301-S1	Control Engineering	2	2	3	6		
BCETE302-S1	Microprocessor Supported Chips	2	2	3	6		
BCETE303-S1	Digital Signal Processing	2	2	3	4		
BCETE304-S1	Engineering Analysis	2	2	3	3		
BCETE305-S1	Digital Communication Fundamentals	2	2	3	5		
BCETE306-S1	MicroControllers	2	2	3	6		
T:Theoretical, P:Practical, C:Credit		12	12	18	30		

Level 3 – Second Semester Computer Electronics							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCETE301-S2	Computer Graphics	2	2	3	5		
BCETE302-S2	Operating Systems	2	2	3	5		
BCETE303-S2	Signals and Systems	2	2	3	4		
BCETE304-S2	Wireless sensor network and IoT	2	2	3	5		
BCETE305-S2	DigitalCommunicationSystems	2	2	3	5		
BCETE306-S2	Digital Controllers	2	2	3	4		
BCETE307-S2	Summer Training 2	0	2	1	2		
T:Theoretical, P:Practical, C:Credit		12	14	19	30		

Level 4 – First Semester Computer Communications and Networking							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCCTE401-S1	Information Theory and Coding	2	2	3	7		
BCCTE402-S1	Security of Computers	2	2	3	6		
BCCTE403-S1	Computer Protocols 1	2	2	3	6		
BCCTE404-S1	Intellegent Systems	2	2	3	6		
BCCTE405-S1	Managment	2	2	3	3		
BCCTE406-S1	Project1	0	2	1	2		
T:Theoretical, P:Practical, C:Credit		10	12	16	30		

Level 4 – Second Semester Computer Communications and Networking							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCCTE401-S2	Wireless communication	2	2	3	6		
BCCTE402-S2	Advanced Digital Electronics	2	2	3	6		
BCCTE403-S2	Computer Protocols 2	2	2	3	6		
BCCTE404-S2	Cloud Computing	2	2	3	5		
BCCTE405-S2	Multimedia Computing	2	2	3	5		
BCCTE406-S2	Project 2	0	2	1	2		
T:Theoretical, P:Practical, C:Credit		10	12	16	30		

Level 4 – First Semester Computer Electronics							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCETE 401-S1	Hardware Description Language	2	2	3	6		
BCETE402-S1	Advanced Computer Technology	2	2	3	7		
BCETE403-S1	Computer Networks Fundamentals	2	2	3	6		
BCETE404-S1	Intellegent Systems	2	2	3	6		
BCETE405-S1	Managment	2	2	3	3		
BCETE406-S1	Project1	0	2	1	2		
T:Theoretical, P:Practical, C:Credit		10	12	16	30		

Level 4 – Second Semester Computer Electronics							Bachelor of Computer Techniques Engineering
CODE	TITLE	T	P	C	ECTS	Bologna Content	
BCETE 401-S2	Embedded Systems	2	2	3	6		
BCETE402-S2	Electronic Devices	2	2	3	6		
BCETE403-S2	Computer Networks Systems	2	2	3	5		
BCETE404-S2	Advanced Computer Architecture	2	2	3	6		
BCETE405-S2	Multimedia Computing	2	2	3	5		
BCETE406-S2	Project 2	0	2	1	2		
T:Theoretical, P:Practical, C:Credit		10	12	16	30		