



الجامعة التقنية الشمالية
Northern Technical University

بكالوريوس هندسة تقنيات البناء والإنشاءات

Bachelor's degree in Building and Construction
Technical Engineering



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1. Overview

This catalogue is about the courses (modules) given by the program of Building and Construction Technical Engineering to gain the Bachelor's degree in Building and Construction Technical Engineering. The program delivers (32) Modules with more than (6500) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

2. Program Specification

Programme code	BCE	ECTS	240
Duration	4 levels, 8 Semesters	Method of Attendance	Full Time

3. Undergraduate Courses/Modules 2022-2023

Level 1 – First semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE101	CONSTRUCTION MATERIALS-I	2	2	3	5		
BCE102	SURVEYING-I	2	2	3	5		
BCE103	ENGINEERING MECHANICS-I	3	0	3	5		
BCE104	ENGINEERING DRAWING	1	2	2	4		
BCE105	MATHEMATICS-I	3	0	3	4		
BCE106	ENGINEERING PHYSICS	1	0	1	2		
BCE107	HUMAN RIGHTS and DEMOCRACY	1	0	1	2		
BCE108	ADVANCED ENGLISH SKILLS-I	2	0	2	3		
T: Theoretical, P: Practical, C: Credit		15	6	18	30		

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دليل الفصول الدراسية – قسم هندسة تقنيات البناء والإنشاءات

Level 1 – Second Semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE109	CONSTRUCTION MATERIALS-II	2	2	3	5		
BCE110	SURVEYING-II	2	2	3	5		
BCE111	ENGINEERING GEOLOGY	2	0	2	3		
BCE112	ENGINEERING MECHANICS-II	3	0	3	5		
BCE113	MATHEMATICS-II	3	0	3	4		
BCE114	DESCRIPTIVE GEOMETRY	1	2	2	3		
BCE115	COMPUTER PRINCIPLES	1	2	1	2		
BCE116	ADVANCED ENGLISH SKILLS-II	2	0	2	3		
T: Theoretical, P: Practical, C: Credit		16	8	19	30		

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دليل الفصول الدراسية – قسم هندسة تقنيات البناء والإنشاءات

Level 2 – First semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE 201	CONCRETE TECHNOLOGY-I	3	2	3	5		
BCE 202	STRENGTH OF MATERIALS-I	3	0	3	5		
BCE 203	BUILDING CONSTRUCTION-1	2	0	2	4		
BCE 204	SURVEYING-III	2	3	3	5		
BCE 205	PROBABILITY & STATISTICS	2	0	2	3		
BCE 206	FLUID MECHANICS-I	2	0	2	3		
BCE 207	MATHEMATICS-III	3	0	3	5		
T: Theoretical, P: Practical, C: Credit		17	5	18	30		

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Level 2 – Second semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE 208	CONCRETE TECHNOLOGY-II	3	2	3	5		
BCE 209	STRENGTH OF MATERIALS-II	3	0	3	5		
BCE 210	BUILDING CONSTRUCTION-II	2	0	2	4		
BCE 211	SURVEYING-IV	2	3	3	5		
BCE 212	TECHNOLOGY of CONSTRUCTION MATERIALS INDUSTRY	2	0	2	3		
BCE 213	FLUID MECHANICS-II	2	0	2	3		
BCE 214	MATHEMATICS-IV	3	0	3	5		
BCE 215	PRACTICAL TRAINING	0	6	0	0		
T: Theoretical, P: Practical, C: Credit		17	5	18	30		

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Level 3 – First semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE 301	CONCRETE TECHNOLOGY-III	2	2	3	5		
BCE 302	REINFORCED CONCRETE	3	0	3	5		
BCE 303	STRUCTURAL ANALYSIS-I	3	0	3	5		
BCE 304	SOIL MECHANICS	2	3	3	4		
BCE 305	CONSTRUCTION MANAGEMENT	2	0	2	3		
BCE 306	PAVEMENT ENGINEERING	2	2	3	4		
BCE 307	ENGINEERING ANALYSIS	3	0	3	4		
T: Theoretical, P: Practical, C: Credit		17	7	20	30		

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دليل الفصول الدراسية – قسم هندسة تقنيات البناء والإنشاءات

Level 3 – Second semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE 308	CONCRETE TECHNOLOGY-IV	2	2	3	5		
BCE 309	MASONRY BUILDINGS	3	0	3	5		
BCE 310	STRACTURAL ANALYSIS-II	3	0	3	5		
BCE 311	ADVANCED SOIL MECHANICS	2	3	3	4		
BCE 312	CONSTRUCTION EQUIPMENT	2	0	2	3		
BCE 313	ADVANCED PAVEMENT ENGINEERING	2	2	3	4		
BCE 314	NUMERICAL ANALYSIS	3	0	3	4		
BCE 315	PRACTICAL TRAINING	0	6	0	0		
T: Theoretical, P: Practical, C: Credit		17	7	20	30		

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Level 4 – First semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology 
BCE 401	DESIGN REINFORCED CONCRETE BUILDINGS-I	3	0	3	4		
BCE 402	TRANSPORTATION ENGINEERING	2	3	4	4		
BCE 403	QUANTITY SURVEYING & ESTIMATING-I	2	0	2	3		
BCE 404	FOUNDATION ENGINEERING	3	0	3	4		
BCE 405	CONSTRUCTION DRAWING	0	3	2	2		
BCE 406	SUSTAINABLE CONSTRUCTION MATERIALS	2	2	3	3		
BCE 407	DESIGN OF STEEL STRUCTURES-I	3	0	3	4		
BEC 408	ENVIRONMENTAL ENGINEERING	2	2	3	4		
BCE 409	INNOVATIVE PROJECT- I	1	2	2	2		
T: Theoretical, P: Practical, C: Credit		18	12	25	30		

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دليل الفصول الدراسية – قسم هندسة تقنيات البناء والإنشاءات

Level 4 – Second semester							
CODE	TITLE	T	P	C	ECTS	Bologna Content	Bachelor of building and construction engineering technology
BCE 410	DESIGN REINFORCED CONCRETE BUILDINGS-II	3	0	3	4		
BCE 411	MATERIALS FOR HERITAGE BUILDINGS	2	2	3	4		
BCE 412	QUANTITY SURVEYING & ESTIMATING-II	2	0	2	3		
BCE 413	ADVANCED FOUNDATION ENGINEERING	3	0	3	4		
BCE 414	SAFETY IN CONSTRUCTION	0	3	2	2		
BCE 415	COMPUTER AIDED DESIGN OF STRUCTURE	1	3	3	3		
BCE 416	DESIGN OF STEEL STRUCTURES-II	3	0	3	4		
BEC 417	REPAIRS & REHABILITATION OF STRUCTURES	2	2	3	4		
BCE 418	INNOVATIVE PROJECT-II	1	2	2	2		
T: Theoretical, P: Practical, C: Credit		18	11	24	30		