

1.1 Construction and Building Engineering Academic Program

Table 1 - The core courses of the Construction and Building Engineering Program

Year 1			
Semester 1		Semester 2	
BA113	Physics I	ME151	Engineering Drawing and Projection
LH131	English for Special Purposes I	BA114	Physics II
IM111	Industrial Relations	BA124	Mathematics II
CC111	Introduction to Computers	BA142	Engineering Mechanics II
BA123	Mathematics I	LH132	English for Special Purposes II
BA141	Engineering Mechanics I	CC114	Introduction to Programming
BA118	Chemistry	IM112	Manufacturing Technology
Year 2			
Semester 3		Semester 4	
CB251	Testing of Materials	NE or IM	College Elective Course
EE238	Electrical Engineering Fundamentals	CB281	Hydraulics for Civil Engineering
LH231	Technical Report Writing	BA224	Mathematics IV
CB221	Construction Engineering Drawing	CB271	Construction Surveying I
CB241	Structural Analysis I	CB242	Strength of Materials
BA223	Mathematics III	EE218	Instrumentation and Measurements
Year 3			
Semester 5		Semester 6	
CB361	Engineering Geology	CB313	Quality Control in Construction
CB382	Water Resources Engineering	CB311	Introduction to Construction Management
BA329	Probability and Statistics	CB312	System Analysis in Construction
CB343	Structural Analysis II	CB354	Design of Reinforced Concrete Structures I
ME255	Computer Aided Drafting	CB322	Building Construction
CB352	Construction Materials	CB362	Soil Mechanics
Year 4			
Semester 7		Semester 8	
NE466	Environmental Science and Technology	IM 400	Practical Training
CB455	Design of Reinforced Concrete Structures II	CB474	Highway Design and Construction
AR411	Architectural Design and Urban Landscape	CB444	Design of Metallic Structures
CB483	Irrigation and Drainage Engineering	CB431	Technical Installations In Buildings
CB472	Transportation and Traffic Engineering	CB485	Design and Construction of Coastal Structures
CC413	Numerical Analysis	CB463	Foundation Analysis and Design
		CB415	Quantity Surveying, Cost Estimating and Specifications
Year 5			
Semester 9		Semester 10	
CB501	Senior Project I	CB524	Methods and Equipment for Construction II
CB523	Methods and Equipment for Construction I	CB533	Environmental Control and Energy in Buildings
CB532	Environmental and Sanitary Engineering	CB503	Senior Project II
CB516	Construction Project Management I	CB5XX	Department Elective Course
CB514	Construction Contracts and Law	CB519	Construction Project Management II
CB5XX	Department Elective Course		

Table 2 - The elective courses of the Construction and Building Engineering Program

Course Code	Course Title
College Electives	
NE264	Scientific Thinking
NE266	Creativity and Innovation
NE465	Aesthetic Education and Art Appreciation
IM531	Human Resource Management
Department Restricted Electives	
CB556	Concrete Technology
CB564	Special Topics in Geotechnical Engineering
CB545	Structural Dynamics
CB573	Construction Surveying II
CB584	Special Topics in Hydraulic and Coastal Structures
CB525	Special Topics in Construction Engineering
CB546	Special Topics in Steel and Composite Structures
CB576	Special Topics in Railway Engineering
CB575	Special Topics in Transportation Engineering
CB534	Special Topics in Environmental Engineering
CB518	Financial Management and Accounting in Construction
CB557	Inspection, Maintenance, and Repair of Structures
CB558	Special Topics in Reinforced Concrete Structures

1.2 Course Prerequisites

The course prerequisites are listed in Tables 2 and 3 classified by semester for core and elective courses respectively.

Table 3 - Prerequisites list of the core courses

Course		Prerequisite Course	
Code	Title	Code	Title
SEMESTER 1			
BA113	Physics I	None	
IM111	Industrial Relations	None	
BA123	Mathematics I	None	
BA141	Engineering Mechanics I	None	
CC111	Introduction to Computers	None	
BA118	Chemistry	None	
LH131	English for Special Purposes I	None	
SEMESTER 2			
BA114	Physics II	BA113	Physics I
LH132	English for Special Purposes II	LH131	English for Special Purposes I
ME151	Engineering Drawing and Projection	None	
BA124	Mathematics II	BA123	Mathematics I
BA142	Engineering Mechanics II	BA141	Engineering Mechanics I
CC114	Introduction to Programming	CC111	Introduction to Computers
IM112	Manufacturing Technology	None	
SEMESTER 3			
EE238	Electrical Engineering Fundamentals	BA124	Mathematics II
BA223	Mathematics III	BA124	Mathematics II
LH231	Technical Report Writing	LH 132	English for Special Purposes II
CB221	Construction Engineering Drawing	ME151	Engineering Drawing and Projection
CB241	Structural Analysis I	BA141	Engineering Mechanics I
CB251	Testing of Materials	None	
SEMESTER 4			
NEXXX or IMXXX	College Elective Course	None	
BA224	Mathematics IV	BA223	Mathematics III
EE218	Instrumentation and Measurements	EE238	Electrical Engineering Fundamentals
CB242	Strength of Materials	CB241 and CB251	Structural Analysis I Testing of Materials
CB271	Construction Surveying I	BA124	Mathematics II
CB281	Hydraulics for Civil Engineering	BA114	Physics II

YEAR 1

YEAR 2

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SEMESTER 5				Year 3
BA329	Probability and Statistics	BA224	Mathematics IV	
CB343	Structural Analysis II	CB242	Strength of Materials	
CB352	Construction Materials	CB251	Testing of Materials	
CB361	Engineering Geology	None		
CB382	Water Resources Engineering	CB281	Hydraulics for Civil Engineering	
ME255	Computer Aided Drafting	CB221	Construction Engineering Drawing	
SEMESTER 6				
CB311	Introduction to Construction Management	BA224	Mathematics IV	
CB312	System Analysis in Construction	BA329	Probability and Statistics	
CB322	Building Construction	CB221	Construction Engineering Drawing	
CB354	Design of Reinforced Concrete Structures I	CB343	Structural Analysis II	
CB313	Quality Control in Construction	BA329	Probability and Statistics	
CB362	Soil Mechanics	CB361	Engineering Geology	
SEMESTER 7				Year 4
NE466	Environmental Science and Technology	None		
AR411	Architectural Design and Urban Landscape	CB221	Construction Engineering Drawing	
CC413	Numerical Analysis	CC114	Introduction to Programming	
CB455	Design of Reinforced Concrete Structures II	CB354	Design of Reinforced Concrete Structures I	
CB472	Transportation and Traffic Engineering	CB271	Construction Surveying I	
CB483	Irrigation and Drainage Engineering	CB382	Water Resources Engineering	
SEMESTER 8				
CB485	Design and Construction of Coastal Structures	CB281	Hydraulics for Civil Engineering	
CB415	Quantity Surveying, Cost Estimating and Specifications	CB322 CB354	Building Construction Design of Reinforced Concrete Structures I	
CB444	Design of Metallic Structures	CB343	Structural Analysis II	
CB463	Foundation Analysis and Design	CB362 CB 354	Soil Mechanics Design of Reinforced Concrete Structures I	
CB431	Technical Installations In Buildings	CB322	Building Construction	
CB474	Highway Design and Construction	CB472	Transportation and Traffic Engineering	
IM 400	Practical Training	None		

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Course		Prerequisite Course	
Code	Title	Code	Title
SEMESTER 9			
CB501	Senior Project I	None	
CB514	Construction Contracts and Law	CB311 and CB415	Introduction to Construction Management Quantity Surveying, Cost Estimating and Specifications
CB516	Construction Project Management I	CB311 and CB322	Introduction to Construction Management Building Construction
CB523	Methods and Equipment for Construction I	CB322	Building Construction
CB532	Environmental and Sanitary Engineering	CB382	Water Resources Engineering
CB5XX	Department Elective Course	Varies	(see Table 2.6)
SEMESTER 10			
CB502	Senior Project II	CB501	Senior Project I
CB519	Construction Project Management II	CB516 and CB415	Construction Project Management I Quantity Surveying, Cost Estimating and Specifications
CB524	Methods and Equipment for Construction II	CB523	Methods and Equipment for Construction I
CB533	Environmental Control and Energy in Buildings	CB431	Technical Installations in Buildings
CB5XX	Department Elective Course	Varies	(see Table 2.6)

Year 5

Table 4 - Prerequisites list of the elective courses

College Elective Courses			
Course		Prerequisite Course	
Code	Title	Code	Title
NE264	Scientific Thinking	None	
NE266	Creativity and Innovation	None	
NE465	Aesthetic Education and Art Appreciation	None	
IM531	Human Resource Management	None	
IM535	Management of International Business	None	
Department Restricted Elective Courses			
CB 518	Financial Management and Accounting in Construction	CB516	Construction Project Management I
CB 525	Special Topics in Construction Engineering	CB523	Methods and Equipment for Construction I
CB 534	Special Topics in Environmental Engineering	CB532	Environmental and Sanitary Engineering
CB 545	Structural Dynamics	CB343	Structural Analysis II
CB 546	Special Topics in Steel and Composite Structures	CB444	Design of Metallic Structures
CB 556	Concrete Technology	CB352	Construction Materials
CB557	Inspection, Maintenance, and Repair of Structures	CB444 or CB455	Design of Metallic Structures or Design of Reinforced Concrete Structures II
CB 558	Special Topics in Reinforced Concrete Structures	CB455	Design of Reinforced Concrete Structures II
CB 564	Special Topics in Geotechnical Engineering	CB463	Foundation Analysis and Design
CB 573	Construction Surveying II	CB271	Construction Surveying I
CB 575	Special Topics in Transportation Engineering	CB474	Highway Design and Construction
CB 576	Special Topics in Railway Engineering	CB472	Transportation and Traffic Engineering
CB 584	Special Topics in Hydraulic and Coastal Structures	CB483	Irrigation and Drainage Engineering