

Program Specification (2025/2026)

1. Basic Information - (معلومات أساسية)

Program Title:	Bachelor's Civil Engineering	
Total number of credit hours of the program:	160 Credit hours	
Number of academic years/levels:	5 years /9 semesters	
Departments Participating in teaching the program:	Basic Science department Architecture Program	
Faculty:	Faculty of Engineering	
University:	Nahda University	
Program divisions in the final year:	N/A	
Partnerships with other parties and the nature of each :	N/A	
Name of the program coordinator:	Assi. Prof Dr. Naglaa Glal Eldin Fahmy	
Program Specification Approval Date:	10/08/2025	16/09/2025
Council responsible for Program Specification Approval (Attach the Decision / Minutes):	Department council ترفق المجالس مع التوصيف	Faculty council

2. Program Aims:-

The Civil Engineering Program aims to prepare a scientifically and practically qualified graduate capable of efficiently working across various traditional career paths, including site engineering, technical office work, structural design, and construction supervision, in addition to specialized fields such as highway and transportation engineering, water and wastewater engineering, and soil and foundation engineering. The program seeks to develop students' ability to deeply understand engineering concepts and effectively link theoretical knowledge with practical applications, enabling them to analyze engineering problems and develop innovative and efficient solutions.

It also focuses on equipping graduates with advanced skills in modern engineering technologies and software used in design, drafting, and information management, enhancing their readiness for the labor market. The added value of the program lies in producing distinguished engineers who go beyond mere execution to critical thinking and continuous development, thereby contributing to improving the quality of engineering projects and serving society.

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3. Program Structure (Curriculum)

3-1. Program Components – (مكونات البرنامج)

Item	Requirement Category/Type	Credit hours	The percentage of the hours
I	University Requirements	14	8.75 %
Specialization requirements			
II	Faculty Requirements	41	25.625 %
	Civil Engineering Program	105	65.625 %
Total credit hours		160	100 %

Requirement Category/Type		Number of Courses	Number of Credit Hours	Percentage from the total number of hours	Notes
University Requirements		7 (Compulsory)	14 (Compulsory)	8.75 %	
Faculty Requirements		17 (14 compulsory + 3 elective)	41 (35 compulsory + 6 elective)	25.625 %	
Program Major Requirements		24 (Compulsory)	61 (Compulsory)	38.125 %	
Civil engineering application and design requirements		12 (Compulsory)	29 (Compulsory)	18.125%	
Requirements of the majors/ divisions/ tracks/ specializations in the final year (if any)		N/A			
Other requirements	Field Training	2 (Compulsory)	0 (Pass without credit hours)	0 %	
	Graduation Project	2 (Compulsory)	9 (Compulsory)	5.62 %	
	Mandatory training year	-	-	-	
	Other (to be mentioned): Aptech-Computer Skills	3	0 (Pass without credit hours)	0 %	
Total Compulsory Courses		63	148	92.5 %	
Elective Courses		6	12	7.5 %	
Total		69	160	100 %	

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3-2. Program courses according to the expected study plan - (مقررات البرنامج تبعاً للخطة الدراسية المتوقعة)

i) Proposed Study Plan of Civil Engineering Division:

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credits Hours	Number of Weekly Contact Hours				Pre-requisites
							Lec	Tut	Lab	TT	
Level 1	Semester 1	BAS011	Mathematics (1)	Compulsory	Faculty Requirements	3	2	2	0	4	
Level 1	Semester 1	BAS012	Vibration and Waves	Compulsory	Faculty Requirements	3	2	1	1	4	
Level 1	Semester 1	BAS013	Statics	Compulsory	Faculty Requirements	3	2	2	0	4	
Level 1	Semester 1	BAS014	Engineering Chemistry	Compulsory	Faculty Requirements	3	2	1	1	4	
Level 1	Semester 1	BAS015	Engineering Drawing (1)	Compulsory	Faculty Requirements	3	2	3	0	5	
Level 1	Semester 1	CCE011	Computing in Engineering	Compulsory	Faculty Requirements	2	2	1	1	4	
Level 1	Semester 1	NUB	Complete hours from NUB Compulsory	Compulsory	University Requirements	1	1	0	0	1	
Level 1	Semester 2	BAS021	Mathematics (2)	Compulsory	Faculty Requirements	3	2	2	0	4	BAS011
Level 1	Semester 2	BAS022	Electricity and Magnetism	Compulsory	Faculty Requirements	3	2	1	2	5	BAS012
Level 1	Semester 2	BAS023	Dynamics	Compulsory	Faculty Requirements	3	2	2	0	4	BAS013
Level 1	Semester 2	BAS024	Fundamentals of Engineering	Compulsory	Faculty Requirements	2	2	0	0	2	
Level 1	Semester 2	BAS025	Engineering Drawing (2)	Compulsory	Faculty Requirements	1	0	0	3	3	BAS015
Level 1	Semester 2	MPE021	Production Engineering	Compulsory	Faculty Requirements	2	2	0	2	4	
Level 1	Semester 2	ENG111	English (1)	Compulsory	University Requirements	1	1	0	0	1	
Level 1	Semester 2	NUB	Complete hours from NUB Compulsory	Compulsory	University Requirements	3	3	0	0	3	
Level 2	Semester 3	BAS111	Mathematics (3)	Compulsory	Program Major Requirements	2	2	1	0	3	BAS021
Level 2	Semester 3	BAS112	Building Safety and Fire Protection	Compulsory	Faculty Requirements	2	2	0	0	2	
Level 2	Semester 3	BAS111	Mathematics (3)	Compulsory	Program Major Requirements	2	2	1	0	3	BAS021
Level 2	Semester 3	ARE116	Principle of Building Construction	Compulsory	Faculty Requirements	3	2	2	0	4	
Level 2	Semester 3	CVE111	Structural Analysis (1)	Compulsory	Program Major Requirements	3	2	2	0	4	
Level 2	Semester 3	CVE112	Engineering Surveying	Compulsory	Program Major Requirements	3	2	1	1	4	
Level 2	Semester 3	CVE113	Civil Drawing	Compulsory	Program Major Requirements	3	1	4	0	5	BAS025
Level 2	Semester 3		Structure and properties of materials	Elective	Faculty Requirements	2	2	0	1	3	
Level 2	Semester 4	BAS121	Mathematics (4)	Compulsory	Program Major Requirements	2	2	1	0	3	BAS111
Level 2	Semester 4	BAS122	Probability and Statistics	Compulsory	Faculty Requirements	2	2	1	0	3	
Level 2	Semester 4	ENG112	English (2)	Compulsory	University Requirements	1	1	0	0	1	ENG111
Level 2	Semester 4	CVE121	Structural Analysis (2)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE111

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Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credits Hours	Number of Weekly Contact Hours				Pre-requisites
							Lec	Tut	Lab	TT	
Level 2	Semester 4	CVE122	Properties of Materials	Compulsory	Program Major Requirements	3	2	2	1	5	
Level 2	Semester 4	CVE123	Geology	Compulsory	Program Major Requirements	2	2	1	0	3	
Level 2	Semester 4	CVE125	Fluid Mechanics	Compulsory	Program Major Requirements	3	2	2	1	5	
Level 2	Semester 4	CVE124	Environmental Engineering	Compulsory	Program Major Requirements	2	2	1	0	3	
Level 3	Semester 5		Project Management Elective	Elective	Faculty Requirements	2	2	1	0	3	
Level 3	Semester 5	NUB	Complete hours from NUB Compulsory	Compulsory	University Requirements	3	3	0	0	3	
Level 3	Semester 5	CVE211	Design of Concrete Structures (1)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE122, CVE121
Level 3	Semester 5	CVE212	Structural Analysis (3)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE121
Level 3	Semester 5	CVE213	Concrete Technology	Compulsory	Program Major Requirements	3	2	1	1	4	CVE221
Level 3	Semester 5	CVE215	Topographic and Photogrammetric Surveying	Compulsory	Program Major Requirements	2	2	1	0	3	CVE112
Level 3	Semester 5	CVE216	Soil Mechanics (1)	Compulsory	Program Major Requirements	2	2	1	1	4	CVE123
Level 3	Semester 5	CCE217	Field Training (1)	Compulsory	Program Major Requirements	0	0	0	0	0	
Level 3	Semester 6	CVE221	Design of Concrete Structures (2)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE211
Level 3	Semester 6	CVE222	Design of Steel Structures (1)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE121
Level 3	Semester 6	CVE223	Soil Mechanics (2)	Compulsory	Program Major Requirements	3	2	2	1	5	CVE216
Level 3	Semester 6	CVE224	Irrigation and drainage Engineering	Compulsory	Program Major Requirements	2	2	1	0	3	
Level 3	Semester 6	CVE225	Hydraulics	Compulsory	Program Major Requirements	3	2	2	1	5	CVE125
Level 3	Semester 6	ENG113	English (3)	Compulsory	University Requirements	2	2	0	0	2	ENG112
Level 3	Semester 6		Civil Elective (1)	Elective	Program Minor Requirements (	2	2	1	0	3	
Level 4	Semester 7	CCE311	Field Training (2)	Compulsory	Program Major Requirements	0	0	0	0	0	CCE217
Level 4	Semester 7	NUB	Complete hours from NUB Compulsory	Compulsory	University Requirements	3	3	0	0	3	
Level 4	Semester 7	CVE311	Transportation and Traffic Engineering	Compulsory	Program Major Requirements	2	2	1	0	3	
Level 4	Semester 7	CVE312	Design of Steel Structures (2)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE222
Level 4	Semester 7	CVE313	Water Supply Engineering	Compulsory	Program Major Requirements	2	2	1	1	4	CVE125
Level 4	Semester 7	CVE314	Design of Concrete Structures (3)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE221
Level 4	Semester 7	CVE315	Foundations Engineering (1)	Compulsory	Program Major Requirements	2	2	1	0	3	CVE211, CVE223
Level 4	Semester 7		Civil Elective (2)	Elective	Program Minor Requirements	2	2	1	0	3	
Level 4	Semester 8	CVE321	Design of Concrete Structures (4)	Compulsory	Program Major Requirements	3	2	2	0	4	CVE314
Level 4	Semester 8	CVE322	Design of Bridges	Compulsory	Program Major Requirements	3	2	2	0	4	CVE312, CVE221

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Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credits Hours	Number of Weekly Contact Hours				Pre-requisites
							Lec	Tut	Lab	TT	
Level 4	Semester 8	CVE323	Highway Engineering	Compulsory	Program Major Requirements	2	2	1	0	3	CVE311
Level 4	Semester 8	CVE324	Design of Irrigation Structures (1)	Compulsory	Program Major Requirements	2	2	1	0	3	CVE125, CVE223
Level 4	Semester 8		Civil Elective (3)	Elective	Program Minor Requirements	5	2	3	3	8	
Level 4	Semester 8	CVE325	Wastewater Engineering	Compulsory	Program Major Requirements	2	2	1	0	3	CVE313, CVE225
Level 5	Semester 9		Engineering Economy Elective	Elective	Faculty Requirements	2	2	1	0	3	
Level 5	Semester 9		Civil Elective (4)	Elective	Program Minor Requirements	2	2	1	0	3	
Level 5	Semester 9		Civil Elective (5)	Elective	Program Minor Requirements	4	1	6	0	7	
Level 5	Semester 9	CVE411	Foundations Engineering (2)	Compulsory	Program Major Requirements	2	2	1	0	3	CVE315
Level 5	Semester 9	CVE412	Repair & Strengthening of Structures	Compulsory	Program Major Requirements	2	2	0	1	3	CVE211, CVE213
Level 5	Semester 9	CVE413	Quantities and Specifications	Compulsory	Program Major Requirements	2	2	1	0	3	CVE221, CVE315
Level 5	Semester 9	CVE414	Management of Construction Projects	Compulsory	Program Major Requirements	2	2	1	0	3	
Level 5	Semester 9	CVE415	Construction Engineering	Compulsory	Program Major Requirements	2	2	1	0	3	CVE213, CVE221

1. Elective courses of civil engineering are distributed into five electives

Code	Course Title	Credits	Contact Hours				Prerequisites
		CH	Lec	T ut	lab	TT	
Elective 1							
CVE171	Railway Engineering	2	2	1	0	3	
CVE172	Maps, GIS & Remote Sensing	2	2	1	0	3	CVE112
CVE174	Hydrology	2	2	1	0	3	
CVE175	Solid wastes	2	2	1	0	3	CVE124
CVE176	Structural Dynamics and Seismic analysis	2	2	1	0	3	CVE212
CVE177	Design of Wall Bearing Structures	2	2	1	0	3	CVE211
Elective 2							
CVE271	Plumbing Engineering	2	2	1	0	3	CVE125
CVE272	Design of High Rise Buildings	2	2	1	0	3	CVE212, CVE221
CVE273	Quality Control in Construction Engineering	2	2	1	0	3	CVE211, CVE122
CVE274	Geometric Geodesy and Geodetic Astronomy	2	2	1	0	3	CV215
CVE275	Irrigation and Drainage Systems	2	2	1	0	3	CV224
CVE276	Prestressed Concrete	2	2	1	0	3	CVE221
CVE277	Advanced Materials	2	2	1	0	3	CVE213
Elective 3							
CVE371	Graduation Project (1) and Computer Applications - Structural Engineering	5	2	3	3	8	115 Hrs., CVE212, CVE221

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Code	Course Title	Credits	Contact Hours				Prerequisites
		CH	Lec	Tut	lab	TT	
CVE372	Graduation Project (1) and Computer Applications - Public Works	5	2	3	3	8	115 Hrs., CVE323
CVE373	Graduation Project (1) and Computer Applications - Water Resources	5	2	3	3	8	115 Hrs., CVE325
Elective 4							
CVE470	Design of Irrigation Structures (2)	2	2	1	0	3	CVE324
CVE471	Quality and chemistry of water	2	2	1	0	3	CVE325
CVE472	Harbor Engineering	2	2	1	0	3	CVE315
CVE473	Design of Special reinforced concrete structures	2	2	1	0	3	CVE314
CVE474	Transportation Engineering and Planning	2	2	1	0	3	CVE311
CVE475	Tunnels and underground structures	2	2	1	0	3	CVE315
CVE476	Water Resources Management	2	2	1	0	3	CVE224
CVE477	Hydraulic Machines	2	2	1	0	3	CVE225
CVE478	Airport Engineering	2	2	1	0	3	CVE323
CVE479	Construction of Water and Wastewater Infrastructure	2	2	1	0	3	CVE325
Elective 5							
CVE571	Graduation Project (2) – Structural Engineering	4	1	6	0	7	CVE371
CVE572	Graduation Project (2) – Public Works	4	1	6	0	7	CVE372
CVE573	Graduation Project (2) - water resources	4	1	6	0	7	CVE373

ii) Elective Courses of Civil Engineering is distributed in three Fields

a Structural Engineering requirements

Structural Engineering Requirements (15) credit hours from the following elective courses and it should include a graduation project (1) and (2)

Code	Course Title	Credits	Contact Hours				Prerequisites
		CH	Lec	Tut	lab	TT	
CVE371	Graduation Project (1) and Computer Applications - Structural Engineering	5	2	4	3	9	115 Hrs., CVE212, CVE221
CVE571	Graduation Project (2) – Structural Engineering	4	1	6	0	7	CVE371
CVE176	Structural Dynamics and Seismic analysis	2	2	1	0	3	CVE212
CVE177	Design of Wall Bearing Structures	2	2	1	0	3	CVE211
CVE272	Design of High Rise Buildings	2	2	1	0	3	CVE212, CVE221
CVE273	Quality Control in Construction Engineering	2	2	1	0	3	CVE211, CVE122
CVE473	Design of Special reinforced concrete structures	2	2	1	0	3	CVE314

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CVE277	Advanced Materials	2	2	1	0	3	CVE213
CVE475	Tunnels and underground structures	2	2	1	0	3	CVE315
CVE276	Prestressed Concrete	2	2	1	0	3	CVE221

b- Public Works engineering requirements

Public Works engineering requirements (15) credit hours from the following elective courses and must be including a graduation project (1) and (2)

Code	Course Title	Credits	Contact Hours				Prerequisites
		CH	Lec	Tu t	lab	TT	
CVE372	Graduation Project (1) and Computer Applications - Public Works	5	2	4	3	9	115 Hrs., CVE323
CVE572	Graduation Project (2) – Public Works	4	1	6	0	7	CVE372
CVE171	Railway Engineering	2	2	1	0	3	
CVE172	Maps, GIS & Remote Sensing	2	2	1	0	3	CVE112
CVE478	Airport Engineering	2	2	1	0	3	CVE323
CVE271	Plumbing Engineering	2	2	1	0	3	CVE125
CVE274	Geometric Geodesy and Geodetic Astronomy	2	2	1	0	3	CVE215
CVE474	Transportation Engineering and Planning	2	2	1	0	3	CVE311
CVE479	Construction of Water and Wastewater Infrastructure	2	2	1	0	3	CVE325
CVE471	Quality and chemistry of water	2	2	1	0	3	CVE325
CVE175	Solid wastes	2	2	1	0	3	CVE124

C-Water resources engineering requirements

Water resources engineering requirements (15) credit hours from the following elective courses and must include a graduation project (1) and (2)

Code	Course Title	Credits	Contact Hours				Prerequisites
		CH	Lec	Tu t	lab	TT	
CVE373	Graduation Project (1) and Computer Applications - Water Resources	5	2	4	3	9	115 Hrs., CVE325
CVE573	Graduation Project (2) - water resources	4	1	6	0	7	CVE373
CVE174	Hydrology	2	2	1	0	3	
CVE470	Design of Irrigation Structures (2)	2	2	1	0	3	CVE324
CVE472	Harbor Engineering	2	2	1	0	3	CVE315
CVE275	Irrigation and Drainage Systems	2	2	1	0	3	CVE224
CVE476	Water Resources Management	2	2	1	0	3	CVE224
CVE477	Hydraulic Machines	2	2	1	0	3	CVE225

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4. Academic Standards - (المعايير الأكاديمية المتبناة)

- Adopted Academic Standards (NARS/ARS):	Academic Reference Standards (NARS)
- Date of Adoption of Standards in the governing Council:	
- Adoption of National Academic Reference Standards (NARS 2018):	The Faculty Council, in its meeting No. (57) on 17/9/2019.
- Adoption of Academic Reference Standards (ARS):	N/A

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5. Matrix of Academic Standards (Program Outcomes POs) with Courses – (مصفوفة المعايير الأكاديمية (مخرجات البرنامج) مع المقررات)

5-1. Matri of Academic Standards with “**Compulsory**” Courses:

code	Course Title (Compulsory Course)	CHs	Academic Standards															
			A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	B1	B2	B3	B4		
HUM101	Human Rights	3					*		*	*								
REM101	Scientific Thinking	3		*		*	*		*	*								
MGT101	Principles of General Management	3					*		*	*	*							
ETS401	Professional Ethics	1				*			*	*								
ENG111A	English (1)	1							*	*		*						
ENG112A	English (2)	1							*	*		*						
ENG113A	English (3)	2							*	*		*						
CS-121	Aptech-Computer Skills (1)	0		*						*	*							
CS-122	Aptech-Computer Skills (2)	0		*						*	*							
CS-123	Aptech-Computer Skills (3)	0		*						*	*							
BAS011	Mathematics (1)	3	*	*														
BAS021	Mathematics (2)	3	*	*														
BAS112	Building Safety and Fire Protection	2				*	*		*									
BAS012	Vibration and Waves	3	*				*		*									
BAS022	Electricity and Magnetism	3	*				*		*									

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BAS122 -	Probability and Statistics	3	*	*														
BAS013	Statics	3	*	*														
BAS023	Dynamics	3	*	*														
BAS014	Engineering Chemistry	3	*	*														
MPE021	Production Engineering	2		*	*	*	*											
BAS015	Engineering Drawing (1)	2								*	*							
BAS025	Engineering Drawing (2)	3								*	*							
CCE011	Computing in Engineering	1	*									*						
BAS024	Fundamentals of Engineering	2	*							*	*							
BAS277	Engineering Economics and Finance		*	*	*													
CVE173	Structures and properties of building materials					*	*					*	*					
CVE376	Project Management Essentials					*		*		*	*	*				*	*	
BAS370	Project management					*		*		*	*	*				*	*	
BAS111	Mathematics (3)		*	*														
CVE111	Structural Analysis (1)		*	*								*	*					
CVE112	Engineering Surveying		*	*		*							*					
CVE113	Civil Drawing									*	*							
ARE116	Principle of Building Construction		*	*												*		
BAS121	Mathematics (4)		*	*														
CVE121	Structural Analysis (2)		*	*								*	*					

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CVE122	Properties of Materials			*		*	*		*			*	*			
CVE123	Geology				*	*						*	*			
CVE124	Environmental Engineering		*		*	*								*		
CVE211	Design of Concrete Structures (1)				*	*							*	*		
CVE213	Concrete Technology			*		*						*	*		*	
CVE125	Fluid Mechanics		*	*				*					*			
CVE215	Topographic and Photogrammetric Surveying		*					*	*				*			
CVE216	Soil Mechanics (1)			*		*	*		*				*			
CVE221	Design of Concrete Structures (2)				*	*							*	*		
CVE222	Design of Steel Structures (1)				*	*							*	*		
CVE223	Soil Mechanics (2)			*			*		*				*	*		
CVE224	Irrigation and draining Engineering		*		*								*	*		
CVE311	Transportation and Traffic Engineering			*	*								*	*		
CVE225	Hydraulics		*	*			*						*			
CVE315	Foundation Engineering (1)				*	*							*	*		
CVE323	Highway Engineering				*			*					*	*		
CVE324	Design of Irrigation Structures (1)		*	*		*							*	*		
CVE212	Structural Analysis (3)		*	*			*					*	*			
CVE214	Field Training (1)			*		*			*				*			
CVE312	Design of Steel Structures (2)				*	*							*	*		

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CVE313	Water Supply Engineering				*	*								*	*		
CVE314	Design of Concrete Structures (3)				*	*									*	*	
CVE321	Design of Concrete Structures (4)				*	*									*	*	
CVE415	Construction of Engineering		*			*									*	*	
CVE316	Field Training (2)				*	*		*				*					*
CVE325	Wastewater Engineering		*		*	*								*	*		
CVE414	Management of Construction Projects					*		*			*	*				*	*
CVE411	Foundation Engineering (2)				*	*								*	*		
CVE412	Repair & Strengthening of Structures				*	*	*	*						*		*	
CVE322	Design of Bridges				*	*									*	*	
CVE413	Quantities and Specifications					*			*	*	*				*	*	

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code	Course Title (Compulsory Course)	CHs																
			A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	B1	B2	B3	B4		
Elective 1																		
CVE171	Railway Engineering				*			*					*	*				
CVE172	Maps, GIS & Remote Sensing		*						*				*					
CVE174	Hydrology		*			*							*				*	
CVE175	Solid wastes					*		*						*				
CVE176	Structural Dynamics and Seismic analysis		*	*								*	*					
CVE177	Design of Wall Bearing Structures				*	*							*	*				
Elective 2																		
CVE271	Plumbing Engineering		*		*	*		*					*	*				
CVE272	Design of High Rise Buildings				*	*								*	*			
CVE273	Quality Control in Construction Engineering					*						*			*	*		
CVE274	Geometric Geodesy and Geodetic Astronomy			*		*							*					
CVE275	Irrigation and Drainage Systems		*		*								*	*				
CVE276	Prestressed Concrete				*	*								*				
CVE277	Advanced Materials				*	*	*					*	*		*			
Elective 3																		
CVE371	Graduation Project (1) and Computer Applications - Structural Engineering					*	*							*	*	*	*	*

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CVE372	Graduation Project (1) and Computer Applications - Public Works					*	*	*	*	*	*	*	*	*	*	*	*
CVE373	Graduation Project (1) and Computer Applications - Water Resources					*	*	*					*	*			
Elective 4																	
CVE470	Design of Irrigation Structures (2)				*							*	*		*	*	
CVE471	Quality and chemistry of water				*	*		*							*	*	
CVE472	Harbor Engineering				*		*								*	*	
CVE473	Design of Special reinforced concrete structures				*	*							*	*	*		
CVE474	Transportation Engineering and Planning			*	*									*	*		
CVE475	Tunnels and underground structures				*	*						*	*	*			
CVE476	Water Resources Management				*	*							*	*			
CVE477	Hydraulic Machines		*	*	*									*	*	*	
CVE478	Airport Engineering				*			*						*	*		*
CVE479	Construction of Water and Wastewater Infrastructure		*		*	*		*					*	*			
Elective 5																	
CVE571	Graduation Project (2) – Structural Engineering							*	*		*			*	*	*	*
CVE572	Graduation Project (2) – Public Works						*	*	*	*	*	*		*	*		
CVE573	Graduation Project (2) - water resources							*	*	*	*	*	*	*	*	*	*

6. Teaching and Learning strategies/methods to achieve Program Outcomes:

(استراتيجيات / طرق التعليم والتعلم لتحقيق مخرجات البرنامج (المعايير المتبناة))

I) Teaching and Learning strategies:

1- Teaching and learning strategies in traditional education:

1-1- Teaching strategies (where the faculty member is the focus)

1-1-1- Lectures

1-1-2- Field visit

1-2- Learning strategies (where the student is the focus)

1-2-1- Cooperative education

a) Education based on group projects

b) Education based on collective research

c) Brainstorming

1-2-2- Interactive education strategies

a) Self-study

b) Reporting and research

c) Problem solving

d) Individual projects

e) Education in experimental discovery

2- Distance teaching and learning strategies (e-learning)

3- Blended Learning strategies

3-1- Blended learning patterns

3-1-1- Rotation

a) Station Rotation

b) Lab Rotation

c) Self Rotation

d) Flipped Classroom

3-1-2- Flex Mode.

II) Teaching and Learning Methods

1-	Lectures
2-	Tutorials
3-	Cooperative education
4-	Self-study
5-	Reports and Researches
6-	Problem Solving
7-	Projects
8-	Laboratory
9-	Online Learning
10-	Hybrid Education
11-	Field Visits

Program Specification

7. Student Assessment strategies/methods to verify and ensure students' acquisition of Program Outcomes:

(استراتيجيات / طرق تقييم الطلاب للتحقق من اكتساب الطلاب لمخرجات البرنامج (المعايير المتبعة))

Assessment Methods

1-	Written Exams (Final Exam, Midterm Exam)
2-	Practical Exam
3-	Oral Exam
4-	Quizzes
5-	Assignments
6-	Research and Reports
7-	In-class discussions
8-	One to one discussion

8. Program Key Performance Indicators (if any) – (مؤشرات قياس أداء البرنامج (ان وجد))

No.	Performance Indicator	Target Level	Assessment Method	Measurement time
1-	Overall success rate of the students	$\geq 70 \%$	Analysis of students' results	At the end of academic year
2-	Student satisfaction level with the program	$\geq 80 \%$	questionnaire	At the end of academic year
3-	Level of job satisfaction among academic staff	$\geq 80 \%$	questionnaire	At the end of academic year
4-	Graduates' satisfaction with the program after graduation	$\geq 80 \%$	questionnaire	At the end of academic year
5-	Employers' satisfaction with program graduates	$\geq 70 \%$	questionnaire	At the end of academic year

Name & Signature
Program Coordinator

Assistant prof, Dr. Naglaa Glal
eldin Fahmy



Name and Signature
Head of the department council

Prof. Mostafa Deep Hashem



Name and Signature
Dean of the Faculty

Prof. Dr. Salem M. ElKhodary

