



**International Academy for Engineering and  
Media Science**

*Engineering Division*

**Civil Engineering Department**

**Program Specification**

**For**

**Civil Engineering Program**

**Bylaw 2012**

**Program  
Specification**

**International Academy for Engineering and Media Science  
Engineering Division**

**A- Basic Information**

- 1 **Program title** : Civil Engineering
- 2 **Program type** : Single
- 3 **Department** : Civil Engineering
- 4 **Program coordinator** : Dr. Sayed Abdel Ghaffar Abdelhamid.
- 5 **External Evaluators** : Asst. Prof. Dr. Hanan Hussien Eltobgy.
- 6 **Internal Evaluators** : Asst. Prof. Dr. Neveen Badawy Abdelmaged.
- 7 **Date of program Bylaw approval** : Ministerial decision No. 4701 dated 14/10/2012
- 8 **Date of program specification approval** : 08/2023

**B- Professional Information**

**1. Civil Engineering Program Mission**

In the Framework of the Media Engineering Division Mission of the International Academy of Engineering and Media Science, the civil engineering program commits to qualify distinguished graduates who are capable of innovation and development in the field of civil engineering to compete in the local and regional labor market according to the national academic reference standards to meet the goals of sustainable development under a strict adherence to the engineering ethics and code of conduct.

**2. Program Amis**

The civil engineering program aims to provide students with high – quality education and to prepare them for a successful professional career by appropriate theoretical knowledge, basic science, humanities, and technical skills, which allow the graduates to work efficiently in local and regional industries and to display basic competency in each of the technical areas identified as essential to civil engineers.

- **The civil engineering program aims to provide students with high quality education and to prepare them for a successful professional career by:**

- Obj1. Set solid foundations for mastering structural engineering principles through deep understanding of basic sciences and mathematics.
- Obj2. Deliver an up to date academic curriculum in accordance with international standards in the field of Civil Engineering (General) to enable graduates to participate in achieving local and regional sustainable development.
- Obj3. Prepare graduates to work on civil engineering projects using appropriate computer aided design programs.
- Obj4. Train students on scientific research in order to encourage graduates to pursue postgraduate studies and/or practice lifelong learning in the future.
- Obj5. Develop a number of skills in graduates such as innovation, problem solving and communication. This will equip graduates to become successful entrepreneurs.
- Obj6. Produce graduates who are aware and mindful of human values, professional ethics ,and social responsibility.

### **3. Graduate Attributes of Civil Engineering Program**

The Civil Engineering program commits to prepare graduates with specifications that meet the needs of the labor market in accordance with the national academic reference standards to meet the goals of sustainable development, so that the Civil engineering graduate must:

- GA1. Master a wide spectrum of engineering knowledge and specialized skills and can apply acquired knowledge using theories and abstract thinking in real life situations.
- GA2. Apply analytic critical and systemic thinking to identify, diagnose and solve engineering problems with a wide range of complexity and variation.
- GA3. Behave professionally and adhere to engineering ethics and standards.
- GA4. Work and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance.
- GA5. Recognize his/her role in promoting the engineering field and contribute in the development of the profession and the community.

- GA6. Value the importance of the environment, both physical and natural, and work to promote sustainability principles.
- GA7. Use techniques, skills and modern engineering tools necessary for engineering practice.
- GA8. Assume full responsibility for own learning and self-development, engage in lifelong learning and demonstrate the capacity to engage in post- graduate and research studies.
- GA9. Communicate effectively using different modes, tools and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner.
- GA10. Demonstrate leadership qualities, business administration and entrepreneurial skills.
- GA11. Practice with awareness of tools and skills necessary for participating effectively in building a strong national economy and to meet current and future modern industry.
- GA12. Employ searching and interpreting relevant subjects needed in various sites by highly qualified civil engineers and have a broad knowledge of civil engineering and related principles theories and applications.
- GA13. Review and investigate supplier documentation for compliance with civil systems and standard specifications.
- GA14. Employ sustainable and environmentally friendly resources and recognize the importance of the environment.

#### 4. Relationship of Graduate Attributes with Program Aims

The following matrix shows the relationship between the program aims and graduate attributes.

**Table 1: Relation between Program Aims and Graduate Attributes**

		Program Aims					
		Obj1	Obj2	Obj13	Obj4	Obj5	Obj6
Graduate Attributes	1	√			√		
	2	√		√	√		
	3		√	√			
	4				√	√	
	5			√	√		
	6		√	√			
	7	√				√	
	8	√				√	
	9			√	√		
	10					√	√
	11		√	√			
	12	√					√
	13		√				√
	14					√	√

#### 5. The Academic Reference for the Program

In the Framework of the National Academic Reference Standards for the Engineering Sector 2018 (NARS 2018), the program competencies are classified into two levels:

- Level A: This level reflects the general competencies that any graduate from the College of Engineering should have gained.
- Level B: This level reflects the general specialized competencies that any graduate in the field of Civil engineering should possess.

## 5.1 Competencies of Engineering Graduate (Level A)

The Engineering Graduate must be able to:

- A1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.
  - A2. Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.
  - A3. Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.
  - A4. Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.
  - A5. Practice research techniques and methods of investigation as an inherent part of learning.
  - A6. Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.
  - A7. Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.
  - A8. Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.
  - A9. Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.
  - A10. Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.
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## 5.2 Competencies of civil Engineering Graduate (Level B)

In addition to the Competencies for All Engineering Programs, the basic Civil Engineering graduate must be able to:

- B1.** Select appropriate and sustainable technologies for construction of buildings, infrastructures and water structures; using either numerical techniques or physical measurements and/or testing by applying a full range of civil engineering concepts and techniques of: Structural Analysis and Mechanics, Properties and Strength of Materials, Surveying, Soil Mechanics, Hydrology and Fluid Mechanics.
- B2.** Achieve an optimum design of Reinforced Concrete and Steel Structures, Foundations and Earth Retaining Structures; and at least three of the following civil engineering topics: Transportation and Traffic, Roadways and Airports, Railways, Sanitary Works, Irrigation, Water Resources and Harbors; or any other emerging field relevant to the discipline.
- B3.** Plan and manage construction processes; address construction defects, instability and quality issues; maintain safety measures in construction and materials; and assess environmental impacts of projects.
- B4.** Deal with biddings, contracts and financial issues including project insurance and guarantees.

## 6. Benchmarks and Academic Reference Standards

The external references for standards considered in the development of this program were the National Academic Reference Standards for Engineering (NARS 2018) and for Civil Engineering graduate.

## 7. The Academic Reference and Program Aims

The following table explains how the competencies of the current program achieve the program aims:

**Table (2): The Relation Between Program Aims and Academic Reference**

		Program Aims					
		Obj1	Obj2	Obj13	Obj4	Obj5	Obj6
Academic Reference	A1	√					
	A2	√					
	A3		√				
	A4		√				
	A5					√	
	A6						√
	A7			√			
	A8			√			
	A9	√		√			
	A10					√	
	B1				√		
	B2				√		
	B3						√
	B4						√



## 8. Learning Outcomes:

The program learning outcomes are divided into three domains cognitive, psychomotor and affective:

### 8.1 Cognitive Domain:

- A1.1** Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics.
- A2.1** Analyze and interpret data, assess and evaluate findings to draw conclusions
- A3.1** Formulate a design process to meet specified needs
- A4.1** Identify technologies, codes of practice, and standards related to the discipline
- A5.1** Investigate research techniques and methods of investigation.
- A6.1** Plan the implementation of engineering projects taking into consideration other trades requirements.
- A7.1** Identify his/her role as an individual and as a member of multi-disciplinary and multi-cultural teams.
- A8.1** Recognize methods of communications (verbally/written) with a range of audiences using contemporary tools.
- A9.1** Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations
- A10.1** Acquire new knowledge using and self-practice lifelong and other learning strategies.
- B1.1** Identify appropriate and sustainable technologies for construction by applying of civil engineering concepts and techniques of: Structural Analysis and Mechanics, Properties and Strength of Materials, Surveying, Soil Mechanics, Hydrology and Fluid Mechanics.
- B2.1** Design of Reinforced Concrete and Steel Structures, Foundations and Earth Retaining Structures for Transportation and Traffic, Roadways and Airports, Railways, Sanitary Works, Irrigation, Water Resources and Harbors; or any other emerging field relevant to the discipline.
- B3.1** Identify construction processes; address construction defects, instability and quality issues; maintain safety measures in construction and materials; and assess environmental impacts of projects.
- B4.1** Plan for biddings, contracts and financial issues including project insurance and guarantees.

## **8.2 Psychomotor Domain:**

- A1.2** Solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.
- A2.2** Develop and conduct appropriate experimentation and/or simulation and use statistical analyses and objective engineering judgment to draw conclusions.
- A3.2** Apply engineering design processes to produce cost-effective solutions that meet specified needs.
- A4.2** Utilize contemporary technologies, codes of practice and standards related to the discipline.
- A5.2** Practice research techniques and methods of investigation.
- A6.2** Supervise and monitor implementation of engineering projects taking into consideration other trades requirements.
- A7.2** Perform efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.
- A8.2** Communicate (verbally/written) with a range of audiences using contemporary tools.
- A9.2** Think in a creative and innovative way in problem solving and design.
- A10.2** Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.
- B 1.2** Recognize appropriate and sustainable technologies for construction by applying concepts of: Structural Analysis and Mechanics, Properties and Strength of Materials, Surveying, Soil Mechanics, Hydrology and Fluid Mechanics.
- B2.2** Practice design of Reinforced Concrete and Steel Structures, Foundations and Earth Retaining Structures for: Transportation and Traffic, Roadways and Airports, Railways, Sanitary Works, Irrigation, Water Resources and Harbors.
- B3.2** Perform and manage construction processes, defects, instability, quality, and safety in construction and materials; and assess environmental impacts of projects.
- B4.2** Apply biddings, contracts and financial issues including project insurance and guarantees.

### 8.3 Affective Domain:

- A1.3** Acknowledge the importance of engineering fundamentals, basic science and mathematics in solving complex engineering Problems.
- A2.3** Praise critical thinking to draw conclusions.
- A3.3** Consider social, environmental, ethical and other aspects while applying a design process to achieve solutions.
- A4.3** Follow quality guidelines, health and safety requirements, environmental issues and risk management principles.
- A5.3** Adopt researching techniques and methods of investigation as an inherent part of learning.
- A6.3** Encourage the staff and facilitate the required needs.
- A7.3** Express appreciation for the contributions of all team members.
- A8.3** Follow communications ethics guided by community morals and values.
- A9.3** Act effectively under difficult and new situation.
- A10.3** Adopt learning strategies as an effective lifelong learning strategy.
- B1.3** Adopt appropriate and sustainable technologies for construction using concepts of: Structural Analysis and Mechanics, Properties and Strength of Materials, Surveying, Soil Mechanics, Hydrology and Fluid Mechanics.
- B2.3** Profess design of Reinforced Concrete and Steel Structures, Foundations and Earth Retaining Structures for: Transportation and Traffic, Roadways and Airports, Railways, Sanitary Works, Irrigation, and Harbors.
- B3.3** Follow construction management processes, defects, instability, quality, and Safety measures in construction and materials; and assess environmental impacts of projects.
- B4.3** Act with biddings, contracts and financial issues including project insurance and guarantees.

## 9. Program Structure

**Program Duration:** 5 years.

**Program Hours:** 165 Hrs.

**Compulsory hours:** 128 Hrs.      **Elective hours:** 37 Hrs.

**Program Structure:**

**Table 3: Courses Classification According to NARS**

Course Contents According to NARS					
	A	B	C	D	E
<b>NARS %</b>	10-16 %	22-28 %	34-43 %	14-20 %	2-4 %
<b>Hours</b>	23	45	61	30	6
<b>Catalogue</b>	13.9 %	27.2 %	36.9 %	18.1 %	3.6 %
<b>Matching</b>	<i>Matched</i>	<i>Matched</i>	<i>Matched</i>	<i>Matched</i>	<i>Matched</i>
<p>A. Humanities and Social Science, University Requirements.            B. Mathematics and Basic sciences            C. Basic Engineering Sciences            D. Engineering and design applications            E. Project</p>					

**1- Humanities and social science, university requirements (23 hours): 13 Hrs. compulsory + 10 Hrs. Selective**

**A- Compulsory: 13 Hrs.**

Code	Course Title	Cr. Hrs	Lec.	Ex.	Lab
HUM 011	Arabic Language	2	2		
HUM 012	English Language 1	2	1	2	
HUM 013	English Language 2	2	1	2	
HUM 352	Human Rights	1	1		
HUM 081	Computer Skills		1		4
HUM 181	Communication & Presentation Skills	2	1	2	
HUM 182	Analysis & Research Skills	2	1	2	
HUM 381	Principles of Negotiation	2	2		

**B- General requirements (Elective A): Select 8 Hrs.**

Code	Course Title	Cr. Hrs	Lec.	Ex.	Lab
HUM x62	Music Appreciation	2	2		
HUM x71	Introduction to the History of Civilizations	2	2		
HUM x72	Trends in Contemporary Arts	2	2		
HUM x73	Recent Egypt's History	2	2		
HUM x74	Heritage of Egyptian Literature	2	2		
HUM x75	Arab & Islamic Civilization	2	2		
HUM x76	Literary Appreciation	2	2		

**C- General requirements (Elective B): Select 2 Hrs.**

Code	Course Title	Cr. Hrs	Lec.	Ex.	Lab
HUM 121	Introduction to Accounting	2	2		
HUM 221	Business Administration	2	2		

**2- Mathematics and basic sciences: (45 Hrs.) = (39 Hrs. compulsory + 6 Hrs. Selective)**

**A-Compulsory (39 Hrs.)**

Code	Course Title	Cr. Hrs.	Lec.	Ex.	Lab
--- 291	Field Training 1	1			6
--- 391	Field Training 2	1			6
BAS 011	Mathematics 1	3	2	2	
BAS 012	Mathematics 2	3	2	2	
BAS 212	Statistics & Probability Theory	3	2	2	
BAS 021	Physics 1	3	2	1	2
BAS 022	Physics 2	3	2	1	2
BAS 031	Mechanics	4	3	2	
BAS 041	Engineering Chemistry	3	2	1	2
CIW 331	Environmental Impact of Projects	1	1		
MED 011	Engineering Drawing & Projection	3	1	3	3
MED 021	History of Engineering & Technology	1	1		
MED 022	Principles of Manufacturing Engineering	2	2	1	1
IEN 314	Project Management	2	2	1	
IEN 131	Monitoring & Quality Control Systems	1	1		
IEN 351	Engineering Economics	2	2	1	
HUM 111	Technical Report Writing	2	1	2	
HUM 351	Professional Ethics	1	1		

**B- Institute requirements (Elective A): Select (6 Hrs.)**

Code	Course Title	Cr. Hrs.	Lec.	Ex.	Lab
CIS 111	Principles of Construction & Building Engineering	2	2	1	
ARC 111	Arts & Architecture	2	2	1	
ELP 111	Principles of Electrical Engineering	2	2	1	
ELE 121	Principles of Electronic Engineering	2	2	1	
MED 111	Principles of Design & Manufacturing Engineering	2	2	1	
MEP 111	Principles of Mechanical Power Engineering	2	2	1	

### 3- Basic engineering sciences (61 Hrs. compulsory)

Code	Course Title	Cr. Hrs	Lec.	Ex.	Lab
BAS 111	Mathematics 3	3	2	2	
BAS 211	Mathematics 4	3	2	2	
CIS 112	Structural Analysis 1	3	2	2	
CIS 113	Solid Mechanics	3	2	2	
CIS 211	Structural Analysis 2	3	2	2	
CIS 311	Structural Analysis 3	3	2	2	
CIS 221	Design of Concrete Structure 1	3	2	2	
CIS 321	Design of Concrete Structures 2	3	2	2	
CIS 231	Design of Steel Structures 1	3	2	2	
CIS 331	Design of Steel Structures 2	3	2	2	
CIS 141	Behaviour of Materials	3	2	1	2
CIS 241	Concrete Technology	3	2	1	1
CIS 151	Geology	3	2	1	
CIS 251	Soil Mechanics	3	2	1	1
CIS 351	Foundation Engineering 1	3	2	2	
CIS 361	Construction Management	3	2	2	
CIW 111	Civil Drawing	3	1	4	
CIW 112	Hydraulics	3	2	1	1
CIW 113	Hydrology	3	1	2	
CIW 121	Engineering Surveying	3	2	1	1
ARC 131	Building Construction 1	3	1	4	

### 4- Engineering and design applications (9 Hrs. compulsory + 21 Hrs. Selective)

#### A-Compulsory (9 Hrs.)

Code	Course Title	Cr. Hrs.	Lec.	Ex.	Lab
CIW 211	Irrigation Network Engineering	3	2	2	
CIW 231	Environmental Engineering	3	2	2	
CIW 341	Highway Engineering	3	2	2	

**B- Minor requirements (Elective A): Select (21 Hrs.)**

Code	Course Title	Cr. Hrs.	Lec.	Ex.	Lab
CIS 411	Structural Dynamics	3	2	2	
CIS 322	Design of Wall Bearing Structures	3	2	2	
CIS 421	Design of Concrete Structures 3	3	2	2	
CIS 431	Design of Bridges	3	2	2	
CIS 432	High Rise Buildings	3	2	2	
CIS 341	Repair & Strengthening of Structures	3	2	2	
CIS 451	Foundation Engineering 2	3	2	2	
CIS 461	Construction Engineering	3	2	2	
CIW 311	Design of Irrigation Structures	3	2	2	
CIW 321	Maps, GIS & Remote Sensing	3	2	1	1
CIW 332	Sanitary Engineering	3	2	2	
CIW 441	Transportation Engineering	3	2	2	
CIW 451	Harbor Engineering	3	2	2	

**5- Project (6 Hrs. Selective)**

Code	Course Title	Cr. Hrs	Lec.	Ex.	Lab
CIS 491	Project	6	1	10	
CIW 491	Project	6	1	10	



## 10. Program Courses

### Preparatory (1<sup>st</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
BAS 011	Mathematics (1)	2	2	-	4	60	-	90	150	3
BAS 031	Mechanics	3	2	-	5	60	-	90	150	3
BAS 021	Physics (1)	2	1	2	5	52.5	22.5	75	150	3
MED 011	Engineering Drawing and Projection	1	3	3	7	52.5	22.5	75	150	3
HUM 012	English Language 1	1	2	-	3	40	-	60	100	2
MED 021	History of Engineering & Technology	1	-	-	1	20	-	30	50	2
<b>Total</b>		<b>10</b>	<b>10</b>	<b>5</b>	<b>25</b>				<b>750</b>	

### Preparatory (2<sup>nd</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
BAS 012	Mathematics (2)	2	2	-	4	60	-	90	150	3
BAS 041	Engineering Chemistry	2	1	2	5	52.5	2	75	150	3
BAS 022	Physics (2)	2	1	2	5	52.5	22.5	75	150	3
HUM 081	Computer Skills	1	-	4	5	-	-	100	100	2
MED 022	Principles of Manufacturing Engineering	2	1	1	4	60	15	75	150	3
HUM 013	English Language (2)	1	2	-	3	40	-	60	100	2
HUM 011	Arabic Language	2	-	-	2	40	-	60	100	2
<b>Total</b>		<b>12</b>	<b>7</b>	<b>9</b>	<b>28</b>				<b>900</b>	

First Year (1<sup>st</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
-A1	Institute elective A	2	1	-	3	20	20	60	100	2
-A2	Institute elective A	2	1	-	3	20	20	60	100	2
CIS 112	Structural Analysis 1	2	2	-	4	30	30	90	150	3
CIS 113	Solid Mechanics	2	2	-	4	30	30	90	150	3
CIS 151	Geology	2	1	-	3	30	30	90	150	3
CIW 111	Civil Drawings	1	4	-	5	30	30	90	150	3
HUM B1	General elective B	2	-	-	2	10	10	30	50	2
<b>Total</b>		<b>13</b>	<b>11</b>	<b>-</b>	<b>24</b>				<b>850</b>	

First Year (2<sup>nd</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
-A3	Institute elective A	2	1	-	3	20	20	60	100	2
BAS 111	Mathematics (3)	2	2	-	4	30	30	90	150	3
CIS 141	Behavior of Materials	2	1	2	5	30	45	75	150	3
CIS 211	Structural Analysis 2	2	2	-	4	30	30	90	150	3
CIW 121	Engineering surveying	2	1	1	4	30	45	75	150	3
IEN 131	Monitoring and Quality Control systems	1	-	-	1	10	-	40	50	2
HUM A2	General elective A	2	-	-	2	10	10	30	50	2
<b>Total</b>		<b>13</b>	<b>7</b>	<b>3</b>	<b>23</b>				<b>800</b>	

Second Year (1<sup>st</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
BAS 211	Mathematics 4	2	2	-	4	40	-	60	100	3
BAS 212	Statics & Probability Theory	2	2	-	4	40	-	60	100	3
CIS 221	Design of Concrete Structure 1	2	2	-	4	40	-	60	100	3
CIS 241	Concrete Technology	2	1	-	3	40	10	50	100	3
CIW 112	Hydraulics	2	1	1	4	40	10	50	100	3
HUM -A3	General Elective A	2	-	1	3	10	-	40	50	2
<b>Total</b>		<b>12</b>	<b>8</b>	<b>2</b>	<b>22</b>				<b>550</b>	

Second Year (2<sup>nd</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
---291	Field Training 1	-	-	6	6	30	-	70	100	3
CIS 231	Design of Steel Structures 1	2	2	-	4	40	-	60	100	3
CIS 251	Soil Mechanics	2	1	1	4	40	10	50	100	3
CIS 311	Structural Analysis 3	2	2	-	4	40	-	60	100	3
CIS 113	Hydrology	1	2	-	3	30	-	70	100	3
ARC 131	Building Construction 1	1	4	-	5	10	-	40	50	2
HUM -A4	General Elective A	2	-	-	2	10	-	40	50	2
<b>Total</b>		<b>10</b>	<b>11</b>	<b>7</b>	<b>28</b>				<b>600</b>	

Third Year (1<sup>st</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
CIS 321	Design of concrete structure 2	2	2	-	4	60	-	90	150	3
CIS-A1	General civil elective A	2	2	-	4	60	-	90	150	3
CIW 211	Irrigation network engineering	2	2	-	4	60	-	90	150	3
CIW 231	Environmental engineering	2	2	-	4	60	-	90	150	3
CIW 331	Environmental Impact of Projects	1				20				
IEN 351	Engineering economics	2	1	-	3	40	-	60	100	2
HUM 351	Professional Ethics	1	-	-	1	20	-	30	50	2
<b>Total</b>		<b>12</b>	<b>9</b>	<b>-</b>	<b>21</b>				<b>850</b>	

Third Year (2<sup>nd</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
-- 391	Filed Training2	-	-	6	6	-	25	25	50	-
CIS 331	Design of Steel structures 2	2	2	-	4	20	20	60	100	3
CIS 351	Foundation Engineering 1	2	2	-	4	20	20	60	100	3
CIS A2	General Civil Elective A	2	2	-	4	10	-	40	50	2
CIW 341	Highway Engineering	2	2	-	4	20	20	60	100	3
HUM 181	Communication & presentation skills	1	2	-	3	10	-	40	50	2
HUM 152	Human Right	1	-	-	1	10	-	40	50	2
<b>Total</b>		<b>10</b>	<b>10</b>	<b>6</b>	<b>26</b>				<b>500</b>	

Fourth Year (1<sup>st</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
CIS 361	Construction Management	2	2	-	4	60	-	90	150	3
CIS A3	General Civil Elective A	2	2	-	4	60	-	90	150	3
CIS A4	General Civil Elective A	2	2	-	4	60	-	90	150	3
CIS A5	General Civil Elective A	2	2	-	4	60	-	90	150	3
IEN 314	Project Management	2	1	-	3	40	-	60	100	2
HUM 182	Analysis & Research Skills	1	2	-	3	40	-	60	100	2
<b>Total</b>		<b>11</b>	<b>11</b>	<b>0</b>	<b>22</b>				<b>800</b>	

Fourth Year (2<sup>nd</sup> Semester)

Course Code	Course Title	Weekly Hours				Grading (Marks)				Final Exam Time
		Lecture	Tutorial	Practical Application (Lab)	Total	Class Work	Oral or Practical Test	Final Exam	Total	
CIS 491	Project	1	10	-	11	150	-	150	300	-
CIS A6	General Civil Elective A	2	2	-	4	60	-	90	150	3
CIS A7	General Civil Elective A	2	2	-	4	60	-	90	150	3
HUM 111	Technical Report Writing	1	2	-	3	40	-	60	100	2
HUM 381	Principles of Negotiation	2	-	-	2	40	-	60	100	2
<b>Total</b>		<b>8</b>	<b>16</b>	<b>-</b>	<b>24</b>				<b>800</b>	<b>10</b>

## 11. Program Admission Requirements:

Having Egyptian Secondary education or equivalent certificate with major in Mathematics, then after passing the preparatory year and fulfilling the admission requirements the students will be able to attend the department.

## 12. Regulations for progression and program completion:

- The student will be in the first level when he joined the academy. Then, he moves to the second level after the completion of the study of 36 credit hours. In this level, the student must choose the department that he wants to join. After that, he moves to the third level after the completion of the study of 72 credit hours, and moving to the fourth level at the completion of the study of 108 credit hours. Finally, the student moves to the fifth level.
- Courses registration policy is based on the average GPA of the student as follows: The maximum number of hours of teaching (36) credit hours spread over two semesters, and according to the following rules: -
  1. Registration of 18 credit hours for students with an average GPA of 2 or more
  2. Registration of 15 credit hours for students with an average GPA of less than 2 and even 1.5
  3. Registration of 12 credit hours for students with an average GPA of less than 1.5 to 1
  4. Registration of 9 credit hours for students with an average GPA of less than 1
  5. Registration priority will be given in the decisions of the repetition and the decisions of the lower level.

- **The Grades of Success:**

**Table (4): The Grades of Success**

Symbol	Points	Percentage
A	4.0	more than 95%
A-	3.7	More than 90% and less than 95%
B+	3.3	More than 85% and less than 90%
B	3.0	More than 80% and less than 85%
B-	2.7	More than 75% and less than 80%
C+	2.3	More than 70% and less than 75%
C	2.0	More than 65% and less than 70%
C-	1.7	More than 60% and less than 65%
D+	1.3	More than 55% and less than 60%
D	1.0	More than 50% and less than 55%
F	0.0	Less than 50%

### 13. Assessment Methods:

Table (5) illustrates how the program assessment methods achieve the program competencies.

**Table (5): The Relation Between Program Competencies and Assessment Methods**

		Assessment Methods							
		Written Exam	Oral Exam	Quizzes	Lab Exam	Research Assignments	Reporting Assignments	Project Assignment	In-Class Questions
Program Competencies	A1	*		*		*	*		*
	A2		*		*	*	*		*
	A3	*		*			*	*	
	A4	*		*			*		
	A5					*			*
	A6				*	*	*	*	*
	A7					*	*	*	
	A8		*			*	*	*	
	A9		*			*	*		
	A10						*	*	*
	B1	*	*	*		*	*		
	B2	*		*	*	*	*		
	B3	*	*	*		*	*		
	B4	*		*	*	*	*		

#### 14. Teaching and Learning Methods:

Table (6) clarify the relation between program teaching & learning methods and the program competencies

**Table (6): The Relation Between Program Competencies and Teaching & Learning Methods**

		Teaching and Learning Methods									
		Face-to-face Lecture	Online Education	Tutorial / Exercise	Group Discussions	Laboratory	Site Visit	Presentation	Mini Project	Research and	Brain Storming
Program Competencies	A1	*	*	*							
	A2				*	*			*	*	
	A3	*	*	*							*
	A4	*	*	*			*				
	A5									*	*
	A6				*	*	*		*		
	A7							*		*	*
	A8				*			*			
	A9				*			*		*	
	A10				*					*	*
	B1	*	*	*						*	*
	B2	*	*	*					*		
	B3	*	*	*		*		*			
	B4	*	*	*					*		



### 15. Evaluation of program learning outcomes

Evaluator	Tool	Sample
1- Senior students	Meeting+ questioner	20%
2- Alumni	questioner	20%
3- Stakeholders (Employers)	Site visits	NA
4-External Evaluator, and/or, External Examiner(s)	External members	NA
5- Others		NA

Program Coordinator: Dr. Sayed A Abdelhamid

Signature:

Date: 08/2023



Division Dean: Prof. Dr. Said M. El Halafawy

Signature: Said Elhalafawy

Date: 08/2023