1. General

1.1. Basic Information

1-	Institute:	Higher Institute of Engineering and Technology, Fifth Settlement
2-	Program Title:	Architectural Engineering
3-	Program type:	Single
4-	Department responsibility:	Architectural Engineering
5-	Head of Department:	Assoc. prof. Reham Othman
6-	Program Coordinator:	Assoc. prof. Reham Othman
7-	Quality coordinator:	Dr. Hend Ali
8-	The institute's study system	Credit hours
9-	Duration of study :	10 semesters
10-	Academic degree awarded:	Bachelor of Engineering
11-	External evaluator:	
12-	Internal evaluator:	Dr. Yasmin Talaat – Dr. Hadeel Mahmoud
13-	Date of program Operation	25/5/2005
14- Date of approval from 15- the higher ministry of education		22/8/2010
16- Date of the most recent approval of the Department council for program specification modifications as NARs 2018		20/9/2020
17- Date of most recent approval of program specification by the Department council		Department council's board meeting in 2/09/2023

Marked:

The approval of the program Specification from the department council in Appendix 1

1.2. Staff Members

The Architectural Engineering Program is taught by highly qualified faculty members, in addition to full time employed staff members teaching the basic science courses. All the staff members are qualified to teach the courses allocated to them. The staff members are assisted by full time teaching assistants in addition to technicians.

1.3. Program Reviewing

1.3.1 Internal Reviewer(s)

The program was evaluated internally by the quality office. The evaluation report showed that the program specification agrees with the Adopted Academic Reference Standards.

1.3.2 External Reviewer(s)

• Prof. Dr. ………. : Faculty of Engineering - ……….. University.

2. Professional Information

2.1. Preamble

The department aims to prepare and qualify the students to be able to practice the architecture profession effectively in both the Egyptian and international architect's job markets. Students shall be provided by needed knowledge and skills to solve architectural and urban problems that continuously exist due to the changing nature of societal behavior and pattern .They also should be qualified to deal with the existing problems, available environmental resources and contemporary technologies. That will be achieved through sixty -nine (69) courses theoretical and practical courses. The students shall effectively interact within the total one hundred and eighty (180) hours of the courses through the teaching and learning processes. The Department also engages students in participating in various specialized research fields needed to benefit the societal evolution and sustainable development. Students ' personal abilities are also considered to be a target by developing their personalities and abilities. This can be achieved through qualifying them to work under pressure, co-operate within a team work, ability for continuous search and self -learning. This will enable to attain desired success metrics in-order to deal with any challenges concerning job market or obstacles that may obstruct effective community contributions. Accordingly, the department provides the appropriate environment forthe student through the institutional capacity, effective resources and the availability of basic database of references represented in the institute's library , professors 'lectures and the existence of an easily accessible information network

2.2. Program Mission, Vision, Aims and Job opportunities

2.2.1 Inistitute Mission
The mission is to prepare distinguished engineering cadres capable of keeping pace with global technological development and able to compete, work collectively, and innovate to meet the needs of the local and regional market through the provision of outstanding educational programs. This is done by adopting the latest methods of education, learning, and knowledge exchange in accordance with national academic standards, regulations, and professional ethics, contributing to the development of the cognitive abilities of individuals in the community.

2.2.2 Program Vision
The program's vision is leadership and academic excellence at the local and regional levels through the provision of an educational academic programme that achieves integration between technology, culture, and the labour market and combines the arts, social sciences, and engineering sciences to provide high-quality community services to keep up with the modern challenges facing building communities.

2.2.3 Program Mission
The Architectural Engineering program looking for preparind an architect who can able to understand and solve society's contemporary architectural and urban design problems in light of economic, political, social, and environmental changes, and meet society's needs by graduating qualified cadres of engineers able to compete in the local, regional and international labor market by using the most advanced information technology systems and scientific research methods for the requirements of the twenty-first century.

2.2.4. Conformity of the program mission to the institute mission

Key Words of Program Mission	prepare distinguished engineering cadres	capable of keeping pace with global technological development and able to compete and work collectively	innovate to meet the needs of the local and regional market	provision of outstanding educational programs	adopting the latest methods of education and learning	knowledge exchange in accordance with national academic standards, regulations, and professional ethics	development of the cognitive abilities of individuals in the community
prepare an architect able to understand	√					√	
solve society's contemporary architectural and urban design problems		√					
economic, political, social, and environmental changes		√	√				
meet society's needs					√		√
graduating qualified cadres of engineers	√		√				
using the most advanced information technology systems and scientific research methods for the requirements of the twenty-first century				√	√		

2.2.5 Program Aims

The Architectural program prepares its graduates to become intellectual leaders in the industry. Graduates are grounded in design, construcional, and technical knowledge and relevant technologies that give them the ability to analyze, synthesize, and design engineering systems. The program aims are:

AM1. Work efficiently by using data analysis, objective engineering judgment, and simulation to produce innovative design engineering solutions in many practices field of design and executive architecture engineering and urban planning at the local, regional, and international levels and able to plan, and able to plan, supervise and follow up the implementation of engineering projects.

AM2. Use the creative thinking, describing and solving design problems and requirements using scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects as an entry point for achieving sustainable development and applying it to architectural and planning projects.

AM3. Apply with the modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage whether through direct education or e-learning, to design and implement more inclusive architectural and urban projects while exploiting modern technologies through proper planning and participatory work.

AM4. Strengthens the links between the participating sectors in the construction and development operation of urban communities and between the graduates of the program in the fields of practical training, entrepreneurship, and project management and rehabilitating graduates to work within a multidisciplinary team and compete for a

position of leadership in their career, and enable them to possess knowledge of regulations and laws and commitment to ethics and professional practice.

AM5. Support the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs, and their ability to prepare project documents, submit bids and purchase architectural services to produce projects.

AM6. Enable the graduates to continue their education and self-learning and qualifying for additional scientific degrees.

AM7. Practice to face the professional challenges of the future resulting from the fast technological development in all life aspects.

2.2.5.1 Sub-Aims of the Architectural Program

Main Aims		Sub-Aims
AM1. Work efficiently by using data analysis, objective engineering judgment, and simulation to produce innovative design engineering solutions in many practices field of design and executive architecture engineering and urban planning at the local, regional, and international levels and able to plan supervise and follow up the implementation of engineering projects	AM1.1	Use data analysis, objective engineering udgment, and simulation
	AM1.2	Produce innovative design engineering solutions in many practices field of design and executive architecture engineering and urban planning at the local, regional, and international levels
	AM1.3	Able to plan supervise and follow up the implementation of engineering projects
AM2. Use the creative thinking, describing and solving design problems and requirements using scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects as an entry point for achieving sustainable development and applying it to architectural and planning projects.	AM2.1	Train the students for innovative and creative thinking, describing and solving design problems and requirements
	AM2.2	Use scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects
	AM2.3	Apply sustainable development to architectural and planning projects.
AM3. Apply with modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage whether through direct education or e-learning, to design and implement more inclusive architectural and urban projects while exploiting modern technologies through proper planning and participatory work.	AM3.1	Provide the students with modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage
	AM3.2	Design and implement more inclusive architectural and urban projects while exploiting modern technologies through proper planning and participatory work
AM4. Strengthens the links between the participating sectors in the construction and development operation of urban communities and between the graduates of the program in the fields of practical training, entrepreneurship, and project management and rehabilitating graduates to work within a multidisciplinary team and compete for a position of leadership in their career, and enable them to possess knowledge of regulations and laws and commitment to ethics and professional practice.	AM4.1	link between the participating sectors in the construction and development operation of urban communities and between the graduates of the program in the fields of practical training, entrepreneurship, and project management
	AM4.2	Enable students to work within a multidisciplinary team and compete for a position of leadership in their career
	AM4.3	Enable students to possess knowledge of regulations and laws and commitment to ethics and professional practice.
AM5. Support the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs, and their ability to prepare project documents, submit bids and purchase architectural services to produce projects.	AM5.1	Provide the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs
	AM5.2	Prepare project documents, submit bids and purchase architectural services to produce projects.
AM6. Enable the graduates to continue their education	AM6.1	Enable the graduates to continue their education and

and self-learning and qualifying for additional scientific degrees.		self-learning and qualifying for additional scientific degrees.
AM7. Practice to face the professional challenges of the future resulting from the fast-technological development in all life aspects.	AM7.1	Able to face the professional challenges of the future resulting from the fast-technological development in all life aspects.

2.2.5.2 Conformity of the program aims to its mission.

Key Words of Program Mission / Program Aims	prepare an architect able to understand	solve society's contemporary architectural and urban design problems	economic, political, social, and environmental changes	meet society's needs	graduating qualified cadres of engineers	using the most advanced information technology systems and scientific research methods for the requirements of the twenty-first century
AM1			√		√	
AM2		√		√		
AM3						√
AM4	√					
AM5		√				
AM6	√				√	
AM7						√

2.2.7 Job opportunities

1. Consultancy bureau (architecture, planning, urban design).
2. Research centers (construction - architecture - planning - housing and population studies – environmental studies - construction building technology).
3. Construction companies (architectural and implementation).
4. Economic and feasibility studies of projects
5. Quality and modernization entities
6. Planning, management and follow-up
7. Improvement programs
8. Interior design
9. Landscape design
10. Real estate investment field

3. Learning Outcomes (Lo's) of the graduate: The peograme Course fulfill the NARS (2018)

3.1. The attributes of Architectural engineer

According to the National Academic Reference Standard (NARS 2018), the graduates of the Architectural program must satisfy the following attributes:

1. Master a wide spectrum of knowledge in architectural field and specialized skills and can apply acquired knowledge using theories and abstract thinking in real-life situations.
2. Apply analytic critical and systemic thinking to identify, diagnose and solve architectural problems with a wide range of complexity and variation.
3. Behave professionally and adhere to architectural engineering ethics and standards.
4. Work in and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance.

5. Recognize his/her role in promoting the engineering field and contribute in the development of the profession and the community.
6. Value the importance of the architectural environment, both physical and natural, and work to promote sustainability principles.
7. Use the architectural techniques, skills, and modern engineering tools necessary for engineering practice.
8. 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.
9. Communicate effectively using different modes, tools, and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner.
10. Demonstrate leadership qualities, business administration and entrepreneurial skills.

3.1.1 Conformity of the program attributes with program mission

Key Words of Program Mission \ Attributes	prepare an architect able to understand	solve society's contemporary architectural and urban design problems	economic, political, social, and environmental changes	meet society's needs	graduating qualified cadres of engineers	using the most advanced information technology systems and scientific research methods for the requirements of the twenty-first century
1	√					
2		√				
3					√	
4					√	
5				√		
6			√			
7						√
8	√				√	
9			√			
10					√	

3.1.2 Conformity of the program attributes with program aims

Program Aims	Program Attributes									
	1	2	3	4	5	6	7	8	9	10
AM1	√									√
AM2	√	√				√			√	
AM3			√				√			
AM4				√	√					
AM5						√				
AM6			√					√		
AM7							√			

The attributes of Architectural engineering	Program Aims
1. **Master a wide spectrum of knowledge in architectural field and specialized skills and can apply acquired knowledge using theories and abstract thinking in real-life situations.** 10. **Demonstrate leadership qualities, business administration and entrepreneurial skills**	AM1. Work efficiently by using data analysis, objective engineering judgment, and simulation to produce innovative design engineering solutions in many practices field of design and executive architecture engineering and urban planning at the local, regional, and international levels and able to plan, and able to plan, supervise and follow up the implementation of engineering projects.
1. **Master a wide spectrum of knowledge in architectural field and specialized skills and can apply acquired knowledge using theories and abstract thinking in real-life situations..** 2. **Apply analytic critical and systemic thinking to identify, diagnose and solve architectural problems with a wide range of complexity and variation.** A. **Value the importance of the architectural environment, both physical and natural, and work to promote sustainability principles.** 9. **Communicate effectively using different modes, tools, and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner.**	AM2. Use the creative thinking, describing and solving design problems and requirements using scientific methods that ensure meeting the needs of present and future generations in terms of social, cultural, environmental, and economic aspects as an entry point for achieving sustainable development and applying it to architectural and planning projects.
4. **Work in and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance.** B. **Use techniques, skills, and modern engineering tools necessary for engineering practice.**	AM3. Apply with the modern academic and technical skills, cultural knowledge of history, fine arts, and local and international heritage whether through direct education or e-learning, to design and implement more inclusive architectural and urban projects while exploiting modern technologies through proper planning and participatory work.
4. **Work in and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance.** 5. **Recognize his/her role in promoting the engineering field and contribute in the development of the profession and the community.**	AM4. Strengthens the links between the participating sectors in the construction and development operation of urban communities and between the graduates of the program in the fields of practical training, entrepreneurship, and project management and rehabilitating graduates to work within a multidisciplinary team and compete for a position of leadership in their career, and enable them to possess knowledge of regulations and laws and commitment to ethics and professional practice.
6. **Value the importance of the architectural environment, both physical and natural, and work to promote sustainability principles.**	AM5. Support the students with the capacity to prepare flexible and ecologically responsible designs by understanding modern structural and technological designs, and their ability to prepare project documents, submit bids and purchase architectural services to produce projects.
3. **Behave professionally and adhere to engineering ethics and standards.** 8. **Assume full responsibility for own learning and self-development, engage in lifelong learning and demonstrate the capacity to engage in post-**	AM6. Enable the graduates to continue their education and self-learning and qualifying for additional scientific degrees.

graduate and research studies.	
7. Use techniques, skills, and modern engineering tools necessary for engineering practice.	AM7. Practice to face the professional challenges of the future resulting from the fast technological development in all life aspects.

To judge the compatibility of program aims with courses aims, see the matrix in Appendix 2

3.2. Learning Outcomes (LO's)

3.2.1 Competencies of engineering graduate (Level A)

The Engineering Graduate must be able to:

A- General Engineering NARS Competencies in 2018		
Level A (NARS)	**A.1**	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.
	A.2	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.
	A.3	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.
	A.4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.
	A.5	Practice research techniques and methods of investigation as an inherent part of learning.
	A.6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.
	A.7	Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams.
	A.8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.
	A.9	Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.
	A.10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.

3.2.2 Competencies of basic Architectural engineering (Level B)

The Achitectural engineering graduate must be able to:

B- Architectural NARS Competencies in 2018		
Level B (NARS)	B.1	Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences.
	B.2	Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs
	B.3	Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs.
	B.4	Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations,

	B.5	regulations and procedures.
	B.5	Prepare design project briefs and documents and understand the architect's context in the construction industry including,This includes his role in the bidding and procurement of architectural services and the production of buildings

Competencies	Program learning outcomes
A.1 **Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.**	**PLO1** Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.
A.2 **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.**	**PLO2** 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.
A.3 **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.**	**PLO3** 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.
A.4 **Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.**	**PLO4** Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.
A.5 **Practice research techniques and methods of investigation as an inherent part of learning.**	**PLO5** Practice research techniques and methods of investigation as an inherent part of learning.
A.6 **Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.**	**PLO6** Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.
A.7 **Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams.**	**PLO7** Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams.
A.8 **Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.**	**PLO8** Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.
A.9 **Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.**	**PLO9** Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.
A.10 **Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.**	**PLO10** Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.
B1**. Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of**	**PLO11** Create architectural, urban and planning designs that meet aesthetic and technical requirements

history, related fine arts, culture, local heritage, technologies and human sciences.	using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences.
B2**. Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs**	**PLO12** Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs
B3 **Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs**	**PLO13** Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs
B4 **Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures.**	**PLO14** Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures.
B5 **Prepare design project briefs and documents and understand the architect's context in the construction industry including,This includes his role in the bidding and procurement of architectural services and the production of buildings**	**PLO15** Prepare design project briefs and documents and understand the architect's context in the construction industry including,This includes his role in the bidding and procurement of architectural services and the production of buildings

Marked:

The approvale of the program Learning Outcomes (PLO's) from the department council and the academic council in Appendix 3

3.2.2.1 Conformity of the program Competencies and Program Learning Out comes

Program Learning Outcomes	Program Competencies														
	A1	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**A9**	**A10**	**B1**	**B2**	**B3**	**B4**	**B5**
PLO1	√														
PLO2		√													
PLO3			√												
PLO4				√											
PLO5					√										
PLO6						√									
PLO7							√								
PLO8								√							
PLO9									√						
PLO10										√					
PLO11											√				
PLO12												√			
PLO13													√		
PLO14														√	

PLO15														√

3.2.2.2 Conformity of the program attributes and program competencies

Program Attributes	Program Competencies														
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
1	√	√			√		√	√	√	√	√				√
2	√	√			√		√	√	√	√	√				√
3			√			√	√	√			√	√	√	√	√
4						√	√	√	√	√		√	√	√	√
5	√	√	√	√	√	√		√	√	√		√	√	√	√
6			√	√			√					√	√	√	
7					√			√	√	√		√	√	√	√
8		√			√	√	√		√	√	√	√	√	√	√
9		√		√	√	√	√	√	√			√	√	√	
10									√					√	

3.2.2.3 Sub- Competencies of the Architectural Program

	Competencies		Course learning outcomes
A- General Engineering NARS Competencies in 2018	**Plo.1** Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	**CLO 1**	Identify and formulate complex engineering problems by applying engineering fundamentals, basic science, and mathematics.
		CLO 2	Solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.by applying engineering fundamentals, basic science, and mathematics.
	Plo.2 Develop and conduct appropriate experimentation and/or simulation, analyse and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	**CLO 3**	Develop and conduct appropriate experimentation and/or simulation to draw conclusions.
		CLO 4	analyze and interpret data, assess by using statistical analyses to draw conclusions.
		CLO5	evaluate findings and use statistical analyses and objective engineering judgment.
	Plo.3 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.	**CLO 6**	Apply engineering design processes to produce cost-effective solutions.
		CLO7	Meet specified needs with consideration for global, cultural, social, economic, environmental, and ethical aspects.
		CLO8	Achieve the principles of design within the principles and contexts of sustainable design and development.
	Plo.4 Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.	**CLO9**	Utilize contemporary technologies, codes of practice and standards.
		CLO10	Utilize the quality guidelines, health and safety requirements, and environmental issues.
		CLO11	Utilize risk management principles.
	Plo.5 Practice research techniques and methods of investigation as an inherent part of learning.	**CLO12**	Practice research techniques and methods of investigation as an inherent part of learning.
	A.6 Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	**CLO13**	Plan engineering projects
		CLO14	Supervise and monitor implementation of engineering projects.
	Plo.7 Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams.	**CLO15**	Function efficiently as an individual and as a member of multi-disciplinary and multi- cultural teams.
	Plo.8 Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	**CLO16**	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.
	Plo.9 Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	**CLO17**	Use creative, innovative, and flexible thinking to respond to new situations.
		CLO18	Acquire entrepreneurial and leadership skills to anticipate new situations.

	Plo.10 Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	**CLO19**	Acquire and apply new knowledge.
		CLO20	Practice self, lifelong and other learning strategies.
B- Architectural NARS Competencies in 2018	**Plo. 11** Create architectural, urban and planning designs that meet aesthetic and technical requirements using Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences.	**CLO21**	Create architectural, urban and planning designs that meet aesthetic and technical requirements
		CLO22	use Adequate knowledge of history, related fine arts, culture, local heritage, technologies and human sciences
	Plo. 12 Produce designs that meet the requirements of building users by understanding the relationship between people and buildings, and between the buildings and their surrounding environment, with the necessity of linking the buildings and the spaces between them to the scale of humanity and its needs	**CLO23**	Produce designs that meet the requirements of building users
		CLO24	Deal with the relation between people, buildings, and their surrounding environment
		CLO25	Produce designs with the scale of humanity and its needs
	Plo. 13 Preparing environmentally responsible designs to preserve and rehabilitate the environment through an understanding of the structural design, construction, technology used and associated engineering problems Building designs	**CLO26**	Prepare environmentally responsible designs to preserve and rehabilitate the environment
		CLO27	choose the structural design, construction, technology used
	Plo. 14 Transforming design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing Project - Project management - Cost control - Project delivery methods, having sufficient knowledge relevant industries, organizations, regulations and procedures.	**CLO28**	Transform design concepts into buildings and integrating plans into comprehensive planning within restrictions: Financing issues and Project management
		CLO29	Transform design concepts into buildings and integrating plans within restrictions with regulations
	Plo. 15 Prepare design project briefs and documents and understand the architect's context in the construction industry including, this includes his role in the bidding and procurement of architectural services and the production of buildings	**CLO30**	Prepare design project briefs and documents
		CLO31	Manage the architect's context in the construction industry including his role in the bidding and procurement of architectural services

To judge the compatibility of program competencies with courses in Appendix 4

4. Curriculum Structure and Content

4.1 Program Refrences

The Architectural program adopted exactly as National Academic Reference Standards (**NARS**) of engineering program (August 2018) which were issued by the National Authority for Quality Assurance & Accreditation of Education NAQAAE.

4.2 The Program duration

The duration of studing for bachelor's degree is ten semesters. Courses are taught in English. The study is conducted on the basis of two semester, each semester duration is fifteen (15) weeks in addition to the final exams period in addition to The Summer Semester begins on the first Saturday of July for a period of 8 week, which is issued by the board of directors of the institute for some courses and for some students as needed, with the help of the scientific advisor and the approval of the dean of the institute or his representative.

4.3 Program Structure and Contents

The program includes 69 courses of total 303 contact hours, in form of 180 credit hours.

The program courses are remarkable as they are classified as follows:

a. Program Structure:

i.	No. of hours: 303	:	170 Compulsory		10 Elective
ii.	No. of contact hours: 303	:	129 Lectures		174 Tutorial
iii.	Contact hours of Lectures: 129 hours = 42.5%				
iv.	Contact hours of Tutorials: 80 hours = 57.5%				

a. Program Years:

Year	Hours		
	Compulsory	Elective	Total
First	36	0	36
Second	34	0	34
Third	39	0	39
Fourth	31	4	35
Fifth	30	6	36
Subtotal Hours			180

a. Program Levels and Courses

First Level

A. First Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
PHM 0101	Mathematics (1)	-	Minor	4	2	0	6	4	3	75	-	75	150		4					
PHM 0102	Physics (1)	-	Minor	4	1	1	6	4	3	30	30	90	150		4					
PHM 0103	Mechanics (1)	-	Minor	2	2	0	4	2	2	40	-	60	100		2					
MCE 0101	Engineering drawing & projection (1)	-	Minor	2	4	0	6	2	3	60	-	90	150			2				
CSE 0101	Computer Technology	-	Minor	2	1	0	3	2	2	40	-	60	100	2						
HUM0 101	Technical English language	-	Minor	2	-	0	2	2	2	40	-	60	100	2						
Total				**16**	**10**	**1**	**27**	**16**					**750**	**4**	**10**	**2**				

B. Second Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
PHM 0201	Mathematics (2)	-	Minor	4	2	0	6	4	3	75	-	75	150		4					
PHM 0202	Physics (2)	-	Minor	4	1	1	6	4	3	30	30	90	150		4					
PHM 0203	Mechanics (2)	-	Minor	2	2	0	4	2	2	40	-	60	100		2					
MCE 0201	Engineering drawing & projection (2)	-	Minor	2	4	0	6	2	3	60	-	90	150			2				
MCE 0202	Production technology	-	Minor	4	3	0	7	4	3	40	-	60	100			4				
PHM 0204	Chemistry	-	Minor	4	1	1	3	4	3	40	-	60	100		4					
Total				**20**	**13**	**2**	**35**	**20**					**750**		**14**	**6**				

Second Level:

A. Third Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 1101	Building Construction (1)	-	Major	2	-	3	5	2	3	60	-	40	100			2				
ARE 1102	Visual Design & Design Fundamentals	-	Major	2	-	5	7	3	3	60	-	40	100			3				
ARE 1103	Architectural Drawing & Representation Techniques	-	Major	2	-	5	7	3	3	60	-	40	100			3				
ARE 1104	Theory of Architecture (1)	-	Major	4	-	0	4	4	3	50	-	50	100			4				
CVE1 131	Survey	-	Minor	2	-	2	4	2	4	40	-	60	100		2					
HUM 1102	Technical Report Writing	-	Minor	2	-	1	3	2	2	50	-	50	100	2						
Total				**14**		**16**	**30**	**16**					**600**	**2**	**2**	**12**				

B. Fourth Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 1201	Building Construction (2)	ARE 1101	Major	2	-	3	5	2	3	60	-	40	100			2				
ARE 1202	Architectural Design (1)	-	Major	0	-	7	7	4	4	60	-	40	100				4			
ARE 1203	History of Architecture (1)	-	Major	4	-	0	4	4	3	50	-	50	100	4						
ARE 1204	Environmental Design & Control	-	Major	2	-	1	3	1	3	50	-	50	100						1	
CVE1 231	Theory of Structures	-	Minor	3	-	2	5	3	3	40	-	60	100		3					
CVE 1232	Foundations & Testing of Materials	-	Minor	4	-	2	6	4	3	40	-	60	100			4				
Total				**15**		**15**	**30**	**18**					**600**	**4**	**3**	**6**	**4**		**1**	

Third Level:

A. Fifth Semester

Code	Course Name	Previous requirement	Specialization	Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 2101	Architectural Design (2)	ARE 1202	Major	0	-	8	8	4	4	60	-	40	100				4			
ARE 2102	Building Construction & Principles of Working Drawings (1)	-	Major	2	-	4	6	3	3	60	-	40	100				3			
ARE 2103	Theory of Architecture (2)	ARE 1104	Major	4	-	0	4	4	3	50	-	50	100				4			
ARE 2104	Acoustics & Artificial Lighting	-	Major	2	-	0	2	2	3	50	-	50	100				2			
ARE 2204	Theories & History of Planning	-	Major	4	-	0	4	4	3	50	-	50	100	4						
CVE 2131	Concrete Structures	CVE 1232	Minor	4	-	2	6	4	3	40	-	60	100		4					
Total				**16**		**14**	**30**	**21**					**600**	**4**	**4**	**9**	**4**			

B. Sixth Semester

Code	Course Name	Previous requirement	Specialization	Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE2 105	Urban Landscaping	-	Major	2	-	2	4	2	3	40	-	60	100				2			
ARE2 201	Architectural Design (3)	ARE 2101	Major	0	-	8	8	4	4	60	-	40	100				4			
ARE2 202	History of Architecture (2)	ARE 1203	Major	4	-	0	4	4	3	50	-	50	100	4						
ARE2 203	Computer Applications (1)	CSE 0101	Major	2	-	2	4	2	3	50	-	50	100				2			
ARE2 205	Building Construction & Principles of Working Drawings (2)	ARE 2102	Major	2	-	4	6	3	3	60	-	40	100				3			
MCE 2231	Technical Insulations	-	Minor	3	-	1	4	3	3	40	-	60	100				3			
Total				**13**		**17**	**30**	**18**					**600**	**4**		**6**	**8**			

Fourth Level

A. Seventh Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 3101	Architectural Design (4)	ARE2201	Major	0	-	8	8	4	4	60	-	40	100				4			
ARE 3102	Working Drawings (1)	ARE2205	Major	0	-	6	6	3	3	60	-	40	100				3			
ARE 3103	Theory of Architecture (3)	-	Major	4	-	0	4	4	3	50	-	50	100				4			
ARE 3104	Specifications & Quantity	-	Major	2	-	3	5	3	3	60	-	90	150							3
ARE 3161	Elective Course (1): Spatial Composition & Aesthetics in Architecture	-	Major	2	-	1	3	2	3	50	-	50	100						2	
ARE 3162	Elective Course (1): Architectural rendering																			
ARE 3163	Elective Course (1): Architectural criticism and project evaluation																			
CVE 3131	Steel Structures	-		2	-	2	4	2	3	40	-	60	100			2				
Total				10		20	30	18					650		2	11		2	3

B. Eighth Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 3201	Architectural Design (5)	ARE 3101	Major	0	-	8	8	4	4	60	-	40	100				4			
ARE 3202	Computer Applications (2)	ARE 2203	Major	2	-	2	4	2	3	50	-	50	100				2			
ARE 3203	Theory of Architecture (4)	-	Major	4	-	0	4	4	3	50	-	50	100			4				
ARE 3204	Urban Planning	-	Major	1	-	4	5	2	3	60	-	40	100			2				
ARE 3205	Working Drawings (2)	ARE 3102		0	-	6	6	3	3	60	-	40	100				3			
ARE 3261	Elective Course (2): interior design	-	Major	2	-	1	3	2	3	50	-	50	100						2	
ARE 3262	Elective Course (2): Environmental design and energy conservation																			
ARE 3263	Elective Course (2): Urban Design																			
ARE 3264	Elective Course (2): Design and development of rural communities																			

Total																	
	9		21	30	17					600			6	9			2

✚ Fifth Level

A. Ninth Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 4101	Architectural Design (6)	ARE 3201	Major	0	-	10	10	5	4	60	-	40	100				5			
ARE 4102	Working Drawings (3)	ARE 3205	Major	0	-	8	8	4	3	60	-	40	100				4			
ARE 4103	Housing	-	Major	4	-	2	6	4	3	60	-	40	100			4				
ARE 4104	Feasibility Studies & Project Management	-	Minor	2	-	1	3	2	2	50	-	50	100							2
ARE 4201	Project Studies & Technical Report	-	Major	1	-	1	2	1	-	60	-	40	100				1			
Total				7		22	29	16					500			4	10			2

B. Tenth Semester

Code	Course Name	Previous requirement	Specialization	Teaching Hours						Marking				Subject Area						
				Lectures	Exercises	Practical	Total hours	Eqiv. Credit hours	Wr. Exam Dur.	Year work	Practical Exam	Written Exam	Total	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
ARE 4105	Professional Practice & Legislation	-	Minor	2	-	1	3	2	2	50	-	50	100							2
ARE 4261	Elective Course (3): housing in developing countries	-	Major	3	-	2	5	3	3	50	-	50	100						3	
ARE 4262	Elective Course (3): Advanced technical installations																			
ARE 4263	Elective Course (3): Urban Renewal																			
ARE 4271	Elective Course (4): Humanities in Architecture	-	Major	3	-	2	5	3	3	50	-	50	100						3	
ARE 4272	Elective Course (4): Domestic and contemporary architecture																			
ARE 4273	Elective Course (4): Urban and architectural																			

	heritage																
ARE 4299	Project	-	Major	0	-	16	16	10	-	100	-	100	200			10	
HUM 4231	Environmental Impact of Projects	-	Minor	2	-	1	3	2	2	50	-	50	100	2			
Total				**10**		**22**	**32**	**20**						**2**		**10**	**6**	**2**

Total teaching hours and subject's distribution over the subject areas electrical power and machines engineering

Semester		Course teaching hours	Human & Soc. Sc.	Math & B. Sc.	B. Eng. Sc.	App. Eng. & Des.	Proj. & Practice	Discretionary (Culture of engineering)	Proj. Managment
First	1st	16	4	10	2				
	2nd	20		14	6				
Second	3rd	16	2	2	12				
	4th	18	4	3	7	4			
Third	5th	21	4	4	9	4			
	6th	18	4		6	8			
Fourth	7th	18		2		11		2	3
	8th	17			6	9		2	
Fifth	9th	16			4	10			2
	10th	20	2				10	6	2
Total of Five Years		180	20	35	52	46	10	10	7
% of Five Years		100%	11.11	19.4	28.8	25.1	5.5	5.5	3.8
Reference Frame 2020			8-12	18-22	25-30	25-30	4-6	4-6	2-4

__The above table shows the agreement with Reference Frame 2020 requirements.__

Specialized Elective Courses

Course Code	Course Title	Weekly Hrs.				Total Marks Score			Examination Duration (Hrs.)	Total Marks
		Lectures	Tutorial	Practical	Total Hours	Final	Semester works	Practical /		
ARE 316X - Specialized Elective Course (1)										
ARE 3161	Spatial Composition & Aesthetics in Architecture	2	1	-	3	50	50	-	3	100
ARE 3162	Architectural rendering	2	1	-	3	50	50	-	3	100
ARE 3163	Architectural criticism and project evaluation	2	1	-	3	50	50	-	3	100
ARE 326X - Specialized Elective Course (2)										
ARE 3261	interior design	2	1	-	3	50	50	-	3	100
ARE 3262	Environmental design and energy conservation	2	1	-	3	50	50	-	3	100
ARE 3263	Urban Design	2	1	-	3	50	50	-	3	100
ARE 3264	Design and development of rural communities	2	1	-	3	50	50	-	3	100
ARE 426X - Specialized Elective Course (3)										
ARE 4261	housing in developing countries	3	2	-	5	50	50	-	3	100
ARE 4263	Advanced technical installations	3	2	-	5	50	50	-	3	100
ARE 4263	Urban Renewal	3	2	-	5	50	50	-	3	100
AE 427X - Specialized Elective Course (4)										
ARE 4271	Humanities in Architecture	3	2	-	5	50	50	-	3	100
ARE 4272	Domestic and contemporary architecture	3	2	-	5	50	50	-	3	100
ARE 4273	Urban and architectural heritage	3	2	-	5	50	50	-	3	100

1. Courses Specifications

These courses specifications were revised and approved in the Department council's board meeting in 07/10/2023 – courses LO's Matrix is given in **Appendix 5.** Course specifications Matrixs

2. Program admission requirements

The program Accepts:
- Secondary Egyptian Schools Graduates (mathematics section).
- Secondary School Certificate Graduates of other countries
- Technical Diploma of 3 or 5 years or industrial technical Graduates.

All acceptances are eligible to join this program if they meet the minimum grades set by Admission office of the Ministry of Higher Education.

The program admission restricted to:

- The medical examination proves that he is free from any infectious diseases and that he is fit to continue his studies
- To be a full-time student.
- To be of good repute
- Student Transfer from One Program to Another within the Institute:
- A student may transfer from one academic program to another within the institute with the approval of the Institute's Council and the relevant departments, in accordance with the admission regulations set by the institute, as long as they have not exceeded 50% of the graduation requirements. If the student's registration in the new department is approved, registration begins from the start of the next main academic semester after the submission and approval of the request. A comparison will be made between the academic courses the student has already completed in the previous program and the required courses for the new academic program. A student is not permitted to transfer more than once during their study period at the institute, regardless of the reasons.
- Transfer of Students between Semester System and Credit Hours System:
- It is permissible to accept the transfer of students from an engineering program operating under the semester system to any of the programs listed in the institute's regulations (which operate according to the credit hours system). This is in accordance with the admission regulations set by the Ministry of Higher Education. A comparison will be made between the academic courses the student has already completed in the semester system program and the equivalent courses in the credit hours system programs at the institute.

3. Regulations for progression and program completion

a. The graduation requirements to earn a Bachelor's degree in Architectural Engineering program is of 180 credit hours. The distribution of these credit hours is as follows:

1. University requirements: 16 credit hours, accounting for 8.8% of the total required hours.
2. Institute requirements: 36 credit hours, accounting for 20% of the total required hours requirements.
3. General and specific specialization requirements: 128 credit hours, which is 71.1% of the total required hours.

b. The student is considered successful if he passes the examinations in all courses of his class.

c. The grades of the successful student in a course and in the general grade are evaluated as follows:

Distinction (A$^+$): from 95% of the total mark and upwards. (GPA = 4)

Distinction (A): from 90% to less than 95% of the total mark. (GPA = 3.7)

Distinction (A$^-$): from 85% to less than 90% of the total mark. (GPA = 3.3)

Very good (B$^+$): from 80% to less than 85% of the total mark. (GPA = 3)

Very good (B): from 75% to less than 80% of the total mark. (GPA = 2.7)

Good (C$^+$): from 70% to less than 75% of the total mark. (GPA = 2.3)

Good (C): from 65% to less than 70% of the total mark. (GPA = 2)

Pass (D$^+$): from 60% to less than 65% of the total mark. (GPA = 1.7)

Pass (D): from 55% to less than 60% of the total mark. (GPA = 1.3)

Pass (D-): from 50% to less than 55% of the total mark. (GPA = 1)

D. The grades of a failing student in a course are estimated in one of' the following grades:

Weak (F): less than 50% of the total mark. (GPA = 0)

E. The B.Sc. General grade for students is based on the cumulative marks obtained during all the years of

study. The students are then arranged serially according to their cumulative sum.

GPA = *Summtion of (pointsXNumbers of hour*es*) for all courses completed in this semester/No of credit hours for all courses completed in this semester*

f. Points in each course the student completes are determined according to the final grade obtained in the course, as shown in the following table:

Grade	GPA	Percentage	
Distinction$^+$ (A$^+$)	4	from 95% of the total mark and upwards	
Grade	GPA	from	Less than
Distinction (A)	3.7	90%	95%
Distinction$^-$ (A$^-$)	3.3	85%	90%
Very good$^+$ (B$^+$)	3	80%	85%
Very good (B)	2.7	75%	80%
Good$^+$ (C$^+$)	2.3	70%	75%
Good (C)	2	65%	70%
Pass$^+$ (D$^+$)	1.7	60%	65%
Pass (D)	1.3	55%	60%
Pass$^-$ (D$^-$)	1	50%	55%
The grades of a failing student in a course are estimated in one of' the following grades:			
Weak (F)	0	0%	50%

In order for a student to graduate from the institute and obtain an academic degree, he must pass the number of credit hours successfully and his general grades will be calculated as follows:

Grade	GPA
Distinction (A)	3.5 : 4
Very good (B)	3: 3.49
Good (C)	2 : 2.99
Pass (D)	1 : 1.99

g. The maximum number of courses in which a student registers must be (18-21) credit hours in the first semester, the second semester, and the academic semester. Summer in which the study period is half of the study period in the first semester and the second semester, so the maximum number of courses in which the student registers must be six credit hours or a maximum of two courses

h. A student may not register in courses that have prerequisites before fulfilling the conditions for success in those prerequisites.

i. The student may add one or more courses, and the student may change courses in which he has registered for another, within the first two weeks of the start of the semester after the approval of the academic advisor and the country of the course professor, taking into account the maximum number of credit hours registered for the student. This does not apply to the summer semester.

j. The student may cancel his registration in any course within a period of eight weeks at most from the start of study in the first and second semesters and three weeks at most from the start of study in the summer semester, and the fees will not be refunded to him, provided that the number of registration hours in the regular semester is not less than 9 credit hours for bachelor's students.

k. The student may withdraw from all courses registered in any semester after the scheduled dates for dropping courses for exceptional compelling reasons accepted by the Institute's Board of Directors, at least two weeks before the end of the semester exam, without refunding the previously paid fees. He may repeat the courses in which he registered during the semester. Continue studying and taking an exam after paying the prescribed tuition fees and it will not be counted as a failure

l. The number of student absences must not exceed 25% of the number of actual academic hours for any course during the semester. If the student is absent for a period exceeding that period, the Dean of the Institute has the right, after notifying him in writing from the course professor, to cancel the student's registration in the course and inform the academic advisor, and the fees will not be refunded to him.

m. The student can continue his studies after discontinuing it for a semester or more, with an excuse accepted by the Board of Directors of the Institute, provided that the courses he successfully passed are counted for him, and his graduation is subject to any new requirements in the semester in which he resumes studies, provided that he pays the tuition fees for the period of his interruption. The student is absent from studying for a period of more than (6) regular semesters with an excuse accepted by the Board of Directors, so he can return to study at the institute, provided that he is treated as a new student, and no points are calculated for him for the courses in which he previously succeeded before discontinuation.

4. Teaching and Learning Methods

1. Lectures
2. Assignment
3. Labs
4. Research and Reports
5. Projects
6. Presentation
7. Site Visits
8. Discussion and Dialogue
9. Brain storm
10. E-Learning
11. Self-learning
12. Modeling and Simulation

5. Assessment Methods

Method (tool)	LO's
Attendance	-
Written exam	To assess competencies: A, B
Oral exam	To assess competencies: A, B
Discussions	To assess competencies: A , B
Mid Term Exam	To assess competencies: A, B
Class works	To assess competencies: A, B
Projects	To assess competencies: A, B
Researches	To assess competencies: A, B
Reports	To assess competencies: A, B
Presentations	To assess competencies: A, B
Laboratory exam	To assess competencies: A, B
Quiz	To assess competencies: A, B
Skiz	To assess competencies: A, B

## 6. Program Evaluation

Evaluator	Tool	Sample
Senior students	Questionnaire	Appendix 6
Alumni	Questionnaire	Appendix 7
Stakeholders (Employers)	Questionnaire	Appendix 8
External Evaluator(s) (External Examiner(s))	Reviewing according to an external evaluator Checklist report	Reports Appendix 9
Internal Evaluator(s) (Internal Examiner(s))	Report	Reports Appendix 10
Others	None	

Head of
Architectural Engineering Program
Assoc. Prof.: Reham Othman

Date   2 /   9   / 2023
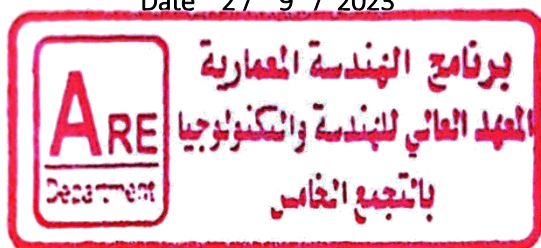
Appendices

Appendix 1: The approval of the program Specification from the department council.

Appendix 2: Matrix of program aims with courses aims.

Appendix 3: The approvale of the program Learning Outcomes (PLO's) from the department council and the academic council

Appendix 4: Matrix of compatibility of program competencies with courses

Appendix 5: Matrix of compatibility of Course program competencies with courses

Appendix 6: Questionnaire of senior students

Appendix 7: Questionnaire of Alumni

Appendix 8: Questionnaire of Stakeholders (Employers)

Appendix 9: Report of External Evaluator(s) (External Examiner(s))

Appendix 10: Report of Internal Evaluator(s) (Internal Examiner(s))

Appendix 11: Improvement Plans

Appendix 12: Staff Members

Appendix 2 … Matrix of program aims with courses aims.

#	Code	Course Title	AIM1			AIM2			AIM3		AIM4			AIM5		AIM6	AIM7
			AIM1-1	AIM1-2	AIM1-3	AIM2-1	AIM2-2	AIM2-3	AIM3-1	AIM3-2	AIM4-1	AIM4-2	AIM4-3	AIM5-1	AIM5-2	AIM6.1	AIM7.1
1	PHM0101	Mathematics (1)	●														
2	PHM0102	Physics(1)	●														
3	PHM0103	Mechanics (1)	●														
4	HUM0101	Technical English Language							●								
5	MCE0101	Engineering Drawing & Projection (1)	●														
6	CSE0101	Computer Technology	●	●													
7	PHM0201	Mathematics (2)	●														
8	PHM0202	Physics(2)	●														
9	PHM0203	Mechanics (2)	●														
10	PHM0204	Chemistry														●	
11	MCE0201	Engineering Drawing & Projection (2)	●														
12	MCE0202	Production Technology				●											
13	ARE 1101	Building Construction (1)												●			
14	ARE 1102	Visual Design & Design Fundamentals				●	●										
15	ARE 1103	Architectural Drawing & Representation Techniques							●								
16	ARE 1104	Theory of Architecture (1)							●								
17	ARE 1201	Building Construction (2)												●			
18	ARE 1202	Architectural Design (1)		●		●	●										
19	ARE 1203	History of Architecture (1)							●								
20	ARE 1204	Environmental Design & Control												●			
21	ARE 2101	Architectural Design (2)				●											
22	ARE 2102	Building Construction & Principles of Working Drawings (1)												●			
23	ARE 2103	Theory of Architecture (2)				●											
24	ARE 2104	Acoustics & Artificial Lighting				●											
25	ARE2105	Urban Landscaping				●	●		●	●							
26	ARE2201	Architectural Design (3)				●											
27	ARE2202	History of Architecture (2)							●								
28	ARE2203	Computer Applications (1)	●														
29	ARE 2204	Theories & History of Planning							●								

#	Code	Course Title	AIM1			AIM2			AIM3		AIM4			AIM5		AIM6	AIM7
			AIM1-1	AIM1-2	AIM1-3	AIM2-1	AIM2-2	AIM2-3	AIM3-1	AIM3-2	AIM4-1	AIM4-2	AIM4-3	AIM5-1	AIM5-2	AIM6.1	AIM7.1
30	ARE2205	Building Construction & Principles of Working Drawings (2)												●			
31	ARE 3101	Architectural Design (4)												●			
32	ARE 3102	Working Drawings (1)							●	●							
33	ARE 3103	Theory of Architecture (3)							●								
34	ARE 3104	Specifications & Quantity												●			
35	ARE 3201	Architectural Design (5)				●											
36	ARE 3202	Computer Applications (2)	●														
37	ARE 3203	Theory of Architecture (4)							●								
38	ARE 3204	Urban Planning	●														
39	ARE 3205	Working Drawings (2)							●								
40	ARE 4101	Architectural Design (6)												●			
41	ARE 4102	Working Drawings (3)							●								
42	ARE 4103	Housing	●														
43	ARE 4105	Professional Practice & Legislation									●		●				
44	ARE 4201	Project Studies & Technical Report				●											
45	ARE4299	Project												●			●
46	ARE 3161	Elective Course (1): Spatial Composition & Aesthetics in Architecture					●									●	
47	ARE 3162	Elective Course (1): Architectural rendering					●									●	
48	ARE 3163	Elective Course (1): Architectural criticism and project evaluation					●									●	
49	ARE 3261	Elective Course (2): Interior design							●								
50	ARE 3262	Elective Course (2): Environmental design and energy conservation							●								
51	ARE 3263	Elective Course (2): Urban Design								●							
52	ARE 3264	Elective Course (2): Design and development of rural communities							●								
53	ARE 4261	Elective Course (3): housing in developing countries									●	●					
54	ARE 4262	Elective Course (3): Advanced technical installations											●				
55	ARE 4263	Elective Course (3): Urban Renewal									●						
56	ARE 4271	Elective Course (4): Humanities in Architecture					●										
57	ARE 4272	Elective Course (4): Domestic and contemporary architecture				●	●										
58	ARE 4273	Elective Course (4): Urban and architectural heritage				●	●										

Code		Course Title	Program aims														
			AIM1			AIM2			AIM3		AIM4			AIM5		AIM6	AIM7
			AIM1-1	AIM1-2	AIM1-3	AIM2-1	AIM2-2	AIM2-3	AIM3-1	AIM3-2	AIM4-1	AIM4-2	AIM4-3	AIM5-1	AIM5-2	AIM6.1	AIM7.1
Humanitty Courses																	
59	HUM 1102	Technical Report Writing													●		
60	ARE 4104	Feasibility Studies & Project Management	●			●					●						
61	HUM4231	Environmental Impact of Projects													●		
62	MCE 2231	Technical Insulations							●								
Civil Courses																	
63	CVE1131	Survey	●			●											
64	CVE1231	Theory of Structures				●			●								
65	CVE 1232	Foundations & Testing of Materials			●	●											
66	CVE 2131	Concrete Structures		●													
67	CVE 3131	Steel Structures				●											
Sum.																	

Appendix 4 … Matrix of compatibility of program competencies with courses

	Code	Course Title	NARS														
			Engineering Competencies (2018)										"Department" Architectural Engineering Competencies (NARS)				
			PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Compulsory architectural courses:																	
1	PHM0101	Mathematics (1)	●	●													
2	PHM0102	Physics(1)	●	●													
3	PHM0103	Mechanics (1)	●	●													
4	HUM0101	Technical English Language	●							●							
5	MCE0101	Engineering Drawing & Projection (1)	●							●	●						
6	CSE0101	Computer Technology	●			●				●							
7	PHM0201	Mathematics (2)	●	●													
8	PHM0202	Physics(2)	●	●													
9	PHM0203	Mechanics (2)	●	●													
10	PHM0204	Chemistry	●	●	●												
11	MCE0201	Engineering Drawing & Projection (2)		●						●	●						
12	MCE0202	Production Technology			●	●											
13	ARE 1101	Building Construction (1)			●										●		
14	ARE 1102	Visual Design & Design Fundamentals											●				
15	ARE 1103	Architectural Drawing & Representation Techniques										●		●			
16	ARE 1104	Theory of Architecture (1)					●						●				
17	ARE 1201	Building Construction (2)													●		
18	ARE 1202	Architectural Design (1)												●			
19	ARE 1203	History of Architecture (1)											●				

			NARS														
Code		Course Title	Engineering Competencies (2018)										"Department" Architectural Engineering Competencies (NARS)				
			PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
20	ARE 1204	Environmental Design & Control				●									●		
21	ARE 2101	Architectural Design (2)			●								●				
22	ARE 2102	Building Construction & Principles of Working Drawings (1)				●									●		
23	ARE 2103	Theory of Architecture (2)							●				●				
24	ARE 2104	Acoustics & Artificial Lighting				●								●			
25	ARE2105	Urban Landscaping			●								●				
26	ARE2201	Architectural Design (3)					●								●		
27	ARE2202	History of Architecture (2)							●			●	●				
28	ARE2203	Computer Applications (1)								●			●				
29	ARE 2204	Theories & History of Planning					●						●				
30	ARE2205	Building Construction & Principles of Working Drawings (2)						●									●
31	ARE 3101	Architectural Design (4)											●	●			
32	ARE 3102	Working Drawings (1)															●
33	ARE 3103	Theory of Architecture (3)							●				●				
34	ARE 3104	Specifications & Quantity														●	●
35	ARE 3201	Architectural Design (5)												●			
36	ARE 3202	Computer Applications (2)								●			●				
37	ARE 3203	Theory of Architecture (4)					●						●				
38	ARE 3204	Urban Planning							●				●				
39	ARE 3205	Working Drawings (2)													●		●
40	ARE 4101	Architectural Design (6)											●	●			

	Code	Course Title	NARS														
			Engineering Competencies (2018)										"Department" Architectural Engineering Competencies (NARS)				
			PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
41	ARE 4102	Working Drawings (3)															●
42	ARE 4103	Housing							●				●	●			
43	ARE 4105	Professional Practice & Legislation			●	●										●	
44	ARE 4201	Project Studies & Technical Report							●	●		●				●	
45	ARE4299	Project												●			
Elective Courses																	
46	ARE 3161	Elective Course (1): Spatial Composition & Aesthetics in Architecture		●									●				
47	ARE 3162	Elective Course (1): Architectural rendering		●									●				
48	ARE 3163	Elective Course (1): Architectural criticism and project evaluation		●									●				
49	ARE 3261	Elective Course (2): Interior design							●					●			
50	ARE 3262	Elective Course (2): Environmental design and energy conservation							●					●			
51	ARE 3263	Elective Course (2): Urban Design							●					●			
52	ARE 3264	Elective Course (2): Design and development of rural communities							●					●			
53	ARE 4261	Elective Course (3): housing in developing countries			●									●			
54	ARE 4262	Elective Course (3): Advanced technical installations			●											●	
55	ARE 4263	Elective Course (3): Urban Renewal			●											●	

| | Code | Course Title | NARS | | | | | | | | | | NARS | | | | |
| | | | "Department" Architectural Engineering Competencies (NARS) | | | | | | | | | | "Department" Architectural Engineering Competencies (NARS) | | | | |
			PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12	PLO13	PLO14	PLO15
Humanity Courses																	
56	ARE 4271	Elective Course (4): Humanities in Architecture												●			
57	ARE 4272	Elective Course (4): Domestic and contemporary architecture										●		●			
58	ARE 4273	Elective Course (4): Urban and architectural heritage										●		●			
59	HUM 1102	Technical Report Writing					●			●							
60	ARE 4104	Feasibility Studies & Project Management		●			●									●	
61	HUM4231	Environmental Impact of Projects													●		
62	MCE 2231	Technical Insulations													●		
Civil Courses																	
63	CVE1131	Survey	●							●							
64	CVE1231	Theory of Structures	●														
65	CVE 1232	Foundations & Testing of Materials		●			●										
66	CVE 2131	Concrete Structures	●		●						●						
67	CVE 3131	Steel Structures	●		●												

Appendix 5: Matrix of compatibility of Course program competencies with courses

	Code	Course Title	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	PHM0101	Mathematics (1)	●	●		●																											
2	PHM0102	Physics(1)	●	●		●	●																										
3	PHM0103	Mechanics (1)	●	●			●																										
4	HUM0101	Technical English Language	●															●															
5	MCE0101	Engineering Drawing & Projection (1)	●	●														●	●	●													
6	CSE0101	Computer Technology	●								●							●															
7	PHM0201	Mathematics (2)	●	●	●	●	●	●																									
8	PHM0202	Physics(2)	●	●	●	●																											
9	PHM0203	Mechanics (2)	●	●	●	●	●	●	●	●											●	●											
10	PHM0204	Chemistry	●	●	●	●	●	●																									
11	MCE0201	Engineering Drawing & Projection (2)	●	●	●	●	●	●																									
12	MCE0202	Production Technology	●	●	●	●																											
13	ARE 1101	Building Construction (1)						●	●																			●	●				
14	ARE 1102	Visual Design & Design Fundamentals																					●	●									
15	ARE 1103	Architectural Drawing & Representation Techniques																			●					●	●						
16	ARE 1104	Theory of Architecture (1)												●								●											
17	ARE 1201	Building Construction (2)																										●	●				
18	ARE 1202	Architectural Design (1)																							●	●	●						
19	ARE 1203	History of Architecture (1)																					●	●									
20	ARE 1204	Environmental Design & Control									●	●																●					
21	ARE 2101	Architectural Design (2)								●													●	●									
22	ARE 2102	Building Construction & Principles of Working Drawings (1)									●	●																●	●				
23	ARE 2103	Theory of Architecture (2)															●						●	●									
24	ARE 2104	Acoustics & Artificial Lighting									●														●		●						
25	ARE2105	Urban Landscaping								●													●	●									
26	ARE2201	Architectural Design (3)												●												●	●						

	Code	Course Title	Course learning outcomes																																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
27	ARE2202	History of Architecture (2)															●				●			●									
28	ARE2203	Computer Applications (1)																●					●	●									
29	ARE 2204	Theories & History of Planning												●										●									
30	ARE2205	Building Construction & Principles of Working Drawings (2)													●	●																●	●
31	ARE 3101	Architectural Design (4)																					●	●	●	●							
32	ARE 3102	Working Drawings (1)																														●	●
33	ARE 3103	Theory of Architecture (3)															●							●									
34	ARE 3104	Specifications & Quantity																												●		●	●
35	ARE 3201	Architectural Design (5)																						●		●			●				
36	ARE 3202	Computer Applications (2)																●					●	●									
37	ARE 3203	Theory of Architecture (4)												●									●	●									
38	ARE 3204	Urban Planning															●						●	●									
39	ARE 3205	Working Drawings (2)																												●			●
40	ARE 4101	Architectural Design (6)																						●		●	●	●					
41	ARE 4102	Working Drawings (3)																														●	●
42	ARE 4103	Housing															●							●		●	●	●					
43	ARE 4105	Professional Practice & Legislation						●	●		●																			●			
44	ARE 4201	Project Studies & Technical Report															●	●			●	●										●	●
45	ARE4299	Project																							●	●	●						
Elective Courses																																		
46	ARE 3161	Elective Course (1): Spatial Composition & Aesthetics in Architecture					●																	●									
47	ARE 3162	Elective Course (1): Architectural rendering			●																			●									
48	ARE 3163	Elective Course (1): Architectural criticism and project evaluation					●																	●									
49	ARE 3261	Elective Course (2): Interior design															●								●	●							

	Code	Course Title	Course learning outcomes																														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
50	ARE 3262	Elective Course (2): Environmental design and energy conservation															●								●	●							
51	ARE 3263	Elective Course (2): Urban Design															●								●	●							
52	ARE 3264	Elective Course (2): Design and development of rural communities															●								●	●							
53	ARE 4261	Elective Course (3): housing in developing countries							●	●																●							
54	ARE 4262	Elective Course (3): Advanced technical installations						●	●																			●	●				
55	ARE 4263	Elective Course (3): Urban Renewal							●	●																		●					
56	ARE 4271	Elective Course (4): Humanities in Architecture																			●	●			●	●							
57	ARE 4272	Elective Course (4): Domestic and contemporary architecture																			●	●			●								
58	ARE 4273	Elective Course (4): Urban and architectural heritage																			●	●			●								
Humanity Courses																																	
59	HUM 1102	Technical Report Writing												●				●															
60	ARE 4104	Feasibility Studies & Project Management				●	●							●																●	●		
61	HUM4231	Environmental Impact of Projects																										●	●				
62	MCE 2231	Technical Insulations																										●	●				
Civil Courses																																	
63	CVE1131	Survey		●														●															
64	CVE1231	Theory of Structures	●	●																													
65	CVE 1232	Foundations & Testing of Materials			●	●	●							●																			
66	CVE 2131	Concrete Structures	●					●											●														
67	CVE 3131	Steel Structures		●				●																									