

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Theory of Structure (B)			
Course Code (according to the bylaw):	ARE 144			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	-	3
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR-Mohamed Nabil Abu EL-Amayem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Elastic deformation of statically determinate structures. Method of continuous beams, method of virtual work, statically indeterminate beams and frames. Consistent deformation method, equation of 3- moments, moment distribution method, live loads on continuous beams and internal normal stresses . Oblique bending, eccentric compression or tension and buckling of columns.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1,A2,A7, B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Demonstrate proficiency in using methods of structural analysis
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	LO2	Apply structural model simulation.
		LO3	Classifies sections and identifies their character and system.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO4	Defines the symbols and terminology and equations used in methods of structural analysis of the reinforced concrete.
		LO5	Apply structural principles to obtain reactions, shear force, and moment for dynamic loading.
B3	Generate ecologically responsible environmental conservation and rehabilitation designs through understanding of: structural design, construction, technology and engineering problems associated with building designs.	LO7	Distinguish appropriate transformation method to seek buckling of columns.
		LO8	Apply structural principles to obtain eccentric compression and tension

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√		√		√	√									

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction	3	1	2	0
2	The conjugate beam method for the deflection	3	1	2	0
3	Complete the conjugate beam method for the deflection	3	1	2	0
4	virtual work method for the deflection.	3	1	2	0
5	Complete The virtual work method for the deflection	3	1	2	0
6	Revision on the conjugate beam method and the virtual work method for the deflection	3	1	2	0
7	Revision and Mid Exam				
8	Consistence Deformation Method	3	1	2	0
9	Influence Lines	3	1	2	0

10	Revision, Quiz	3	1	2	0
11	Three Moment Equation Method	3	1	2	0
12	Buckling of columns	3	1	2	0
13	Eccentric Compression and Tension	3	1	2	0
14	Revision.	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	10	20	20%
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Assignments / Project /Portfolio/ Logbook	weekly	10	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• El- Dakhakhni "Theory of Structures Part I "(https://www.prof-eng.net/2022/07/Theory-of-Structures-P.1-and-P.2-EL-Dakhakhni-pdf.html#Target0) • El- Dakhakhni "Theory of Structures Part II".(https://www.prof-eng.net/2022/07/Theory-of-Structures-P.1-and-P.2-EL-Dakhakhni-pdf.html#Target0) • The conjugate beam method for the deflection, The virtual work method for the deflection, Consistence Deformation Method, Influence Lines, three moment equatuons. Dr. Yasser El-Leathy and eng/ Akram moustafa 2013.
	Other References	▪ Kenneth Derucher, et.al "Static Analysis of Determinate and Indeterminate Structures" First edition published 2022, Taylor & Francis Group, LLC DOI: 10.1201/9781003246633 ▪ Timoshenko, "Strength of Material Part I and II " Bee F. P., Johnston E.

		▪ R. Dewolf J. T. and Mazurek D. F, Mechanics of Materials, McGraw Hill Ltd, 2009. ▪ Abd El-Rahman S.Bazaraa, 1999 “structural analysis and mechanics” ▪ Sayed Abd El-Salam,2015 "Theory of Structures Part I and II" ▪ Ashraf El-Shihy,2012 "structural analysis ".
	Electronic Sources (Links must be added)	• Structural Analysis, Nabeel Abdulrazzaq Jasim. University of Basrah https://www.researchgate.net/publication/315828385
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	A- Whiteboard B- Projector C- Computer

	Course Coordinator	Program Coordinator
Name	DR.Mohamed Nabil Abu EL-Amayem	Dr.Maysa Ali Selim
Signature	<i>Mohamed Abu EL-Amayem</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Principles of Electronics Engineering			
Course Code (according to the bylaw):	EEC 102			
Department/s that participated in the teaching:	Electrical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	1		3
Course Type:	Elective			
The level to which the course was introduced:	JUNIOR			
Academic Program:	ALL ENGINEERING PROGRAMS			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Eslam Samy El-Mokadem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/11/2025			

2. Course Overview (Brief summary of scientific content):

Revisions on: Semiconductor physics. P-n junction; I-V characteristics, Reverse saturation current depletion layer capacitance, Diffusion capacitance, Diode applications. half-and full-wave rectifier, Peak rectifier, Voltage doublers, Other two-terminal devices; Zener diodes, Metal-semiconductor junction, heterojunction and Ohmic contacts, Schottky barrier diodes, Bipolar Junction transistor (BJT), Static and dynamics characteristics, Field effect transistors, JFET models and biasing, FET application; MOSFET principles of operation, MOSFET as a

resistance. Verification of transistor Characteristics – Verification of different configurations of the transistor amplifiers (common emitter – common base – common collector)- Verification of MOSFET configuration and measuring the different parameters.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1, A2, A3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	A1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	LO1	Use the principles of semiconductor materials, PN junction, diode theory and diode equivalent circuit in calculating voltages and currents in circuits.
A2	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.	LO2	Analyze the performance of half and full wave rectifier circuits from points of Efficiency and ripple factor
		LO3	Construct clipping and clamping circuits using diodes and Zener diodes to use it in wave shaping
A3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with	LO4	Design voltage regulator circuits using Zener diodes under different conditions.

	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	LO5	Design power supply circuit
		LO6	Recognize transistor parameters and characteristics to make DC analysis for transistor circuits

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√			√		√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekl y Hour s	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	Semiconductor Materials	3	2	1	0
2	P.N Junction	3	2	1	0
3	Diode Theory	3	2	1	0
4	Diode circuits application (Half wave rectifiers)	3	2	1	0
5	Diode circuits application (Full wave rectifiers)	3	2	1	0

6	Diode circuits application (Clippers circuits)	3	2	1	0
7	Revision and Mid Exam				
8	diodes characteristics and Zener applications	3	2	1	0
9	Principles of operation for Bipolar junction transistors (BJT)	3	2	1	0
10	Principles of operation for Bipolar junction transistors (BJT)	3	2	1	0
11	BJT common modes	3	2	1	0
12	for operation of Principles JFET transistor	3	2	1	0
13	Principles of operation for MOSFET	3	2	1	0
14	Principles of operation for MOSFET	3	2	1	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	5	10	10%
2	Exam 2 written (Semester work)	10	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
7	Assignments / Project /Portfolio/ Logbook	4,6,11,12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Microelectronic Circuits-Oxford "Adel Sedra, , 8th-Edition,2020."University Press
	Other References	Electronic-"Robert Boylestad,Louis Nashelsky , ,11th-Edition,2014. "Devices-and-Circuit-Theory
	Electronic Sources (Links must be added)	Available Presentation (handed to students part by part on the Microsoft teams course class .
	Learning Platforms (Links must be added)	EKB - Microsoft office

Supportive facilities & equipment for teaching and learning *	Supplies	White board, Projector and Microsoft teams .
	Skill Labs/ Simulators	Proteus or Multisim.

	Course Coordinator	Program Coordinator
Name	Dr. Eslam Samy EL-Mokadem	Assistant Prof. Taghreed Saied
Signature	<i>Dr. Eslam Samy EL-Mokadem</i>	<i>taghreed said</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Monitoring & Quality control systems			
Course Code (according to the bylaw):	MNG 101			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	١	--	--	١
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Mechanical Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr.Radwa A. Ghazalla			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/12/2025			

2. Course Overview (Brief summary of scientific content):

Introduction: history of quality, the dimensions of quality. Quality Control Concepts: quality assurance, total quality management. Control systems: objectives of control systems, quality systems, top management communication. Hazard Analysis: high -quality recommendations, commitment monitoring, follow up Systems, the base line of hazard analysis critical point (HACCP). Sampling and Inspection: Sample size, sampling error, sampling designs and inspection, acceptance sampling plans. Quality Control Tools and Techniques: tools for creating new concepts, tools for organization and analysis of data, tools for determining and solving problems (Control Charts for Variables - Control Charts for Attributes - PRE - control - analysis - flow charts). International Standards Accreditation: Accreditation meaning, ISO requirements and recommendations, Audit program, Certification body. Analyzing Process Capability:

Process capability indices, process performance indices.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A4, A8, A9		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.	LO1	Apply appropriate statistical methods to evaluate operational or quality performance according to industry standards.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO²	Optimize the use of graphical data and visual tools to effectively communicate performance outcomes.
A9	Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations	LO³	Compare and evaluate different quality management systems to support continuous improvement and innovation.
		LO⁴	Apply modern quality theories to optimize resource utilization and enhance organizational effectiveness.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education

✓	✓	✓		✓		✓	✓								✓

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	Introduction, Dimensions, Concepts, Objectives, Characteristics	2	1	1	
2	Leaders of Quality	2	1	1	
3	Quality systems, Costs and measures, Quality assurance	2	1	1	
4	Quality Control Tools	2	1	1	
5	Total Quality Management	2	1	1	
6	Review	2	1	1	
7	Revision and Mid Exam				
8	Hazard Analysis	2	1	1	
9	Hazard Analysis	2	1	1	
10	Sampling and Inspection	2	1	1	
11	Iso Definitions and tools	2	1	1	
12	Analyzing Process Capability	2	1	1	
13	Case study discussion and submission	2	1	1	
14	Review and case study discussion	2	1	1	
15,16	Final Exam.				

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work or quiz)	4	10	10%
2	Exam 2 written (Semester work or quiz)	12	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %

٥	Case study	13	10	10%
٦	Assignments / Project /Portfolio/ Logbook	9	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Project Management: a systems approach to planning, scheduling, and controlling. Kerzner, Harold. (2020).
	Other References	Montgomery, D. C., "Introduction to Statistical Quality Control", 8th Edition, Wiley, 2020.
	Electronic Sources (Links must be added)	MIT OpenCourseWare – Quality Control and Process Improvement https://ocw.mit.edu ISO Official Website (Standards & Certification) https://www.iso.org NIST – Process Capability & Quality Metrics https://www.nist.gov/services-resources/software/process-capability-analysis
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data Show
	Supplies	N/A
	Electronic Programs	MS-Teams
	Skill Labs/ Simulators	N/A
	Virtual Labs	N/A
	Other (to be mentioned)	N/A

	Course Coordinator	Program Coordinator
Name	Dr. Radwa A. Ghazalla	Dr. Mohamed Ashraf
Signature	رضوى غزاله	محمد اشرف

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Arts and Architecture			
Course Code (according to the bylaw):	ARE 101			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	1		3
Course Type:	Elective			
The level to which the course was introduced:	JUNIOR			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Assoc. Prof. Sahar Ezz El Arab Ramadan			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/10/2025			

2. Course Overview (Brief summary of scientific content):

History of fine arts (ornamental - sculpture - drawing.....) Art movements in the twentieth century: cubism, expressionism, surrealism, art collections such as De Steele and Bauhaus and their new ideas on the interconnectedness of arts, architecture, design, art education and art trends across historical times and architectural and parallel trends, contemporary artistic trends and their effects on architecture, structural values in artwork (contrast, balance, color, rhythm, movement.....) Artistic metrics and design foundations in architecture

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1, A5, A9, A10		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying basic science and mathematics engineering fundamentals.	LO1	Identify art and architecture with their concepts throughout the ages
		LO2	Solve complex problems in art forms in buildings.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO3	Practice research techniques in painting-sculpture-photography-interior design related to architecture.
A9	Communicate effectively using different modes, tools, and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner.	LO4	Express effectively with audiences by different techniques of art direction in various buildings.
A10	Acquire and apply new knowledge, and practice self, lifelong and other learning strategies	LO5	Apply new knowledge from various art schools of architecture and arts.
		LO6	Practice design ideas by special application of art forms in different architectural styles.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√			√	√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	Trends of art and architecture across different historical eras.	3	2	1	0
2	Fine Arts (Sculpture - Drawing - Photography - Interior Design.....) Its relationship to architecture	3	2	1	0
3	Artistic movements of the twentieth century and their influence on architecture art	3	2	1	0
4	Modern School Trends (De Steel - Bauhaus _ and Their Impact on Architecture Arts).	3	2	1	0
5	Quiz 1 & practicing of analyze School Trends (De Steel - Bauhaus _ and Their Impact on Architecture Arts).	3	2	1	0
6	Aesthetic features in architectural art formations that complement different design ideas	3	2	1	0
7	Revision and Mid Exam				
8	The foundations of the aesthetics of artistic architectural formations of (variation, poise, rhythm.....)	3	2	1	0
9	Analyze horizontal projection of formations of architectural forms that fulfill the principle of design	3	2	1	0
10	The relationship between creativity in arts and architectural design	3	2	1	0
11	Aesthetic features in contemporary and future architecture arts	3	2	1	0
12	Revision.	3	2	1	0
13	semi final	3	2	1	0
14	Final project+general discussion	3	2	1	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	5	10	10 %
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Final Oral Exam	14	5	5 %
5	Assignments / Project /Portfolio/ Logbook	1,2,3,4,5,6,8,9,10,11,12,13,14	25	25 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Abdel-Gawad, T. A. (1955). <i>History of Architecture and Arts in the</i> <i>Early Ages (in Arabic)</i>. Cairo: Supreme Council of Antiquities Cruickshank, D. (1999). <i>A History of Architecture</i>. New Delhi: CBS Publisher
	Other References	• White, Edward T (1975): A Vocabulary of Architectural Forms, Architectural Media. • William (Author) (2010): The Art of Drawings, Madison Books; Revised ed. Edition. • Architecture, Form, Space, and Order by Frank Ching • Francis D.K. Ching (2007): Architecture: Form. Space & Order, Van Nostrand • Reinhold, New York. Paul Zelenski, Mary Pat Fisher (2006): Shaping Space: The Dynamics of Three-Dimensional Design, (3rd edition). www.amazon.com • Stephen Luecking (2002): Principles of Three-Dimensional Design: Objects, Space and Meaning, www.amazon.com • Wucius Wong (1977): Principles of Three-Dimensional Design, Van Nostrand Reinhold Company, New York • "The Architecture of Happiness" by Alain de Botton (2006): Examines the relationship between architecture and human well-being, combining philosophy and design. • "The Future of Architecture in 100 Buildings" by Marc Kushner

		(2015): Explores innovative and groundbreaking architectural designs from around the world. • Bauhaus: A Conceptual Model" by Boris Friedewald (2019): A comprehensive look at the Bauhaus movement and its impact on architecture and design • The Art of Looking Up" by Catherine McCormack (2019): A visual feast exploring the diverse world of ceilings in significant buildings worldwide. • The Hare with Amber Eyes" by Edmund de Waal (2010): Though not the latest, it's a notable work exploring the history of a collection of Japanese netsuke through generations. • Norman, D. (2023). <i>Design for a better world:</i> Meaningful, sustainable, humanity centered. The MIT Press. • Peters, S. (2024). <i>Architectural material systems:</i> Conceptual design strategies. Birkhäuser. • Fowkes, M., & Fowkes, R. (2023). <i>Art and climate change:</i> A concise <i>history</i>. Thames & Hudson.
	Electronic Sources (Links must be added)	• http://www.sagradafamilia.org/en/ • https://www.skyscrapercity.com/ • http://www.design-theory.com/
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show (projector) Laptop or desktop computer

	Course Coordinator	Program Coordinator
Name	Assoc. Prof. Sahar Ezz El Arab Ramadan	Dr.Maysa Ali Selim
Signature		<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Communication & Presentation Skills			
Course Code (according to the bylaw):	HUM 108			
Department/s that participated in the teaching:	BASIC SCIENCES			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Tutorial	Other (specify)	Total
	٢	١		٣
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR. Ashraf selim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

Course Aims to provide the student with the latest knowledge about the concepts, characteristics, and types of managerial and interpersonal communications, as well as the concepts and requirement of good listening and presentation, and Developing the student's abilities and skills of effective communication, and good listening, as well as how to use the interpersonal and managerial communication methods and the presentation techniques in performance and dealing

with others inside and outside the organization. Course Contents: Concept and nature of communication – Communication model – Formal and informal communications - Interpersonal and managerial communications – Body language – Written communications (Reports and memos) – Ten Communications of effective communication – Good listening – Elements of effective presentation model –Preparation of good presentation – Carrying out presentations – Discussion and dealing with.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A8, A9, A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO1	formulate e interpersonal Communication
		LO2	embody languages communication
		LO3	Learn types of managerial and interpersonal communications
		LO4	Identify the main items of the of Communication technology
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations	LO5	Define the main items of the of Presentation Skills
		LO6	presentation techniques in performance and dealing with others inside organization
A10	Acquire and apply new knowledge and practice self, lifelong and other learning strategies.	LO7	presentation techniques in performance and dealing with others and outside the organization

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√							√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Fundamental of definition concepts, characteristics and types of Communication.	3	1	2	0
2	managerial and interpersonal communications	3	1	2	0
3	concepts and requirement of good communications	3	1	2	0
4	Communication model – Formal and informal communications	3	1	2	0
5	Interpersonal and managerial communications	3	1	2	0
6	how to use the interpersonal and managerial communication methods	3	1	2	0
7	Revision and Mid Exam				
8	Elements of effective presentation	3	1	2	0
9	presentation techniques	3	1	2	0
10	presentation techniques in performance and dealing with others inside organization	3	1	2	0

11	presentation techniques in performance and dealing with others and outside the organization	3	1	2	0
12	Interpersonal communications	3	1	2	0
13	Body language skills	3	1	2	0
14	Elements of effective presentation technique	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	4	10	10
2	Exam 2 written (Semester work)	11	10	10
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	presentation skills	9,10	10	10
6	Assignments	11	10	10

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	HTI; Available Hard copy . Available Presentation (handed to students' part by part)
	Other References	• -Gary Johns and Alan M.Saks, Organization Behavior, Addison Wesley Longman, 2009. • -Scgermerhorn Jr., R. J., and Osborn, N. R., Organizational Behavior, John Wiley & Sons, Inc., New York, 10th Ed.,2008”. • Lustberg, Arch: How To Sell Yourself: Winning Techniques For Selling Yourself, Your Ideas, Your Message. Franklin Lakes: The Career Press, 2002

		• Bovee, Courtland L, John V. Thill & Barbara E. Schatzman. Business Communication Today: Tenth Edition. New Jersey: Prentice Hall, 2010 • Hasson, Gill. Brilliant Communication Skills. Great Britain: Pearson Education, 2012. • Ajmani, J. C. Good English: Getting it Right. New Delhi: Rupa Publications, 2012. • Bovee, Courtland L, John V. Thill & Barbara E. Schatzman. Business Communication Today: Tenth Edition. New Jersey: Prentice Hall, 2010. • Lesikar, Raymond V and Marie E. Flatley. Basic Business Communication: Skills for Empowering the Internet Generation: Ninth Edition. New Delhi: Tata McGraw-Hill, 2002. • -Henderson, Fiona, & Parkes, Geoff. (2023). "Improving Presentation Skills in Higher Education: A Case Study." <i>Journal of Further and Higher Education</i>, 47(2), 184-196 • -Graveline, Denise. (2023). "The Science of Effective Communication." <i>Harvard Business Review</i>, 101(3), 80-87.”. • Gallo, Carmine. (2022). Talk Like TED: The 9 Public-Speaking Secrets of the World's Top Minds. St. Martin's Griffin • Henderson, Fiona, & Parkes, Geoff. (2022). "Improving Presentation Skills in Higher Education: A Case Study." <i>Journal of Further and Higher Education</i>, 45(4), 510-523. • Graveline, Denise. (2022). "The Science of Effective Communication." <i>Harvard Business Review</i>, 99(5), 92-99. • Lesikar, Raymond V and Marie E. Flatley. Basic Business Communication: Skills for Empowering the Internet Generation: Ninth Edition. New Delhi: Tata McGraw-Hill, 2022. • Gary Johns and Alan M.Saks, Organization Behavior, Addison Wesley Longman, 2009 • Ajmani, J. C. Good English: Getting it Right. New Delhi: Rupa Publications, 2012. • Gallo, Carmine. (2022). Talk Like TED: The 9 Public-Speaking Secrets of the World's Top Mind • The Power of Saying No: The New Science of How to Say No That Puts You in Charge of Your Life" by Vanessa Patrick (2023) • "Speaking with Strategic Impact: Reach, Connect, and Lead" by Kate Leavell (2023)

		• "The New Rules of Marketing and PR: How to Use Content Marketing, Podcasting, Social Media, AI, Live Video, and Newsjacking to Reach Buyers Directly" by David Meerman Scott (8th Edition, 2024)
	Electronic Sources (Links must be added)	https://cadreworks.org/resources/communication-skills
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Notebook and data show
	Supplies	data show equipped lecture room
	Electronic Programs	Microsoft power point

	Course Coordinator	Program Coordinator
Name	DR.Ashraf selim	PROF. Ahmed Abd El-Gafar
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Analysis & Research Skills			
Course Code (according to the bylaw):	HUM 109			
Department/s that participated in the teaching:	<u>BASIC SCIENCE</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Tutorial	Other (specify)	Total
	<u>1</u>	<u>2</u>		<u>3</u>
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:				
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

To Introduce Analysis & Research Skills this include studying the framework for analyzing engineering problems considering technical, economic, environmental, and ethical issues. Phases of problem solving (Understanding the problem and formulating it, Solution plan, implementation plan, Evaluation, and Revision). Role of creativity in the analysis for different alternatives. SWOT (strengths, Weaknesses, Opportunities, and Threats) analysis for different alternatives. Cost – Benefit analysis and Risk analysis. Role

of cooperation and team – work in analyzing large engineering problems. Importance of finding the relevant data, information, and knowledge. Basics Web search methods and how to formulate search engine queries using logical connectives (e.g. AND, OR, NOT). Phrase, title, domain, URL, and link search. Evaluating search results, choosing the appropriate search engine. Importance of evaluating the credibility of the different web sites.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6,A8, A9, A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO1	Solving problems related to SWOT analysis, decision making, team work decision.
		LO2	Working in a team group.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO3	Describe the main concepts of basics Web search methods.
		LO4	Explain the main principle of Role of creativity in the analysis for different alternatives.
		LO5	Elucidate the main principal SWOT analysis for different alternatives.
		LO6	Clarify the main principal Cost – Benefit analysis and Risk analysis.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations	LO7	Evaluating search results, choosing the appropriate search engine.
		LO8	Assess issues of Phases of problem solving (Understanding the problem and formulating it, Solution plan, Implementation plan, Evaluation, and Revision).
A10	Acquire and apply new knowledge and practice self, lifelong and other learning strategies.	LO9	Design the problems of role of cooperation and team – work in analyzing large engineering problems.

		LO10	Perform and explain the gained knowledge orally.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Basics Web search methods Phrase, title, domain, URL, and link search.	3	1	2	0
2	How to formulate search engine queries using logical connectives (e.g. AND, OR, NOT).	3	1	2	0
3	Evaluating search results, choosing the appropriate search engine.	3	1	2	0
4	Importance of evaluating the credibility of the different web sites.	3	1	2	0
5	Framework for analyzing engineering problems considering technical, economic, environmental, and	3	1	2	0

	ethical issues.				
6	Phases of problem solving (Understanding the problem and formulating it, Solution plan, Implementation plan, Evaluation, and Revision).	3	1	2	0
7	Revision and Mid Exam				
8	Role of creativity in the analysis for different alternatives.	3	1	2	0
9	SWOT (strengths, Weaknesses, Opportunities, and Threats) analysis for different alternatives.	3	1	2	0
10	Cost – Benefit analysis and Risk analysis.	3	1	2	0
11	Role of cooperation and team – work in analyzing large engineering problems.	3	1	2	0
12	Importance of finding the relevant data, information, and knowledge	3	1	2	0
13	Revision	3	1	2	0
14	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	4	10	10
2	Exam 2 written (Semester work)	11	10	10
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	presentation skills	9,10	10	10
6	Assignments	11	10	10

6- Learning Resources and Supportive Facilities *

Learning resources (books,	The main (essential) reference (must be written in full according to the	HTI; Available Hard copy . Available Presentation (handed to students' part by part)

scientific references, etc.) *	scientific documentation method)	
	Other References	1-G.R.Notess, Tesching Web Search Skills, information Today Inc., 2021. 2-D.Newnan, T.Eshenbach, and J.Lavelle, Engineering Economic Analysis, Oxford University Press, fourteenth edition, 2019. 3-Search skills for researchers “workshop”, Engineering economic analysis by Donald G. Newnan .et., al, 2018. 4-G.R.Notess, Tesching Web Search Skills, information Today Inc., 2021. 5-D.Newnan, T.Eshenbach, and J.Lavelle, Engineering Economic Analysis, Oxford University Press, fourteenth edition, 2019. 6-Murray, R. 2018: How to survive your viva. Maidenhead:Open University Press. 7-Rugg, G. & Petre, M. 2021: The unwritten rules of PhD research. Maidenhead:Open University Press. 8-Tinkler, P. & Jackson, C. 2021: The doctoral examination process: a handbook for students, examiners and supervisors. The Society for Research into Higher Education. Maidenhead:Open University Press.
	Electronic Sources (Links must be added)	http://www.scribd.com/anh_ch%C3%A2u_6/d/62390771-Change-Management- Best-Practice-Guide >
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Notebook and data show
	Supplies	data show equipped lecture room
	Electronic Programs	Microsoft power point

	Course Coordinator	Program Coordinator

Name		PROF. Ahmed Abd El-Gafar
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Architectural Design of Simple Units			
Course Code (according to the bylaw):	ARE 141			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sally Shafei			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Introduction to architecture design of simple designs the course aims to deal with the criteria of context, including Relationship between indoor & outdoor spaces, environmental conditions of the site , physical and visual analysis in addition to, Study of pedestrian and vehicular circulation. Projects would include Primary school, motel, exhibition hall, office building, residential building, small museum, bank branch, local post office, and community library. Study of site context and analysis of site planning elements. Study of structural coordination and constructional technology. The student should practice, Program analysis, functional studies, & design of simple building elements, site planning analysis. Introduction to constructional expression in architecture.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A6, A7, A8, B1, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Apply innovative problem-solving techniques in architectural design contexts.
		LO2	Utilize creative three-dimensional exploration to develop architectural design concepts.
A6	Plan, supervise and monitor the implementation of engineering projects, taking into consideration other trades Requirements.	LO3	Apply architectural design principles to produce effective design solutions.
		LO4	Synthesize knowledge and perspectives from multiple sources to form coherent architectural arguments.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO5	Evaluate diverse insights from varied sources to inform architectural decisions
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary Tools.	LO6	Demonstrate aesthetic awareness and precision in architectural design approaches
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO7	Execute specialized architectural designs for building components and integrated systems.
B2	Produce designs that meet building users' requirements through understanding the	LO8	Pursue lifelong learning through actively seeking and applying new architectural knowledge.

	relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.		
B3	Generate ecologically responsible, environmentally conservation and rehabilitation designs through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO9	Assess appropriate tools and techniques for solving engineering challenges.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√	-	√	-	-	-	-	√	-

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	General introduction to the project + research on Design standards for public libraries.	6	0	6	0
2	Site analysis lecture (Building on specific land) <u>Assignment:</u> Site Visit	6	0	6	0
3	Lecture about Form and modeling. Studying principles of architectural compositions and the relation between masses and spaces. <u>Assignment:</u> Study model	6	0	6	0
4	Study model Reviewing – Quiz 1	6	0	6	0
5	Structure System lecture. Efficiency of circulation and several functional relationships. <u>Assignment:</u> making Maquette for the Structure system of their model.	6	0	6	0
6	Presentation of the project (First stage)- Lay out	6	0	6	0
7	Revision and Mid Exam				
8	Project presentation	6	0	6	0
9	Plans reviewing	6	0	6	0
10	Layout and Elevations reviewing	6	0	6	0
11	Sections reviewing	6	0	6	0
12	Project reviewing	6	0	6	0
13	Presentation of the project- Portfolio	6	0	6	0
14	General Revision-Final project submission	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	4	10	10 %
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %
4	Assignments	Weekly	10	10 %
5	Project	14	15	15 %
6	Portfolio	13	5	5 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• خلوصي، محمد ماجد. (2000). <i>إبنية المكتبات العامة والخاصة</i>. دار قابس. • JTART. (2011). <i>Library architecture + design</i>. JTART Pub.
	Other References	• أبو عوف، طارق. (2014). <i>تحليل الموقع</i>. مؤسسة سكاى للكتاب. • أبو عوف، طارق. (2015). <i>المبدأ التصميمي</i>. مؤسسة سكاى للكتاب. • Buschman, J. E., & Leckie, G. J. (Eds.). (2019). <i>*The library as place: History, community, and culture*</i> (2nd ed.). Libraries Unlimited. • Campbell, J. W. P. (2021). <i>*The library: A world history*</i> (2nd ed.). Thames & Hudson. • McCabe, G. B. (2020). <i>*Library building projects: Tips for survival*</i>. Rowman & Littlefield.
	Electronic Sources (Links must be added)	• https://www.skyscrapercity.com/ • https://www.asla.org/ • http://www.architectmagazine.com/
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Devices/Instruments	Laptop
Supportive facilities & equipment for teaching and learning *	Supplies	Whiteboard Projector

	Course Coordinator	Program Coordinator
Name	Dr.Sally Shafei	Dr.Maysa Ali Selim
Signature	<i>Sally Shafei</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Diploma project			
Course Code (according to the bylaw):	ARE 142			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	4	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Aya Ibrahim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The student selects one of the available projects in the department with the help of academic staff. The fulfillment of the project should prove that the student has enough experience in modeling & architectural design and working drawings.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A3,A5,A7,A9,B3,B5		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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	LO1	Design executable projects of the highest quality and at the lowest cost
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO2	Determine the principles and basics of technical writing standards for scientific research.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO3	Determine the distribute tasks according to the different competencies of members of the same team
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO4	Evaluate design ideas to determine the one that suits the selected project.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO5	Choose the structural system that suits the architectural project
		LO6	Design working drawings for various architectural drawings from a general site, horizontal projections, etc.
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO7	Assemble the required drawings for the project in an appropriate form that shows its design idea

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√			√	√			√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Definition of the material and clarification of all operational work for similar projects, and drawing of symbols for horizontal projections	4	0	4	0
2	Choose the project and start preparing all the architectural drawings	4	0	4	0
3	Completion of architectural plans, and initiation of working drawings for plans.	4	0	4	0
4	Review the working drawings for plans and drawing all the elevations and it's symbols.	4	0	4	0
5	Review the working drawings for elevations and drawing all sections and it's symbols.	4	0	4	0
6	Quiz 1, review working drawing and symbols	4	0	4	0

7	Revision and Mid Exam				
8	Review of all elevations and sections working drawings.	4	0	4	0
9	Project's sanitary works, and it's symbols.	4	0	4	0
10	Project's electrical works, and it's symbols.	4	0	4	0
11	Structural works foundations & axes & slabs, and it's symbols.	4	0	4	0
12	Project's discussion	4	0	4	0
13	Quiz 2, project discussion	4	0	4	0
14	General review	4	0	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	6	10	10%
2	Quiz 2 written (Semester work)	13	10	10%
3	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
5	Assignments / Project /Portfolio/ Logbook	13,14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Smith, K. (n.d.). <i>Introducing architectural theory.</i> - Jankovic, L. (n.d.). <i>Designing zero carbon buildings.</i> - Kataria, K. (n.d.). <i>Urban and architectural heritage conservation.</i> - Unwin, S. (n.d.). <i>Twenty five buildings.</i>

		Carpenter, W., Setiawan, A., & Welty, C. (n.d.). <i>Digital fabrication and design build studio</i>.
	Other References	- Time-Saver Standards for Building Types, 6th Edition, Editor: Michael J. Crosbie, Publisher: McGraw-Hill Education, 2021 <i>Ching, F. D. K. (2020). Building Construction Illustrated, 6th Edition.: John Wiley & Sons, Inc.</i>
	Electronic Sources (Links must be added)	library.fiu.edu/architecture/web www.designboom.com
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computers, Projector
	Supplies	White board
	Electronic Programs	AutoCAD-Revit

	Course Coordinator	Program Coordinator
Name	Dr. Aya Ibrahim	Dr.Maysa Ali Selim
Signature	<i>Aya Ibrahim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Computer Application in Architecture (1)			
Course Code (according to the bylaw):	ARE 143			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Aya Ibrahim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

A general introduction to computer graphics & its application in architectural design & the graphic arts. Practical assignments are included this course introduces the student to AUTOCAD which is the most powerful 2D design and drafting plat form.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A8,A9,B2		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing –with a range of audience using contemporary tools.	LO1	Demonstrate to contemporary form by applying 2D cad program .
		LO2	Apply contemporary tools in different drawings of architectural projects.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO3	Apply creative and flexible thinking in produce 2d drawings
B2	Produce designs that meet building user's requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces and needs and between them to human scale.	LO4	Develop designs that fulfill the needs of building users.
		LO5	Recognize the importance of aligning buildings, spaces, and requirements with human scale to enhance overall user needs.
		LO6	Analyze the relationship between people and buildings in 2D drawings
		LO7	Represent the environment, human scale effectively in 2d drawings.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√			√	√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	The concept of the digital drawings & the deference between the manual and the digital ways. AUTOCAD terms. AUTOCAD graphical user interface.	6	0	0	6
2	The rules that control the AUTOCAD program 1-Drawing commands 2-Editing commands 3-Setting commands X,Y Coordinates concept Drawing Units concept Drawing / line command Modify / Erase command DISPLAY / ZOOM / PAN ORTHO / OBJECT SNAP / GRID / SNAP <i>The ABSOLUTE METHOD</i>	6	0	0	6

	RELATIVE METHODS RECTANGULAR (@ X,Y) POLAR (@DISTANCE<ANGLE) Draw / Line / Arc / Circle Modify / Offset / Copy / Move.				
3	Layer & layer properties Layer Concept and all related Commands	6	0	0	6
4	Object Selection Concept Pick Box / Window / Crossing / Fence / All Draw / Hatch	6	0	0	6
5	Quiz 1 & Dimensions Concept and Style Insertion for Files and Dimension styles and Blocks Exchange..	6	0	0	6
6	Trim,Break,Fillet& other modify cods mman	6	0	0	6
7	Revision and Mid Exam				
8	Application in different projects drawings.	6	0	0	6
9	Query Commands / List / Area / Distance / Id	6	0	0	6
10	Multiline and their styles	6	0	0	6
11	Draw / Block / Make / Insert / Poly line / Polygon Modify / Rotate / Fillet / Trim /Mirror /Extend / Explode Draw / Multi line	6	0	0	6
12	Revision	6	0	0	6
13	semi final	6	0	0	6
14	Final project	6	0	0	6
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	5	10	10 %
2	Midterm exam	7	30	30 %
3	Final Practical/Clinical/... Exam	15, 16	30	30 %
4	Assignments / Project /Portfolio/ Logbook	1,2,3,4,5,6,8,9,10,11,12,13,14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Mano, M. M. (1993). <i>Computer system architecture</i>. U.S.A.: Prentice Hall. - Brown, K. M. (1995). <i>Computers in the professional practice of design</i>. New York: McGraw-Hill.
	Other References	- CADfolks. (2022, April 24). AutoCAD 2023 For Beginners . - CADArtifex, Willis, J., & Dogra, S. (2023). AutoCAD 2023: A Power Guide for Beginners and Intermediate Users - Kishore, T. (2022, May 7). AutoCAD 2023: A Project-Based Tutorial [Paperback]. - Stine, D. J. (2023). <i>Residential Design Using AutoCAD 2023</i> (1st ed.). - Leach, J. A., & Lockhart, S. (2024). AutoCAD 2024 Instructor: A Student Guide for In-Depth Coverage of AutoCAD's Commands and Features [Paperback]. - Adamu, K. (2023). <i>Practical Autodesk AutoCAD 2023 and AutoCAD LT 2023: Exercise Workbook for beginners</i>. Packt Publishing
	Electronic Sources (Links must be added)	https://08122ydo3-1105-y-https-iopscience-iop-org.mplbci.ekb.eg/article/10.1088/1742-6596/1744/4/042036/pdf
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and	Devices/Instruments	Computer lap
	Electronic Programs	AutoCaD
	Skill Labs/ Simulators	Computer Graphics & AutoCAD

<i>learning *</i>		

	Course Coordinator	Program Coordinator
Name	Assoc. Prof. Sahar Ezz El Arab Ramadan	Dr.Maysa Ali Selim
Signature		<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Climate and Architecture of the Desert			
Course Code (according to the bylaw):	ARE 153			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr Ghada Assal			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Man and environment, desert sun heat, heat transfer, wind, wind control, pollution, humidity, natural lighting and comfort zone. Desert architectural components & design Considerations in desert regions. In addition to, passive cooling and solar techniques.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6, A7, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise, and monitor the implementation of engineering projects, considering other trades' requirements.	LO1	Measure and Analyze Climatic Data Using Appropriate Tools
A7	Function efficiently as an individual and as a member of multidisciplinary and multicultural teams.	LO2	Collaborate in multidisciplinary teams to solve challenges in desert architecture.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.	LO3	Apply Knowledge of Desert Formation and Environmental Impact
B3	Generate ecologically responsible, environmental conservation, and rehabilitation designs through understanding structural design, construction, technology, and engineering problems associated with building designs.	LO4	Understand and Explain Heat Transfer Mechanisms in Desert Climates.
		LO5	Differentiate Climatic Zones and Their Characteristics.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√		√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical / Lab
1	Introduction to Climate and Architecture of the Desert	3	1	2	0
2	The types of deserts.	3	1	2	0
3	Climate zone classifications of Egypt	3	1	2	0
4	Panagia and land formation	3	1	2	0
5	Convection: Wind and Air Pressure	3	1	2	0
6	Passive Cooling, Architecture, and Desert	3	1	2	0
7	Revision and Mid Exam				
8	Radiation: Solar Radiation and Sun Path.	3	1	2	0
9	Conduction: Heat Transfer, Thermal mass	3	1	2	0
10	Conduction: Thermal resistivity	3	1	2	0
11	Evaporation: Humidity	3	1	2	0
12	Thermal comfort zone	3	1	2	0

13	Project semi-final and course evaluation	3	1	2	0
14	Project Submission	3	1	2	0
15,16	Final Exam.				

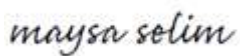
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of Total Course Marks
1	QUIZ 1 written (Semester work)	11	5	5 %
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Final Oral Exam (Semi-Final)	13	5	5 %
5	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	المناخ و عماره المناطق الحارة د.شفق عوض الوكيل العمارة والبيئة في المناطق الصحراوية الحارة ، د خالد سليم فجال
	Other References	- فخري، أ.، 1973 <i>بواحات مصر: المجلد الأول</i> – <i>واحة سيوة</i>. القاهرة: هيئة الآثار المصرية. - فخري، أ.، 1989 <i>الصحراء المصرية: جبانة البجوات في الواحة الخارجة</i>. القاهرة: هيئة الآثار المصرية. - Golany, G., 1982. <i>Desert planning: International lessons</i>. Great Britain: Nichols Publishing.
	Electronic Sources (Links must be added)	World Green Building Council. "Sustainable Design Principles for Desert Architecture." World Green Building Council. https://www.worldgbc.org/ .
	Learning Platforms (Links must be added)	EKB - Microsoft Office- Microsoft Teams

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Mini Anemometer Mini Wind Speed and Temperature Meter,
	Electronic Programs	Revit, PowerPoint, Canva.
	Skill Labs/ Simulators	Climate consultant

	Course Coordinator	Program Coordinator
Name	Dr.Ghada Assal	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Design of Complex Units			
Course Code (according to the bylaw):	ARE 151			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR. Maysa selim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The aim of the course is to study the design process of mid-rise residential buildings composed of several units per floor, with regard to the Building Law No. 119 of 2008 and its modifications or any latest version of the building law which govern the building process in Egypt. In addition, the course introduces to the students how to deal with mixed-use residential/commercial apartment blocks. Examples of projects would include: mid-rise residential/commercial buildings, small residential community, resort compound of villas, or a cluster of housing units of different types. the student should practice Data gathering & analysis, study of different elements & components of residential units, separately & compound together, Study of housing types, design of complex residential units. Sketch designs of special nature will be used.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A6,A9,B1,B2,B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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..	LO1	Develop a creative and innovative way to problem solving and design
		LO2	Organize different ideas, views, and knowledge from a range of sources.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO3	Collect data, and information and engage in life-long self learning discipline
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO 4	Integrate the engineering knowledge, understanding, and feedback to improve design, products and/or services
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations	LO 5	Produce three a dimension model with innovation and creativity in the exploration of design.
B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies and human sciences	LO 6	Apply knowledge of Architecture, science, information technology, design, business context and engineering practice integrally to solve engineering problems.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale	LO 7	Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through	LO 8	Design innovative appropriate solutions with diverse scales and complexity

	understanding of: structural design, construction, technology, and engineering problems associated with building designs.		

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√	√				√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction of the project and identification of the project program, course objectives, with open discussion	6	0	6	0
2	Studio Work – workshop group work Site analysis ,Various studies of the project (Zoning - Relationships...etc) Brainstorming with open discussion	6	0	6	0
3	Research work ,group discussion & Submission of 1st design sketches of the residential Plan	6	0	6	0
4	Review the residential Plans & structure system	6	0	6	0
5	Quiz (1) + Revision	6	0	6	0

6	Design other plans	6	0	6	0
7	Revision and Mid Exam				
8	Workshop and Development of plans, Section and elevation sketches	6	0	6	0
9	Review Section and elevation	6	0	6	0
10	Review 3D modeling	6	0	6	0
11	Review of plans, layout, sections, ,, and discussion	6	0	6	0
12	Development of plans ,layout ,elevations sections, 3D modeling+	6	0	6	0
13	final project (Evaluation and discussion)	6	0	6	0
14	General revision and discussion	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	5	10	10%
2	Midterm exam	7	30	30%
3	Final Written Exam	15, 16	30	30%
4	Final Project	13	20	20%
5	Assignments / /Portfolio	weekly	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	-Salgirli, S. Inside/Outside Islamic art and architecture: A cartography of boundaries in and of the field. Bloomsbury Visual Arts . 2024 -Twenty-Five Buildings Every Architect Should Understand 2024 -R.WHITEHEAD, STRUCTURES BY DESIGN THINKING, MAKING, BREAKING, 2020

		-P.WILKINSON, GREAT BUILDINGS, 2017 - بولا خورى ، العمارة متعددة الوظائف، 1992. -عبد الباقي ابراهيم ،بناء الفكر المعماري والعملية التصميمية،1987. - شفق العوضى الوكيل،التخطيط العمراني (الاسكان-الخدمات-الحركة) ، 2007
	Other References	-On Design: Theory,Education and Practice 2024 - CHING, Francis DK. Architecture: Form, space, and order. John Wiley & Sons, 2023. - قانون البناء الموحد رقم 119 ولائحة التنفيذ. - محمود حسن عبد الرجال؛ محمد. نحو منهجية علمية متقدمة لاستخدام تقنية الذكاء الاصطناعي في استوديوهات التصميم مجلة. المعماري (تطبيق عملي بمشاركة طلاب العمارة) 2023 - يوسف؛ ديانا. تأثير التباين على عناصر التصميم الداخلي - مجلة جامعة مصر للدراسات الإنسانية 2021, 1.2: 235-260
	Electronic Sources (Links must be added)	https://mhuc.gov.eg/ https://reserve.newcities.gov.eg/
	Learning Platforms (Links must be added)	EKB - Microsoft office- Microsoft Teams
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Data show, Laptop computer- White board
	Supplies	Sketchbook - canson paper
	Electronic Programs	Revit, 3Dmax, Photoshop ,AutoCAD PowerPoint, Canva

	Course Coordinator	Program Coordinator
Name	Dr.Maysa Ali Selim	Dr.Maysa Ali Selim
Signature	<i>maysa selim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Execution Design (1)			
Course Code (according to the bylaw):	ARE 152			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	4	--	5
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sherif Nagy Mohamed			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Detailed studies of wide-span & span structures, cladding and facing for skeleton structures, design and application of metal section for openings and partitions, detailed studies of stair cases with different designs and materials, preparations of working drawings completely detailed and ready for execution including architectural drawings, details, structural sections plumbing and sanitary drawings, Electrical drawing, miscellaneous drawings (I.e. elevators..., etc.)

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A4,A6,A10,B2,B3,B5		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO1	Discover building codes and standards, in preparing drawings with scale; 1/50 (plans, elevations, sections).
		LO2	Choose the best contemporary techniques and techniques when preparing architectural details.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO3	Combine requirements for other relevant disciplines, in preparing architectural drawings.
A10	Acquire and apply new knowledge and practice self, lifelong, and other learning strategies	LO 4	Apply new knowledge and techniques, when implementing the building.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 5	Validate dimensions and requirements of various fixtures and fittings within the building (details – electrical – sanitary - ...).
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO 6	Recognize structural systems and techniques, and distribution of the structural elements in proportion to the design of the building.
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes	LO 7	Discover role of architect in design and implementation stages of the building, and relationship between consultant, owner and contractor.

	of bidding, procurement of architectural services and building production.		

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√		√	√	√		√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Architect professional and his relation with other engineering specializes. Co-ordinate and reconcile, contradictions between executive, architectural drawings, and executive, drawings for other specialties related to project. , Enumerate project stages	5	1	4	0
2	Preparing a complete set of executives, architectural drawings, for a project with: specific function, and wide span: Site plan (or layout), landscape working design	5	1	4	0

	plan, Floors plans				
3	Preparing: symbols, schedules and specifications, of: openings (windows and doors) and Finishings (out-door and in-door)	5	1	4	0
4	Preparing a complete set of executive architectural drawings, for a project with: specific function, and wide span: Building facades & Building sections	5	1	4	0
5	Stairs sections and details	5	1	4	0
6	Revision +Quiz	5	1	4	0
7	Revision and Mid Exam				
8	Wooden details (balustrades and railings), Miscellaneous details (flower boxes, and fountains)	5	1	4	0
9	Wooden details (wooden floors)	5	1	4	0
10	Patterns of windows & mounting furniture ... preparing detailed drawings.	5	1	4	0
11	Patterns of doors and mounting furniture ... preparing detailed drawings	5	1	4	0
12	Miscellaneous details (settlement \ expansion joints)	5	1	4	0
13	Final project + Discussion	5	1	4	0
14	Revision.	5	1	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks

1	Exam 1 written (Semester work)	5	10	10 %
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %
4	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	1- Ramsey & Sleeper, Architectural Graphic Standards , The American Institute of Architects, John Wiley & Sons, Inc., New Jersey, U.S.A., 11th Edition, Student Edition: Edited by Bruce Bassler, 2008. 2- Francis D. K. Ching, Building Construction Illustrated , John Wiley & Sons, Inc., New Jersey, U.S.A., 4th edition, 2008. 3- Edward Allen & Patrick. Rand, Architectural Detailing (Function/ Constructability/ Aesthetics) , John Wiley & Sons, Inc., New Jersey, U.S.A., 2nd edition, 2007. 4- Kilmer, R., & Kilmer, W. O. (2021). Construction drawings and details for interiors: Basic skills (4th ed.). Wiley. 5- Allen, E., & Iano, J. (2022). Fundamentals of building construction: Materials and methods (7th ed.). Wiley. 6- Kilmer, R., & Kilmer, W. O. (2021). Construction drawings and details for interiors: Basic skills (4th ed.). Wiley.
	Other References	1- هشام حسن على. دكتور، التصميمات التنفيذية ، مكتبة دار المعرفة، القاهرة، مصر، الإصدار الثاني، 2012م. 2- فاروق عباس حيدر. دكتور، الموسوعة الحديثة في تشييد المباني – الجزء الثالث: الهندسة الصحية والتركيبات الصحية ، منشأة المعارف، الإسكندرية، مصر، الطبعة الثامنة، 2009م. 3- وزارة الإسكان والمرافق والتنمية العمرانية. (2020). الكود المصري لأسس التصميم واشتراطات التنفيذ للأعمال المعمارية . الهيئة المصرية العامة للمواصفات والجودة.
	Learning Platforms (Links must be added)	EKB - Microsoft office https://www.ekb.eg/ar/home
	Supportive facilities & equipment	Devices/Instruments Data show (projector) Laptop or desktop computer Supplies Modeling materials (paper,...) Sketchbook

for teaching and learning *	Electronic Programs	BIM programs

	Course Coordinator	Program Coordinator
Name	Dr.Sherif Nagy Mohamed	Dr.Maysa Ali Selim
Signature	<i>Dr. Sherif Nagy</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Green Architecture			
Course Code (according to the bylaw):	ARE 23[^]			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	٢	٢	--	٤
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Omnia Monir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course aims to learn about: Ecosystems - The concept of green architecture - Theories of green architecture - Green architecture and climate - Design project for green architecture.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A4, A5, A7, B1, B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	<i>Design</i> green architectural solutions that reflect sustainable principles and respond to global and environmental constraints.
		LO2	<i>Apply</i> environmental technologies to enhance the ecological performance of architectural designs.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO3	<i>Evaluate</i> notable buildings using recognized green ratings systems to assess sustainability practices.
		LO4	<i>Investigate</i> green architecture theories and ecosystem relationships through contextual research.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO5	<i>Plan</i> the execution of environmentally responsive projects in collaboration with multiple engineering trades.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO6	<i>Interpret</i> spatial relationships between buildings and users to enhance functional environmental design.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs through understanding of: structural design, construction, technology and engineering problems associated with building designs.	LO7	<i>Generate</i> architectural designs that integrate ecological rehabilitation with structural and technological solutions.
		LO8	<i>Create</i> climate-responsive architecture using synthesis of ecological data and contextual analysis.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
✓	✓	✓	✓	✓	✓	✓	✓			✓		✓		✓	✓

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Course Introduction: Ecosystems and Green Architecture Principles.	4	2	2	0
2	Ethics and Principles of Green Architecture in Global Contexts.	4	2	2	0
3	Passive Environmental Strategies in Architectural Design.	4	2	2	0
4	Active Environmental Technologies for Building Performance+ Quiz\	4	2	2	0
5	Sustainable Materials and Life Cycle Impact + Quiz 1.	4	2	2	0
6	Integrated Environmental Systems in Architectural Design.	4	2	2	0
7	Revision and Mid Exam				
8	Student Research Review: Theories and Case Investigations	4	2	2	0
9	Green Building Rating Systems and Design Assessment Frameworks.	4	2	2	0

10	Design Assessment Workshop + Quiz 2	4	2	2	0
11	Final Project Guidance: Synthesizing Climatic and Ecological Data.	4	2	2	0
12	Project Review and Final Design Integration Workshop.	4	2	2	0
13	Semi Final Project Jury: Presentations and Feedback.	4	2	2	0
14	Final Project Presentation and Design Submission	4	2	2	0
15,16	Final Exam.				

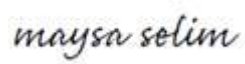
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz written1 (Semester work)	5	5	5%
2	Quiz written2 (Semester work)	10	5	5%
3	Research (Semester work)	8	10	10%
4	Midterm exam	7	30	30 %
5	Final Written Exam	15, 16	30	30 %
6	Project	11,12,13, 14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (Institute Library)	Friedman, A. (2021). <i>Fundamentals of sustainable urban design</i> (Vol. 1). Springer. Gutierrez, R. U. (2020). <i>Elements of sustainable architecture</i> (Vol. 1). Routledge. Halliday, S. (2019). <i>Sustainable construction</i> (Vol. 1). Routledge. Blewitt, J. (2018). <i>Understanding sustainable development</i> (Vol. 1). LCON. Sayigh, A. (2014). <i>Sustainability, energy and architecture: Case studies in realizing green buildings</i> (Vol. 1). A. P. Elsevier.

		Kibert, C. J. (2013). <i>Sustainable construction: Green building design and delivery</i> (Vol. 1). John Wiley.
	Other References	Langdon, K. (2020). <i>Building reuse: Sustainability, preservation, and the value of design</i> (Sustainable Design Solutions from the Pacific Northwest). Island Press. Cogdell, C. (2019). <i>Toward a living architecture? Complexism and biology in generative design</i>. University of Minnesota Press.
	Electronic Sources (Links must be added)	Alison. (n.d.). <i>Sustainable architecture: Climatic considerations and green buildings</i>. Alison. https://alison.com/course/sustainable-architecture-climatic-considerations-and-green-buildings Arch2O. (2023, March 7). <i>10 sustainable design online courses</i>. Arch2O. https://www.arch2o.com/sustainable-design-courses-free/ Sigma Earth. (2023, September 20). <i>Best sustainability architecture courses available online</i>. Sigma Earth. https://sigmaearth.com/best-sustainability-architecture-courses-available-online/
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Laptop
	Electronic Programs	Eco Tech - Climate Consultant - Green Building Studio
	Skill Labs/ Simulators	CAAT (Computer-Aided Architectural Tools)

	Course Coordinator	Program Coordinator
Name	Dr. Omnia Monir	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Statistics and Probability Theory			
Course Code (according to the bylaw):	MTH 105			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Ass. Prof. Tarek Nassar			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

Probability, conditional probabilities, Bayes' theorem. Tendency and Dispersion Measures: Introduction, different types of data, tendency measures, variability measures, frequency distributions. Random Variables: Discrete random variables, the Hyper - geometric distribution, Binomial distribution, the Poisson distribution, Poisson approximation of binomial probabilities, continuous random variables. Moments: central moments, Skewness measures, kurtosis measures, moment generating function. Sampling Theory and Inferences: the concept Of a sampling distribution, sampling distribution of the mean, central limit theorem, tests of hypothesis and Confidence intervals for the mean, tests of hypothesis and confidence intervals for the difference between two means, tests of hypothesis and confidence intervals for the population proportion, tests of hypothesis and confidence intervals for the difference between two proportions, tests of hypothesis and confidence intervals of sample variance, tests of hypothesis and confidence interval for ratio of sample variances. Simple regression and correlation: Simple linear regression by least square method, validation of the model, correlation coefficient.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A2, A4, A5, A6)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify and apply the different statistical measurements for analyzing data. Recognize the axioms of the probability	L01	Apply the different statistical measurements for analyzing grouped and ungrouped data.
		L02	Recognize the axioms of the probability to calculate the probability for any event.
A2	Apply techniques for calculate probabilities, expectation, and variance.	L03	Apply several techniques of counting and calculus to calculate probabilities, mean, and variance for random variable.
A4	Represent the data and compute the strength of relation between variables and estimate the regression equation	L04	Represent: box plot, stem&leaf, histogram, frequency polygon, and scatter diagram.
		L05	Compute the relation strength between two variables, and predict one variable by another with the regression equation.
A5	Classify random variables and density function.	L06	Connect between a random variable and density function.
		L07	Apply different type of probability distributions to solve probability problem.
A6	Utilize engineering probability, problems, for safety requirements and apply codes of practice and standards, quality guidelines.	L08	Use the confidence interval method to compute the mean interval.
		L09	Use the test of hypothesis method to predict the mean interval.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√		√			√	√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	Introduction of statistics - Organized and represent of ungrouped data	4	2	2	
2	Organized and represent of grouped data	4	2	2	
3	Determine the Spearman's and Pearson's coefficient correlation and compute the regression equation	4	2	2	
4	General revision and quiz (1)	4	2	2	
5	Introduction of probability: Sample space and Events – Counting Techniques	4	2	2	
6	Random variables Discrete and continuous and their probability distribution	4	2	2	

7	Mid Exam				
8	Probability distribution: Binomial , Poisson	4	2	2	
9	Probability distribution: normal, standard, student	4	2	2	
10	Relation between distributions	4	2	2	
11	Confidence interval to find the mean interval of the mean population	4	2	2	
12	Hypothesis Testing (The structure of a hypothesis test and testing the mean of population)	4	2	2	
13	General revision and quiz (2)	4	2	2	
14	Sheet and report	4	2	2	
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	4	15	15%
2	Quiz 2 written (Semester work)	13	15	15%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Final Practical/Clinical/... Exam		0	
6	Final Oral Exam		0	
7	Assignments / Project /Portfolio/ Logbook	14	0	10%
8	Field training		0	
9	Other (Mention)		0	

6- Learning Resources and Supportive Facilities *

Learning resources	The main (essential) reference (must be written in full according to the scientific documentation method)	Introduction to Probability and Statistics for Engineers and Scientists, By Sheldon M.

(books, scientific references, etc.) *		Ross, 2021 Elsevier, ISN: 978-0-12-824346-6, 6th edition.
	Other References	Probability and Statistics for STEM: A Course in One Semester, By E.N. Barron, J.G. Del Greco, 2022 Springer series, ISN: 978-3-031-02427-6
	Electronic Sources (Links must be added)	
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	White board
	Supplies	Teaching aids and power point
	Electronic Programs	
	Skill Labs/ Simulators	
	Virtual Labs	
	Other (to be mentioned)	

	Course Coordinator	Program Coordinator
Name	Ass. Prof. Tarek Nassar	Prof. Ahmed Abd El-Gafar
Signature	<i>Ass. Prof. Tarek Nassar</i>	

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

تربية رياضية 2				اسم المقرر: (تبعاً لما ورد باللائحة)
PHE 101				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
نظري	عملي	اخرى (تحدد)	إجمالي	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
2	1		1	
اجباري				نوع المقرر:
SOPHOMORE				المستوى الدراسي الذي قدم فيه المقرر:
البرامج الهندسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
د/عصماء علي				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

المقرر يحتوى علي قوانين الحركة . الميكانيكا الحيوية : انواع الروافع، قواعد الدفع، الاجهاد العضلي، التربية البدنية والمجهود البدني، نظم إنتاج الطاقة والمشروبات الرياضية، والظروف البيئية وتأثيرها على الأنشطة الرياضية.

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصنوفة في توصيف البرنامج)		نواتج التعلم للمقرر	
A2_A4_A5_A7_A8		عند الانتهاء من المقرر سيكون الطالب قادراً على	
الكود	النص	الكود	النص
A2	تحديد وصياغة وحل المشكلات الهندسية المعقدة من خلال تطبيق الأسس الهندسية والرياضيات والعلوم الأساسية	LO1	توظيف معارف ومهارات التربية الرياضية للتعامل مع إصابات
		LO2	أهم الإصابات التي يتعرض لها اللاعبون والأفراد العاديين وأهم طرق العلاج
A4	لاستفادة من التقنيات المعاصرة، والممارسات والمعايير، وإرشادات الجودة، ومتطلبات الصحة والسلامة والقضايا البيئية ومبادئ إدارة المخاطر	LO3	التعرف على أهم أسباب الانحرافات القوامية وتجنب حدوثها
		LO4	شرح مفاهيم التربية والهندسة الرياضية ونظرياتها
		LO5	تنمية المعارف والمعلومات حول حقيقة ونطاق الإصابات الرياضية
A5	ممارسة تقنيات البحث وأساليب التحقيق كجزء لا يتجزأ من التعلم.	LO6	تنمية المعارف والمعلومات حول حقيقة ونطاق الإصابات الرياضية
		LO7	التعرف على مبادئ الاسعافات الأولية والوسائل المستخدمة لإتجاه الإصابات الرياضية.
A7	لعمل بكفاءة كفرد وعضو في فرق متعددة التخصصات ومتعدد الثقافات	LO8	وتنمية المعارف والمعلومات حول الإصابات الرياضية التي يتعرض لها الرياضيين داخل الملاعب وخارجها .
A8	التواصل بفعالية ببنائياً وشفاهه وكتابة مع مجموعات من الجماهير باستخدام الأدوات العصرية.	LO9	توظيف المعارف والمهارات التي حصل عليها في مجال العمل

4 طرق التعليم والتعلم للمقرر:

استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات				التدريس الغير مباشر								التدريس المباشر			
النقاء الاصطناعي في التعليم	التعلم الإلكتروني	المعامل الافتراضية	برامج المحاكاة أو النمذجة	التعلم بالإكتشاف	التعلم الذاتي	الزيارات الميدانية	التدريب الميداني	الحوار والمناقشة	كتابة التقارير /الأبحاث	حل المشكلات	استراتيجية دراسة الحالة	التعلم القائم على المشروعات الجماعية	العصف الذهني	التمارين العملية والتجارب	المحاضرات
	✓				✓			✓	✓				✓		✓

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملية	تمارين	عملية	عملية	عملية
1	جسم الانسان (عظمى - عضلى - مفصلى - عصبى) وما هو تأثير ممارسات المشاركة الرياضية + نشاط رياضي	2	1	0
2	تعريف الاصابة- اسبابها -اعراضها - الاسعافات الاولية ومبادئها+ نشاط رياضي	2	1	0
3	اهداف واعراض الاسعافات الاولية والوسائل المستخدمة فى الاسعافات الاولية + نشاط رياضي	2	1	0
4	اصابات الجلد (الجروح - الحروق - كدمات الجلد) + نشاط رياضي	2	1	0
5	اصابات العضلات (الاجهاد العضلى - التقلص العضلى - التمزق العضلى) + نشاط رياضي	2	1	0
6	مراجعته عامه + تدريب على التقييم العملي	2	1	0
7	مراجعة وامتحان منتصف الفصل الدراسي			
8	مراجعته عامه + مناقشه ابحاث	2	1	0
9	اصابات الجهاز العصبي (الاغماء- الصدمة - كدمات الاعصاب -النزيف) + تقييم الجزء العملي	2	1	0
10	ماهى القوام - تعريفه - مبادئ المحافظة على القوام + مناقشه الابحاث و التقارير	2	1	0
11	الانحرافات القوامية (انواعها - اسبابها	2	1	0
12	مراجعته عامه	2	1	0
13	إختبارات الفصل الدراسي النهائية عملي			

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	بحث تقييمي للعملي	8_9	20	20%
2	امتحان منتصف الفصل الدراسي	7	20	20%
3	امتحان نهائي تحريري	14	30	30%
4	امتحان نهائي عملي	13	30	30%

6- مصادر التعلم والتسهيلات المادية:

مدخل في التربية الرياضية	المرجع الأساسي للمقرر (لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
ابو العلا عبد الفتاح : الرياضه و انقاص الوزن ، دار الفكر العربي 2023	المراجع الأخرى	
الهام شلبي : بانورما الصحة العامه للريا ضيين القاهرة 2022	المصادر الالكترونية (لابد من إضافة الروابط)	
EKB - Microsoft office	المنصة التعليمية (لابد من إضافة الرابط)	
قاعة محاضرات مجهزة والجيم	1	التجهيزات التعليمية المساندة للتعليم والتعلم *
المكتبات المركزية والفرعية	2	
الوسائل التعليمية (داتا شو (جهاز كمبيوتر محمول).	3	
مذكرة لتدريس المقرر وكشوف متابعة للطلاب	4	

منسق البرنامج	منسق المقرر	
د.د/ أحمد عبد الغفار	د. عصماء علي	الإسم
	عصماء علي	التوقيع

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

١ - معلومات أساسية :

التذوق الأدبي	اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 104	كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية	القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	إجمالي عدد الساعات المعتمدة للمقرر:
٢	(تبعاً لما ورد باللائحة)
اختياري	نوع المقرر:
JUNIOR	المستوى الدراسي الذي قدم فيه المقرر:
العلوم الأساسية	البرنامج الأكاديمي:
المعهد التكنولوجي العالي	المعهد:
Prof. Eid Abd El-Baset Eid	اسم منسق المقرر:
مجلس القسم العلمي للبرنامج	جهة مناقشة واعتماد تقرير المقرر:
7/26/2025	تاريخ اعتماد تقرير المقرر:

٢ - الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

مفهوم النص الإبداعي وأشكال التعبير الوجداني - الأنواع الأدبية الشعرية والنثرية والمسرحية والقصصية - نظريات التلقي وتعدد قراءات الدارس للنص على مستويات الفهم والتذوق والتحليل - أسس التشكيل الجمالي للنص من خلال تحليل : الماهية، الأدوات، الوظائف - أهمية التاريخ للنص والتجربة الأدبية من حيث علاقتها بالمبدع والمرحلة والمجتمع والبيئة - أركان النص الأدبي ومقوماته والنظريات النقدية حول أسس تحليله وتفسيره وتقويمه ونقده - النقد النظري والتطبيقي والنقد التأثري الانطباعي والنقد الموضوعي للنص قديماً وحديثاً - تطبيق إحدى نظريات التلقي واستكشاف أعماق النص على أساس الوعي بالتحليل الجماعي للمفردات والأصوات والتراكيب والجمال وفضاءات تجارب الشعراء - دراسة آليات التذوق الأدبي وأسس تكوينه من خلال تعدد القراءات للظواهر النقدية والإبداعية - الدرس التطبيقي على نصوص منتقاه من الشعر العربي القديم والمعاصر بما يعكس صوراً من ظاهرة الإبداع وظاهرة التلقي ومابينهما من علاقات (يمكن دراسة ظاهرة فن المعارضات الشعرية).

٣- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		A٧, A10	
الكود	النص	الكود	النص
LO1	إدراك مفهوم النص الإبداعي وأشكال التعبير الوجداني	A7	العمل بكفاءة كفرد وعضو في فرق متعددة التخصصات ومتعدد الثقافات وذات صلة بالتذوق الأدبي
LO2	معرفة الأنواع الأدبية الشعرية والنثرية والمسرحية والقصصية		
LO3	الإلمام بأسس التشكيل الجمالي للنص من خلال تحليل النصوص النثرية		
LO4	دراسة آليات التذوق الأدبي وتطبيقها على بعض النصوص الشعرية أو النثرية الحديثة.		
LO5	الدرس التطبيقي على نصوص منتقاة من الشعر العربي القديم والمعاصر		
LO6	تطبيق إحدى نظريات التلقي وإستكشاف أعماق النص على أساس الوعي بالتحليل الجماعي للمفردات.	A10	إكتساب المعارف الجديدة وتطبيقها، وممارسة استراتيجيات التعلم الذاتي وغيرها مدى الحياة.
LO7	تحليل أسس النصوص التأثيرية والتطبيقية من خلال تعدد القراءات للظواهر النقدية والإبداعية.		
LO8	تعزيز العديد من السلوكيات والمهارات داخل وخارج نطاق العمل بحيث يعمل ضمن فريق.		
LO9	إكتساب مهارات إدارة الوقت بكفاءة.		
LO10	إستخدام تكنولوجيا المعلومات ومواقع الإنترنت لإكتساب مهارات التعليم الذاتي.		

٤- طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
√		√				√	√			√				√	

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملي	تمارين			
٠	٠	٢	٢	١
٠	٠	٢	٢	٢
٠	٠	٢	٢	٣
٠	٠	٢	٢	٤
٠	٠	٢	٢	٥
٠	٠	٢	٢	٦
مراجعة وامتحان منتصف الفصل الدراسي				
٠	٠	٢	٢	٨
٠	٠	٢	٢	٩
٠	٠	٢	٢	١٠
٠	٠	٢	٢	١١
٠	٠	٢	٢	١٢
٠	٠	٢	٢	١٣
إختبارات الفصل الدراسي النهائية				
				١٤

٥- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
١	امتحان ١ تحريري (أعمال سنة)	٥	١٠	١٠ %
٢	امتحان ٢ تحريري (أعمال سنة)	١٢	١٠	١٠ %
٣	امتحان منتصف الفصل الدراسي	٧	٢٠	٢٠ %
٤	امتحان نهائي تحريري	١٤	٤٠	٤٠ %
5	تكاليفات / تقارير	طوال الفصل	٢٠	٢٠ %

٦- مصادر التعلم والتسهيلات المادية:

مصادر التعلم (الكتب والمراجع العلمية وغيرها) *	المرجع الأساسي للمقرر (لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	كتاب المقرر ويتم تسليمه للطلاب في بداية الفصل
	المراجع الأخرى	عبد الله التطاوي، تقاطعات الحركة الشرعية بين الموروث والفردى ، الدار المصرية اللبنانية بالقاهرة، الطبعة الثانية. ٢٠٢٠
	المصادر الالكترونية (لابد من إضافة الروابط)	https://ar.wikipedia.org/wiki http://www.du.edu.eg/ https://www.youtube.com/watch?bnCua19ME
	المنصة التعليمية (لابد من إضافة الرابط)	EKB - Microsoft office
	الأجهزة	
	المستلزمات	Data show, White board
	البرامج الالكترونية	Microsoft Teams
	معامل المهارات/ المحاكيات	-----
	المعامل الافتراضية	-----
	أخرى (تذكر)	-----

منسق المقرر	منسق البرنامج	
Prof. Eid Abd El-Baset Eid	أ.د. أحمد عبدالغفار	الإسم
Prof. Eid Abd El-Baset Eid		التوقيع

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

التذوق الموسيقي	اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 105	كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية	القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	إجمالي عدد الساعات المعتمدة للمقرر:
2	(تبعاً لما ورد باللائحة)
اختياري	نوع المقرر:
JUNIOR	المستوى الدراسي الذي قدم فيه المقرر:
العلوم الأساسية	البرنامج الأكاديمي:
المعهد التكنولوجي العالي	المعهد:
Prof. Eid Abd El-Baset Eid	اسم منسق المقرر:
مجلس القسم العلمي للبرنامج	جهة مناقشة واعتماد تقرير المقرر:
7/26/2025	تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

الاستماع لمجموعات الآلات الموسيقية الوركستراية وهي مجموعة الآلات الوترية – مجموعة آلات النفخ الخشبي – مجموعة آلات النفخ النحاسي – الآلات الإيقاعية، والتعرف عليها من خلال الصور المرفقة مع الملزمة الخاصة بالمقرر الدراسي – الدراسة النظرية بطريقة مختصرة تشمل جوانب المعرفة الأساسية المطلوب دراستها للعصور الموسيقية المختلفة (عصر الباروك – العصر الكلاسيكي – العصر الرومانتيكي – نبذة عن موسيقى الجاز ونشأتها – نبذة عن الموسيقى العربية وآلاتها المستخدمة) – الأهداف العامة للمقرر: بعد دراسة هذا المقرر يكون الطالب قادراً علي: التعرف بالاستماع علي الآلات الموسيقية المستخدمة في الاوركسترا – دراسة أنواع المعلومات الهامة عن موسيقى الجاز – دراسة الموسيقى العربية وآلاتها – الإلمام الكامل بأنواع الموسيقى المختلفة – المهارات الذهنية: بعد دراسة هذا المقرر يكون الطالب قادراً علي: إدراك ومعرفة أنواع الآلات الموسيقية المختلفة – تمييز أنواع المؤلفات الموسيقية المختلفة (عالمية – عربية) – معرفة تكوين الاوركسترا الغربي والشرقي وفرق الجاز – المهالات العامة: بعد دراسة هذا المقرر يكون الطالب قادراً علي: التواصل بفاعلية من خلال المناقشة والحوار – توظيف المادة العلمية في خدمة الثقافة الموسيقية – الإلمام بثقافات علمية في غير مجال التخصص – الأساليب المستخدمة للتقويم: مناقشات وشرح المحاضرة – اختبارات شفوية وتحريرية – اختبار نهاية الفصل الدراسي)

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعا للمصنوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادرا على		A3,A4, A5, A6,A10	
الكود	النص	الكود	النص
LO1	معرفة مجموعة الآلات الوترية	A3	تطبيق عمليات التصميم الهندسي لإنتاج حلول فعالة من حيث التكلفة تلبي الاحتياجات النوعية مع مراعاة الجوانب العالمية والثقافية والاجتماعية والاقتصادية والبيئية والخالقية وغيرها من الجوانب المتسقة مع النظام والظروف وضمن مبادئ وسياق التصميم والتنمية التطوير المستدامين.
LO2	التعرف علي أصوات مجموعات آلات النفخ الخشبي ومجموعات آلات النفخ النحاسي والتعرف علي الآلات الموسيقية من خلال الصور		

4 طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الاصطناعي في التعليم
✓		✓				✓	✓			✓				✓	

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملية	تمارين			
1	مقدمة عامة و معرفة مفهوم التذوق الموسيقي	2	2	0
2	الموسيقي كإبداع إنساني	2	2	0
3	أنواع الموسيقي الشرقية والعربية	2	2	0
4	أنواع الآلات الوترية و تمايز نغماتها	2	2	0
5	أنواع آلات النفخ الخشبي والنحاسي	2	2	0
6	التعرف علي الآلات الموسيقية المختلفة من خلال الصور	2	2	0
7	مراجعة وامتحان منتصف الفصل الدراسي			
8	كيفية تكوين الأوركسترا الغربي و الشرقي	2	2	0
9	موسيقي الجاز و نشأتها وآلاتها	2	2	0
10	المقارنة بين أنواع المؤلفات الموسيقية المختلفة (عالمية و عربية)	2	2	0
11	دراسة العصور الموسيقية المختلفة(عصر الباروك- العصر الكلاسيكي- العصر الرومانتيكي)	2	2	0
12	توظيف المادة العلمية في خدمة الثقافة الموسيقية	2	2	0
13	مراجعة عامه	2	2	0
14	إختبارات الفصل الدراسي النهائية			

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10 %
2	امتحان 2 تحريري (أعمال سنة)	12	10	10 %
3	امتحان منتصف الفصل الدراسي	7	20	20 %
4	امتحان نهائي تحريري	14	40	40 %
5	تكاليفات / تقارير	طوال الفصل	20	20 %

6- مصادر التعلم والتسهيلات المادية:

مصادر التعلم (الكتب والمراجع العلمية وغيرها) *	المرجع الأساسي للمقرر (لا بد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	كتاب المقرر ويتم تسليمه للطلاب في بداية الفصل
	المراجع الأخرى	عبد الحميد توفيق زكي: تاريخ المصريين: التذوق الموسيقي وتاريخ الموسيقي المصرية، الهيئة المصرية العامة للكتاب 2021.

https://ar.wikipedia.org/wiki http://www.du.edu.eg/ https://www.youtube.com/watch?=bnCua19ME	المصادر الإلكترونية (لا بد من إضافة الروابط)	
EKB - Microsoft office	المنصة التعليمية (لا بد من إضافة الرابط)	
قاعة محاضرات أجهزة	الأجهزة	التجهيزات التعليمية المساندة للتعليم والتعلم *
Data show, White board	المستلزمات	
Microsoft Teams	البرامج الإلكترونية	
-----	معامل المهارات/ المحاكيات	
-----	المعامل الافتراضية	
-----	أخرى (تذكر)	

منسق البرنامج	منسق المقرر	
أ.د. أحمد عبدالغفار	Prof. Eid Abd El-Baset Eid	الإسم
	Prof. Eid Abd El-Baset Eid	التوقيع

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

التراث الأدبي المصري				اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 106				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	أخرى (تحدد)	عملي	نظري	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
2			2	
اختياري				نوع المقرر:
JUNIOR				المستوى الدراسي الذي قدم فيه المقرر:
العلوم الأساسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

يهدف المقرر إلى تعريف الطالب بالتميز الإقليمي لمصر في العصور القديمة والوسطى والحديثة وأثر عبقرية المكان على الفكر والوعي المصري وتجلياته في التراث الأدبي شعراً ونثراً من خلال الدرس التاريخي والنصي للأدب المصري في مراحلته المختلفة كما يحتوي المقرر على التطورات الأدبية من منظور حضاري وإبداعي - المكتبة التراثية المصرية من منظور تاريخي متجدد - دراسة مفهوم وضعية العصور الوسطى في مصر والفرق بينها وبين العصور الوسطى في أوروبا - التراث الجغرافي المصري وأدب الرحلات في الكتابات المصرية - التأليف الموسوعي في مصر و الصياغة الأدبية في فن الموسوعات- الظواهر الأدبية الغالبة على الأدب المصري- مناهج دراسة التراث الأدبي المصري ودلالاته - مدارس التأليف والإبداع في تاريخ الفكر المصري- مجالات الإبداع في الشعر المصري (الطبيعة المصرية- أدب الحروب - الموضوعات الجديدة والبيئة المصرية) - مدارس الكتابة الفنية على المستوى الرسمي وغيرها - تتبع التطبيق على النص والتحليل من خلال أبرز شعراء وكتاب التراث المصري من أمثال ابن نبتة المصري وابن سناء الملك وصولاً إلى أدوار الدكتور محمد كامل حسين والأستاذ أمين الخولي والدكتور جمال حمدان في تناول التراث الأدبي المصري بالتحليل والدراسة المنهجية حول عبقرية المكان.

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		A3,A4, A5, A6,A10	
النص	الكود	النص	الكود
يتعرف على أهمية دراسة التراث الأدبي المصري..	LO1	تطبيق عمليات التصميم الهندسي لإنتاج حلول فعالة من حيث التكلفة تلبي الاحتياجات النوعية مع مراعاة الجوانب العالمية والثقافية والاجتماعية والاقتصادية والبيئية والأخلاقية وغيرها من الجوانب المتسقة مع النظام والظروف وضمن مبادئ وسياق التصميم والتنمية التطوير المستدامين.	A3
يتعرف على أهم المؤثرات التي ساهمت في تكوين التراث الحضارى.	LO2		
يلخص مصادر ومكانة التراث الحضارى و تأثيره في مقومات بقاء وإستمرار الأمم وفقاً لدورها الريادى والحضارى.	LO3	الاستفادة من التقنيات المعاصرة، والممارسات والمعايير، وإرشادات الجودة، ومتطلبات الصحة والسلامة والقضايا البنينة ومبادئ إدارة المخاطر.	A4
يستنتج الدور الحيوى والرئيسى للتراث الادبى المصرى..	LO4		
يربط بين التأثير والتأثر بين الحضارات القديمة والحديثة.	LO5		
يقارن بين الحضارة العربية الاسلامية والحضارات الحديثة و يربط بين محتوات المنهج والأحداث التي يمر بها عالمنا العربى الإسلامى .	LO6		
يثمن قيمة العلم والمعرفة و يثمن دور العقول العربية الاسلامية التي أبدعت في كافة الميادين.	LO7		
يستخدم تكنولوجيا المعلومات بما يخدم الممارسة المهنية في مجال التراث الحضارى.	LO8	ممارسة تقنيات البحث وأساليب التحقيق كجزء لا يتجزأ من التعلم.	A5
يظهر مهارات إدارة الوقت بكفاءة في مجال أى مهنة ترتبط بالتراث الحضارى.	LO9	التخطيط والإشراف والرقابة علي تنفيذ المشاريع الهندسية مع مراعاة متطلبات الحرف الأخرى	A6
تعزز العديد من السلوكيات والمهارات داخل وخارج نطاق العمل بحيث يعمل ضمن فريق يظهر مهارات التواصل مع الآخرين، و كذلك قدرات التعلم الذاتى .	LO10	اكتساب المعارف الجديدة وتطبيقها، وممارسة استراتيجيات التعلم الذاتى وغيرها مدى الحياة.	A10

4 طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
✓		✓				✓	✓			✓				✓	

الجدول الدراسي المقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
				تمارين
1	تعريف بالمقرر الدراسي ومقدمة عامه	2	2	0
2	زعم المتعصبين أن كل الإنجازات العلمية من إبداعات الحضارة الغربية.	2	2	0
3	الأرقام من إبداعات العلماء العرب و المسلمين	2	2	0
4	قيام الحضارات على العلم والدين	2	2	0
5	الحضارة الفرعونية بين الإبداع و التشكيك.	2	2	0
6	التراث الحضارى ذاكرة الامم .	2	2	0
7	مراجعة وامتحان منتصف الفصل الدراسي			
8	العلم تراث حضارى مشترك .	2	2	0
9	لماذا شيد قدماء المصريين أكبر الاهرامات على هضبة صخرية صلبة	2	2	0
10	الأندلس الباب الغربى الذى إنتقلت عبره علوم العرب والمسلمين الى اوروبا.	2	2	0
11	أهمية دراسة التراث الحضارى	2	2	0
12	أهمية دراسة المقررات الثقافية	2	2	0
13	مراجعة عامه	2	2	0
14	إختبارات الفصل الدراسي النهائية			

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10 %
2	امتحان 2 تحريري (أعمال سنة)	12	10	10 %
3	امتحان منتصف الفصل الدراسي	7	20	20 %
4	امتحان نهائي تحريري	14	40	40 %
5	تكاليفات / تقارير	طوال الفصل	20	20 %

6- مصادر التعلم والتسهيلات المادية:

المرجع الأساسي للمقرر	كتاب المقرر ويتم تسليمه للطلاب في بداية الفصل

(لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)		
1- عوض مرسى الغلري، دراست في الألب المصري، الدار الدولية للاستثمارات الثقافية، القاهرة الطبعة الأولى، 2017 2- أحمد عبد الرازق، الحضارة الإسلامية في العصور الوسطى، القاهرة، 2020 . 3- عبد الرحمن بدوي: دور العرب في تكوين الفكر الاوربي. الهيئة المصرية العامة للكتاب 2021	المراجع الأخرى	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
https://ar.wikipedia.org/wiki http://www.du.edu.eg/ https://www.youtube.com/watch?=bnCua19ME	المصادر الالكترونية (لابد من إضافة الروابط)	
EKB - Microsoft office	المنصة التعليمية (لابد من إضافة الرابط)	
قاعة محاضرات مجهزة	الأجهزة	
Data show, White board	المستلزمات	التجهيزات التعليمية
Microsoft Teams	البرامج الالكترونية	المساندة للتعليم والتعلم *
-----	معامل المهارات/ المحاكيات	
-----	المعامل الافتراضية	
-----	أخرى (تذكر)	

منسق البرنامج	منسق المقرر	
أ.د. أحمد عبدالغفار		الإسم
		التوقيع

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

الإتجاهات الفنية المعاصرة				اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 107				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
نظري	عملي	اخرى (تحدد)	إجمالي	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
2			2	
اختياري				نوع المقرر:
JUNIOR				المستوى الدراسي الذي قدم فيه المقرر:
البرامج الهندسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

يهدف المقرر إلى: إكساب الطالب القدرة على التذوق الفني - إكساب الطالب مهارة قراءة الأعمال الفنية وذلك من خلال دراسة الفلسفات والاتجاهات المذاهب المعاصرة الحديثة وما بعد الحداثة. ويحتوي المقرر على الموضوعات التالية : التعريف بالفنون القديمة كمدخل للفلسفات الكلاسيكية - مدخل للفنون الكلاسيكية والأصول اليونانية - الكلاسيكية الجديدة (أهم المصورين و المثاليين) - الحداثة وحركة التأثيريين الفرنسيين (صالون الشباب) سيزان، مافيه، مونيه - التكعيبية (بارك، بيكاسو) ، المستقبلية (بوتشيني) البعد الزمني- التجريدي (كاندنسيكي- موندريان) - الاتجاه التعبيري (إدوارد مونخ ، فان جوخ) في ألمانيا الوحشية - التلقائية (بول كيلي- خوان ميرو) - الاتجاهات الحديثة والفن الحر- الاتجاهات الحديثة في الفنون المصرية (الحركة التشكيلية المصرية المعاصرة) - الفنانين المصريين المثاليين (محمود مختار- صبحي جرجس- السجيني - الوشاحي) - المصورين المصريين (محمود سعيد، يوسف كامل، راغب عياد، عبد العزيز درويش) فنانين مصريين عالميين (صلاح عبد الكريم، حامد ندى، ناجي شاكرا) - ما بعد الحداثة وأهم اتجاهاتها.

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		A3,A4, A5, A6,A10	
النص	الكود	النص	الكود
يتعرف على أهمية الفنون الحديثة المعاصرة خاصة (الابداع الرسومي)	LO1	A3	تطبيق عمليات التصميم الهندسي لإنتاج حلول فعالة من حيث التكلفة تلبي الاحتياجات النوعية مع مراعاة الجوانب العالمية والثقافية والاجتماعية والاقتصادية والبيئية والأخلاقية وغيرها من الجوانب المتسقة مع النظام والظروف وضمن مبادئ وسياسات التصميم والتنمية التطوير المستدامين.
يتعرف على أهم المؤثرات التي ساهمت في إظهار الأعمال الفنية للرسامين العالميين .	LO2		
يلخص مصادر ومكانة الأعمال الفنية للرسامين في أوروبا القديمة والمعاصرة	LO3	A4	الاستفادة من التقنيات المعاصرة، والممارسات والمعايير، وإرشادات الجودة، ومتطلبات الصحة والسلامة والقضايا البيئية ومبادئ إدارة المخاطر.
يستنتج الدور الحيوي والرئيسي للعمل الفني المعاصر	LO4		
يربط بين التأثير والتأثر بين الفنون الرسومية القديمة والحديثة.	LO5		
يقارن بين الأعمال الفنية المصرية المعاصرة و الفنية المصرية القديمة ، و يربط بين الفلسفيات القديمة والمعاصرة في الاعمال الفنية.	LO6		
يثمن قيمة العلم والمعرفة و يثمن دور العقول المصرية التي أبدعت في كافة الميادين.	LO7	A5	ممارسة تقنيات البحث وأساليب التحقيق كجزء لا يتجزأ من التعلم.
يستخدم تكنولوجيا المعلومات بما يخدم الممارسة المهنية في مجال الفنون.	LO8		
يظهر مهارات إدارة الوقت بكفاءة في مجال أى مهنة ترتبط بالفنون .	LO9	A6	التخطيط والإشراف والرقابة علي تنفيذ المشاريع الهندسية مع مراعاة متطلبات الحرف الأخرى
تعزيز العديد من السلوكيات والمهارات داخل وخارج نطاق العمل بحيث يعمل ضمن فريق يظهر مهارات التواصل مع الآخرين، و كذلك قدرات التعلم الذاتي .	LO10	A10	اكتساب المعارف الجديدة وتطبيقها، وممارسة استراتيجيات التعلم الذاتي وغيرها مدى الحياة.

4 طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالاختشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الاصطناعي في التعليم
✓		✓				✓	✓			✓				✓	

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملية	تمارين			
1	التعريف بالفنون القديمة كمدخل للفلسفات الكلاسيكية	2	2	0
2	مدخل للفنون الكلاسيكية والأصول اليونانية	2	2	0
3	الكلاسيكية الجديدة (أهم المصورين و المثاليين) الحداثة وحركة التأثيريين الفرنسيين (صالون الشباب) سيزان، مافيه، مونيه	2	2	0
4	التكعيبية (بارك، بيكاسو) ، المستقبلية (بوتشيني).	2	2	0
5	البعد الزمني- التجريدي (كاندنسيكي- موندريان)	2	2	0
6	الاتجاه التعبيري (إدوارد مونخ ، فان جوخ) في ألمانيا الوحشية	2	2	0
7	مراجعة وامتحان منتصف الفصل الدراسي			
8	الاتجاهات الحديثة والفن الحر	2	2	0
9	الاتجاهات الحديثة في الفنون المصرية (الحركة التشكيلية المصرية المعاصرة)	2	2	0
10	الفنانين المصريين المثاليين (محمود مختار- صبحي جرجس- السجيني – الوشاحي)	2	2	0
11	المصورين المصريين (محمود سعيد، يوسف كامل، راغب عياد، عبد العزيز درويش) فنانين مصريين عالميين (صلاح عبد الكريم، حامد ندى، ناجي شاكرا)	2	2	0
12	ما بعد الحداثة وأهم اتجاهاتها	2	2	0
13	مراجعة عامه	2	2	0
14	إختبارات الفصل الدراسي النهائية			

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10 %
2	امتحان 2 تحريري (أعمال سنة)	12	10	10 %
3	امتحان منتصف الفصل الدراسي	7	20	20 %
4	امتحان نهائي تحريري	14	40	40 %
5	تكليفات / تقارير	طوال الفصل	20	20 %

6- مصادر التعلم والتسهيلات المادية:

كتاب المقرر ويتم تسليمه للطلاب في بداية الفصل	المرجع الأساسي للمقرر (لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
محمود خالد بشايرة ، التربية الفنية وتنمية التفكير-اتجاهات حديثه في التدريس، عالم الكتب الحديث 25 أبريل 2019	المراجع الأخرى	
https://ar.wikipedia.org/wiki http://www.du.edu.eg/ https://www.youtube.com/watch?=bnCua19ME	المصادر الالكترونية (لابد من إضافة الروابط)	
EKB - Microsoft office	المنصة التعليمية (لابد من إضافة الرابط)	
قاعة محاضرات مجهزة	الأجهزة	التجهيزات التعليمية المساندة للتعليم والتعلم *
Data show, White board	المستلزمات	
Microsoft Teams	البرامج الالكترونية	
-----	معامل المهارات/ المحاكيات	
-----	المعامل الافتراضية	
-----	أخرى (تذكر)	

منسق البرنامج	منسق المقرر	
أ.د. أحمد عبدالغفار		الإسم
		التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Architectural Design B			
Course Code (according to the bylaw):	ARE 221			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Mohamed Ahmed Nabil Abu EL-Amayem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

With emphasis of space experience and interior design, the focus of this course Continuation of design with projects of increasing complexity of form and functions, existing historical.

Architectural design as a creative operation to solve functional problems of buildings. Collection of information, analysis studies. The integration of structure, mechanical systems, using intermediate and large space structures. Consideration is taken to the relation between internal

and external space. Study of interior design; activity analysis, furniture and lighting. Studio work including lectures projects, interior and exterior perspectives. Design projects such as community and hotel buildings art and museum complex, educational park, and medical center.

Considerations of urban context, structural coordination and the environmental aspects will be studied and analyzed. Computer use is essential in this course.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A2, A6, A7,A8, B1, B2,B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Apply simulation and analytical tools to evaluate architectural design decisions, interpret results, and draw conclusions using objective judgment and statistical methods.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO2	Apply simulation and analytical tools to evaluate architectural design decisions, interpret results, and draw conclusions using objective judgment and statistical methods.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO3	Collaborate effectively within multidisciplinary and multicultural teams, contributing to shared design goals and resolving conflicts constructively
A8	Communicate effectively – graphically, verbally and in writing –with a range of audience using contemporary tools.	LO4	Prepare architectural concepts and design proposals clearly through drawings, models, presentations, and written reports using contemporary digital tools

B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies and human sciences.	LO5	Develop architectural designs that balance aesthetics and technical requirements, informed by historical context, cultural heritage, and fine arts.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO6	Design spaces that respond to human needs and scale, demonstrating understanding of the relationship between users, buildings, and their surrounding environment.
		LO7	Assess Critically opera house design precedents, identifying key architectural, acoustic, and spatial features relevant to performance spaces
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO8	Integrate sustainable and ecological principles into architectural designs, addressing environmental conservation, rehabilitation, and technical challenges.
		LO9	Produce a comprehensive opera house design proposal, demonstrating synthesis of technical, cultural, environmental, and user-centered considerations.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√			√	√	√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	introduction to the course	6	0	6	0
2	Scientific research	6	0	6	0
3	Analyzing and designof the first plan	6	0	6	0
4	Analyzing and designof the second plan	6	0	6	0
5	Quiz (plans – pre elevations- pre 3d)	6	0	6	0
6	feedback	6	0	6	0
7	Revision and Mid Exam				
8	feedback	6	0	6	0
9	feedback	6	0	6	0
10	-Designing of finalplans -Design of elevations	6	0	6	0
11	feedback	6	0	6	0
12	Final design for 3dform	6	0	6	0

13	feedback	6	0	6	0
14	feedback	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	5	20	20 %
2	Midterm exam	7	30	20 %
3	Final Written Exam	15, 16	30	40 %
4	Assignments / Project /Portfolio/ Logbook	weekly	20	20 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- W.F.E.PREISER , ADAPTIVE ARCHITECTURE CHANGING PARAMETERS AND PRACTICE, N.Y., ROUTLEDGE, 2018 - الموسوعة المعمارية للتصميم المعماري .(2007). خلوصي، م. م. ع بيروت: دار الراتب الجامعية .(دور المسرح) - Neufert,architect`s data ,crosby , lockwood staoles , london ,2000
	Other References	☐ Time saver standards for architectural design data , ☐ Mc Graw Hill book company ☐ Egyptain building code
	Electronic Sources (Links must be added)	https://www.amazon.com/Neufert-Architects-Data-Fourth-Ernst/dp/1405192534 https://www.amazon.com/Time-Saver-Standards-Architectural-Design-Professional-ebook-dp-
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	- Whiteboard - Projector - Computer
	Electronic Programs	AutoCAD-Revit-3D MAX

	Course Coordinator	Program Coordinator
Name	DR.Mohamed Nabil Abu EL-Amayem	Dr.Maysa Ali Selim
Signature	<i>Mohamed Abu EL-Amayem</i>	<i>maysa solim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	History and Theories of Planning			
Course Code (according to the bylaw):	ARE 214			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Heba Mahmoud Abd Elaziz			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

A Study for the urban and city evolution through history (starting from ancient Egypt, Mesopotamia, Greek, Roman, Middle ages, Renaissance). The industrial revolution and its effect on the pattern of the city, Trends and theories of city planning. Students will be required to participate in collecting and analyzing data concerning one of the Utopians and presenting their final report.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A8, A9, B1)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO1	Explain concepts, ideas of design, construction, and materials of earlier architecture.
		LO2	Focus on the evolution of architecture and buildings
		LO3	Prepare teamwork in research
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO4	Differentiate between architecture of different eras and its distinctive Elements
		LO5	Compare between different theories of urban planning
		LO6	Analyze the range of Distinctive Elements, patterns, features, and traditions that have shaped and sustained cultures, and architectural characters (Planning pioneers)
B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies and human sciences	LO7	Develop positively to the aesthetic, architecture, and urban identity.
		LO8	Apply heritage philosophy of designs in architecture design projects.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√		√	√							√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction, prehistoric communities, Mesopotamian civilization.	4	1	0	3
2	Egyptian civilization	4	1	0	3
3	Greek civilization	4	1	0	3
4	Roman civilization	4	1	0	3
5	Complete roman civilization	4	1	0	3
6	Medival town, Renaissance	4	1	0	3
7	Revision and Mid Exam				
8	The New theories of city planning.	4	1	0	3

	The industrial cityThe model Town				
9	Introduction to city theory	4	1	0	3
10	The linear city theory	4	1	0	3
11	The garden city theoryThe satellite towns	4	1	0	3
12	The Neighborhood +the city of tomorrow + different town shapes	4	1	0	3
13	Final Project	4	1	0	3
14	General Revision	4	1	0	3
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Final Exam (written)	15, 16	40	40%
2	Midterm written Exam (Term Work)	7	20	20%
3	Tutorial and report assessment (Term Work)	weekly	20	20%
4	Quizzes/reports/presentation (Term Work)	14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	● عبد الجواد، ت. أ. (1955) <i>تاريخ العمارة والفنون في العصور الأولى</i>. القاهرة: هيئة الآثار. ● علام، أ. خ. (1993) <i>تاريخ تخطيط المدن</i>. القاهرة: مكتبة الأنجلو. ● السيد، ر. (1993) <i>تاريخ مصر القديمة: الجزء الثاني منذ بداية الدولة الوسطى حتى نهاية الدولة الحديثة</i>. القاهرة: هيئة الآثار.

		- CARMONA, Matthew. Public places urban spaces: The dimensions of urban design. Routledge, 2021. - Planning Methodology and History by Wegener-2009 - WATES, Nick; THOMPSON, John. The Community Planning Event Manual: How to use collaborative planning and urban design events to improve your environment. Routledge, 2013.
	Other References	- Planning and Urban Design StandardA Planners Dictionary by Michael Davidsods by Emina Sendich (Editor); American Planning Association Staff -2006 - CARMONA, Matthew. Public places urban spaces: The dimensions of urban design. Routledge, 2021.
	Electronic Sources (Links must be added)	http://www.investment.gov.eg http://www.evdata.worldbank.org
	Learning Platforms (Links must be added)	EKB - Microsoft team https://teams.microsoft.com/l/team

	Course Coordinator	Program Coordinator
Name	Dr. Heba Mahmoud Abd Elaziz	Dr.Maysa Ali Selim
Signature	<i>Heba Abd Elaziz</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Passive heating and cooling			
Course Code (according to the bylaw):	ARE 217			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr Ghada Assal			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course focuses on the principles and applications of passive heating and cooling techniques in architectural design to achieve thermal comfort and reduce energy consumption without reliance on mechanical systems. Students will explore the characteristics of solar radiation, the influence of transparent surfaces and Building Envelope Transparent Components, and the thermal properties of building materials in regulating indoor environments. The course emphasizes the effect of wind directions on natural ventilation strategies and how to integrate these factors into passive design solutions, including thermal storage walls, thermal roofs, shading devices, and direct gain systems.

Through analytical methods, simulation tools, and project-based learning, students will design energy-efficient architectural solutions tailored to different climatic conditions. The course develops the ability to supervise and implement passive strategies in coordination with other trades, addressing user comfort, environmental responsibility, and compliance with building codes and sustainability standards.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6, A7, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise, and monitor the implementation of engineering projects, considering other trades' requirements.	LO1	Implement thermal storage walls, roofs, and passive architectural designs for sustainable temperature control in buildings
A7	Function efficiently as an individual and as a member of multidisciplinary and multicultural teams.	LO2	Assess passive design strategies considering the influence of wind directions on energy-efficient architectural solutions.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.	LO3	Understand Solar Radiation's Impact on Passive.
B3	Generate ecologically responsible, environmental conservation, and rehabilitation designs through understanding structural design, construction, technology, and engineering problems associated with building designs.	LO4	Evaluate Material Influence on Thermal Comfort.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√		√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical / Lab
1	Introduction of solar radiation	3	1	2	0
2	Introduction of transparent surfaces and glasses	3	1	2	0
3	Effect of solar radiation, transparent surfaces, and glasses in building	3	1	2	0
4	Characteristics of building materials	3	1	2	0
5	Effect of wind directions on buildings	3	1	2	0
6	Introduction of Passive Design Solutions	3	1	2	0
7	Revision and Mid Exam				
8	Follow up for Passive design solutions	3	1	2	0
9	Thermal storage walls	3	1	2	0
10	Thermal storage roofs	3	1	2	0
11	Direct gain and passive architectural design	3	1	2	0

12	Heating Equipment and Cooling Equipment	3	1	2	0
13	Project semi-final and course evaluation	3	1	2	0
14	Project Submission	3	1	2	0
15,16	Final Exam.				

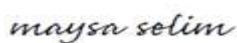
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of Total Course Marks
1	Quiz 1 written (Semester work)	11	5	5 %
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Final Oral Exam (Semi-Final)	13	5	5 %
5	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Altan H, Hajibandeh M, Tabet Aoul K, Deep AK. Passive Design – 2017. - Bainbridge DA, Haggard K. Passive Solar Architecture: Heating, Cooling, Ventilation, Daylighting, and More Using Natural Flows. Chelsea Green Publishing; 2022. ISBN 978-1603589082. - Dixon JM. Heating, Cooling, Lighting: Sustainable Design Methods for Architects. 1991. - Gonzalo R, Vallentin R. Passive House Design. Munich; 2014. - Razaqpur AG, Fazio PA. Passive Heating and Cooling Approaches for Buildings: Principles and Applications. Springer; 2023. ISBN 978-3030932704. - Santamouris M. Passive Cooling of Buildings. Routledge; 2021. ISBN 978-0367504265.
	Other References	سلقيني، م.، 2004. العمارة البيئية. بيروت: دار قابس.

		• Corner, D.B., 2018. <i>Passive house details: Solutions for high-performance design</i>. Great Britain: Routledge. • Edwards, B., 1999. <i>Sustainable architecture</i>. Great Britain: Architectural Press. • Gutierrez, R.U., 2020. <i>Elements of sustainable architecture</i>. New York: Routledge. • Halliday, S., 2019. <i>Sustainable construction</i>. New York: Routledge. • Hamzah, T.R., 2001. <i>Ecology of the sky</i>. Hong Kong: Images. • Hastings, S.R., 1994. <i>Passive solar commercial and institutional buildings</i>. Great Britain: John Wiley & Sons. • Roberts, S.H., 2019. <i>Sustainable design for the built environment</i>. New York: Routledge. • Wachendorf, U., 2017. <i>Hot to cold: An odyssey of architectural adaptation</i>. Spain: Taschen.
	Electronic Sources (Links must be added)	Passive House Institute. [https://www.passivehouse-international.org/]. American Solar Energy Society (ASES). [https://www.ases.org/]. Building Green. [https://www.buildinggreen.com/]. https://www.sunearthtools.com/
	Learning Platforms (Links must be added)	EKB - Microsoft Office- Microsoft Teams
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Mini Anemometer Mini Wind Speed and Temperature Meter,
	Electronic Programs	Revit, PowerPoint, Canva.
	Skill Labs/ Simulators	Climate consultant

	Course Coordinator	Program Coordinator
Name	Dr.Ghada Assal	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Solar Energy Utilization			
Course Code (according to the bylaw):	ARE 218			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr Ghada Assal			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course explores the principles and applications of solar energy utilization in architectural design, focusing on strategies that enhance energy efficiency and promote environmental sustainability. Students will examine the characteristics of solar radiation and study how transparent surfaces and building materials influence heat gain, daylighting, and overall building performance.

The course introduces both passive and active solar design approaches, including solar shading devices, thermal storage elements, and photovoltaic systems. Emphasis is placed on integrating solar energy strategies into architectural projects while considering energy codes and

sustainability rating systems. Through analytical methods, simulation tools, and project-based learning, students will develop practical design solutions that effectively utilize solar energy within multidisciplinary design contexts.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6, A7, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise, and monitor the implementation of engineering projects, considering other trades' requirements.	LO1	Implement solar energy strategies in architectural projects, ensuring coordination with other trades.
A7	Function efficiently as an individual and as a member of multidisciplinary and multicultural teams.	LO2	Collaborate in assessing solar energy utilization strategies within multidisciplinary design teams.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.	LO3	Analyze the impact of solar radiation, transparent surfaces, and building materials on occupant comfort and energy efficiency.
B3	Generate ecologically responsible, environmental conservation, and rehabilitation designs through understanding structural design, construction, technology, and engineering problems associated with building designs.	LO4	Conduct solar energy measurements in alignment with building codes and sustainability rating systems.
		LO5	Develop practical architectural applications utilizing solar radiation to enhance energy efficiency and renewable energy production.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√		√		√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical / Lab
1	Introduction to Solar Energy: Principles and Characteristics of Solar Radiation	3	1	2	0
2	Solar Path Diagrams and Site Analysis Techniques for Architects	3	1	2	0
3	Transparent Surfaces and Glazing Systems: Their Role in Solar Heat Gain and Daylighting	3	1	2	0
4	Building Materials and Solar Energy: Thermal Properties and Influence on Energy Efficiency	3	1	2	0
5	Solar Passive Design Strategies: Direct Gain, Indirect Gain, and Isolated Systems	3	1	2	0
6	Integration of Solar Energy Strategies in Multidisciplinary Design Projects	3	1	2	0
7	Revision and Mid Exam				
8	Solar Energy Measurement Techniques and Devices: Pyranometers and Solarimeters	3	1	2	0
9	Building Energy Codes and Sustainability Rating Systems (LEED, EDGE, Green Pyramid)	3	1	2	0
10	Photovoltaic Systems and Building-Integrated Photovoltaics (BIPV)	3	1	2	0

11	Practical Application: Developing Solar Shading Devices, Thermal Storage Walls, and Solar Roofs	3	1	2	0
12	Project-Based Learning: Supervised Implementation & Team Collaboration on Solar Energy Utilization	3	1	2	0
13	Project semi-final and course evaluation	3	1	2	0
14	Project Submission	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of Total Course Marks
1	QUIZ 1 written (Semester work)	11	5	5 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
6	Final Oral Exam (Semi-Final)	13	5	5 %
7	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	The Egyptian Residential Buildings Energy Code (ERBEC), HBRC (LATEST) Evans martin housing, climate and comfort, architectural pass limited, london 1980 Dickinson, E. W. Solar energy technology handbook. CRC Press, 2018. Bainbridge DA, Haggard K. Passive Solar Architecture: Heating, Cooling, Ventilation, Daylighting, and More Using Natural Flows. Chelsea Green Publishing; 2022. ISBN 978-1603589082. Dixon JM. Heating, Cooling, Lighting: Sustainable Design Methods for Architects. 1991. Sick, Friedrich. Photovoltaics in Buildings: A Design Handbook for Architects and Engineers. Routledge, 2014. Prasad, Deo, and Mark Snow. Designing with solar power: a source book for building integrated photovoltaics (BiPV). Routledge, 2014. Yap, Eng Hwa, ed. Energy Efficient Buildings. BoD–Books on Demand, 2017.

	Other References	• Blewitt, J., 2018. <i>Understanding sustainable development</i>. Britain: LCON. • Ghosh, S., 2016. <i>Green structures: Energy efficiency in buildings</i>. India: CRC Press, Taylor & Francis Group. • Hemsath, T.L., 2018. <i>Energy modeling in architectural design</i>. Great Britain: Routledge. • Jankovic, L., 2024. <i>Designing zero carbon buildings</i>. London: Routledge. • Sayigh, A., 2014. <i>Sustainability, energy and architecture: Case studies in realizing green buildings</i>. New York: Academic Press (Elsevier). • Slessor, C., 1997. <i>Eco-tech: Sustainable architecture and high technology</i>. Singapore: Thames & Hudson.
	Electronic Sources (Links must be added)	American Solar Energy Society (ASES). [https://www.ases.org/]. https://www.sunearthtools.com/
	Learning Platforms (Links must be added)	EKB - Microsoft Office- Microsoft Teams
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Thermal camera, thermometres
	Supplies	
	Electronic Programs	Revit, PowerPoint, Canva.
	Skill Labs/ Simulators	Climate consultant FormA (Solar Form Analysis) Assessing shading devices, direct and indirect solar gain, and window performance Ladybug (in Grasshopper for Rhino) Advanced solar radiation analysis, daylighting, PV potential, shading design

	Course Coordinator	Program Coordinator
Name	Dr.Ghada Assal	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Landscape			
Course Code (according to the bylaw):	ARE 219			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	١	٢	--	٣
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sally Shafei			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The study of landscape design involves understanding the integration of hardscape and softscape within outdoor environments. Emphasis is placed on historical developments, design principles, and contemporary practices that shape functional, aesthetic, and sustainable spaces. Core concepts include spatial organization, circulation, climate adaptation, and user experience. Particular attention is given to ecological sensitivity and cultural context, enabling designers to

craft balanced, responsive, and enduring landscapes that align with both natural systems and the built environment.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A5, A9, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Analyze the principles of integrating softscape and hardscape in outdoor environments with respect to cost-effectiveness and sustainability.
		LO2	Apply climate-responsive design strategies to enhance thermal comfort and reduce environmental impact in landscape spaces.
		LO3	Design outdoor spaces that balance functional requirements with social, cultural, and ecological considerations.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO4	Investigate historical landscape precedents and assess their influence on contemporary practice.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situation.	LO5	Develop innovative design proposals that respond creatively to site-specific challenges.
		LO6	Work effectively in a multi-disciplinary team

B2	produce designs that meet building users requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces an needs and between them to hum scale.	LO7	Design user-friendly outdoor spaces through effective spatial organization and circulation.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO8	Integrate ecological principles in landscape design to promote sustainability.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√		√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	- Introductory Lecture. - General introduction to the curriculum - Introduction and definition of the science of landscaping - The Importance of Landscape Research (1) on Essential Elements in the Landscape.	3	1	2	0
2	- Essential Elements in the Landscape. - Site Dimensions Research (2) Hardscape analysis	3	1	2	0
3	- Hardscape elements. - SWOT analysis. Introduction to the project	3	1	2	0
4	- Softscape elements. - Introduction to the project. Research (3) Draw a neighborhood garden.	3	1	2	0
5	- Principles of Landscape Design.	3	1	2	0
6	- Site visit to Family Park. - Site analysis.	3	1	2	0
7	Revision and Mid Exam				
8	- Site analysis discussion. - SWOT analysis to Family Park. - Quiz	3	1	2	0

9	- The History of Landscaping and Site Design (Gardens in ancient times)	3	1	2	0
10	- The rest of The History of Landscaping and Site Design (Gardens in ancient times)	3	1	2	0
11	- The History of Landscaping and Site Design (Gardens in the Middle Ages) - Research in the history of landscaping and site design (gardens in the modern era)	3	1	2	0
12	- Steps in developing a landscape design project	3	1	2	0
13	Semi-Final project + General Revision	3	1	2	0
14	Final project + General discussion	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	8	10	10 %
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %
7	Assignments /Portfolio/ Logbook	Weekly	15	15 %
8	Project	14	15	15 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- مشروعات اللاندسكيب (2008) احمد ايمن خلوصي القاهرة: المجلس الأعلى للآثار والحدائق العامة - S.MOORHEAD (1997). <i>Landscape architecture</i>. CHINA: ROCKPORT. - R.HOLDEN (1996). <i>International landscape design</i>. H.K.: L.KING. - R.HOLDEN (1996). <i>International landscape design</i>. H.K.: LAURENCE KING. - M.LITTLEWOOD (1993). <i>Landscape detailing</i>. G.B.: CREATIVE.

		• R.HOLDEN (2003). <i>New landscape design</i>. CHINA: LAURENCE KING. • J.MARSH (2000). <i>Sketching landscapes</i>. G.B.: CASSELL. • M.J.CROSBIE (2001). <i>Classics of landscape v(2 vol.)</i>. H.K.: IMAGES. • G.JELLICOE (1991). <i>Designing the new landscape</i>. SING.: T&H. • G.HAN (2003). <i>Landscape architect</i>. KOREA: ARCHWORID. • C.SULLIVAN (1997). <i>Drawing the landscape</i>. U.S.A.: J.WILEY. • C.WAITE (1992). <i>The making of landscape photographs</i>. ITALY: COLLINS&BROWN. • J.O.SIMONDS (2011). <i>Landscape architecture competition annual (4)</i>. KOREA: ARCHIWORID. • A.J.DOWNING (1991). <i>Landscape gardening and rural architecture</i>. N.Y.: DOVER. • R.P.DOBBER (2000). <i>Campus landscape</i>. U.S.A.: J.WILEY. • JTART (2012). <i>Landscape planning&design collection(i)</i>. CHINA: JTART PUB.. • M.LITTLEWOOD (2012). <i>Landscape details design manual(ii)</i>. DELHI: CBS. • J.M.MINGUET (2009). <i>Contemporary landscape architecture</i>. SPAIN: PAGE ONE. • M.PROMINSKI (2019). <i>Design research for urban landscapes theories and methods</i>. N.Y.: ROUTLEDGE.
	Other References	• Leonard Hopper, <i>Landscape Architectural Graphic Standards</i>, John Wiley and sons, 2015 . • John Ormsbee Simonds, Barry Strake, <i>Landscape Architecture</i>, McGraw Hill Professional, 2006 4th Edition. • Donald Watson, <i>Time Saver Standard for Urban Design</i>, McGraw Hill Professional, 2003 1st Edition

		• Norman K. Booth, Foundations of Landscape Architecture: Integrating Form and Space Using the Language of Site Design, John Wiley and sons, 2011. • Leonard Hopper, Landscape Architectural Graphic Standards, John Wiley and sons, 2015 . • Drawing for Landscape Architecture: Sketch to Screen to Site By Edward Hutchinson, 2019, Thames & Hudson. • John Simonds, Landscape Architecture, McGraw-Hill Professional Publishing, 2006. • Fieldwork in Landscape Architecture By Thomas Oles & Paula Horrigan, 2024, Routledge.
	Electronic Sources (Links must be added)	• www.landezine.com • http://www.gardenvisit.com • www.gardenista.com
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Laptop
	Supplies	Whiteboard Projector
	Electronic Programs	AutoCAD-Revit-Forma

	Course Coordinator	Program Coordinator
Name	Dr.Sally Shafei	Dr.Maysa Ali Selim
Signature	<i>Sally Shafei</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Architecture Design (A)			
Course Code (according to the bylaw):	ARE 211			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Omnia Monir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The Main focus of this course is applying the principals of community based design of architectural compounds made up of several units (study of functional and formal relationships). Special importance is attached to functions and forms of spaces between units. The course also includes development of structure sense through models, trials of special types of advanced structures, & applications on creating architectural spaces for different functions. The building types explored in this studio have a greater complexity of function. Emphasis is placed on

building form, massing, articulation, and fenestration. Studying and examining sufficient data on various architectural projects with unique character such as community service centers, transportation hubs, public buildings.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A4, A5, A7, B1, B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	LO1	Solve architectural problems by coordinating design vision, structure, and environmental conditions using engineering reasoning
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO2	Apply design standards, environmental laws, and technologies to support sustainable architectural choices.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO3	Develop and prototype design concepts by integrating architectural approaches.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO4	Collaborate within diverse teams by adapting communication and design input.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO5	Translate human needs, user behavior, and spatial relationships into narrative-rich design scenarios.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO6	Evaluate architectural precedents and site conditions to inform urban design responses.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√				√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Foundations of Sustainable Development and Project Overview and Scope Definition.	6	0	6	0
2	Student Research Presentations and Initial Concept Explorations.	6	0	6	0
3	Contextual Studies: Site Analysis, Cultural Identity, and UN SDG Integration	6	0	6	0
4	Visual Narratives: Storyboarding and Mood Board Techniques	6	0	6	0
5	Studies Final Review + Quiz	6	0	6	0
6	Experiential Learning: Field Trip or Site Visit	6	0	6	0
7	Revision and Mid Exam				
8	Branding the Project: Naming, Logo Design, Contextual Framing, and Goal Setting	6	0	6	0

9	Spatial Development: Massing Strategies and Design Features	6	0	6	0
10	Floor Plan Development and Introductory 3D Modeling	6	0	6	0
11	Final Review of Spatial Planes	6	0	6	0
12	Architectural Detailing: Elevation and Section Review	6	0	6	0
13	Semi-Final Project Presentation and Peer Feedback	6	0	6	0
14	Final Project Presentation and Design Submission	6	0	6	0
15,16	Final Exam.				

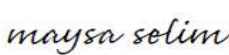
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ written (Semester work)	5	10	10%
2	Research (Semester work)	2	5	5%
3	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
5	Assignments	Weekly	10	15%
6	Project	13, 14	15	15%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (Institute Library)	Barnes, D. (2024). <i>Architectural aesthetics</i> (1st ed.). Random Publications LLP. Whitehead, R. (2020). <i>Structures by design: Thinking, making, breaking</i> (Vol. 1). Routledge. Roberts, S. H. (2019). <i>Sustainable design for the built environment</i> (Vol. 1). Routledge. Gasperoni, L. (2019). <i>Construction and design manual: Architectural diagrams 2</i> (Vol. 1). DOM Publishers. Hemsath, T. L. (2018). <i>Energy modeling in architectural design</i>. Routledge.

		Kibert, C. J. (2013). <i>Sustainable construction: Green building design and delivery</i> (Vol. 1). John Wiley.
		De Chiara, J. (1992). <i>Time-saver standards for interior design and space planning</i> (Vol. 1). McGraw-Hill.
	Other References	Cheshmehzangi, A. (2021). <i>Identity of cities and city of identities</i> . Springer.
	Electronic Sources (Links must be added)	Ali, O. M., Mansour, Y., Elshater, A., & Fareed, A. (2022). <i>Assessing the identity of place through its measurable components to achieve sustainable development. Civil Engineering and Architecture</i> , 10(5A), 137–157. https://doi.org/10.13189/cea.2022.101407
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Laptop
	Electronic Programs	Design Programs: Revit and Rhino
	Field Trip	A scientific field trip will be organized through the academic department in coordination with the supportive administrative units.

	Course Coordinator	Program Coordinator
Name	Dr. Omnia Monir	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Materials and its Properties			
Course Code (according to the bylaw):	ARE 212			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sally Shafei			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Engineering materials: classification, sources of raw materials, selection properties, testing & inspection, specification, standardization & standard specification. Concrete ingredients: aggregates, general classifications, properties, requirements & testing. Ferrous & nonferrous materials: Type's properties, alloys scope of use & effect of heat treatment on mechanical properties. Lab tests to study the behavior of engineering materials under static loads. The structure behavior depends upon the material and its engineering properties that are used in this structure. The designer should select the suitable materials to use. The executive engineer will be required to study the engineering properties and limitation of the use.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A2, A7, B3, B5)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Demonstrated proficiency in the selection and application of engineering materials for structural design projects.
		LO2	Classify engineering materials based on their physical and mechanical properties.
		LO3	Determine the functional relationships between types of engineering materials and their applications in projects.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO4	Solve engineering problems using creative and innovative approaches, including the classification of material products, systems, components, and processes.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO5	Collaborate effectively within a team to achieve shared project objectives.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	LO6	Evaluate alternative architectural, spatial, constructional, structural, and material systems using defined performance criteria.
B5	Prepare design project briefs and documents, and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO7	Define the symbols and terminology used in engineering and building materials.
		LO8	Classify raw materials, concrete materials, and construction methods.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brainstorming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	-	√	√	-	√	√	√	-	-	√	-	-	-	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction and engineering materials: classification, sources of raw materials	4	1	0	3
2	Engineering materials specification requirements: selection properties, testing inspection (standardization & standard specification)	4	1	0	3
3	Concrete ingredients: aggregates, general classifications.	4	1	0	3
4	Aggregates: properties and requirements testing.	4	1	0	3
5	Concrete ingredients: cement Manufacturing and composition of Ordinary Portland Cement. QUIZ	4	1	0	3
6	Types of cement and tests of cement.	4	1	0	3
7	Revision and Mid Exam				
8	Ferrous & nonferrous materials: Type's properties.	4	1	0	3

9	Alloys scope of use & effect of heat treatment on mechanical properties.	4	1	0	3
10	Tests to study the behavior of engineering materials under static loads (compression) .	4	1	0	3
11	Tests to study the behavior of engineering materials under static loads (tension) .	4	1	0	3
12	Tests to study the behavior of engineering materials under static loads (hardness).	4	1	0	3
13	study the engineering properties, utilize codes and standards in the choice of concrete ingredients and concreting process	4	1	0	3
14	Revision and discussion	4	1	0	3
15,16	Final Exam.				

Experiment Topics: (If any)

Serial	Experiment
1	Aggregate Physical properties
2	Aggregate Physical properties
3	Aggregate Physical properties
4	Aggregate Physical properties
5	Tests of cements
6	Tests of cements

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz (Semester work)	5	15	15%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
7	Assignments / Project /Portfolio/ Logbook	Weekly	25	25%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• Coey, J. M. D. (2018). Magnetism and magnetic materials. Cambridge University Press. • Kaxiras, E. (2019). Quantum theory of materials. Cambridge University Press. • Lovell, M. C. (1979). Physical properties of materials. E.L.B.S.
	Other References	• أمين، م.، & إمام، م. (2007). خواص المواد واختباراتها: الجزء الأول والثاني. مصر • Wyman, E. B., & Skief, M. C. (2010). Organosilanes: Properties, performance and applications. Nova Science Publishers. ISBN 1608764524. • Cornejo, D. N., & Haro, J. L. (Eds.). (2009). Building materials: Properties, performance and applications (Materials science and technologies) (UK ed.). Nova Science Publishers, Inc. ISBN 978160741082
	Electronic Sources (Links must be added)	https://www.matweb.com https://www.engineeringtoolbox.com https://ocw.mit.edu/courses/materials-science-and-engineering https://www.edx.org/learn/materials-science
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Material lab Laptop
	Supplies	Whiteboard Projector

	Course Coordinator	Program Coordinator
Name	Dr.Sally Shafei	Dr.Maysa Ali Selim
Signature	<i>Sally Shafei</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Theories of Architecture (B)			
Course Code (according to the bylaw):	ARE 215			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sally Shafei			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course aims to provide sufficient knowledge of the latest theories and architectural trends between the middle of 20th century and 21st century. to study the principles & features of contemporary architecture: pre-international architecture, international style; expressionism between the World Wars, technical advances of the late 20 century, & new trends in 21st century (deconstruction , sustainable architecture, etc..). To be introduced into different academic

research methodologies, academic writing, analysis, and architectural criticism in order to be applied in logic research as a part of the course work.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A5, A6, A8, B1, B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO1	Describe different academic research methodologies.
		LO2	Evaluate architectural works using analysis and criticism techniques.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO3	Analyze the differences between architectural theories in the 20th and 21st centuries.
A8	Communicate effectively – graphically, verbally, and in writing – with a range of audiences using contemporary tools.	LO4	Produce academic writing using proper structure and referencing.
		LO5	Collaborate effectively within a team setting.
B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of history and theory, related fine arts, local culture and heritage, technologies and human sciences.	LO6	Classify buildings based on their features, characteristics, and elements.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO7	Design buildings based on different architectural theories.
		LO8	Define the construction methods, materials, and notable architectural works related to each architectural theory.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√	-	-	-	-	-	-	√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	General introduction to the course contents. Definitions of architecture and theories of architecture. The difference between the history and theories of architecture. Rationalism and Romanticism movement. - Academic waiting.	3	1	2	0
2	Modern architecture: Definition, principles, Features, Theories or Trends, Pioneers, Examples.	3	1	2	0
3	Postmodern Architecture: Definition, principles, Features, Theories or Trends, Pioneers, Examples.	3	1	2	0
4	Postmodern Architecture Examples-Quiz 1.	3	1	2	0
5	Late-Modernism Architecture: Definition, principles, Features, Theories or Trends, Pioneers, Examples.	3	1	2	0

6	Research Presentation: Comparison between Modern, Postmodern, and Late-Modernism Architecture examples.	3	1	2	0
7	Revision and Mid Exam				
8	Neo Modernism Architecture: Definition, principles, Features, Theories or Trends, Pioneers, Examples.	3	1	2	0
9	Critical and Creative Thinking- Project Outline.	3	1	2	0
10	Contemporary architectural trends – Part 1 Quiz 2	3	1	2	0
11	Contemporary architectural trends – Part 2 Project Reviewing.	3	1	2	0
12	Contemporary architectural trends – Part 3 Semi-final Project	3	1	2	0
13	Final Project -Revision	3	1	2	0
14	Final Project-Discussion	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	4	5	5 %
2	Quiz 2 written (Semester work)	10	5	5 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Assignments / Project /Portfolio/ Logbook	Weekly	20	20 %
6	Final Project	14	10	10 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific	The main (essential) reference (must be written in full according to the scientific documentation method)	• قبيسي، حسان. (1990). <i>فرائد لويد رايت</i>. بيروت: دار قابس. • عبد الجواد، توفيق أحمد. (1989). <i>مصر: العمارة في القرن العشرين</i>. القاهرة: مكتبة الأنجلو.

references, etc.) *		- Foster, N. (1997). Norman Foster: Selected and current works of Foster and Partners. Hong Kong: Images. - Meier, R. (1999). Richard Meier, Architect: Vol. 3: 1992–1999. <i>New York: Rizzoli</i> - Rogers, S. R. (1996). Richard Meier Houses. <i>Italy: Rizzoli</i> - Doremus, T. (1985). Frank Lloyd Wright and Le Corbusier: The great dialogue. U.S.A.: VNR - Foster, N. (2001). Norman Foster and the British Museum. New York: Prestel
	Other References	- Schumacher, P. (2023). <i>Tectonism: Architecture for the twenty-first century</i>. Melbourne: Images Publishing - Bernal, M. (2025). Parametric analysis and generative design in architectural practice. Singapore: John Wiley & Sons Inc
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Laptop CNC Machine
	Supplies	Whiteboard Projector
	Electronic Programs	Rhino-Revit

	Course Coordinator	Program Coordinator
Name	Dr.Sally Shafei	Dr.Maysa Ali Selim
Signature	<i>Sally Shafei</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Housing policies and design			
Course Code (according to the bylaw):	ARE 21٦			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	١	٢	--	٣
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR. Maysa selim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course is designed to enable the students to understand the fundamental issues related to housing theory, housing problems in developing countries, housing market and housing economy, the physical and non-physical aspects that affect the design of housing projects for the urban poor, and alternative approaches to housing policies. The course explores the current issues affecting the formulation and implementation of housing programs in developing countries. It covers classification of housing types, analysis of housing design, and design procedure of housing projects.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A2,A3,A4,A5,A6 ,B1,B2,B4		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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	LO1	Explain various problems related to housing, analyze their causes, and find solutions to the problems
		LO 2	Define the human needs and housing basics, housing patterns (types of houses) & housing levels.
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	LO 3	Apply the basics of housing unit design, housing quality standards, and assembly in residential areas considering the economic aspects
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles	LO 4	Evaluate students' ability to analyze the given data to extract results and apply them to the required exercises
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO 5	Measure the ability to activate self-learning strategies through group research,(research paper or electronic-PowerPoint presentations.+design).

A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements	LO 6.	Apply the evidence of planning and design work required by the design. in a way that meets the requirements of aesthetics and humanities, and is environmentally and culturally compatible
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO 7	Identify the stages of planning residential areas to achieve a suitable residential environment and Define important laws related to Housing
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 8	Analyze housing projects through goals, ideas, sketches and explanations to Produce designs that meet users' requirements
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.	LO 9	Produce designs for housing units and assembling residential buildings and Identify requirements and needs of users While achieving economic efficiency and Define important laws related it

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√	√				√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	A general introduction, the concept of housing, and the causes of the population problem in Egypt	3	1	2	-
2	Studying the types of deteriorated urban areas, And policies to deal with it (focus on slum housing and negative aspects of it)	3	1	2	-
3	Recommendations for the housing problem in Egypt + Suggested modification) (focus on presenting various housing projects) - Policies dealing with the housing problem and its most important axes,	3	1	2	-
4	Policies dealing with the housing problem and its most important axes Housing Levels in Egypt (focus on presenting various housing projects)	3	1	2	-
5	types of housing + methods of assembling them (Housing classification and housing distribution models)	3	1	2	-

6	Quiz+ General Review	3	1	2	-
7	Revision and Mid Exam				
8	The foundations of housing unit design + A proposed work for design housing unit	3	1	2	-
9	Residential Neighborhood and its Components	3	1	2	-
10	Basics of residential areas design	3	1	2	-
11	The important laws related to Housing and calculating the area of residential lands& foundations of residential area design	3	1	2	-
12	Housing economics and Applying housing economics to housing models (Achieving a comfortable residential environment for those with reduced incomes)	3	1	2	-
13	principles of assembly and economy to the neighborhood + housing projects	3	1	2	-
14	General Review	3	1	2	-
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	6	10	10%
2	Midterm exam	7	20	20%
3	Final Written Exam	15, 16	40	40%
4	Assignments	weekly	10	10%
5	Final project	13	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	-Kamal kataria, Urban and Architectural Heritage Conservation,2024 - S.S.BHAVIKATTI, BUILDING PLANNING AND DRAWING,2019 - B.B.RASCHKO ,HOUSING INTERIORS FOR THE DISABLED AND ELDERLY,1991 - شفق العوضى الوكيل، التخطيط العمراني (الاسكان-الخدمات- الحركة)، ٢٠٠٧ - محمد محمود عويضة، الاساسيات الاقتصادية لتخفيض تكلفة تصميم وتنفيذ المباني، ١٩٩٥
	Other References	- Architecture for Housing Understanding the value of design through 14 case studies 2024 - Nouredin, Karim S., Ahmed O. El-Kholei, and Ibrahim Sedky Rezkalla. "Housing cooperatives in Egypt: challenges, constraints, and solutions." Journal of Housing and the Built Environment 39.4 (2024) - SHALABY, Heidi; AHMED, Nancy; ELSHANWANY, Hussien. The role of housing projects in Egypt toward solving the low-income housing problem. The Egyptian International Journal of Engineering Sciences and Technology, 2022, 40.1: 71-82. - Housing for Humans: A Book to Imagine, Create and Design a New Housing Model in America ,2021 - قانون البناء الموحد رقم ١١٩ ولائحة التنفيذية. - تنمية التجمعات العمرانية الجديدة - مدخل تنموي لاستدامة الاسكان في العاصمة الادارية الجديدة لمصر: نسمة محمد عبد المقصود - رسالة دكتوراه- كلية الهندسة -جامعة الفيوم - ٢٠١٩م - مشكلة الإسكان في مصر : احمد خالد علام - وزارة الإسكان والمرافق العمرانية ، ٢٠٠٤ ، مبارك والعمران ، انجازات الحاضر لبناء المستقبل
	Electronic Sources (Links must be added)	https://reserve.newcities.gov.eg/ http://www.mhuc.gov.eg/Home/Index
	Learning Platforms (Links must be added)	EKB - Microsoft office- Microsoft Teams
	Supportive facilities & equipment for teaching	
	Devices/Instruments	Data show, Laptop computer- White board
	Supplies	Calculator , sketch
	Electronic Programs	Photoshop , PowerPoint, Canva

and learning		

	Course Coordinator	Program Coordinator
Name	Dr.Maysa Ali Selim	Dr.Maysa Ali Selim
Signature	<i>maysa selim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Urban Renewal and Upgrading			
Course Code (according to the bylaw):	ARE 23^٩			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	٤	--	٤
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR. Maysa selim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course introduces types of urban upgrading, renewal, and rehabilitation. Development policies of upgrading and rehabilitation are reviewed through comparative analysis based on local and international examples. Also the concept of heritage in general and the architectural heritage in international conventions. The importance of preserving the architectural heritage and what are the various forms of preserving it, the causes of the deterioration of buildings and heritage areas and the most important negative factors affecting them. In addition, the concept of rehabilitating the heritage or historical building and the different patterns of rehabilitation, the methods used in the architectural restoration work.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3,A4,A5,A7,A9,B1,B2,B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO 1	Explain the concept of urban renewal and rehabilitation to produce effective solutions to meet different needs, invest in existing buildings, and achieve economic efficiency.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO 2	Analysis of various factors of building deterioration and documentation methods using modern technologies and principles of potential risk management
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO 3	Illustrate The role of technology when dealing with heritage buildings and areas
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO 4	Measure the ability to activate self-learning strategies through teamwork (research paper or electronic-PowerPoint presentations).
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO 5	Evaluate the condition of heritage buildings and determining the most important policies to deal with them

B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO 6	Apply the important axes when raising the efficiency of heritage district and its buildings
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 7	Develop a plan to raise the efficiency of heritage districts, invest them, and the effective impact on the economy
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO 8	Identify local and international experiences in rehabilitating buildings while taking into account the environmental dimension.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√	√				√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	A general introduction types of upgrading, renewal, and rehabilitation	4	0	4	0
2	Development policies of upgrading are reviewed through comparative analysis based on local and international examples	4	0	4	0
3	The importance of preserving heritage building ,district and Policies dealing with it	4	0	4	0
4	analyze various factors of deterioration,	4	0	4	0
5	Explain important axes when raising the efficiency of heritage district and its buildings	4	0	4	0
6	Quiz+ General Review	4	0	4	0
7	Revision and Mid Exam				
8	Technological techniques used in documenting heritage buildings	4	0	4	0
9	The role of technology when dealing with heritage buildings and areas	4	0	4	0
10	invest heritage districts and the effective impact on the economy	4	0	4	0
11	methods used in the architectural restoration	4	0	4	0
12	comparative analysis based on local and international examples	4	0	4	0
13	Final project	4	0	4	0
14	General Review	4	0	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	6	10	10%
2	Midterm exam	7	20	20%
3	Final Written Exam	15, 16	40	40%
4	Assignments	weekly	10	10%
5	Final project	13	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	-Kamal kataria, Urban and Architectural Heritage Conservation,2024 -JOHN BLEWITT, UNDERSTANDING SUSTAINABLE DEVELOPMENT, 2018 - R.HILLENBRAND, ISLAMIC ARCHITECTURE FORM FUNCTION AND MEANING,1994 - جاب الله على جاب الله، دليل الاثار الاسلامية بمدينة القاهرة، ٢٠٠٠ - احمد خالد علام تجديد الاحياء 1997 - عبد المعز شاهين، ترميم وصيانة المباني الاثرية والتاريخية، ١٩٩٤ - عبد الله عبد الحميد العطار، مشروع ترميم مسجد ومدرسة السلطان الغوري، ٢٠٠٠
	Other References	- Shipley, R., & Snyder, M. (2013). The role of heritage conservation districts in achieving community economic development goals. <i>International Journal of Heritage Studies</i>, 19(3), 304-321. https://doi.org/10.1080/13527258.2012.660886. - Willson, G. B., & McIntosh, A. J. (2007). Heritage buildings and tourism: An experiential view. <i>Journal of heritage tourism</i>, 2(2), 75-93. - Akram, O. K., Franco, D. J., & Ismail, S. (2016). Development phases from heritage buildings to smart buildings. <i>International Journal of Engineering Technology, Management and Applied Sciences</i>, 4(4), 6-13.
	Electronic Sources (Links must be added)	- https://doi.org/10.2167/jht024.0 - https://en.wikipedia.org/wiki/List_of_most_visited_museums - https://egymonuments.gov.eg/ar/

	Learning Platforms (Links must be added)	EKB - Microsoft office- Microsoft Teams
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show, Laptop computer- White board
	Supplies	Calculator , sketch
	Electronic Programs	Photoshop , PowerPoint, Canva

	Course Coordinator	Program Coordinator
Name	Dr.Maysa Ali Selim	Dr.Maysa Ali Selim
Signature	<i>maysa selim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Computer Application in Architecture (2)			
Course Code (according to the bylaw):	ARE 213			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Assoc. Prof. Sahar Ezz El Arab Ramadan			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Main thrust is enhancement of human / machine communication at computer graphics interface.
Formulation of individual project using 3D and modeling software.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A8,A9,B2		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools	LO 1	Demonstrate to contemporary form by applying 3D cad program .
		LO2	Apply contemporary tools in different 3D drawings of architectural projects.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO3	Apply creative and flexible thinking in produce 3d drawings
B2	Produce designs that meet building user's requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces and needs and between them to human scale.	LO4	Develop creative and flexible thinking in produce 3d drawings
		LO5	Recognize the importance of aligning buildings, spaces, and requirements with human scale to enhance overall user needs .
		LO6	Analyze the relationship between people and buildings in 3D drawings
		LO7	Represent the environment, human scale effectively in 3d drawings

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology- Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√			√	√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	The concept of the computer AutoCAD 3D modeling. • Changing the 3d-vpoint to get 3D views in parallel projections.	6	0	0	6
2	• Changing and saving the U.C.S and use new ucs on different faces of shapes. • Converting areas into 2d closed poly lines • Creating 3d solids	6	0	0	6
3	Understanding the Boolean operations. • Union • Subtract • Intersection	6	0	0	6
4	Study different applications on (Extrude – Press pull – Slice).	6	0	0	6
5	Quiz 1 & Apply (Revolve – Sweep) in different elements in buildings	6	0	0	6
6	Apply in (Revolve – Sweep) to create contemporary architectural forms.	6	0	0	6
7	Revision and Mid Exam				

8	Apply on using Loft command & solid Editing Toolbar	6	0	0	6
9	Study new method for making dome	6	0	0	6
10	Study new method for making different kind of stairs & handrails	6	0	0	6
11	Materials,lights,camera	6	0	0	6
12	Revision	6	0	0	6
13	semi fina	6	0	0	6
14	Final project	6	0	0	6
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	5	10	10 %
2	Midterm exam	7	30	30 %
3	Final Practical/Clinical/... Exam	15, 16	30	30 %
4	Assignments / Project /Portfolio/ Logbook	1,2,3,4,5,6,8,9,10,11,12,13,14	25	25 %
5	Other (Mention)		5	5 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Mano, M. M. (1993). <i>Computer system architecture</i>. U.S.A.: Prentice Hall. - Brown, K. M. (1995). <i>Computers in the professional practice of design</i>. New York: McGraw-Hill
	Other References	Auto CAD MEP 2010,User`s Guide , by autodesk,sep 2020 .

Supportive facilities & equipment for teaching and		- Steven Heather (2019): Auto CAD 3D MODELING :Exercise Work book. - David Amadsen (2019): AutoCAD and its Applications Comprehensive . - Munir Hamad (2018):AutoCAD 2018 3D MODELING . - James A Leach Shawna Lockhart (2023): Autocad 2023 , Instructor :Astudent Guide for In depth Coverage of AutoCad. - Munir M. Hamad(2019):AutoCAD 2019 3D Modeling" - Kristen Kurland, Jeffrey Foster :AutoCAD 3D Training Manual" - CADArtifex :AutoCAD 3D: A Power Guide for Beginners and Intermediate Users" - Shawna Lockhart, Eric Hoang:AutoCAD 3D Modeling and Visualization" - Mike Riddle's Prehistoric AutoCAD Archived 10 August 2017 at the Wayback Machine.. 198AutoCAD information - JTB World Archived 26 December 2017 at the Wayback Machine "AutoCAD Exchange Apps". Autodesk. Archived from the original on April 26, 2013. Retrieved 5 November 2013. "AutoCAD Language Packs". Autodesk. Archived from the original on 3 February 2014. etrieved 5 November 2013 Randy H. Shih:AutoCAD (2025:)Tutorial Second Level 3D Modeling,Published June 25, 2024
	Electronic Sources (Links must be added)	https://08122ydo3-1105-y-https-iopscience-iop-org.mplbci.ekb.eg/article/10.1088/1742-6596/1744/4/042036/pdf
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Devices/Instruments	Computer lap
	Electronic Programs	3D Programes

<i>learning *</i>		

	Course Coordinator	Program Coordinator
Name	Assoc. Prof. Sahar Ezz El Arab Ramadan	Dr.Maysa Ali Selim
Signature		<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Project Management			
Course Code (according to the bylaw):	MNG 201			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	1	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Mechanical Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Asmaa Ahmed Soliman			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/12/2025			

2. Course Overview (Brief summary of scientific content):

Project management overview, organizational structures, assessing success, planning, learning curves, network scheduling techniques, CPM analysis, precedence networking, resource allocation and constraints, cost management, risk management, project performance measurement and control.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A7, A9 & A10		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO1	Identify the fundamental concepts and phases of project management.
		LO2	Explain the role of organizational strategy in project selection and prioritization.
		LO3	Describe how an organization's mission, vision, and strategy influence project planning.
A9	Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO4	Develop project network schedules using techniques such as Critical Path Method (CPM) and Program Evaluation Review Technique (PERT).
		LO5	Apply core project management principles to minimize project duration and mitigate risks.
		LO6	Analyze the impact of risk management processes on project outcomes.
A10	Acquire and apply new knowledge, and practice self, lifelong and other learning strategies.	LO7	Schedule project resources and associated costs using appropriate tools.
		LO8	Recognize the different methods for project resource allocation.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
✓	✓	✓	-	-	-	✓	-	-	-	-	-	-	-	-	✓

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction for project management	3	2	1	0
2	Organization strategy and project selection	3	2	1	0
3	Work Breakdown structure (WBS), Organization Breakdown Structure (OBS), Activity & Scope, Planning Process and Time management Project Planning	3	2	1	0
4	Activities Duration, Activities Sequence, Project Networks. Gantt Chart (Bar Chart) and Solved Examples on Bar chart (Gant Chart(	3	2	1	0
5	Activity On Arrow (AOA) and Solved Examples on Activity on Arrow (AOA)	3	2	1	0
6	Activity On Node (AON) and Solved Examples on Activity on Node	3	2	1	0
7	Revision and Mid Exam				
8	Managing Project Risk	3	2	1	0
9	Scheduling Resources and Costs	3	2	1	0

10	Applicable Examples on Scheduling Resources	3	2	1	0
11	Reducing Project Duration	3	2	1	0
12	Cost–Duration Trade-off examples	3	2	1	0
13	Cost–Duration Trade-off examples	3	2	1	0
14	Revision	3	2	1	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work or quiz)	3	10	10 %
2	Exam 2 written (Semester work or quiz)	5	10	10 %
3	Exam 3 written (Semester work or quiz)	10	10	10 %
4	Midterm exam	7	20	20 %
5	Final Written Exam	15, 16	40	40 %
6	Assignments / Project /Portfolio/ Logbook	12	10	10 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	1. Ravi V. Industrial Engineering and Management. PHI Learning Pvt. Ltd.; 2015 Aug 31. 2. Baudin, M., & Netland, T. (2022). Introduction to manufacturing: An industrial engineering and management perspective. Routledge.
	Other References	1. Cardona-Meza LS, Olivar-Tost G. Modeling and simulation of project management through the PMBOK® standard using complex networks. Complexity. 2017;2017(1):4791635.
	Electronic Sources (Links must be added)	N/A
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching	Devices/Instruments	Data show- Dashboard
	Supplies	N/A
	Electronic Programs	Microsoft teams
	Skill Labs/ Simulators	N/A
	Virtual Labs	N/A
	Other (to be mentioned)	N/A

and learning *		

	Course Coordinator	Program Coordinator
Name	Dr. Asmaa Ahmed Soliman	Dr. Mohamed Ashraf
Signature		

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

١ - معلومات أساسية :

تربية رياضية ٣				اسم المقرر: (تبعاً لما ورد باللائحة)
PHE 201				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	أخرى (تحدد)	عملي	نظري	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
1		1	2	
إجمالي				نوع المقرر:
SENIOR ١				المستوى الدراسي الذي قدم فيه المقرر:
البرامج الهندسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
د/خلود فاروق حامد				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

٢ - الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

الهندسة الرياضية: المعدات الحديثة للتربية البدنية وعلاقتها باختيار الرياضيين، تحليل الحركة والتقييم والقياس الفسيولوجي، المعدات الحديثة وعلاقتها باختيار الرياضيين، معالجة مياه حمامات السباحة، أبعاد الملاعب، الاختلافات الفسيولوجية خلال مزاوله الرياضة وتأثيرها على الملابس الرياضية. مقدمة في علم النفس الرياضي، تعريف علم النفس الرياضي، والدافع، والقلق، والتدريب العقلي، والاسترخاء، التصور العقلي، واستخدام أجهزة الكمبيوتر في قياس الحالة النفسية، العلاقة بين علم النفس الرياضي والهندسة الرياضية

٣ - نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعا للمصفوفة في توصيف البرنامج)		نواتج التعلم للمقرر	
الكود		النص	الكود
A4_A5_A7_A8_A9		عند الانتهاء من المقرر سيكون الطالب قادرا على	
A4		التعرف علي الكفاءة الهوائية وقدراتها وانواعها	LO1
		معرفة بعض الاسس الخاصة بالكفاءة الهوائية	LO2
		تنمية المعرفة ببعض المصطلحات الخاصة بالهندسة والرياضة	LO3
A5		معرفة الاختبارات والمعايير الخاصة بالكفاءة الهوائية	LO4
		التعرف علي العمل العضلي اللاهوائي وانواع القدرات الخاصة به	LO5
A7		التعرف علي العجز الاكسجيني والدين الاكسجيني وانواعهما	LO6
		التعرف علي الهندسة الرياضية واهميتها واهدافها	LO7
A8		تنمية المعرفة بانواع العضلات والانقباض العضلي	LO8
A9		زيادة معرفة الطالب بالاجهزة الرياضية الحديثة واستخداماتها	LO9
		تطوير الاجهزة بما يتناسب مع التقنيات الحديثة	LO10

٤ - طرق التعليم والتعلم للمقرر:

استراتيجيات التعلم بمساعدة تكنو لوجيا المعلومات				التدريس الغير مباشر								التدريس المباشر			
الذكاء الإصطناعي في التعليم	التعلم الإلكتروني	المعامل الافتراضية	برامج المحاكاة أو النمذجة	التعلم بالاكشاف	التعلم الذاتي	الزيارات الميدانية	التدريب الميداني	الحوار والمناقشة	كتابة التقارير / الأبحاث	حل المشكلات	استراتيجية دراسة الحالة	التعلم القائم على المشروعات الجماعية	العصف الذهني	التمارين العملية والتجارب	المحاضرات
✓					✓			✓	✓				✓	✓	✓

الجدول الدراسي للمقرر:

رقم الأسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
١	٢	٣	٤	٥
١	المقدمة ومفهوم عن علم الهندسة الرياضية / أهدافها / أهميتها + تدريبات على اللياقة البدنية	٢	١	0
٢	الكفاءة الهوائية واختباراتها + تدريبات على اللياقة البدنية	٢	١	0
٣	اسس تنمية الكفاءة الهوائية + تدريبات على اللياقة البدنية	٢	١	0
٤	الكفاءة اللاهوائية واختباراتها + تدريبات على اللياقة البدنية	٢	١	0
٥	شروط تنمية التحمل اللاهوائي + تدريبات على اللياقة البدنية	٢	١	0
٦	علم البيوميكانيك (البيوميكانيك الرياضي بعض المفاهيم والمصطلحات الخاصة بالحركة) + التدريب على اختبارات اللياقة	٢	١	0
٧	مراجعة وامتحان منتصف الفصل الدراسي			
٨	الجهاز الحركي (تركيب العضلة/انواع العضلات) + تدريبات على اللياقة البدنية	٢	١	0
٩	الاعتبارات الخاصة باختيار الموقع (المنشأة الرياضية) + تدريبات على اختبارات اللياقة البدنية	٢	١	0
١٠	الاشتراطات العامة لتصميم المنشآت الرياضية + تدريبات على اختبارات اللياقة البدنية	٢	١	0
١١	التقنيات الحديثة في معالجة المياه + تدريبات على اللياقة البدنية	٢	١	0
١٢	علم النفس الرياضي (الأجهزة الحديثة للتدريب العقلي) + تدريبات على اللياقة البدنية	٢	١	0
١٣	إختبارات الفصل الدراسي النهائية عملي			

٥ - طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
١	بحث تقييمي للشق العملي	٤	٢٠	٢٠ %
٢	امتحان منتصف الفصل الدراسي	٧	٢٠	٢٠ %
٣	امتحان نهائي تحريري	13_14	30	30 %
٤	امتحان نهائي عملي	13	30	٣٠ %

٦ - مصادر التعلم والتسهيلات المادية:

التطور التقني ودوره في المجال الرياضي صبري عمر زكي حسن دار المعرفة ٢٠٢٠م	المرجع الأساسي للمقرر (لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
تطبيقات البيوميكانيك في التدريب والاداء صريح عبد الكريم دار دجلة الطبعة الاولى ٢٠١٩م	المراجع الأخرى	
• https://ar.wikipedia.org/wiki • https://ar.wikipedia.org/wiki	المصادر الالكترونية (لابد من إضافة الروابط)	
EKB - Microsoft office	المنصة التعليمية (لابد من إضافة الرابط)	
قاعة محاضرات مجهزة .	١	التجهيزات التعليمية المساندة للتعليم والتعلم *
المكتبات المركزية والفرعية.	٢	
الوسائل التعليمية (داتا شو) وجهاز كمبيوتر محمول.	٣	
مُنكرة لتدريس المقرر وكشوف متابعة للطلاب	٤	

منسق البرنامج	منسق المقرر	
ا.د/ أحمد عبد الغفار	داخلود فاروق حامد	الإسم
	خلود فاروق حامد	التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Urban Design			
Course Code (according to the bylaw):	ARE 223			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR.AYA MOHAMED SABRY			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course introduces three main aspects of urban design: the elements of urban design: the elements of urban design (nodes, paths, public spaces, etc.); the levels of perception (user, analyzer, critic & designer perceptions); the elements of analysis & design of urban spaces (components, activates, forms, materials, colors, characteristics, style). Applications on new communities

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A6, A7, B1, B2, B4)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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	LO1	Analyze the interactions between architectural and urban design principles and the environmental, social, and economic contexts.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO2	Create urban solutions that address real-world problems and stakeholder needs using creative and innovative thinking.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO3	Organize tasks and resources to effectively plan and implement urban design projects.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO4	Collaborate effectively in multidisciplinary teams by demonstrating positive communication, teamwork, and leadership during urban design projects.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of history and theory, related fine arts, local culture and heritage, technologies and human sciences.	LO5	Evaluate alternative strategies and models by defining goals, establishing evaluation criteria, and selecting the optimal solution.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings	LO6	Design urban spaces that address human needs by applying an understanding of the relationships between people, buildings, and their surrounding environment.

	and their environment; and the need to relate buildings and the spaces between them to human needs and scale.		
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.	LO7	Integrate design concepts into overall planning frameworks by considering project financing, management, and regulatory constraints to produce implementable urban proposals.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√		√	√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction to course: objectives, scope, and importance of urban design in shaping the built environment	6	0	6	0

2	Key terms and definitions: urban space, mass vs. space, new towns, user, designer, and urbanism	6	0	6	0
3	The image of the city: theoretical foundations and analytical studies of selected urban places	6	0	6	0
4	Urban elements: structure, form, landmarks, nodes, and spatial relationships + field case discussion	6	0	6	0
5	Analytical project focused on selecting an existing urban space for detailed analysis and documentation, accompanied by Quiz 1 to evaluate understanding of core concepts.	6	0	6	0
6	Project development: applying analysis to design proposal (part 1)	6	0	6	0
7	Revision and Mid Exam				
8	New design project: site selection and initial conceptual design in new towns.	6	0	6	0
9	Project development (part 2): refining urban layout and addressing user needs	6	0	6	0
10	Project development (part 3): open spaces, pedestrian movement, land use distribution.	6	0	6	0
11	Review and feedback session including peer critique and instructor input, followed by Quiz 2 to assess student progress.	6	0	6	0
12	Final project development: compliance with codes and presentation planning	6	0	6	0
13	Presentation of the final project through a simulated jury session, accompanied by a complete design portfolio showcasing the student's work.	6	0	6	0
14	Final project submission and evaluation	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing	Marks/ Scores	Percentage of

		(Week Number)		total course Marks
1	QUIZ 1 written (Semester work)	5	5	5%
2	QUIZ 2 written (Semester work)	11	5	5%
3	Midterm exam	7	30	30%
4	Final Written Exam	15,16	30	30%
7	Assignments / /Portfolio	13	10	10%
8	FINAL Project	14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• .Prominski. (2019). <i>Design research for urban landscapes: Theories and methods</i>. N.Y. • J.M.Levy. (2018). <i>Contemporary urban planning</i>. N.Y. • P.Hall. (2020). <i>Urban and regional planning</i>. N.Y. • A.Friedman. (2021). <i>Fundamentals of sustainable urban design</i>. Canada. • Kamal Kataria. (2024). <i>Urban and architectural heritage conservation</i>. Delhi
	Other References	Levy, J. M. (2018). <i>Contemporary urban planning</i> (11th ed.). Routledge.
	Electronic Sources (Links must be added)	- https://www.archdaily.com - https://www.urbanet.info - https://www.designingbuildings.co.uk
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	أجهزة كمبيوتر بمعامل الرسم
	Supplies	أدوات رسم يدوي ومسطرة T ولوحات
	Electronic Programs	AutoCAD – SketchUp – Microsoft PowerPoint

	Course Coordinator	Program Coordinator

Name	DR.AYA MOHAMED SABRY	Dr.Maysa Ali Selim
Signature	<i>Aya Sabry</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Town planning (A)			
Course Code (according to the bylaw):	ARE 224			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Heba Mahmoud Abd Elaziz			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course introduces the students to the general definition of physical planning at different levels. Comprehensive studies (goals, objectives, stages & tools). Studies cover planning criteria, programming & stages of implementation, principles of land uses, neighborhood theory, slum clearance & Upgrading of slum area. Study of housing problems, housing prototypes & solutions. Factors & planning methodology influencing housing areas. Combined project on housing & planning.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A6, A7, B1, B2, B4)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Analyze urban components to interpret factors influencing planning from an interdisciplinary perspective.
		LO2	Apply sustainability principles to propose effective design solutions for contemporary urban issues.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO3	Evaluate urban projects using modern technologies and environmental standards.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO4	Design effective planning and supervision strategies that ensure integration of various disciplinary requirements
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO5	Collaborate within multidisciplinary teams to produce urban plans that address both technical and social dimensions.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO6	Develop urban design solutions integrating aesthetic and technical aspects in line with local standards.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their	LO7	Interpret user needs and relate them to the surrounding urban context to generate appropriate designs.

	environment; and the need to relate buildings and the spaces between them to human needs and scale.		
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.	LO8	Organize the implementation phases of urban design considering financial, managerial, and regulatory constraints.
		LO9	Evaluate the efficiency of urban designs in meeting project requirements within institutional and regulatory frameworks.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√		√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	- General definition for physical planning at different levels, types. Objectives, - Tools and choosing groups.	4	1	0	3

2	- Planning. - The site, situation, Region and the main planning problems. And base maps + Course project.	4	1	0	3
3	- Planning & Towns.	4	1	0	3
4	- Town Planning. - project follow up + Quiz	4	1	0	3
5	- Land uses , buildings heights , roads , buildings structural materials , building conditions maps - project follow up	4	1	0	3
6	- Land Uses - slum clearance & replanting of slum area. project follow up	4	1	0	3
7	Revision and Mid Exam				
8	- Land Uses Planning Polices. - project follow up	4	1	0	3
9	- Land Uses Planning Polices. - Problems of planning project follow up	4	1	0	3
10	Project follow up (problems presentation)	4	1	0	3
11	Final project 1	4	1	0	3
12	Cad base maps and region survey	4	1	0	3
13	Project follow up (solving planning problems)	4	1	0	3
14	Final project 2	4	1	0	3
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Final Exam (<i>written</i>)	15, 16	30	30%
2	Midterm written Exam (<i>Term Work</i>)	7	30	30%

3	follow up/reports/presentation	weekly	10	10%
4	Quiz	4	5	5%
5	Final project 1	11	15	15%
	Final project 2	14	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	- CARMONA, Matthew. Public places urban spaces: The dimensions of urban design. Routledge, 2021. - Planning Methodology and History by Wegener-2009 - WATES, Nick; THOMPSON, John. The Community Planning Event Manual: How to use collaborative planning and urban design events to improve your environment. Routledge, 2013. - Red Sea Life Project, United State Agency for International Development , Chemonics International, Septemper 2007. - Planning and Urban Design StandarA Planners Dictionary by Michael Davidsods by Emina Sendich (Editor); American Planning Association Staff -2006 - International Institute for Management Development", World Competitiveness, IMD, Yearbook, Lousanne, 2002. - Moughtin ,Ciiff , Oc , Urban Design :Street and square , Oxford ,Architectural Press,3rd ,Ed , 2003 - Red Sea Life Project, United State Agency for International Development , Chemonics International, Septemper 2007. - Planning Methodology and History by Wegener-2009 - London benevolent , The English edition of Die Geschichte der Stoldt : The History of the city , 1980. - Moughtin ,Ciiff , Oc , Taner, Tiesdell , Steven , Urban Design : Ornament and Decoration, Oxford , Butterworth Architecture,1995. - Batho. A," The Assessment: International Competitiveness “ Oxford Review of Economic Policy, Vol.12, No. 3, 1996. - World Economic Fourm, “The Global Competitiveness Report “ W.E.F., Geneve, 1996/2020

		- Planning and Urban Design StandarA Planners Dictionary by Michael Davidsods by Emina Sendich (Editor); American Planning Association Staff -2006 - Regional Planning by Plane-2007
	Other References	-زايد عبد الله، محمود؛ محمود. أسس التخطيط المرن المستدام: رؤية مستقبلية لمفهوم المدينة البطينة. آفاق عربية وإقليمية , 2023, 8.14: 206-221. -محمد، داليا السيد؛ داليا السيد. مواصفات المدن الذكية وأثرها على تخطيط المدن في المستقبل . Journal of the Egyptian Society of Engineers, 2020, 59.1: 52-44. -عبد الفتاح، فاطمة جمال الدين؛ فاطمة جمال الدين. أسس ومعايير التخطيط البيئي للمجتمعات العمرانية المستدامة حالة النسق الصحراوي بالواحات المصرية . Journal of the Egyptian Society of Engineers, 2019, 58.3: 25-20. -د/ أحمد خالد علام - قوانين التخطيط العمراني - مكتبة الأنجلو - 1995م . -د/ أحمد خالد علام ، د/ عبد الغنى شعبان عبد العظيم - العمران والحكم المحلي في مصر - مكتبة الأنجلو المصرية - 2000م . -د/ احمد خالد علام وآخرون - تخطيط المدن - مكتبة الأنجلو المصرية - القاهرة - 1998م. -إبراهيم العيسوي - " التنمية في عالم متغير " - دار الشروق - القاهرة - مصر - 2003م.
	Electronic Sources	• http://www.investment.gov.eg. • http://www.evdata.worldbank.org • http://www.worldbank.org • http://www.world economic fourm.org/index
Supportive facilities & equipment for teaching and learning *	Electronic Programs	AutoCAD - Photoshop - Google Maps - Google Earth

	Course Coordinator	Program Coordinator
Name	Dr. Heba Mahmoud Abd Elaziz	Dr.Maysa Ali Selim
Signature	<i>Heba Abd Elaziz</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Legislation and management of construction projects			
Course Code (according to the bylaw):	ARE 225			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR. Maysa selim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course is designed to familiarize student with the law and regulations governing the construction of comprehensive regulation, whether in existing zones or new, with a focus on the importance of requirements of building in the preparation of urban design levels and a commitment to achieve sustainable development, it will also review scheduled bodies and relevant agencies to prepare planned and implemented.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1, A6, A9, B4,B5		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	LO1	Recognize Laws and legislations of building and urban
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements	LO 2	Describe Stages of a construction project
		LO 3	Summarize Ethics of practicing the profession (Architectural engineer) And the role of the architect, owner and contractor during construction process
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO4	analyze Types of contracts and Types of contractual agreements
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.	LO 5	Explain Common terminology in Construction projects and building law.
		LO 6	Identify methods of Tendering in construction projects
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production	LO7	Illustrate building violations, reconciliation, law executive regulations and prepare Building permits.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√			√	√				√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction of the subject , Laws and legislations of building and urban laws and Construction Project Management	3	1	2	-
2	Explain Stages of a construction project	3	1	2	-
3	Types of tenders and bids to monitor defects and advantages	3	1	2	-
4	Types of contracts, types of agreements in construction projects	3	1	2	-
5	the role of the architect, owner and contractor during the building and construction process.& Quiz 1	3	1	2	-
6	Ethics of practicing the profession (Architectural engineer responsibilities, relationship between the engineer and society Common terminology in Construction project and building and urban law.	3	1	2	-

7	Revision and Mid Exam				
8	Laws and legislations of building and urban Limits of internal dimensions, areas , heights of building elements.....and Land division)	3	1	2	-
9	Explains building violations, reconciliation law and executive regulations & Building permits	3	1	2	-
10	Evaluation of bids	3	1	2	-
11	claims	3	1	2	-
12	Critical path method	3	1	2	-
13	Critical Activities and Estimate total project time	3	1	2	-
14	Revision	3	1	2	-
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	5	10	10%
2	Midterm exam	7	20	20%
3	Final Written Exam	15, 16	40	40%
4	Reports	weekly	10	10%
5	Assignments	weekly	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources	The main (essential) reference	-S.M.LEVY, PROJECT MANAGEMENT IN CONSTRUCTION,2018

(books, scientific references, etc.) *		- إبراهيم عبد الرشيد إبراهيم نصير، إدارة مشروعات التشييد، دار النشر للجامعات، 2010. - محمد محمود عويضة، أساسيات إدارة تنفيذ مشروعات التشييد والبناء، 1999
	Other References	- Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition and The Standard for Project Management (FRENCH) 2021. - قانون البناء الموحد رقم 119 ولائحة التنفيذية. - قانون التصالح في بعض مخالفات البناء وتقنين أوضاعها بالقانون رقم 187 لسنة 2023 واللائحة التنفيذية لسنة 2024
	Electronic Sources (Links must be added)	http://www.msd.com.eg/VariablesCenter.aspx https://reserve.newcities.gov.eg/
	Learning Platforms (Links must be added)	EKB - Microsoft office- Microsoft Teams
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show, Laptop computer- White board
	Supplies	Calculator , paper
	Electronic Programs	Photoshop , PowerPoint, Canva

	Course Coordinator	Program Coordinator
Name	Dr.Maysa Ali Selim	Dr.Maysa Ali Selim
Signature	<i>maysa selim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Technical Installation For Buildings (A)			
Course Code (according to the bylaw):	ARE 226			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	--	--	2
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Aya Ibrahim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Sanitary engineering; Plumbing and building equipment sanitation, public health education, and sewage disposal system. Water supply; public intakes, sedimentation and clarifies, filtration, chlorinating, disinfecting, storing and distribution. Plumbing system, plumbing fixtures, and distribution system. The main and branches, connections, and piping materials. Building mechanical equipment: lifts, escalators, kitchens and laundries.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A3,A4,B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Identify the characteristics of engineering materials related to sanitary system .
		LO2	Describe quality assurance systems, codes of practice and standards, health and safety requirements and environmental issues
		LO3	Define different types of technologies as related to Sanitary Installations, Architecture
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO4	Analyze the different types of sanitary and different methods of f sanitary and plumbing
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO5	Determine tasks according to the different competencies of members of the same team
		LO6	Select the appropriate system and material for different civil and architectural work

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√		√	√	√			√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction& Abbreviations, .Symbols& Legend	2	2	0	0
2	Sanitary Fixtures For Buildings	2	2	0	0
3	Insulation Works. The Pipe Works. Potable Water Sources.	2	2	0	0
4	Potable Water Sources. Potable Water Treatment Work.	2	2	0	0
5	Potable Water Supply For Buildings.	2	2	0	0
6	Quiz 1+ The Hot Water Works.	2	2	0	0
7	Revision and Mid Exam				
8	Potable Water Supply For Buildings. The Hot Water Works.	2	2	0	0
9	Sanitary Drainage And Ventilation Works	2	2	0	0
10	Storm Water Drainage Works.	2	2	0	0
11	Sewage Treatment Works	2	2	0	0

12	Fire Fighting Works.	2	2	0	0
13	Fire Fighting Works.	2	2	0	0
14	Revision.	2	2	0	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	6	10	10%
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Assignments / Project /Portfolio/ Logbook	13,14	30	30%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- mith, K. (2024). <i>Introducing architectural theory</i>. New York: Routledge. - Jankovic, L. (2024). <i>Designing zero carbon buildings</i>. London: Routledge. - Kataria, K. (2024). <i>Urban and architectural heritage conservation</i>. Delhi: A. Kumar & Sons. - Unwin, S. (2024). <i>Twenty-five+ buildings</i>. New York: Routledge. - Carpenter, W., Setiawan, A., & Welty, C. (2024). <i>Digital fabrication and the design build studio</i>. New York: Routledge
	Other References	Roy Chudley and Roger Greeno, <i>Building Construction Handbook</i> , 10th Edition, Routledge, Taylor & Francis Group, 2016

	Electronic Sources (Links must be added)	https://www.cedengineering.com/userfiles/M05-028%20-
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computers, Projector,Printer
	Supplies	White board

	Course Coordinator	Program Coordinator
Name	Dr. Aya Ibrahim	Dr.Maysa Ali Selim
Signature	<i>Aya Ibrahim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10th of Ramadan City	
Course Specification	

1. Basic Information

Course Title (according to the bylaw):	Environmental Impacts of Projects			
Course Code (according to the bylaw):	MNG 202			
Department/s that participated in the teaching:	Chemical Engineering Dept.			
Total number of credit hours of the course: (according to the bylaw): 1	Theoretical	Practical	Other (Tutorial)	Total
	1	-	-	1
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	All Programs			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Ass Prof / Soad Abdel Aziz El Metwaly			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The updated course specification has been reviewed and approved by the chemical Engineering department council No. (11). Please find attached the corresponding minute confirming the course approval.			
Course Specification Approval Date:	8/5/2025			

2. Course Overview (Brief summary of scientific content):

Introduction: Availability of natural resources, Natural cycles of some basic elements (carbon, oxygen, nitrogen, sulfur, Phosphorous) Conflicts between developments, Economics and environments. Defining emissions sources, impacts, standards and precautions. Water, air and soil pollution and measurements. Historical development for recognizing the need for environmental impact assessment. Assessing the impacts on health, social, cultural and economic activities. Procedures of the environmental impact assessment: screening, scoping, defining impacts, comparing alternatives, plans for mitigation and alleviation, environmental auditing and public participation. Environmental impact statement and reporting, contents and forms. Examples for assessing the impacts of water resources projects on the environment and impacts of different activities on the water environment

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A6)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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	LO1	Define the steps of EIA study and its objectives, also the structure of the final EIA report
		LO2	Explain the different types of pollution and environmental component analysis
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles	LO3	Realize the natural cycles of essential elements and the conflicts between development, economics, and the environment
		LO4	Recognize qualitative and quantitative methods of impact analysis.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO5	Predict EIA for different projects

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology- Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√				√		√	√								

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures)	Training		Other (Tasks/ Assignments/ Projects/ ...)
				Tutorial	Practical / Lab	
1	Course Introduction Natural cycles of some elements	1	1	-	-	
2	Types of pollution and measurements.	1	1	-	-	
3	Emissions sources	1	1	-	-	
4	EIA process	1	1	-	-	
5	Quiz 1- EIA Report	1	1	-	-	
6	EIA Report (continued)	1	1	-	-	
7	Revision and Mid Exam					
8	Impact Identification	1	1	-	-	
9	Impact Identification	1	1	-	-	

10	Review and licensing	1	1	-	-	
11	Quiz 2 - Review and licensing (continued)	1	1	-	-	
12	Monitoring and Auditing	1	1	-	-	
13	Monitoring and Auditing (continued)	1	1	-	-	
14	Case Study	1	1	-	-	
15,16	Final Exam.					

5. Methods of Students' Assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	According to schedule	15	15%
2	Exam 2 written (Semester work)	According to schedule	15	15%
3	Midterm exam	7	20	20%
4	Final Written Exam	15, 16	40	40%
5	Assignments / Reports /case study	According to schedule	10	10%

6. Learning Resources and Supportive Facilities: *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	John Glasson, Riki Therivel and Andrew Chadwick, Introduction to Environmental Impact Assessment, 4th edition, 2012.
	Other References	- Thom B. Fischer, "Strategic Environmental Assessment in Transport and Land Use Planning", 1st edition, 2023, - Barbara Carroll, Josh Fothergill, Jo Murphy, and Trevor Turpin, "Environmental Impact Assessment Handbook: A practical guide for planners, developers and communities", Third edition, 2019 - Peter Morris and Riki Therivel,

		Methods of Environmental Impact Assessment, Third edition, 2009
	Electronic Sources (Links must be added)	--
	Learning Platforms (Links must be added)	EKB - Microsoft Office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show, laptop,
	Supplies	Essential Supplies
	Electronic Programs	--
	Skill Labs/ Simulators	--
	Virtual Labs	--
	Other (to be mentioned)	Library Usage

	Course Coordinator	Program Coordinator
Name	Ass. Prof. Soad Abd El.aziz El Metwally	Dr. Noha Fawzy M. El Hussein
Signature	<i>Soad Abdel Aziz Awad</i>	<i>Noha El Hussein</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Reinforced Concrete and Foundations			
Course Code (according to the bylaw):	ARE 222			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR-Mohamed Nabil Abu EL-Amayem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Design of short columns under centric loads. Design of Reinforced concrete shallow foundations, Design of simple and continuous girders, Design of concrete frames. Concrete dimensions of big halls using arches and shells.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1,A2,A7,B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Demonstrate proficiency in using materials and design work Required by the structures.
		LO2	Classify structural sections based on their characteristics and system.
A2	Develop and conduct appropriate Experimentation and/or simulation, analyses and objective engineering judgment to draw conclusions	LO3	Determine functional relationships between types of concrete elements in a project.
		LO4	Employ the Egyptian Code in designing solid slabs and flexural members.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams	LO5	Collaborate effectively with team members to achieve project objectives.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs	LO6	Define symbols and terminology used in reinforced concrete and foundation design.
		LO7	Identify two types of each of (grade of steel – concrete materials –method of constructions)
		LO8	Design reinforced concrete and foundation projects according to specifications.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brainstorming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education

√	√	√	√		√	√	√									

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction	4	1	0	3
2	Design Methods and Requirements	4	1	0	3
3	Characteristic Loads.	4	1	0	3
4	and element Structural on structures. loads	4	1	0	3
5	Principles of the elastic design methods	4	1	0	3
6	Analysis and design of rectangular sections in bending	4	1	0	3
7	Revision and Mid Exam				
8	Analysis and design of rectangular sections in bending	4	1	0	3
9	Analysis and design of T - sections in bending	4	1	0	3
10	Analysis and design of T - sections in bending	4	1	0	3
11	Analysis and design of Reinforced concrete solid slab.	4	1	0	3
12	Quiz + Revision	4	1	0	3
13	Analysis and design of Reinforced concrete solid slab.	4	1	0	3
14	Oral Exam (lab)+ Revision.	4	1	0	3
15,16	Final Exam.				

Experiment Topics: (If any)

Serial	Experiment
1	Sieve Analysis Test
2	Concrete compressive strength Test
3	Tensile strength Test
4	Slump Test

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	12	10	10%
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Assignments / Project /Portfolio/ Logbook	Weekly	20	20%
5	Lab exam	14	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• Lecture notes • Wang, Samon and Pincheira< Reinforced Concrete Design< John Wile & Sons, 7th Ed., 2007. • Introduction of Reinforced Concrete (R.C) Dr. Yasser El-Leathy,2020. DESIGN OF REINFORCED CONCRETE STRUCTURES, Mashhour Ghoneim Mahmoud EbMihilmy, Second Edition, Volume 2,2019
	Other References	• REINFORCED CONCRETE DESIGN HANDBOOK, PROF.DR.SHAKER EL BEHAIRY FACULTY OF ENGINEERING AIN SHAMS UNIVERSITY SIXTH EDITION,2021
	Electronic Sources (Links must be added)	www.concrete.org
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment	Devices/Instruments	• Whiteboard • Projector • Computer

for teaching and learning *		

	Course Coordinator	Program Coordinator
Name	DR.Mohamed Nabil Abu EL- Amayem	Dr.Maysa Ali Selim
Signature	<i>Mohamed Abu EL-Amayem</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Computer Aided Design in Architecture			
Course Code (according to the bylaw):	ARE 237			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	4	--	4
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR-Mohamed Nabil Abu EL-Amayem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course provides a comprehensive introduction to Computer Aided Design (CAD) in architecture, focusing on the digital tools and techniques used to conceptualize, develop, and present architectural designs. Students will learn to produce precise executive 2D drawings and detailed 3D models using industry-standard software, enhancing their ability to visualize and communicate spatial ideas effectively.

In addition to foundational CAD skills, the course explores advanced architectural design technologies, including Building Information Modeling (BIM) and parametric design. Students will gain hands-on experience with software for BIM workflows for algorithmic and

parametric modeling and high-quality architectural visualization and rendering. Through practical projects and exercises, students will develop the technical proficiency and creative confidence needed to integrate digital tools into contemporary architectural practice.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A8,A9,B2,B3,B4		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing –with a range of audience using contemporary tools.	LO1	Demonstrate effective graphical communication by producing clear and accurate architectural drawings and visualizations using contemporary CAD and BIM tools.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situation.	LO2	Apply creative and innovative thinking to solve architectural design challenges using digital tools and emerging technologies.
B2	produce designs that meet building users requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces an needs and between them to hum scale.	LO3	Integrate environmental context into design decisions, addressing factors such as climate, site conditions, and sustainability.
		LO4	Rearrange principles of human scale to create spaces that are proportionate, intuitive, and responsive to human experience
		LO5	Evaluate the interaction between buildings and their surroundings, ensuring harmony between architectural form, landscape, and urban context
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO6	Design environmentally responsible architectural solutions that promote sustainability, conservation, and ecological balance.
		LO7	Test the ecological implications of design decisions and propose innovative strategies for environmental conservation in architectural contexts
B4	Transform design concepts into buildings and integrate plans	LO8	Translate architectural design concepts into buildable solutions, considering

	overall planning within the constraints of project financing project management, cost control and methods of project delivery, while having adequate knowledge of industries organizations, regulations and procedures involved.		technical, functional, and aesthetic aspects.
		LO9	Intervene design plans within real-world constraints, such as budget limitations, project timelines, and delivery methods

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
	√	√	√	√			√			√		√	√	√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	General introduction of the Software program, and the components of the computer that correspond to the capabilities of the program to work better + definition of the program's interface and main menus.	4	0	0	4
2	Hands-on with Software Program for architectural drawings	4	0	0	4

3	3D Modeling & Visualization for modeling and rendering	4	0	0	4
4	Creative design exploration using parametric tools	4	0	0	4
5	QUIZ 1 + Understanding human scale, spatial experience, and ergonomics	4	0	0	4
6	Climate-responsive design, site analysis, and sustainability principles	4	0	0	4
7	Revision and Mid Exam				
8	Project Management in Architecture using electronical tools, Budgeting, scheduling, delivery methods, and cost control	4	0	0	4
9	professional practice, and organizational roles	4	0	0	4
10	Start of final project: concept development and environmental analysis	4	0	0	4
11	QUIZ 2 + Start of final project: concept development and environmental analysis	4	0	0	4
12	Integrated Design Project - Concept development, site/environmental analysis	4	0	0	4
13	Final presentation: drawings, models, sustainability, feasibility	4	0	0	4
14	General Review	4	0	0	4
15,16	Final Exam.				

Experiment Topics: (If any)

Serial	Experiment
1	Construction & Detailing Lab • Tools: Revit or AutoCAD • Activity: Create detailed sections and construction drawings for a small building. • LOs: LO8
2	Project Management Simulation • Tools: MS Project, Excel, or BIM 360 • Activity: Develop a basic project timeline, budget estimate, and delivery strategy for a design proposal. • LOs: LO9
3	Environmental Context Simulation • Tools: Revit (with Insight or ClimateStudio), Rhino (with Ladybug Tools) • Activity: Perform a daylight or energy simulation for a building design. • LOs: LO3, LO6, LO7

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 LAB (Semester work)	5	5	5%
2	Quiz 2 LAB (Semester work)	11	5	5%
3	Midterm exam	7	30	20 %
4	Final Practical LAB Exam	15, 16	30	40 %
5	Assignments / Project /Portfolio/ Logbook	Weekly	30	30%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Class Notes
	Other References	- Saxena, Anupam, and Birendra Sahay. Computer aided engineering design. Dordrecht: Springer Netherlands, 2005. - Chang, Kuang-Hua. Design theory and methods using CAD/CAE: The computer aided engineering design series. Academic Press, 2014. - Auto desk 3ds Max 2021 Complete Reference Guide, Kelly L. Murdock's - Autodesk 3ds Max 2021 Fundamentals - Autodesk 3ds Max 2020: A Detailed Guide to Modeling, Texturing, Lighting, and Rendering, 2nd Edition, by Pradeep Mamgain - Autodesk 3ds Max 2021: A Detailed Guide to Modeling, Texturing, Lighting, and Rendering, 3rd Edition, by Pradeep Mamgain 3ds Max Speed Modeling for 3D Artists, by Thomas Mooney - Kelly L. Murdock's Autodesk 3ds Max 2021 - Paperback, by Murdock Kelly L. – Good - Kelly L. Murdock's Autodesk 3ds Max 20... by Murdoch, Kelly Paperback / softback
	Electronic Sources (Links must be added)	https://www.architecturecourses.org/learn/computer-aided-design-cad https://www.coursera.org/courses?query=cad https://www.pluralsight.com/browse/architecture-construction
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment	Devices/Instruments	A- Projector. B- Computer. C- Printer.

for teaching and learning *	Supplies	
	Electronic Programs	D- Software-Specific Guides - Autodesk Revit Official Training Guides – Available from Autodesk and various publishers. - Rhino + Grasshopper Primer – Free and paid resources from McNeel and ThinkParametric. - AutoCAD Architecture Essentials – Covers drafting and architectural workflows. 3ds Max for Architects – Visualization and rendering techniques tailored for architecture
	Skill Labs/ Simulators	Architectural Computer Lab

	Course Coordinator	Program Coordinator
Name	DR.Mohamed Nabil Abu EL-Amayem	Dr.Maysa Ali Selim
Signature	<i>Mohamed Abu EL-Amayem</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Execution Designs (2)			
Course Code (according to the bylaw):	ARE 245			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	4	--	5
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Basma Saad El-Din			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course deals with preparing execution design drawings for more sophisticated projects taking into consideration the different technical systems and installations. Advanced structural systems, as well as electromechanical ducts and spatial requirements are introduced through the study of the course. Application on student's own design project, from previous semester, enriches the study in order to teach the student how to develop design concepts to real projects. The course takes care of the coordination process between the different technical systems,

included in the project, on one hand, and the different execution documents and drawings, on the other. The course aims to apply BIM systems and programs in presentation of the project using computer aided programs. (Revit)

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO1	Select the most appropriate contemporary technologies and techniques for preparing architectural details.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO2	Review the work of related engineering disciplines to identify and help resolve any negative impacts on the building design.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO3	Select alternatives and ideas that achieve the intended design concept in a way that is easier to implement, more cost-effective, and easier to furnish.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO 4	Integrate dimensions of the human body, spatial and functional needs, movement spaces, work areas, and activity performance requirements.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	LO 5	Develop structural systems and techniques, and distribution of the structural elements in proportion to the design of the building.
B5	Prepare design project briefs and documents, and understand the	LO 6	Explain the role of the architect during the design and implementation stages, and the

	context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.		relationship between the consultant, owner, and contractor.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√	-	-	√		-	-	-	-

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	- Architect professional and his relation with other engineering specializes. - Co-ordinate and reconcile contradictions between executive architectural drawings, and executive drawings for other specialties related to project. Enumerate project stages	5	1	4	0
2	Advanced structural systems (part One)	5	1	4	0

3	Advanced structural systems (part Two)	5	1	4	0
4	Technical Systems and installations: Preparing an executive architectural detail, for Suspended Ceilings (part One).	5	1	4	0
5	Technical Systems and installations: Preparing an executive architectural detail, for Suspended Ceilings (part two).	5	1	4	0
6	Technical Systems and installations: Preparing an executive architectural detail, for Floors Details (Raised Floors).	5	1	4	0
7	Revision and Mid Exam				
8	Technical Systems and installations: Preparing an executive architectural detail, for Floors Details (Marble Floors).	5	1	4	0
9	Technical Systems and installations: Preparing an executive architectural detail, for Marble Claddings.	5	1	4	0
10	Technical Systems and installations: Preparing an executive architectural detail, for Curtain Walls.	5	1	4	0
11	Technical Systems and installations: Preparing an executive architectural details, for Wooden Claddings. Quiz	5	1	4	0
12	Technical Systems and installations: Preparing an executive architectural detail, for Metal Claddings.	5	1	4	0
13	Electromechanical installations: Preparing an executive architectural detail, for Elevators and Ducts.	5	1	4	0
14	Revision on details& project Submission	5	1	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

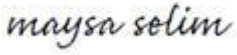
No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Quiz)	11	10	10%
2	Midterm exam	7	30	30 %

3	Final Written Exam	15, 16	30	30 %
4	Assignments / Project /Portfolio/ Logbook	30	30	30%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• Ramsey & Sleeper, Architectural Graphic Standards, The American Institute of Architects, John Wiley & Sons, Inc., New Jersey, U.S.A., 11th Edition, Student Edition: Edited by Bruce Bassler, 2008. • Francis D. K. Ching, Building Construction Illustrated, John Wiley & Sons, Inc., New Jersey, U.S.A., 4th edition, 2008. • Edward Allen & Patrick. Rand, Architectural Detailing (Function/ Constructability/ Aesthetics), John Wiley & Sons, Inc., New Jersey, U.S.A., 2nd edition, 2007. • Kilmer, R., & Kilmer, W. O. (2021). Construction drawings and details for interiors: Basic skills (4th ed.). Wiley. • Allen, E., & Iano, J. (2022). <i>Fundamentals of building construction: Materials and methods</i> (7th ed.). Wiley. • Kilmer, R., & Kilmer, W. O. (2021). <i>Construction drawings and details for interiors: Basic skills</i> (4th ed.). Wiley.

	Other References	• هشام حسن على. دكتور، التصميمات التنفيذية، مكتبة دار المعرفة، القاهرة، مصر، الإصدار الثاني، 2012م. - فاروق عباس حيدر. دكتور، الموسوعة الحديثة في تشييد المباني – الجزء الثالث: الهندسة الصحية والتركيبات الصحية، منشأة المعارف، الإسكندرية، مصر، الطبعة الثامنة، 2009م. - وزارة الإسكان والمرافق والتنمية العمرانية. (2020). الكود المصري لأسس التصميم واشتراطات التنفيذ للأعمال المعمارية. الهيئة المصرية العامة للمواصفات والجودة.
	Electronic Sources (Links must be added)	Projector Computer
	Learning Platforms (Links must be added)	MS-Teams
	Supplies	Whiteboard
	Electronic Programs	BIM programs

	Course Coordinator	Program Coordinator
Name	Dr. Basma Saad El-Din	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Air Conditioning in Buildings			
Course Code (according to the bylaw):	ARE 246			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	0	4	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Basma Saad El-Din			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Air conditioning: Psychometric charts, physical and physiological principles, fundamentals of heat transfer, duct design, heating and cooling cycles.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A2, A6, A7,B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Identify the basics of heating, ventilation, and air conditioning (HVAC) systems, Clausius's statement and thermal devices (heat pump and summer air conditioner).
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.	LO2	Define the basic principles of energy and power (e.g., refrigeration ton) as applied to HVAC systems.
		LO 3.	Develop the formation and function of HVAC systems and analyze their general requirements and their cooling cycles.
A6	Plan, supervise and monitor the implementation of engineering projects, taking into consideration other trades Requirements.	LO 4.	Explain the functionality of HVAC core components and their operational mechanisms.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO 5.	Analyzes the general requirements for effective performance, with particular emphasis on the cooling cycle and its role in maintaining indoor thermal comfort.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO6.	Apply theoretical knowledge, principles, and standards in designing HVAC systems.
		LO7.	Employ design requirements, codes, and regulations to produce functional buildings and designs.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO8.	Apply Design Standards and Regulations in Building Development

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	-	√	-	-	-	-	-	-	√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction to Thermophysical basics of heating, ventilation, and air conditioning (HVAC) systems including the definitions of Energy and Power (Refrigeration Ton....etc.), latent and sensible heat transfer, and calculation of Electricity Bill.	4	-	4	-
2	Continue the thermophysical basics then enroll in the air conditioning concept by explaining Clausius's statement about thermal devices (heat engine, heat pump, + summer air conditioner). Introduction about the relation between refrigeration and air conditioning.	4	-	4	-
3	Detailing major air conditioner's basic cycles: electrical and thermal powered (i.e., vapor compression cycle and vapor absorption cycle with explaining a comparative analysis between them.	4	-	4	-

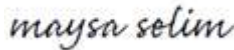
4	Basic Categorizations of Air Conditioning systems.- QUIZ1 (Direct and Indirect AC systems) + Modern energy saving techniques.+ Quiz.(1)	4	-	4	-
5	Types of Air conditioning systems (Unitary, semi-central and central).	4	-	4	-
6	Humid air Properties identification with the aid of Psychometric chart. Different Air conditioning processes using Psychometric chart.	4	-	4	-
7	Revision and Mid Exam				
8	HVAC Equipment relevant to Air conditioning processes. Ventilation and air filtration	4	-	4	-
9	Building Survey role in thermal loads estimation. + Quiz 2	4	-	4	-
10	Cooling Load calculation sequence with a simple example.	4	-	4	-
11	(Practical)calculations for heating/cooling loads with HVAC system selection.	4	-	4	-
12	Quiz 3 + Introduction to air duct criterion and their classifications.	4	-	4	-
13	Air Duct Design sequence using friction charts with an implementation of Practical applications.	4	-	4	-
14	Revision+ Project Presentations	4	-	4	-
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (quiz)	4	10	10%
2	Quiz 2 written (quiz)	9	10	10%
3	Quiz 3 written (quiz)	12	15	15%
4	Project	14	5	5%
5	Midterm exam	7	20	20 %
6	Final Written Exam	15, 16	40	40 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Reddy, T.A., Kreider, J.F., Curtiss, P.S., & Rabl, A. (2022). Heating and Cooling of Buildings: Principles and Practice of Energy Efficient Design (3rd ed.).
	Other References	M. Elnaggar and M.Alnahhal "Central Air Conditioning: Systems and Applications" Low-temperature Technologies. Intech Open, 2020.
	Electronic Sources (Links must be added)	https://youtu.be/vqs6vnFoZ14?si=b26tdV-aBzr21FTf .
	Learning Platforms (Links must be added)	EKB - Microsoft office

	Course Coordinator	Program Coordinator
Name	Dr. Basma Saad El-Din	Dr. Maysa ALi
Signature		

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

١ - معلومات أساسية :

اخلاقيات مهنية				اسم المقرر: (تبعاً لما ورد باللائحة)
MNG 203				كود المقرر: (تبعاً لما ورد باللائحة)
الهندسة الطبية				القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	اخرى (تحدد)	عملي	نظري	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
1			1	
اجباري				نوع المقرر:
SENIOR ٢				المستوى الدراسي الذي قدم فيه المقرر:
البرامج الهندسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
ا.م.د/ امل الدسوقي				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
8/12/2025				تاريخ اعتماد تقرير المقرر:

٢ - الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

رؤية عالمية حول علم الهندسة ووظيفة المهندس: لطالما كان علم الهندسة نبراساً لأي حضارة. - تُعد مهنة الهندسة من أرقى وأسمى المهن (وظيفة هندسية قائمة على الإبداع والابتكار والتطوير من وحي خيال المهندس - خدمة البشرية جمعاء والسعي إلى الجودة في حياة الإنسان). مسؤولية المهندس على الصعيدين الوطني والدولي: الدور الحيوي للمهندس وفقاً لعقود الهندسة الدولية (فيديك). - مسؤولية المهندس وفقاً للقوانين المصرية. أخلاقيات وآداب المهنة: رؤية عالمية حول قانون نقابة المهندسين رقم ٦٦.

٣ - نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

مخرجات البرنامج / المعايير الأكاديمية المتنبئة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)		نواتج التعلم للمقرر	
A٩, A١٠		عند الانتهاء من المقرر سيكون الطالب قادراً على	
الكود	النص	الكود	النص
A9	استخدم التفكير الإبداعي والمبتكر والمرن، واكتسب مهارات ريادة الأعمال والقيادة لتوقع المواقف الجديدة والاستجابة لها. استخدم التفكير الإبداعي والمبتكر والمرن، واكتسب مهارات ريادة الأعمال والقيادة لتوقع المواقف الجديدة والاستجابة لها.	LO1	يوضح طبيعة وظيفة المهندس كدور مهني يجمع بين الإبداع والمسؤولية الاجتماعية.
A10	اكتسب وطبق معارف جديدة، ومارس استراتيجيات التعلم الذاتي، والتعلم مدى الحياة، وغيرها.	LO2	يميز بين المسؤوليات المهنية للمهندس في السياق المحلي والدولي، بما في ذلك عقود الفيديك والقوانين المصرية.

٤ - طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإنترنت	برامج المحاكاة أو النمذجة	المعمل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
✓		✓	✓		✓	✓	✓			✓				✓	

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملية	تمارين			
١	رؤية عالمية حول علوم الهندسة ومهنة المهندس.	1	1	٠
٢	رؤية عالمية حول مهنة المهندس.	1	1	٠
٣	وظيفة هندسية قائمة على الإبداع والابتكار.	1	1	٠
٤	وظيفة هندسية قائمة على التطوير.	1	1	٠
٥	دور المهندس الحيوي في العقود الهندسية الدولية.	1	1	٠
٦	مسؤولية المهندس في القوانين المصرية.	1	1	٠
٧	مراجعة وامتحان منتصف الفصل الدراسي			
٨	معرفة بالاتحاد الدولي للمهندسين الاستشاريين (فيديك).	1	1	٠
٩	أخلاقيات وآداب المهنة: رؤية عالمية حول قانون نقابة المهندسين رقم ٦٦ لسنة ١٩٧٤ - تأكيد.	1	1	٠
١٠	مراجعة واختبار قصير.	1	1	٠
١١	معرفة بالاتحاد الدولي للمهندسين الاستشاريين (فيديك).	1	1	٠
١٢	أخلاقيات وآداب المهنة: رؤية عالمية حول قانون نقابة المهندسين رقم ٦٦ لسنة ١٩٧٤ - تأكيد.	1	1	٠
١٣	مناقشة التقارير	1	1	٠
١٤		1	1	٠
١٥-١٦	إختبارات الفصل الدراسي النهائية			

٥ - طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
١	امتحان ١ تحريري (أعمال سنة)	١٠	20	٢٠ %
٣	امتحان منتصف الفصل الدراسي	٧	٢٠	٢٠ %
٤	امتحان نهائي تحريري	١٥ و ١٦	٤٠	٤٠ %
٧	تكليفات / مشروع / ملف الإنجاز / كتيب الأنشطة	١٣ و ١٤	20	٢٠ %

٦ - مصادر التعلم والتسهيلات المادية:

Mappes, Thomas A. Biomedical Ethics. 1st ed., Butterworth, 1999	المرجع الأساسي للمقرر (لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
السامرائي، مهدي صالح مهدي. أخلاقيات العمل. دار صفاء للنشر والتوزيع، ٢٠٢١.	المراجع الأخرى	
اخلاقيات العمل - د.مهدي صالح مهدي السامرائي - Google Books	المصادر الالكترونية (لابد من إضافة الروابط)	
EKB - Microsoft office	المنصة التعليمية (لابد من إضافة الرابط)	
داتا شوه	الأجهزة	التجهيزات التعليمية المساندة للتعليم والتعلم *
	المستلزمات	
	البرامج الالكترونية	
	معامل المهارات/ المحاكيات	
	المعامل الافتراضية	
	أخرى (تذكر)	

منسق البرنامج	منسق المقرر	
د/ غادة كريم	ا.م.د/ امل الدسوقي	الإسم
غادة	امل	التوقيع

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

حقوق الإنسان				اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 205				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
نظري	عملي	اخرى (تحدد)	إجمالي	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
1			1	
اختياري				نوع المقرر:
SENIOR 2				المستوى الدراسي الذي قدم فيه المقرر:
البرامج الهندسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
أ.م.د. وليد رضوان				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

الالام بأهمية حقوق الإنسان والنشأة التاريخية لتلك الحقوق والمدارس الفقهية لتأصل تلك الحقوق وأحكام الاتفاقيات الدولية الخاصة بحقوق الإنسان ، والمنظمات الدولية العالمية والاقليمية القائمة على حماية تلك الحقوق ، وموقف الدستور المصرى من حقوق الانسان ، والحماية القانونية لها على الصعيد الوطنى والصعيد الدولى ، بالإضافة الى حقوق الانسان فى الشريعة الاسلامية – الاصول التاريخية الفلسفية لحقوق الانسان – المصادر الدولية لحقوق الانسان (العالمية والاقليمية) – المصادر الوطنية لحقوق الانسان – الاجهزة العالمية القائمة على حماية حقوق لأنسان (أجهزة الامم المتحدة) – الحماية الوطنية لحقوق الانسان – حقوق الانسان فى الشريعة الاسلامية – عرض لبعض طوائف الانسان – مراجعة عامة

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		(A3- A8- A10)	
الكود	النص	الكود	النص
LO 1	معرفة الحقوق الأساسية للإنسان والتي لا يحيا بدونها.	A 3	تطبيق عمليات التصميم الهندسي لإنتاج حلول فعالة من حيث التكلفة تلبي الإحتياجات النوعية مع مراعاة الجوانب العالمية والثقافية والاجتماعية والاقتصادية والبيئية والأخلاقية وغيرها من الجوانب المتسقة مع النظام والظروف وضمن مبادئ وسياسات التصميم والتنمية المستدامين.
LO 2	معرفة ماله من حقوق وما عليه من واجبات.		
LO 3	معرفة دوره في بناء مجتمعه.		
LO 4	المقارنة بين المراحل المختلفة لتطور حقوق الإنسان في الديانات السماوية والنظم الوضعية.		
LO 5	معرفة حقوق المواطنة وحقوق الوطن على المواطن.	A 8	التواصل بفعالية بانيات وشفاهة وكتابة، مع مجموعات من الجماهير باستخدام الأدوات العصرية.
LO 6	معرفة حقوق البيئة وضرورة الحفاظ عليها وعلاقتها بحقوق الإنسان.		
LO 7	معرفة أنواع الفساد ودوره في إهدار حقوق الإنسان.		
LO 8	معرفة دور الشباب في مقاومة الفساد وطرق مقاومته.	A 10	اكتساب المعارف الجديدة وتطبيقها، وممارسة استراتيجيات التعلم الذاتي وغيرها مدى الحياة.
LO 9	الممارسة الصحيحة لما له من حقوق وما عليه من واجبات.		
LO10	تعزيز العديد من السلوكيات والمهارات داخل وخارج نطاق العمل في ضوء معرفته لمنظومة الحقوق والواجبات.		

4 طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
✓		✓		✓	✓	✓	✓			✓	✓			✓	✓

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملية	تمارين			
1	تقديم عن المقرر وتعريف أهميته في حياة الطالب.	1	1	0
2	حقوق نفسك عليك، ما هي؟ وكيف تؤديها؟	1	1	0
3	- تعريف حقوق الإنسان وخصائصها. - أنواع حقوق الإنسان.	1	1	0
4	التطور التاريخي لحقوق الإنسان وحرياته.	1	1	0
5	- حقوق الإنسان في الشرائع السماوية. - إهدار حقوق الإنسان في الولايات المتحدة الأمريكية.	1	1	0
6	حقوق الأبناء على الآباء.	1	1	0
7	مراجعة وامتحان منتصف الفصل الدراسي			
8	- حقوق الأزواج والزوجات وتأسيس أسرة صالحة. - حقوق الآباء على الأبناء.	1	1	0
9	حقوق الوطن.	1	1	0
10	- الانتماء للوطن. - حقوق البيئة.	1	1	0
11	- حقوق اللغة العربية. - الفساد وإهدار حقوق الإنسان. (1)	1	1	0
12	- الفساد وإهدار حقوق الإنسان. (2) - دور الشباب في مكافحة الفساد. (1)	1	1	0
13	دور الشباب في مكافحة الفساد. (2)	1	1	0
14	مراجعة عامة.	1	1	0
16-15	اختبارات الفصل الدراسي النهائية			

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10%
2	امتحان 2 تحريري (أعمال سنة)	9	10	10%
3	امتحان منتصف الفصل الدراسي	7	20	20%
4	امتحان نهائي تحريري	14	40	40%
5	امتحان نهائي عملي	لا يوجد	----	-----
6	امتحان نهائي شفهي	11	10	10%
7	تكاليفات / مشروع / ملف الإنجاز / كتيب الأنشطة	8	10	10%

8	تدريب ميداني	لا يوجد	-----
9	أخرى (تذكر)	لا يوجد	-----

6- مصادر التعلم والتسهيلات المادية:

وليد رضوان، حقوق الإنسان، مذكرة للمعهد التكنولوجي العالي بالعاشر من رمضان.	المرجع الأساسي للمقرر	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
1- خديجة النبراوي: موسوعة حقوق الإنسان في الإسلام، دار السلام للطباعة والنشر والتوزيع، القاهرة. 2015 2- محمد الغزالي: حقوق الإنسان بين تعاليم الإسلام وإعلان الأمم المتحدة، القاهرة، دار الكتب الإسلامية، 1984 3- محمد عمارة: الإسلام وحقوق الإنسان، الكويت، سلسلة عالم المعرفة، عدد مايو 1985 4- محي شوقي أحمد: الجوانب الدستورية لحقوق الإنسان (رسالة دكتوراة، جامعة عين شمس، 1986)	المراجع الأخرى	
1- https://ar.wikipedia.org/wiki 2- http://www.du.edu.eg/ 3- https://www.youtube.com/	المصادر الإلكترونية (لا بد من إضافة الروابط)	
https://www.ekb.eg/ar/home	المنصة التعليمية (لا بد من إضافة الرابط)	
(داتا شو) وجهاز كمبيوتر محمول.	الأجهزة	التجهيزات التعليمية المساندة للتعليم والتعلم *
قاعة محاضرات مجهزة	المستلزمات	
-----	البرامج الإلكترونية	
-----	معامل المهارات/ المحاكيات	
-----	المعامل الافتراضية	
-----	أخرى (تذكر)	

منسق المقرر	منسق البرنامج	
أ.م.د. وليد رضوان	أ.د/ أحمد عبد الغفار	الإسم
وليد رضوان	أحمد عبد الغفار	التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Comp .App.In Arch (3).			
Course Code (according to the bylaw):	ARE 243			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr.Sherif Nagy Mohamed			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The use of software in the development of architectural designs, formation, architectural rendering and 3D models.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A8,9 – B2,3,4		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO1	Apply contemporary forms using the 3D Max program.
		LO2	Develop contemporary tools in different 3D Max drawings of architectural projects.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO3	Apply creative and flexible thinking in produce 3d Modeling drawings
		LO4	Produce designs that meet building user's requirements in spaces and human scales through 3d Modeling drawings
B2	Produce designs that meet building user's requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces and needs and between them to human scale.	LO5	Develop 3D modeling drawings that integrate structural design, construction methods, and building technologies.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs, through understanding of structural design, construction, technology, and engineering problems associated with building designs.	LO6	Modify 3D modeling drawings to reflect project financing considerations and cost control strategies.
B4	Transform design concepts into buildings and integrate plans overall planning within the constraints of project financing project management, cost control and methods of project delivery, while having adequate knowledge of industries organizations, regulations and procedures involved.	LO7	Produce 3D modeling drawings that demonstrate knowledge of industry practices, organizational standards, regulations, and procedures.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√		√	√	√						√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	General introduction of the 3ds Max program, and the components of the computer that correspond to the capabilities of the Max program to work better + definition of the program's interface and main menus.	6	0	0	6
2	Introducing the program's main tools for moving, rotation and zooming, and how navigation works within projects, whether internal or external	6	0	0	6
3	How to insert photos into 3ds max and see them, Using the tools for drawing the line and two-dimensional shapes (SP Line Tools) + How to correctly insert a plan from the AutoCAD program into the Max program and see its lines.	6	0	0	6

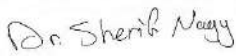
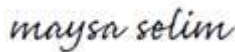
4	How to apply commands to 2D shapes to turn them into 3D shapes, such as: Loft-Lath-Sweep-Bevel Profile- Extrude	6	0	0	6
5	Quiz + Revision	6	0	0	6
6	Explanation of some commands that are applied to 3D models such as: Bend-Taper- Slice-Cap holes- Symmetry- Turbo Smooth	6	0	0	6
7	Revision and Mid Exam				
8	Explanation of commands that require a large number of Segments, such as Displace-Cloth-Wave	6	0	0	6
9	Explanation of how to convert 3D models to Editable Poly, through a practical workshop	6	0	0	6
10	Explain the rest of the Editable Poly commands, through a practical workshop.	6	0	0	6
11	Explanation of Compound Objects.	6	0	0	6
12	Explanation of some plugins, and how to install them on the Max program and work with them.	6	0	0	6
13	Quiz + Revision	6	0	0	6
14	Explain how V-Ray Lighting is placed in indoor and outdoor scenes. Explanation of how to put cameras inside the project, Render settings. and	6	0	0	6
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	5,13	20	20 %
3	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
7	Assignments / Project	14	20	20 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	1- Auto desk 3ds Max 2021 Complete Reference Guide, Kelly L. Murdock's 2- Autodesk 3ds Max 2021 Fundamentals 3- Autodesk 3ds Max 2020: A Detailed Guide to Modeling, Texturing, Lighting, and Rendering, 2nd Edition, by Pradeep Mamgain 4- Autodesk 3ds Max 2021: A Detailed Guide to Modeling, Texturing, Lighting, and Rendering, 3rd Edition, by Pradeep Mamgain 5- 3ds Max Speed Modeling for 3D Artists, by Thomas Mooney
	Other References	Lecture notes
	Learning Platforms (Links must be added)	EKB - Microsoft office https://www.ekb.eg/ar/home
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show (projector) Laptop or desktop computer

	Course Coordinator	Program Coordinator
Name	Dr.Sherif Nagy Mohamed	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Environmental Control			
Course Code (according to the bylaw):	ARE 244			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr Ghada Assal			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course emphasizes the important role of solar radiation and natural ventilation as major climate elements affecting architecture & urban design. This includes the sun and the Geographical relations between the sun & Earth, in addition to methods of defining sun angles at different points on Earth during different days & hours of the year. Architectural control of sun rays on buildings. Air: Study of movements of wind: & architectural control of air movements in & between buildings.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6, A7, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise, and monitor the implementation of engineering projects, considering other trades' requirements.	LO1	Apply multidisciplinary approaches to create ecologically responsible architectural designs.
A7	Function efficiently as an individual and as a member of multidisciplinary and multicultural teams.	LO2	Collaborate in multidisciplinary teams to solve challenges in environmental control.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.	LO3	Analyze the impact of different climate factors on architectural design decisions.
		LO4	Synthesize the relationship between human needs, building design, and the environment.
B3	Generate ecologically responsible, environmental conservation, and rehabilitation designs through understanding structural design, construction, technology, and engineering problems associated with building designs.	LO5	Integrate passive cooling and solar techniques into architectural solutions.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√		√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical / Lab
1	Introduction to Environmental Control and Geographical Relations.	3	1	2	0
2	Conduction: thermal mass and Heat transfer (surface and material)	3	1	2	0
3	Solar Radiation Understanding and Sun Angle Calculation. Shading Design Climate Analysis. The sun path diagram	3	1	2	0
4	Architectural Control of Solar Rays Natural illumination	3	1	2	0
5	UHI, site visit	3	1	2	0
6	Convection: Architectural Control of Air Movements. And wind pressure, Wind Catchers, courts, and Natural ventilation.	3	1	2	0
7	Revision and Mid Exam				
8	Evaporations and humidity control and comfort zone	3	1	2	0
9	Integration of Environmental Strategies.	3	1	2	0

10	In hot humid, hot dry and moderate climates Site visits *individuals	3	1	2	0
11	Case Studies. Integration of Environmental Strategies. Quiz	3	1	2	0
12	Case Studies. Integration of Environmental Strategies.	3	1	2	0
13	Daylight /Project semi-final	3	1	2	0
14	Biomimicry /Final Project submission	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment

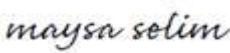
No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of Total Course Marks
1	Exam 1 written (Semester work)	11	5	5 %
2	Exam 2 written (Semester work)		0	
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Final Practical/Clinical/... Exam		0	
6	Final Oral Exam (Semi-Final)	13	5	5 %
7	Assignments / Project /Portfolio/ Logbook	14	30	30 %
8	Field training		0	
9	Other (Mention)		0	

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	المناخ وعماره المناطق الحارة د.شفق عوض الوكيل العمارة والبيئة في المناطق الصحراوية الحارة ، د خالد سليم فجال a. Givoni, B. (2009). Climate Considerations in Building and Urban Design (2nd ed.). New York: Routledge. ISBN: 978-0415416474. b. CIBSE Guide A: Environmental Design (2015). Chartered Institution of Building Services Engineers. ISBN: 978-1906846624. c. de Dear, R.J., & Brager, G.S. (2018). <i>Thermal Comfort in Naturally Ventilated Buildings: Relevance of Indoor Air Velocity and Surface Temperature</i>. Building Research & Information, 46(6), 682-696. Available at: https://www.tandfonline.com/doi/full/10.1080/09613218.2018.1468068 d. Solar Energy: Fundamentals and Applications (2019). Edited by Soteris Kalogirou. Academic Press. ISBN: 978-0128106954.

	Other References	• البيئة والفراغ (1)، 1996. <i>البيئة والفراغ</i>. (1) القاهرة: مركز أبحاث إنتركونسلت. • حسن فتحي، 2003. <i>حسن فتحي</i>. القاهرة: دار الكتب العلمية. • تطبيقات على عمارة البيئة، 2002. <i>التصميم الشمسي للفناء الداخلي</i>. القاهرة: مكتبة مدبولي. • العمارة البيئية، 2004. <i>العمارة البيئية</i>. بيروت: دار قابس. • المعماريون العرب: حسن فتحي، 2007. <i>المعماريون العرب</i>: حسن فتحي. القاهرة: دار الكتب. • <i>An architecture for people: The complete works of Hassan Fathy</i>, 1997. Hong Kong: Thames & Hudson. • <i>Architectural illustration</i>, 1979. USA: Van Nostrand Reinhold. • <i>Environmental design: An introduction for architects and engineers</i>, 1999. New York: E & FN Spon. • <i>Hassan Fathy</i>, 1988. Hong Kong: Academy Editions. • <i>Hassan Fathy and continuity in Islamic architecture: The birth of a new modern</i>, 2010. Egypt: The American University in Cairo Press. • <i>Islamic architecture in Cairo</i>, 1989. Egypt: A. University. • <i>The healthy house</i>, 1996. Hong Kong: Thames & Hudson. • <i>Urban environment design (2): Park</i>, 2002. Great Britain: Architectural Press. • <i>Urban environment design (3)</i>, 2003. Great Britain: Architectural Press. • <i>Urban environment design (4)</i>, 2004. Great Britain: Architectural Press.
	Electronic Sources (Links must be added)	a. ASHRAE Design Guides, https://www.ashrae.org/technical-resources/bookstore/ashrae-design-guides b. PLEA (Passive and Low Energy Architecture) International. Available at: https://www.plea-arch.org/resources/ c. Architectural Science Review. Taylor & Francis. Available at: https://www.tandfonline.com/toc/tasr20/current d. Society of Building Science Educators. Climate Consultant. Available at: https://www.sbse.org/resources/climate-consultant e. SunEarthTools. Available at: https://www.sunearthtools.com f. Climate One Building. Available at: https://climate.onebuilding.org/ g. DesignBuilder. Available at: www.designbuilder.com h. Climate Consultant. Available at: https://climate-consultant.informer.com/6.0/
	Learning Platforms (Links must be added)	EKB - Microsoft Office- Microsoft Teams
	Devices/Instruments	Mini Anemometer Mini Wind Speed and Temperature Meter

Supportive facilities & equipment for teaching and learning *	Supplies	
	Electronic Programs	Revit, PowerPoint, Canva.
	Skill Labs/ Simulators	Climate consultant, Forma. Steady 3D RANS CFD simulations for wind pressures
	Virtual Labs	
	Other (to be mentioned)	Site visit, Observation, Surveying, Questionnaire, and Interviews.

	Course Coordinator	Program Coordinator
Name	Dr.Ghada Assal	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Architectural Design of Complex Buildings			
Course Code (according to the bylaw):	ARE 241			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Aya Ibrahim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Data gathering & analysis of different programs for buildings of complex nature or groups of buildings. Development of the architectural design of these buildings taking into considerations spacing and visual aspects. This course is carried out with special emphasis on modeling. Provide sufficient knowledge on dealing with different programs for buildings of complex nature or group of buildings. Comprehensive design projects addressing all design issues and higher levels of detail. Consideration will be given to the knowledge pertaining to other design disciplines such as: urban design, landscape design,

and construction detailing. The course will enhance skills on critical and analytical thinking as well as creative problem solving. A list of many advanced projects will be shown to select the term project from: Cultural centers, airports, Olympic village, sport stadiums, residential complex, hospitals and health compounds, university campus, and cyber center or intelligent village.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A2,A6,A7,A8,B1,B2,B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Identify the basics of space organization and the structural system of large-scale buildings.
		LO2	Analyze the formation and function of design in relation to general requirements and architectural theories for projects.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO3	Create designs considering the local materials, culture of the building location and the human scale. Taking into account cost and efficient design.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO4	Apply local elements, environmental conditions, building materials, and safety standards in building design.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO5	Develop solutions for complex and less common projects using modern methods and contemporary technology to enhance efficiency, sustainability, and alignment with global practices.
B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory,	LO6	Design the Engineers Syndicate building by applying architectural design theories, resolving functional relationships, and integrating the

	related fine arts, local culture and heritage, technologies and human sciences		project with the local context.
		LO7	Apply human and aesthetic standards in building spaces to achieve harmony between form and function.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO8	Create an integrated internal and external design using appropriate spatial scales, linking them to user numbers, and maximizing functional benefits.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs	LO9	Integrate the main building with its surrounding environment by designing site landscape elements that guide entry and ensuring the building's form reflects its internal function.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√		√	√	√			√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	1st Design Program (Students Room) Brainstorming Research and project point with open discussion	6	0	6	0
2	Stud Studio Work – workshop group work Site selection and environmental analysis	6	0	6	0
3	Feedback and Submission of 1st design sketches then dissemination of the updated program	6	0	6	0
4	Research work and group discussion.	6	0	6	0
5	First sketches of plans Design of the plans and feedback	6	0	6	0
6	Quiz + plan designs feed back	6	0	6	0
7	Revision and Mid Exam				
8	Development of plans, Preliminary master plan and feedback Development of plans, Lectures on Sections and elevations Lectures on Stairs	6	0	6	0
9	Workshop and Development of plans, Preliminary Sections and elevations sketches	6	0	6	0
10	Presentation of the 2nd design problem Dissemination of the 3rd program and discussions	6	0	6	0
11	Final Design of plans, feedback and discussion	6	0	6	0
12	Evaluation and discussion Development of plans and layout.	6	0	6	0
13	Quiz 2 + Development of plans, sections, elevations and layout.	6	0	6	0

14	Presentation of the 3rd design problem Project submission and feedback	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	6	10	10%
2	QUIZ 2 written (Semester work)	13	10	10%
3	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
5	Assignments / Project /Portfolio/ Logbook	13,14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	1. Koydon Smith (2024). <i>Introducing architectural theory</i>. New York: Routledge. 2. Ljubomir Jankovic (2024). <i>Designing zero carbon buildings</i>. London: Routledge. 3. Kamal Kataria (2024). <i>Urban and architectural heritage conservation</i>. Delhi: A. Kumar & Sons. 4. William Carpenter, Arief Setiawan, & Christopher Welty (2024). <i>Digital fabrication and the design build studio</i>. New York: Routledge
	Other References	• Ching, Francis DK. <i>Architecture: Form, space, and order</i>. John Wiley & Sons, 2023.

		Christopher, Fapohunda. "THE DEPICTION OF STRUCTURAL AND CIVIL ENGINEERING IN VITRUVIUS'S TEN BOOKS ON ARCHITECTURE-A STATE-OF-THE-ART REVIEW." <i>Architecture and Engineering</i> 8.1 (2023): 3-12.
	Electronic Sources (Links must be added)	www.routledge.com/Digital-Fabrication-and-the-Design-Build-Studio www.routledge.com/Twenty-Five-Building
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computers, Projector
	Supplies	White board
	Electronic Programs	AutoCAD-Revit-3D MAX

	Course Coordinator	Program Coordinator
Name	Dr. Aya Ibrahim	Dr.Maysa Ali Selim
Signature	<i>Aya Ibrahim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Steel Construction			
Course Code (according to the bylaw):	ARE 242			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Aya Ibrahim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course introduces the students the basic aspects of Steel Structures, The different structural elements required for constructing steel structure building, calculating the loads and the Design of different Steel structural elements.

Including; Properties of steel, specifications, loads, allowable stresses, members subject to centric and eccentric tension compression, roof trusses, riveted connections, bracing, columns

and their bases, beams, frames consisting of columns and trusses, frames extending over several halls, brackets, cranes, joints and connections.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1,A2,A7,B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Establish knowledge of the use of Materials and design workrequired by the structures.
		LO2	Classify sections and identifies their character and system.
A2	Develop and conduct appropriate experimentation and/or simulation, analyses and objective engineering judgment to draw conclusions.	LO 3	Determine the overall functional relationships between types of concrete element in the projects.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams	LO 4	Collaborate effectively within the team work, positive communication, presentations, leads and motivates the work team.
		LO 5	Develop creative and innovative thinking in problem solving,and in designing products, systems, components and processes.

		LO 6	Recite two types of each of (grade of steel - concrete materials - method of constructions).
		LO 7	Design reinforced concrete and foundations projects, according to specifications.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs	LO 8	Develop a solid understanding of the materials used and the design work required for structural projects
		LO 9	Analyze the functional interconnections among various types of concrete elements used in the project
		LO 10	Define the symbols and Terminology used in the Reinforced concrete and Foundations designs.
		LO 11	Enumerate two distinct types under each of the following classifications: steel grades, concrete materials, and construction techniques.
		LO 12	Develop structural designs for reinforced concrete and foundation systems in compliance with the given specifications

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	-	-	√	√	-	√	-	-	-	-	-	-

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Properties of the Steel	4	1	0	3
2	General Layout of the Industrial Building	4	1	0	3
3	Complete General Layout of the Industrial Building	4	1	0	3
4	Loads and Allowable Stresses	4	1	0	3
5	Complete Loads and Allowable Stresses	4	1	0	3
6	Buckling and Design of Tension members	4	1	0	3
7	Revision and Mid Exam				
8	Design of Tension members	4	1	0	3
9	Design of Compression members	4	1	0	3
10	Design of Compression members	4	1	0	3
11	Design and Details of Steel Connections	4	1	0	3
12	Quiz 1 + Design and Details of Steel Connections	4	1	0	3

13	Design and Details of Steel Connections	4	1	0	3
14	Revision	4	1	0	3
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Quiz)	12	10	10 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
7	Assignments / Project /Portfolio/ Logbook	weekly	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Gorenc B., Tinyou R. and Syam A., Steel Designers Handbook, UNSW Press, 7th Ed., 2005 ARS, SHAPE CONSTRUCTION (1) CURVE BASE, POLAND, 2016. BINDHU K.R. DESIGN OF STEEL, STRUCTURES, INDIA, 2019 MEDTECH. Edwin H. Gaylord, Charles N. Gaylord, James Stallmeyer, Design of Steel Structures, 4th Edition (Revised 2020).
	Other References	Housing and Building National Research Center, Egyptian Code for Design and Construction of Reinforced Concrete Structures, 203, 2007 Abi O. Aghayere, Jason Vigil, Structural Steel Design: A Practice-Oriented Approach, 2nd Edition (2020), Pearson, (2020). الهيئة المصرية العامة للمواصفات والجودة الكود المصري لتصميم وتنفيذ المنشآت المعدنية وزارة الإسكان والمرافق والتنمية العمرانية والكباري
	Learning Platforms (Links must be added)	EKB - Microsoft office

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Projector Computer
	Supplies	Whiteboard
	Other (to be mentioned)	Lecture notes

	Course Coordinator	Program Coordinator
Name	Dr.Basma Saad El-Din	Dr.Maysa Ali Selim
Signature		<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Environmental Design			
Course Code (according to the bylaw):	ARE 251			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	0	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr Ghada Assal			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course aims to address Studies of architectural projects related to realistic problems with the integration of structure, mechanical systems, environmental aspects, sustainability, green architecture, and application of construction laws. Students learn how to analyze and then synthesize the various issues of space and form with special emphasis on environmental requirements and landscaping. Studio work includes lectures, perspectives, and workshop

models. Using a computer application program related to environmental simulation programs is essential for this course.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A2, A6, A7, A8, B1, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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 conclude.	LO1	Employ computer applications and environmental simulation programs proficiently to facilitate architectural analysis and design tasks.
A6	Plan, supervise, and monitor the implementation of engineering projects, considering other trades' requirements.	LO2	Manage design projects by choosing materials, setting timelines and budgets, and communicating effectively.
A7	Function efficiently as an individual and as a member of multidisciplinary and multicultural teams.	LO3	Collaborate effectively within multi-disciplinary teams to collect the data and integrate structural and environmental considerations into architectural design solutions.
A8	Communicate effectively – graphically, verbally, and in writing – with a range of audiences using contemporary Tools.	LO4	Apply communication tools (graphical, verbal, written) to present architectural design concepts and rationale to diverse audiences effectively.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO5	Integrate aesthetic considerations with technical requirements, incorporating knowledge of history, culture, technology, and human needs into architectural designs.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale.	LO6	Design architectural solutions that optimize the relationship between people, buildings, and their environment, considering human needs and scale.
B3	Generate ecologically responsible, environmental conservation, and	LO7	Implement sustainable design principles in architectural projects, considering

	rehabilitation designs through understanding structural design, construction, technology, and engineering problems associated with building designs.		structural design, construction methods, and environmental impact.
		LO8	Analyze and evaluate the historical and theoretical foundations of architecture, differentiating various architectural styles and characteristics.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√		√		√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical / Lab
1	Definitions & types of environmental systems. Start report research, Term project handout, data gathering for the project elements and project site	6	0	6	0
2	Lectures & notes on environmental and social issues. Continue report research.	6	0	6	0
3	Studies of similar situations & case studies, Programming site analysis. concept and main theme.	6	0	6	0
4	Lectures on urban design, contextual issues, and landscape concept Site planning addresses problems related to the environment, Studying Maquette	6	0	6	0

5	Lecture on vernacular architecture. Feedback and Submission of 1st design sketches, then dissemination of the + updated program	6	0	6	0
6	Feedback and Submission of Design Sketches. Lecture on the green arch. Design development. Renewable Energy PV	6	0	6	0
7	Revision and Mid Exam				
8	Sketch design on final plans and site sections, Simulation for testing the impacts / Project follow-up day/night summer air flow section	6	0	6	0
9	Simulation for testing the impacts / Project follow-up Types of structure system day/Night winter solar radiation section	6	0	6	0
10	The structural system model Final review of sections, fenestrations, and 3-D studies	6	0	6	0
11	Elevation mood board Simulation for testing the impacts / Project follow-up Quiz:1	6	0	6	0
12	The final development of elevations	6	0	6	0
13	SEMI-FINAL and course evaluation	6	0	6	0
14	The Final Jury of The Project.	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

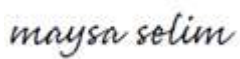
No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of Total Course Marks
1	Exam 1 written (Semester work)	11	5	5 %
2	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
6	Final Oral Exam (Semi-Final)	13	5	5 %
7	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Neufert, Ernst, Neufert, Peter. 2012. Neufert Architects' Data, Fourth Edition. Published by Wiley-Blackwell.- 0128106954. ابوعوف، طارق. 2014. تحليل الموقع. مؤسسة سكاي للكتاب ابو عوف، طارق. 2015. المبدأ التصميمي. مؤسسة سكاي للكتاب
	Other References	• Blewitt, J., 2018. <i>Understanding sustainable development</i>. Britain: LCON. • Broudy, C.E., 1995. <i>Time-saver details for store planning and design</i>. New York: McGraw-Hill. • Ching, F.D.K., 1979. <i>Architecture: Form, space & order</i>. New York: Van Nostrand Reinhold. • Ching, F.D.K., 1996. <i>Architecture: Form, space & order</i>. USA: John Wiley & Sons. • De Chiara, J., 1992. <i>Time-saver standards for interior design and space planning</i>. Singapore: McGraw-Hill. • Edwards, B., 1999. <i>Sustainable architecture</i>. Great Britain: Architectural Press. • Foster, N., 1997. <i>Norman Foster: Selected and current works of Foster and Partners</i>. Hong Kong: Images. • Foster, N., 2001. <i>Norman Foster and the British Museum</i>. New York: Prestel. • Halliday, S., 2019. <i>Sustainable construction</i>. New York: Routledge. • Hamzah, T.R., 2001. <i>Ecology of the sky</i>. Hong Kong: Images.

		• Hemsath, T.L., 2018. <i>Energy modeling in architectural design</i>. Great Britain: Routledge. • Jankovic, L., 2024. <i>Designing zero carbon buildings</i>. London: Routledge. • Roberts, S.H., 2019. <i>Sustainable design for the built environment</i>. New York: Routledge. • Sayigh, A., 2014. <i>Sustainability, energy and architecture: Case studies in realizing green buildings</i>. New York: Academic Press (Elsevier). • Slessor, C., 1997. <i>Eco-tech: Sustainable architecture and high technology</i>. Singapore: Thames & Hudson. • Toker, U., 2023. <i>Parametric methods for beginners: Architecture applications</i>. New York: Routledge. • Toy, M., 1998. <i>Hypersurface architecture</i>. Italy: Routledge.
	Electronic Sources (Links must be added)	a. ASHRAE Design Guides, https://www.ashrae.org/technical-resources/bookstore/ashrae-design-guides b. PLEA (Passive and Low Energy Architecture) International. Available at: https://www.plea-arch.org/resources/ c. ArchDaily. ArchDaily. : www.archdaily.com d. Green Building Advisor. Green Building Advisor. : www.greenbuildingadvisor.com e. U.S. Green Building Council (USGBC). USGBC. : www.usgbc.org

		f. World Green Building Council (WorldGBC). WorldGBC. : www.worldgbc.org g. Treehugger. Treehugger. [Internet]. Available from: www.treehugger.com SunEarthTools. Available at: https://www.sunearthtools.com h. Climate One Building. Available at: https://climate.onebuilding.org/ i. DesignBuilder. Available at: www.designbuilder.com j. Climate Consultant. Available at: https://climate-consultant.informer.com/6.0/
	Learning Platforms (Links must be added)	EKB - Microsoft Office- Microsoft Teams
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Mini Anemometer Mini Wind Speed and Temperature Meter
	Supplies	
	Electronic Programs	Revit, PowerPoint, Canva. Ai form generation, Rhino
	Skill Labs/ Simulators	Climate consultant, Forma. Steady 3D RANS CFD simulations for wind pressures, design builder, and Grasshopper.
	Other (to be mentioned)	Site visit and case studies

	Course Coordinator	Program Coordinator
Name	Dr.Ghada Assal	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Surveying			
Course Code (according to the bylaw):	ARE 252			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Omnia Monir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Plane & geodesic surveying, triangulation points kinds of maps, longitudinal & diagonal scales & enlarging maps. Pantograph & Areas. To provide an introduction to engineering surveying includes units and scale, mapping, linear measurements, closed traverse computations and adjustment, leveling, contouring maps, calculation of area, types of bearings, and the use of theodolite in measuring horizontal and vertical angles.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A4, A5, A7, B1, B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	<i>Calculate</i> the area of surveyed land using triangulation, scales, and field measurements.
		LO2	<i>Apply</i> surveying principles to solve mapping and boundary layout problems using theodolite and compass methods.
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.	LO3	<i>Analyze</i> field data from longitudinal and diagonal profiling to construct contour maps and highway profiles.
		LO4	<i>Interpret</i> closed traverse computations and leveling data to assess elevation differences and plan adjustments.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO5	<i>Collaborate</i> in surveying teams to organize tasks for geodesic measurements and prepare composite site maps.
		LO6	<i>Discuss</i> the procedural workflow for group-based subdivision planning using engineering sketches and notes.
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.	LO7	<i>Design</i> a subdivision layout incorporating surveyed profiles, project financing constraints, and site planning.
		LO8	<i>Integrate</i> area calculations, mapping data, and regulatory constraints into a comprehensive survey deliverable.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√			√	√	√	√			√			√	√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction to Surveying: Units, Scales & Engineering Context.	4	1	0	3
2	Linear Measurements & Mapping Techniques: Reconnaissance, Traverse Points, Booking Methods.	4	1	0	3
3	Calculating Irregular Areas: Average, Trapezoidal, and Simpson's Methods.	4	1	0	3
4	Closed Traverse Computations: Bowditch Adjustment & Error Checks.	4	1	0	3
5	Leveling Foundations: Concepts, Benchmarking, and Datum Reference + Quiz	4	1	0	3
6	Leveling Instruments: Parts, Setup Procedures, and Use.	4	1	0	3
7	Revision and Mid Exam				
8	Contouring Principles: Definition, Characteristics, and Topographic Mapping.	4	1	0	3

9	Contour Map Construction: Application in Site Planning.	4	1	0	3
10	Spatial Development: Massing Strategies and Design Features.	4	1	0	3
11	Closed Loop Leveling Methods: Rise & Fall, Height of Instrument, Mathematical Checks.	4	1	0	3
12	Theodolite Mechanics: Instrument Parts and Temporary Adjustment Techniques.	4	1	0	3
13	Horizontal and Vertical Angle Measurements: Field Applications and Computations	4	1	0	3
14	Revision and Capstone Assessment: Oral Review and Practical Demonstration.	4	1	0	3
15,16	Final Exam.				

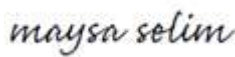
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz written (Semester work)	5	10	10%
2	Midterm exam	7	20	30 %
3	Final Written Exam	15, 16	40	30 %
4	Tutorial and Report assessment	Weekly	20	15%
5	laboratory exam (Lab)	14	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (Institute Library)	Punmia, B. C. (2019). <i>Surveying</i> (Vol. I) (1st ed.). Laxmi Publications. Chandak, N. R., & Kumavat, H. R. (2019). <i>Surveying: Fundamentals and advance practices</i> (1st ed.). S. K. Kataria & Sons. Soni, S. K. (2018). <i>Surveying–I</i> (1st ed.). S. K. Kataria & Sons. Soni, S. K. (2018). <i>Surveying–II</i> (1st ed.). S. K. Kataria & Sons.

	Other References	Smith, J. (2025). <i>Modern surveying techniques</i>. Construction Placements. Van Sickle, J. (2024). <i>GPS & GNSS for land surveyors</i> (5th ed.). CRC Press. Schofield, W., & Breach, M. (2007). <i>Engineering surveying</i> (6th ed.). Elsevier.
	Electronic Sources (Links must be added)	CivilDigital. (n.d.). <i>Surveying tutorials</i>. CivilDigital. https://civildigital.com/category/surveying/ NPTEL. (n.d.). <i>Surveying video lectures</i>. National Programme on Technology Enhanced Learning. https://nptel.ac.in/courses/105/107/105107123/
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Theodolite - Cross Staff - Plumb Bob - Electronic Distance Measurement (EDM) - Laser Scanner
	Supplies	Field Notebook - Graph Paper - Drafting Tools
	Virtual Labs	Amrita Vishwa Vidyapeetham. (n.d.). <i>Surveying virtual lab</i>. Amrita Virtual Labs. https://vlab.amrita.edu/?sub=3&brch=181&sim=352&cnt=1

	Course Coordinator	Program Coordinator
Name	Dr. Omnia Monir	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Execution documents & Specification			
Course Code (according to the bylaw):	ARE 255			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sherif Nagy Mohamed			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The project aims to the preparation of a complete set of execution documents of a given project; containing large span elements designed by the student, to provide an introduction to the adjudication's procedures the specification's writing rules of the building work and items and the rules of surveying quantities of the building work and items.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A2,A3,A4 - B5		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Create specifications and quantity estimates for project execution
		LO2	Create Schedules of work Specifications
		LO3	Develop measurement methods applicable to various engineering disciplines
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.	LO4	Create Different methods of inventory quantities
		LO5	Combine key activities in the preparatory phase of the project, including planning, coordination, and initial resource allocation
		LO6	Contrast the approaches taken by consultants, contractors, and suppliers in the submission of tenders
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles	LO7	Decide on the general conditions to be included in the construction contract to ensure clarity, compliance, and risk management
		LO8	Describe the special conditions of the construction contract that address project-specific requirements, risks, and obligations
		LO9	Complete training programs designed to equip students with practical skills and industry-relevant knowledge
B5	prepare design project briefs and documents, and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding,	LO10	Create schedules of work items and quantities to support project planning and cost estimation

	procurement of architectural services and building production.		

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√		√	√	√						√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Preparatory phase of project.	4	1	0	3
2	Consultants/ Contractors/ Suppliers Corner: Submission of tenders.	4	1	0	3
3	General Condition of the Construction Contract.	4	1	0	3
4	Special Construction of the Construction Contract.	4	1	0	3
5	Quiz + Revision	4	1	0	3
6	Schedules of work items and quantities.	4	1	0	3
7	Revision and Mid Exam				

8	Training for students.	4	1	0	3
9	Schedules of work Specifications	4	1	0	3
10	Measurement methods For the various engineering	4	1	0	3
11	Different methods of inventory quantities.	4	1	0	3
12	Preparation For Specifications and Account the Quantities For project executive	4	1	0	3
13	Training for Students	4	1	0	3
14	Revision	4	1	0	3
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	5	10	10 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
7	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	● عبد الله، م. (2004). <i>الرسومات التنفيذية والتفاصيل المعمارية</i>. القاهرة: مكتبة الأنجلو. ● خلوصي، م. م. (1995). <i>الإدارة التنفيذية لمشروعات التشييد والتحكم في الجودة</i>. بيروت: دار قابس. ● خلوصي، م. م. ع. (2005). <i>مبادئ القياس الدولية لأعمال التنفيذ</i>. بيروت: دار قابس. ● عويضة، م. م. (1999). <i>أساسيات إدارة تنفيذ مشروعات التشييد والبناء</i>. القاهرة: الهيئة المصرية.

		● عويضة، م. م. (1995). الأساسيات الاقتصادية لتخفيض تكلفة تصميم وتنفيذ المشروعات. بيروت: دار قابس. 1- Law no 89 \ 1998 2- Rules of quantities surveying
	Learning Platforms (Links must be added)	EKB - Microsoft office https://www.ekb.eg/ar/home
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Modeling materials (paper,...) Sketchbook

	Course Coordinator	Program Coordinator
Name	Dr.Sherif Nagy Mohamed	Dr.Maysa Ali Selim
Signature	<i>Dr. Sherif Nagy</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Acoustics & Illumination			
Course Code (according to the bylaw):	ARE 256			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Omnia Monir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Acoustics: Definition of architectural acoustics and its importance in buildings, concepts and terminologies, behavior of sound waves in enclosures, sound absorption, sound reflections, sound isolation, acoustic defects, the concepts and objectives of the successful acoustics design.

Artificial illumination: physics of light, terminology, and definitions. Luminance measurements, light sources, designing for artificial lighting quantity, integration with daylighting.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6, A7, B2, B3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO1	Measure acoustic parameters and luminance values using specialized tools.
		LO2	Propose environmentally responsive acoustical and lighting solutions integrating daylight and energy conservation.
A7	Function efficiently as an individual and as a member of multidisciplinary and multicultural teams.	LO3	Collaborate with multicultural and multidisciplinary teams in acoustic and lighting design processes.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO4	Define principles of architectural acoustics and artificial lighting, including terminology and wave behavior.
		LO5	Evaluate how acoustical and lighting interventions affect spatial experiences and human perception.
		LO6	Investigate architectural case studies with distinct spatial functions.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO7	Apply acoustic and lighting equations to analyze sound behavior and illumination levels.
		LO8	Design spaces balancing formal and functional requirements with sound and lighting considerations.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√		√	√	√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Fundamentals of Architectural Acoustics: Sound Behavior and Wave Properties	4	1	0	3
2	Human Hearing and Acoustic Design Principles	4	1	0	3
3	Reverberation, Absorption, and Noise Control Strategies	4	1	0	3
4	Sound Transmission, Defects, and Acoustic Performance Challenges	4	1	0	3
5	A field trip to a theater or museum with high-performance acoustics and illumination + Quiz 1	4	1	0	3
6	Fundamentals of light in architecture with the principles of luminance measurement, based on your course context.	4	1	0	3
7	Revision and Mid Exam				
8	Daylighting and Artificial Lighting Integration for Sustainable Design.	4	1	0	3
9	Artificial Lighting Design: Balancing Efficiency, Quantity, and Aesthetics.	4	1	0	3
10	Researching Community Spaces and Architectural Functionality + Quiz 2	4	1	0	3
11	Collaborative Practices (simulation) in Multidisciplinary Design Studios	4	1	0	3
12	Designing Community-Based Compounds: Functional and Formal Relationships	4	1	0	3

13	Preparing Professional Briefs and Evaluating Spatial Experience	4	1	0	3
14	Final Project Presentation and Design Submission	4	1	0	3
15,16	Final Exam.				

Experiment Topics:

Serial	Experiment	Laboratory hrs.
1st	Simiolate Acostics mood for some spaces	2
2nd	Model lighting in indoor spaces	2

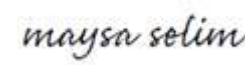
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam written 1 (Semester work)	5	5	5%
	Exam written 2 (Semester work)	10	5	5%
2	Research (Semester work)	10	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Assignments	Weekly	10	10%
6	Project	13, 14	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (Institute Library)	Vaux, D. E., & Wang, D. (2021). <i>Research methods for interior design: Applying interiority</i>. Routledge. Farrelly, L., & Crowson, N. (2019). <i>Representational techniques for architecture</i>. Bloomsbury Visual Arts. Fleming, R., & Roberts, S. H. (2019). <i>Sustainable design for the built environment</i>. Routledge. Ghosh, S., & Dhaka, A. (2016). <i>Green structures: Energy efficiency in buildings</i>. CRC Press Muller, E. J. (1985). <i>Architectural drawing and light construction</i> (1st ed.). Prentice-Hall.

	Other References	Madaras, E. (2023). <i>Principles of building acoustics</i>. Wiley. DiLaura, D. L., Houser, K. W., Mistrick, R. G., & Steffy, G. R. (2020). <i>The lighting handbook</i> (10th ed.). Illuminating Engineering Society. Schroeder, G. (2021). <i>Interior lighting for designers</i> (5th ed.). Wiley. Karlen, M., Benya, J., & Spangler, C. (2017). <i>Lighting design basics</i> (3rd ed.). Wiley.
	Electronic Sources (Links must be added)	Acoustic Architects. (n.d.). Retrieved Aug 2, 2025, from https://acousticarchitects.net/ Illuminating Engineering Society (IES). (n.d.). Retrieved Feb Aug 2, 2025, from https://www.ies.org/
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Laptop
	Electronic Programs	Sketch up - Revit
	Skill Labs/ Simulators	CAAT (Computer-Aided Architectural Tools)
	Field Trip	A scientific field trip will be organized through the academic department in coordination with the supportive administrative units.

	Course Coordinator	Program Coordinator
Name	Dr. Omnia Monir	Dr. Maysa Ali Selim
Signature		

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

مبادئ التفاوض				اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 204				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	أخرى (تحدد)	عملي	نظري	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
2			2	
اختياري				نوع المقرر:
SENIOR 2				المستوى الدراسي الذي قدم فيه المقرر:
البرامج الهندسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
د/ سلوى محمد عبد المحسن				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

يهدف المقرر إلى تزويد الطالب بالمعرفة الحديثة حول مفهوم وطبيعة المبادئ وخصائص التفاوض الفعال، وكذلك استراتيجياته وتكتيكاته المختلفة، وتنمية مهارات الطالب الخاصة بالإعداد الجيد للتفاوض وممارسته في المجالات المختلفة في منظمات المعاصرة. ويتناول المقرر الموضوعات التالية: مفهوم وخصائص ومبادئ التفاوض – الطبيعة الديناميكية للتفاوض – العلاقات الاعتمادية – أخلاقيات التفاوض – الجوانب النفسية والاجتماعية للتفاوض الجيد – التفاوض التعاوني والتفاوض التنافسي – الإعداد الجيد للتفاوض – استراتيجيات وتكتيكات التفاوض – الجوانب التنظيمية للجلسة التفاوضية – النفوذ والتأثير في التفاوض – استخدام الأسئلة والرد علي الاعتراضات – التعامل مع المواقف الصعبة وحالات فشل التفاوض – أفضل الممارسات في التفاوض (حالات عملية).

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		(A3,A4,A5,A7,A8)	
الكود	النص	الكود	النص
A3	LO1 يفهم أهمية التفاوض	A3	تطبيق عمليات التصميم الهندسي لانتاج حلول فعالة من حيث التكلفة تلبي الاحتياجات المحددة مع مراعات الجوانب العالمية والثقافية والاجتماعية والاقتصادية والبيئية والأخلاقية وغيرها من الجوانب حسب الاقتضاء للانضباط وضمن مبادئ وسياقات التصميم والتنمية المستدامين.
	LO2 يتعرف على مبادئ واسس التفاوض		
	LO3 اكتساب مهارات الحوار والنقاش البناء		
A4	LO4 اكتساب مهارات المعرفة من خلال الانترنت	A4	الاستفادة من التقنيات المعاصرة وقواعد الممارسة والمعايير وإرشادات الجودة ومتطلبات الصحة والسلامة والقضايا البيئية ومبادئ إدارة المخاطر.
	LO5 اكتساب مهارات التواصل الجيد مع الآخرين		
	LO6 اكتساب مهارات العمل مع فريق		
	LO7 التعاون والتعامل مع الآخرين		
A5	LO8 اكتساب مهارات التواصل الجيد مع الآخرين	A5	ممارسة تقنيات البحث وطرق التحقيق كجزء متأصل من التعلم.
A7	LO9 القدرة علي قيادة المهنيين والعمل كفريق لانجاز المهام العملية	A7	العمل بكفاءة كفرد وعضو في فرق متعددة التخصصات ومتعددة الثقافات.
	LO10 القدرة علي قيادة المهنيين والعمل كفريق لانجاز المهام العملية		
A8	القدرة علي قيادة المهنيين والعمل كفريق لانجاز المهام العملية	A8	التواصل الفعال -بيانياً ولفظياً وخطياً - مع مجموعة من الجماهير باستخدام الأدوات المعاصرة.

4- طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات		العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير /الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم باكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الالكتروني	النماء الإصطناعي في التعليم

√			√		√	√	√			√	√			√	√

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة		تدريس نظري
			تدريب		
			تمارين	عملي	
1	تعريف بالمقرر الدراسي ومقدمة عامه	2	2	0	0
2	أهمية التفاوض واهدافه	2	2	0	0
3	أنواع المفاوضات	2	2	0	0
4	العناصر الأساسية لعملية التفاوض	2	2	0	0
5	مراحل العملية التفاوضية	2	2	0	0
6	إجراءات التفاوض	2	2	0	0
7	مراجعة وامتحان منتصف الفصل الدراسي				
8	مهارات التفاوض	2	2	0	0
9	مباريات التفاوض	2	2	0	0
10	استراتيجيات حل النزاع	2	2	0	0
11	خطوات عملية التفكير التفاوضي	2	2	0	0
12	كيفية التفاوض بفاعلية	2	2	0	0
13	تكتيكات التفاوض	2	2	0	0
14	مراجعة عامة	2	2	0	0
16-15	إختبارات الفصل الدراسي النهائية				

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	3	10	10 %
2	امتحان 2 تحريري (أعمال سنة)	10	10	10 %
3	امتحان منتصف الفصل الدراسي	7	20	20 %
4	امتحان نهائي تحريري	15 و 16	40	40 %
5	تكاليفات / مشروع / ملف الإنجاز /كتيب الأنشطة	طوال الفصل	20	20 %

6- مصادر التعلم والتسهيلات المادية:

منسق المقرر	منسق البرنامج	
د/ سلوي محمد عبد المحسن	إ.د/ أحمد عبد الغفار	الإسم
		التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Town planning (B)			
Course Code (according to the bylaw):	ARE 254			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	0	4	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sherif Nagy Mohamed			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course aims to apply urban planning project through the Principles of GIS: maps, scale, GIS origins, the development of GIS, map decomposition, map algebra, Current GIS market estimates, future market projections and trends; GIS Data: Point, Line, and polygon data. Raster, Vector and voxel data; Database structures: Data types: Continuous, ordinal and discrete data. Integrating different data structures and data types; General Overview of GIS Capabilities and Functions. Data collection, management, manipulation, analysis, display and visualization;

Components of GIS system: Software, operating system, hardware, peripherals, data, people, management, infrastructure; Data Types and Data Sources: Raster, Vector, point data sources.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A3,A4,A6,A7 - B1,B2,B4		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Define the principles and basics of strategic planning.
		LO2	Recognize the interactions between environmental, urban, social and economic aspects.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO3	Collaborates effectively within the teamwork, positive communication, presentations and presentations, and leads and motivates the work team.
		LO 4	Classify tasks and resources efficiently.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO 5	Develop creative and innovative thinking in problem solving and in designing products, systems, components, and processes.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO 6	Analyze the SWOT to assess strengths, weaknesses, opportunities, and threats.
B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies and human sciences.	LO 7	Decide on objectives and strategies, form alternatives, and define the basis and evaluation criteria for selecting the optimal option.

B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 8	Create planning and design solutions for new and existing sites, taking into account legislation and building requirements
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations and procedures involved.	LO 9	Decide on the appropriate use of evidence in planning and design work as required by the design.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√		√	√	√	√		√	√						√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours	
				Training

			Theoretical teaching (lectures)	Tutorial	/ Practical Lab
1	Introduction to the curriculum - introduction + first project (replanning of an existing area) groups.	4	-	4	-
2	Regional, Environmental and Urban Studies	4	-	4	-
3	Social Studies - Economic Studies	4	-	4	-
4	SWOT Analysis	4	-	4	-
5	Objectives - strategies - projects + solution scenarios - scenario evaluation	4	-	4	-
6	Student presentations (objectives - strategies - projects + solution scenarios - Scenario evaluation)	4	-	4	-
7	Revision and Mid Exam				
8	The proposed scheme + giving the new project (planning a new city) + searching for new cities (individual project – research groups)	4	-	4	-
9	Presentation of the research + explanation of the analytical studies + defining the planning criteria and the project program	4	-	4	-
10	Plan Idea - Land Use	4	-	4	-
11	Explanation of the proposed schema description elements	4	-	4	-
12	Quiz 1: semi final + Revision	4	-	4	-
13	Follow up the project	4	-	4	-
14	Evaluation the final project + Project hand-in, final report, jury	4	-	4	-
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	5	10	10 %
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %
4	Assignments / Project /Portfolio/ Logbook	14	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	(1) تخطيط المدن أسلوب ومراحل، الدكتور عاطف حمزة حسن – دار الكتب القطرية – قطر 1992 . (2) تخطيط المدن : أحمد خالد علام – مكتبة الانجلو المصرية - القاهرة 1998. (3) مدخل وتطبيق في تصميم وتخطيط المناطق السكنية: نسيمات عبد القادر – سيد التوني - مكتبة العربي للنشر والتوزيع – القاهرة 1988 (4) Urban and Regional Planning - P.Hall - Routledge – 2020 (5) The Planner,s Use Of Information - H.C.Dandekar – Routledge - 2019 (6) Urban and Architectural Heritage Conservation - Kamal kataria - A.Kumar & sons - 2019
	Other References	1- الكفاءة والتشكيل العمراني، مدخل لتصميم وتخطيط المواقع: هشام أبو سعده – المكتبة الأكاديمية – القاهرة 1994 2- التصميم العمراني: الشوارع والساحات - Cliff Moughtin ترجمة طاهر عبد الحميد لدرع – المملكة العربية السعودية 2011م
	Learning Platforms	EKB - Microsoft office https://www.ekb.eg/ar/home
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Modeling materials (paper,...) Sketchbook

	Course Coordinator	Program Coordinator
Name	Dr.Sherif Nagy Mohamed	Dr.Maysa Ali Selim
Signature	<i>Dr. Sherif Nagy</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Perspective and Skiagraphy			
Course Code (according to the bylaw):	ARE 115			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	4	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR-Mohamed Nabil Abu EL-Amayem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

A Study of shades & shadows of points, parallel or one vanishing point, line, circle, & mass (cylinder & sphere) & their architectural applications. A study of picture planes: the vanishing point, parallel or one vanishing point perspective, the cone of vision, the inverse perspective, & shades & shadows in perspective. This under-graduate educational program aims to develop the students skills to understanding the Shade, Shadows and Perspective Drawings for simple and complex shapes and mass and then , the under- graduate students will be trained on drawing the Shade, Shadows and Perspective for architectural models.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A5, A9, A10, B2		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO1	Define the principles and basics of technical writing standards for scientific research
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO2	Determine the methods of good formation of architectural elevations.
A10	Acquire and apply new knowledge and practice self, lifelong, and other learning strategies.	LO3	Identify the types of shadows and their directions.
		LO4	Apply methods to draw architectural perspectives and identify their types.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO5	Developed external shades to achieve thermal comfort inside buildings.
		LO6	Sketching a good formation, which gives a perspective snapshot that meets the basics of design, and achieves visual comfort

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√				√		√			√	√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Definition of matter, types of lighting and types of shadows.	4	0	4	0
2	The basic principles of Shadow drawing, point shadow, line shadow.	4	0	4	0
3	Applications on the shadow of the plane and the shadow of volumes.	4	0	4	0
4	Applications on the shadow of the plane and the shadow of volumes.	4	0	4	0
5	QUIZ 1 + Revision	4	0	4	0
6	Various applications on architectural projections (elevations and plans)	4	0	4	0
7	Revision and Mid Exam				
8	Definition of engineering perspective, basic definitions and concepts, characteristics, and advantages of engineering perspective.	4	0	4	0
9	Draw perspective with two vanishing points.	4	0	4	0
10	Draw blocks perspective and focus on stairs and slopes.	4	0	4	0
11	QUIZ 2 + Revision	2	0	4	0

12	Perspective drawing of blocks and making openings such as doors and windows.	2	0	4	0
13	General exercises on perspective	2	0	4	0
14	General Review	2	0	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	5	5	5%
2	Quiz 2 written (Semester work)	11	5	5%
3	Midterm exam	7	30	20 %
4	Final Written Exam	15, 16	30	40 %
5	Assignments / Project /Portfolio/ Logbook	Weekly	30	30%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method) • محمد عبد الله، الاظهار المعماري، مكتبة الانجلو، القاهرة، 2004 • جبور سمعان، منهجية الرسم المعماري، بيروت، دار قابس، 1996 • محمد ماجد خلوصي، مبادئ رسم المنظور، بيروت، دار قابس، 2002 • م. فواز القضاة، الظل والمنظور الهندسي، دار مجدلاوي للنشر والتوزيع، عمان، الأردن، 2000م. • م. عبد الرحمن محمد نصار، الظلال الظل والمنظور، دار تكنو برنت للطباعة، 1425 هـ. • أ.د. زكية حسن الشافعي، الظل والظلال، أسلوب الإظهار بقوانين علمية، 1997م. • أ.د. زكية حسن الشافعي، المنظور الهندسي، 1997م.

		Mc Goodwin, Henry, Architectural Shades and Shadows, American Institute of Architects press, 1991.
	Other References	د. وليد عبد المنعم، محاضرات مادة الظل والظلال، 2006/2005م.
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	- Whiteboard - Projector - Computer

	Course Coordinator	Program Coordinator
Name	DR.Mohamed Nabil Abu EL-Amayem	Dr.Maysa Ali Selim
Signature	<i>Mohamed Abu EL-Amayem</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Principles of engineering electrical			
Course Code (according to the bylaw):	EEC 101			
Department/s that participated in the teaching:	Electrical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	1		3
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr.Eslam Mansour			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/11/2025			

2. Course Overview (Brief summary of scientific content):

Basic Concepts: Voltage, current, power, and energy, Independent and dependent voltage and current sources. DC Circuits Analysis: Ohms law, Kirchhoff's current and voltage laws. Series and parallel DC circuit's analysis, nodal analysis, and mesh analysis. Superposition, source transformation, and maximum power transfer theorems, Thevenin's and Norton's theorems. Capacitance and Inductance: series and parallel connections of capacitors and inductors. AC Circuits Analysis: Sinusoidal sources, r. m. s. value, phasor representation, complex impedances, Kirchhoff's laws in the phasor domain, parallel and series AC circuits. Experiments will be conducted to support the course including the use of computer software for circuit analysis.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A2, A3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	A1. Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	L0.1	Calculate the voltage difference and current intensity through any device in a complex circuit.
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.	L0.2	Ability to use Spice simulator to calculate the current and voltage drop through any element.
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.	L0.3	Determine the optimal load of a two-terminal circuit (that absorbs the maximum power).
		L0.4	Choose the suitable load for a predefined phase shift between the AC voltage and current.
		L0.5	Check the ability of a circuit component to be connected in a circuit without be overheated.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√			√					

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Basic Concepts: Voltage, current, power, and energy, Independent and dependent voltage, and current sources.	3	2	1	
2	Ohms law, Kirchhoff's current and voltage laws. Series and parallel DC circuit's analysis.	3	2	1	
3	Nodal analysis, and mesh analysis.	3	2	1	
4	Superposition, and source transformation.	3	2	1	
5	Maximum power transfer theorems, Thevenin's and Norton's theorems.	3	2	1	
6	Capacitance and Inductance: series and parallel connections of capacitors and inductors.	3	2	1	
7	Revision and Mid Exam				

8	Phasor representation, complex impedances.	3	2	1	
9	Kirchhoff's laws in the phasor domain.	3	2	1	
10	Parallel and series AC circuits.	3	2	1	
11	Parallel and series AC circuits.	3	2	1	
12	Parallel and series AC circuits.	3	2	1	
13	Parallel and series AC circuits.	3	2	1	
14	General Revision.	3	2	1	
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Final Exam (<i>written</i>)	15th	40	40 %
2	Midterm written Exam (<i>Term Work</i>)	7th	20	20 %
5	Quizzes/reports/presentation (<i>Term Work</i>)	6th & 11th/ during the semester	40	40 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Electric Circuits", James W. Nilsson, Susan Riedel, Eleventh edition, Global Edition-Pearson 2019
	Other References	Fundamentals of electric circuits", Charles K. Alexander, Matthew N. O. Sadiku, fifth edition, McGRAW-HILL, 2013.
	Electronic Sources (Links must be added)	
	Learning Platforms (Links must be added)	EKB - Microsoft office

Supportive facilities & equipment for teaching and learning *	Supplies	White board, Projector and Microsoft teams .
	Skill Labs/ Simulators	

	Course Coordinator	Program Coordinator
Name	Dr. Eslam Mansour	Ass.Prof.Dr. Taghreed Saied
Signature	<i>eslam mansour</i>	<i>taghreed said</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Engineering Economics			
Course Code (according to the bylaw):	MNG 102			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	٢	١	--	٣
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Mechanical Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Muhammad Tayssir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/12/2025			

2. Course Overview (Brief summary of scientific content):

Introduction to Economy: Basic Concepts, Varieties of Market Structure, The Law of Supply and Demand, Elasticity, Different Types of Economy, Accounting Income and Cash Flow, The Objectives of the Firms, Balance Sheet (BS). Introduction To Engineering Economy: Engineering Decision Making, Break - Even Analysis, Production Function, Payback Period Method, Payback Period Method. Time Value of Money: Simple Interest Rate, Compound Interest, Discreet cash flow and Economic Equivalence, Evaluating of the Projects (Present Worth, Annual worth, and Capitalized Cost), Nominal and Effective Interest Rate. Rate - Of Return ROR Computations: Rate of Return calculations using A Present worth PW, Rate of Return Calculation by Using Annual worth EAW, Rate of Return Evaluation for Multiple Alternatives. Depreciation Models: Nature of Depreciation,

Depreciation Conventional Methods, Methods Based on Asset Usage, Switching Between Depreciation Models.

3. Course Learning Outcomes CLOs:

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1, A2		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	LO1	Identify concepts of cost and revenue in engineering economic decisions.
		LO2	Explain the concept and purpose of breakeven analysis in evaluating economic viability.
		LO3	Classify cost elements as fixed or variable and justify the classification within project scenarios.
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.	LO4	Apply breakeven analysis techniques to assess company profitability in realistic business cases.
		LO5	Analyze project data to evaluate profitability and identify potential financial risks.
		LO6	Apply nominal and effective interest rate formulas to solve engineering economic problems in case studies.
		LO7	Design a proposed project by identifying its cost elements and assessing its economic feasibility.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
✓	✓	✓			✓	✓	✓								✓

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction	3	2	1	
2	Description and Role in Decision Making	3	2	1	
3	Simple Interest	3	2	1	
4	Cost Concepts and Behavior	3	2	1	
5	Cost Concepts and Behavior	3	2	1	
6	Life-Cycle Product Costing and Pricing	3	2	1	
7	Revision and Mid Exam				
8	Introduction to Use Spreadsheet	3	2	1	
9	Factors: How Time and Interest Affect Money	3	2	1	
10	PW, FW, EUAS / EUAC	3	2	1	
11	Net present value, rate of interest	3	2	1	
12	Payback period, benefit.	3	2	1	

13	Choosing among alternatives	3	2	1	
14	Introduction to Use Spreadsheet	3	2	1	
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work or quiz)	4	10	10 %
2	Exam 2 written (Semester work or quiz)	6	10	10 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Assignments / Project /Portfolio/ Logbook	10,12	20	20 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Engineering economy, le and blank, P.E Anthony, seventh edition,2018 build by Mc Grain
	Other References	• Engineering economy analysis, 9th edition, Donald G newman and Ted G., 2004 published by oxford university, press, Inc. • Jose A. Sepulveda, William E. Souder & Byron S. Gottfried, "Engineering Economics" ,Mc-Graw-Hill Book Company, NW,1984. • H. G. Thuesen, W. J. Fabrycky & G. J. Thuesen, "Engineering Economy", Prentice-Hall,Inc., NJ, 1971. • E. Paul DeGarmo, William G. Sullivan & James A. Bontadelli, "Engineering Economy", Macmillan publishing company,Nw,1990.
	Electronic Sources (Links must be added)	N/A
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Devices/Instruments	Data Show

Supportive facilities & equipment for teaching and learning *	Supplies	N/A
	Electronic Programs	MS-Teams
	Skill Labs/ Simulators	N/A
	Virtual Labs	N/A
	Other (to be mentioned)	N/A

	Course Coordinator	Program Coordinator
Name	Dr. Muhammad Tayssir	Dr. Mohamed Ashraf
Signature		

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

مقدمة في تاريخ الحضارات				اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 101				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	أخرى (تحدد)	عملي	نظري	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
2			2	
اختياري				نوع المقرر:
SOPHOMORE				المستوى الدراسي الذي قدم فيه المقرر:
العلوم الأساسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
أ.م.د. وليد رضوان				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

مفهوم الحضارة (الثقافة والحضارة – التاريخ والحضارة) – أصول الحضارة الإنسانية في العصور القديمة (البدايات الحضارية الأولى – الثقافة والحضارة في الشرق القديم، وفي الغرب القديم "اليونان والرومان") – الحضارة والثقافة في العصور الوسطى (المسيحية – الإقطاع – العرب – العصور الإسلامية) – الحضارة في العصور الحديثة (النهضة – الإصلاح الديني – تقدم العلوم – الفلسفة والآداب والفنون).

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		(A2- A5- A7-A9)	
النص	الكود	النص	الكود
يشرح المعلومات والأحداث التي تتعلق بمفهوم الحضارة وأصولها الإنسانية في العصور المختلفة.	LO 1	تطوير وإجراء التجارب العملية المناسبة أو المحاكاة، وتحليل وتفسير وتقييم النتائج، واستخدام التحليلات الإحصائية والحكم الهندسي الموضوعي لاستخلاص النتائج	A 2
يتعرف على أهم المؤثرات التي ساهمت في الحضارة والثقافة في العصور المتعاقبة .	LO 2		
يستنتج مدى التأثير والتأثر بالأحداث التي مرت بها الحضارات ويبين الإنجازات والإخفاقات كل حقبة.	LO 3		
يقيس تطور وتأثير وتأثر الثقافة والحضارة في العصور المختلفة .	LO 4		
يستخدم المنهج التاريخي لتناول الأحداث الحضارية الهامة في كل عصر و مصادر تلك الفترة.	LO 5		
يستقرئ الربط بين تطور الأحداث و الملابس الحضارية التي تتناول تلك العصور ومصادرها.	LO 6		
يستخدم تكنولوجيا المعلومات بما يخدم الممارسة المهنية.	LO 7	ممارسة تقنيات البحث وأساليب التحقيق كجزء لا يتجزأ من التعلم.	A 5
يظهر مهارات إدارة الوقت بكفاءة.	LO 8		
تعزيز العديد من السلوكيات والمهارات داخل وخارج نطاق العمل بحيث يعمل ضمن فريق.	LO 9	العمل بكفاءة كفرد وعضو في فرق متعددة التخصصات ومتعدد الثقافات	A 7
القدرة علي قيادة المهنيين والعمل كفريق لانجاز المهام العملية.	LO10	إستخدام التفكير الإبداعي والمبتكر والمرن واكتساب مهارات ريادة الأعمال والقيادة لتوقع المواقف الجديدة والاستجابة لها.	A 9
توخي السلوك الطيب والاقتداء بالقذوة الحسنة.	LO10		

4- طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجامعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
✓		✓		✓	✓	✓	✓			✓	✓			✓	✓

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة		تدريس نظري
			تدريب		
			تمارين	عملي	
1	تعريف بالمقرر الدراسي ومقدمة عامه.	2	2	0	0
2	مفهوم الحضارة والتاريخ والعلاقة بينهما.	2	2	0	0
3	مفهوم الحضارة والتاريخ والعلاقة بينهما .	2	2	0	0
4	أصول الحضارة الإنسانية فى العصور القديمة.	2	2	0	0
5	الحضارة الإنسانية حيث الثقافة والحضارة فى الشرق القديم .	2	2	0	0
6	أصول الحضارة الإنسانية فى العصور القديمة،من حيث الثقافة و الحضارة فى الغرب القديم ، لا سيما عند اليونان والرومان .	2	2	0	0
7	مراجعة وامتحان منتصف الفصل الدراسي				
8	دور الحركة الوطنية في التصدي للاحتلال. (1)	2	2	0	0
9	دور الحركة الوطنية في التصدي للاحتلال. (2)	2	2	0	0
10	المظاهرات والثورات المناهضة للاحتلال وخاصة ثورة 1919 ونتائجها.	2	2	0	0
11	نذر الحرب العالمية الثانية ومعاهدة 1936 والعدوان الثلاثي.	2	2	0	0
12	الأحداث التي مهدت لثورة 23 يوليو 1952.	2	2	0	0
13	تحليل أهداف ثورة 23 يوليو 1952.	2	2	0	0
14	مراجعة عامة	2	2	0	0

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10%
2	امتحان 2 تحريري (أعمال سنة)	9	10	10%
3	امتحان منتصف الفصل الدراسي	7	20	20%
4	امتحان نهائي تحريري	14	40	40%
5	امتحان نهائي عملي	لا يوجد	----	-----
6	امتحان نهائي شفهي	11	10	10%
7	تكاليفات / مشروع / ملف الإنجاز / كتيب الأنشطة	8	10	10%
8	تدريب ميداني	لا يوجد	----	-----
9	أخرى (تذكر)	لا يوجد	----	-----

6- مصادر التعلم والتسهيلات المادية:

المرجع الأساسي للمقرر	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
خالد الشربيني ، مرفت ذكي: مقدمة في تاريخ الحضارات، مذكرة للمعهد التكنولوجي العالي بالعاشر من رمضان، 2019	المراجع الأخرى
1- أحمد عبد الرازق، الحضارة الإسلامية في العصور الوسطى، القاهرة، 2004.	
2- بدر نبيل ملحم: تاريخ الحضارات القديمة، دار الإعصار العلمي للنشر والتوزيع، 2015.	
3- رالف لينتون، شجرة الحضارة، ترجمة أحمد فخري، (3 أجزاء)، المركز القومي للترجمة 2010	
4- رمسيس رياض، جورج صليب: الحضارات القديمة، مصر والشرق. وكالة الصحافة العربية، 2020	المصادر الإلكترونية (لابد من إضافة الروابط)
1- https://ar.wikipedia.org/wiki	
2- http://www.du.edu.eg/	
3- https://www.youtube.com/	
https://www.ekb.eg/ar/home	المنصة التعليمية (لابد من إضافة الرابط)
(داتا شو) وجهاز كمبيوتر محمول.	الأجهزة
قاعة محاضرات مجهزة	المستلزمات
-----	البرامج الإلكترونية
-----	معامل المهارات/ المحاكيات
-----	المعامل الافتراضية
-----	أخرى (تذكر)
التجهيزات التعليمية المساندة للتعليم والتعلم *	

منسق البرنامج	منسق المقرر	

الإسم	أ.م.د. وليد رضوان	أ.د. أحمد عبد الغفار
التوقيع	وليد رضوان	أحمد عبد الغفار

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

تاريخ مصر الحديث				اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 102				كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية				القسم/الأقسام العلمية التي شاركت في التدريس:
نظري	عملي	اخرى (تحدد)	إجمالي	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
2			2	
اختياري				نوع المقرر:
SOPHOMORE				المستوى الدراسي الذي قدم فيه المقرر:
العلوم الأساسية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
أ.م.د. وليد رضوان				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
7/26/2025				تاريخ اعتماد تقرير المقرر:

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

مصر تحت الحكم العثماني (1517 – 1798) (الفتح – الحكم والإدارة – الأوضاع الاقتصادية والاجتماعية) – الغزو الفرنسي لمصر وآثاره (1798 – 1801) (الاحتلال – الحكم والإدارة – المقاومة الوطنية – فشل المشروع الاستعماري – نتائج الاحتلال) – نظام محمد علي (1805 – 1848) (الصراع السياسي وتولية محمد علي – بناء الدولة الحديثة – السياسة الخارجية -) – الحركة الوطنية والثورة العربية (خلفاء محمد علي – عصر إسماعيل – الحركة الوطنية والثورة العربية) – مصر في عهد الاحتلال البريطاني (1882- 1914) (سياسة الاحتلال – انبعاث الحركة الوطنية) – مصر في عهد الحماية البريطانية والحرب العالمية الأولى – تأليف الوفد وقيام ثورة 1919 – تصريح 28 فبراير 1922 – دستور 1923 – تطور القضية الوطنية ومعاهدة 1936- مصر خلال الحرب العالمية الثانية) – أزمت مصر السياسية والاجتماعية والطريق إلى ثورة يوليو – الثورة وتغير النظام السياسي – الجلاء البريطاني 1954 – العدوان الثلاثي 1956.

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		(A2- A3- A9)	
النص	الكود	النص	الكود
استقراء أهداف القوى الاستعمارية وأن الوطن مستهدف.	LO 1	تطوير وإجراء التجارب العملية المناسبة أو المحاكاة، وتحليل وتفسير وتقييم النتائج، واستخدام التحليلات الإحصائية والحكم الهندسي الموضوعي لاستخلاص النتائج	A 2
إدراك أن التاريخ هو المعلم الأول للحكمة ولا بد من دراسته.	LO 2		
معرفة إيجابيات وسلبيات التجارب التي مرت بها مصر.	LO 3		
تعريف دور الشعب في الكفاح الوطني، والإشادة بالحركة الوطنية ودورها في التصدي للاستعمار وظلم الحكام.	LO 4	تطوير وإجراء التجارب العملية المناسبة أو المحاكاة، وتحليل وتفسير وتقييم النتائج، واستخدام التحليلات الإحصائية والحكم الهندسي الموضوعي لاستخلاص النتائج.	A 3
التمييز بين الحكام الإيجابيين والسلبيين وتقييم دور كل منهم.	LO 5		
الاستفادة مما اكتسبه من مهارات في حياته العملية.	LO 6	استخدام التفكير الإبداعي والمبتكر والمرن واكتساب مهارات ريادة الأعمال والقيادة وتوقع المواقف الجديدة والاستجابة لها.	A 9
الموضوعية في الحكم على الأحداث في ضوء الظروف التي أحاطت بها.	LO 7		
القدرة على التحليل والاستنتاج.	LO 8		
القدرة على التوقع وتوظيف مهاراته في الحياة العملية.	LO 9		
توخي السلوك الطيب والاقتداء بالقوة الحسنة.	LO10		

4- طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التعلم العملي والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
✓		✓		✓	✓	✓	✓			✓	✓			✓	✓

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملية	تمارين			
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
مراجعة وامتحان منتصف الفصل الدراسي				
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
0	0	2	2	0
اختبارات الفصل الدراسي النهائية				

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10%
2	امتحان 2 تحريري (أعمال سنة)	9	10	10%
3	امتحان منتصف الفصل الدراسي	7	20	20%
4	امتحان نهائي تحريري	14	40	40%
5	امتحان نهائي عملي	لا يوجد	----	-----
6	امتحان نهائي شفهي	11	10	10%
7	تكاليفات / مشروع / ملف الإنجاز / كتيب الأنشطة	8	10	10%

6- مصادر التعلم والتسهيلات المادية:

المرجع الأساسي للمقرر	خالد الشريبي ، مرفت ذكي: تاريخ مصر الحديث، مذكرة للمعهد التكنولوجي العالي بالعاشر من رمضان
المراجع الأخرى	1- إسماعيل مرسى: تاريخ مصر الحديث من الحملة الفرنسية حتى خلع فاروق، دار الكتب المصرية، 2020 2- جاد طه: معالم تاريخ مصر الحديث والمعاصر، دار الفكر العربي، 1985. 3- محمد عبد الرحيم مصطفى: تاريخ مصر الحديث.. المطبعة الأميرية.. 2019 4- محمد سهيل طقوش: تاريخ مصر الحديث والمعاصر، دار النفائس، 2019. 5- محمد صبري: تاريخ مصر الحديث من محمد علي إلى اليوم، دار الكتب المصرية، 2008
المصادر الإلكترونية (لابد من إضافة الروابط)	1- https://ar.wikipedia.org/wiki 2- http://www.du.edu.eg/ 3- https://www.youtube.com/
المنصة التعليمية (لابد من إضافة الرابط)	https://www.ekb.eg/ar/home
الأجهزة	(داتا شو) وجهاز كمبيوتر محمول.
المستلزمات	قاعة محاضرات مجهزة
البرامج الإلكترونية	-----
معامل المهارات/ المحاكيات	-----
المعامل الافتراضية	-----
أخرى (تذكر)	-----
مصادر التعلم (الكتب والمراجع العلمية وغيرها) *	
التجهيزات التعليمية المساندة للتعليم والتعلم *	

منسق المقرر	منسق البرنامج	
أ.م.د. وليد رضوان	أ.د. أحمد عبد الغفار	الإسم
وليد رضوان	أحمد عبد الغفار	التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	French Language			
Course Code (according to the bylaw):	LNG 101			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	<u>2</u>			<u>2</u>
Course Type:	Elective			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Mai Abouzaid			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	<u>7/26/2025</u>			

2. Course Overview (Brief summary of scientific content):

An elementary French course. Drill in pronunciation, elementary principles of inflection and basic sentence patterns. Reading of easy texts. Review of grammatical patterns. Expansion of conversational and written skills and vocabulary.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A8,A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO1	Have a mix of skills in French Language.
		LO2	Study different grammatical Rules.
		LO3	Enhance students’ abilities in expressing themselves.
		LO4	Apply the principle of grammatical rules in their usage of French.
		LO5	Apply the four skills of language freely.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies..	LO6	Express themselves in French with confidence.
		LO7	Upgrade the capability of usage of the French language in various topics.
		LO8	Gain knowledge of general vocabulary that would help the students in various topics.
		LO9	Enhance the degree of awareness to participate professionally in their life.
		LO10	Work effectively in team of multi-disciplinary or multi-culture.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Lecon 1: La Meteo.	2	2	0	0
2	Lecon 2: Hier et avant heir.	2	2	0	0
3	Lecon 3: Lettre d'une illettree	2	2	0	0
4	Lecon 4: Le recit de vie	2	2	0	0
5	Lecon 5: Comment ecrivez-vous?	2	2	0	0
6	Lecon 6: Dis-moi la verite!	2	2	0	0
7	Revision and Mid Exam				
8	Lecon 7: Quelle bonne odeur!	2	2	0	0
9	Lecon 8: Va plus vite.	2	2	0	0
10	Supplementary Material and Quiz	2	2	0	0
11	Presentations	2	2	0	0
12	Supplementary materials and Quiz	2	2	0	0
13	Revision and Quiz	2	2	0	0
14	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	4	10	10%

2	QUIZ 2 written (Semester work)	11	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15	40	40 %
5	Assignments (Report & Sheet)	10,12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part).
	Other References	1-En Francais "; HTI; copie papier disponible.2021. 2-Presentation disponible (remis aux etudiants partie par partie).2022 3-Grammaire Francais en usage.2022 4-Vocabulaire Francais utilise.2022
	Electronic Sources (Links must be added)	https://www.ecpi.edu/blog/what-is-business-administration-all-about
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Notebook and data show equipped lecture room.
	Supplies	Teaching aids and computers.
	Skill Labs/ Simulators	
	Other (to be mentioned)	Notebook and data show equipped lecture room.

	Course Coordinator	Program Coordinator
Name	Dr. Mai Abouzaid	Prof. Ahmed Abd El-Gafar
Signature	<i>Mai Abouzaid</i>	

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	German Language			
Course Code (according to the bylaw):	LNG 102			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2			2
Course Type:	Elective			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Hoda Arafa			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

Beginner's course. Development of speaking ability and mastering of German basic structures. Reading and understanding of simple texts. Systematic discussion of grammatical difficulties. Oral practice and reading of more difficult texts. Practice in guided composition

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A8, A9, A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Enhance and Develop the students' abilities and awareness for appropriate analysis and interpretation to all the scientific topics written in German words.	LO1	Have a mix of skills in German Language.
		LO2	Mastering basic German sentence structure, verb conjugations, articles, and essential vocabulary for every day communication.
		LO3	Enhance students' abilities in expressing themselves
		LO4	Comprehending longer conversations and texts on familiar topics.
A9	Communicate effectively, verbally and in writing with a range of audiences.	LO5	Apply the four skills of language freely.
		LO6	Develop communicative competence, encompassing listening, speaking , reading and writing skills.
A10	Acquire and apply new knowledge and practice through German language.	LO7	Writing clear, coherent and well-structured essays, reports, and academic papers.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction									Information Technology- Assisted Learning				
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Abschnitt 1: Der Artikel, die Konjugation der Verben.	2	2	0	---
2	Abschnitt 1: Übungen, die Personal-pronomen, Negation, Alltagssituationen	2	2	0	---
3	Abschnitt 2: Der Unterricht, das Nomen, der Akkusativ, das Verb "haben"	2	2	0	---
4	Abschnitt 2: Übungen, die Fragepronomen "Wer, Wen, Was", Alltagssituationen	2	2	0	---
5	Quiz	2	2	0	---
6	Abschnitt 3: Die Zahlen, die Zeit	2	2	0	---
7	Midterm Exam.				
8	Abschnitt 4 : Eine Reise, starke Verben, trennbare und untrennbare Verben	2	2	0	---
9	Abschnitt 4 : Übungen, Wortstellung, Präpositionen, Alltagssituationen	2	2	0	---
10	Abschnitt 5 : Ein Freund kommt, der Dativ ,Verben mit dem Dativ und dem Akkusativ	2	2	0	---
11	Abschnitt 5 : Übungen, die Possessivpronomen	2	2	0	---
12	Zusätzliche Material und Quiz	2	2	0	---
13	Projekt	2	2	0	---
14	Wiederholung und Quiz	2	2	0	---
15	Final Exam.				

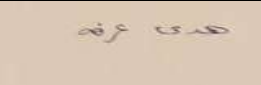
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	3	10	10%
2	QUIZ 2 written (Semester work)	9	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15	40	40 %
7	Assignments (Report & Sheet)	12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Heinz Griesbach-Dora Schulz Deutsche Sprachlehre für Ausländer, 1995
	Other References	1- Friederike Jin & Ute Voß Grammatik aktiv- Deutsch als Fremdsprache 2. Aktualisierte Ausgabe, Aug. 2024 2- PONS Verben & Zeiten Trainieren Deutsch als Fremdsprache, Jan. 2020 3- Stephan Lübke Deutsche Grammatik in kleinen Schritten, Jun 2020 4- Julia Brodt Ein Semester in Hamburg: Roman – Deutsch lernen mit Geschichten über das Leben in Deutschland, Dec. 2024
	Electronic Sources (Links must be added)	Deutsche Welle (DW)
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Notebook and data show equipped lecture room.
	Supplies	Teaching aids and computers.
	Skill Labs/ Simulators	Lab Rroom
	Other (to be mentioned)	Notebook and data show equipped lecture room.

	Course Coordinator	Program Coordinator
Name		Prof. Ahmed Abd El-Gafar

Signature	Dr. Hoda Arafa.	
		

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

1- معلومات أساسية :

الحضارة العربية والإسلامية	اسم المقرر: (تبعاً لما ورد باللائحة)
HUM 103	كود المقرر: (تبعاً لما ورد باللائحة)
العلوم الأساسية	القسم/الأقسام العلمية التي شاركت في التدريس:
إجمالي	إجمالي عدد الساعات المعتمدة للمقرر:
أخري (تحدد)	(تبعاً لما ورد باللائحة)
عملي	نوع المقرر:
نظري	المستوى الدراسي الذي قدم فيه المقرر:
اختياري	البرنامج الأكاديمي:
SOPHOMORE	المعهد:
العلوم الأساسية	اسم منسق المقرر:
المعهد التكنولوجي العالي	جهة مناقشة واعتماد تقرير المقرر:
أ.م.د. وليد رضوان	تاريخ اعتماد تقرير المقرر:
مجلس القسم العلمي للبرنامج	
7/26/2025	

2- الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

أسس الحضارة الإسلامية (القرآن والسنة - الأمة العربية - اللغة - الإطار الجغرافي - الشعوب المفتوحة - التأثيرات الأجنبية) - النظام السياسي (الخلافة - الوزارة - الكتابة - الحجابة) - النظام الإداري (الإدارات المحلية - دواوين الجند والخراج والرسائل والبريد.....الخ) - النظام المالي (موارد بيت المال - النفقات - السكة) - النظم العسكرية (الجيش: تكوينه وأسلحته وأساليبه - الأسطول) - التعليم والثقافة (العلوم الشرعية "علم الكلام والفقه...." - العلوم العقلية) - الفنون والآثار والعمارة - القضاء والتقاضي - المجتمع الإسلامي (عناصره وأجناسه - الطوائف الدينية والمذهبية - البناء الطبقي: الحكام والفقهاء والعلماء والتجار وأصحاب الحرف والصناعات....الخ).

3- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على أن		(A2- A3- A7)	
النص	الكود	النص	الكود
يستنتج مدى التأثير والتأثر بالأحداث التي مرت بها الحضارة العربية والإسلامية و معرفة مصادر تلك الحقبة الهامة .	LO 1	تطوير وإجراء التجارب العملية المناسبة أو المحاكاة، وتحليل وتفسير وتقييم النتائج، واستخدام التحليلات الإحصائية والحكم الهندسي الموضوعي لاستخلاص النتائج	A 2
يربط بين التأثير والتأثر بأحداث الحضارة العربية والإسلامية و بين إنجازات و إخفاقات كل حقبة.	LO 2		
يربط بين التأثير والتأثر بأحداث الحضارة العربية والإسلامية و بين إنجازات و إخفاقات كل حقبة.	LO 3		
يستخدم المنهج التاريخي لتناول الأحداث الهامة في الحضارة العربية والإسلامية و مصادر تلك الفترة.	LO 4		
يشرح المعلومات والأحداث التي تتعلق بالحضارة العربية والإسلامية .	LO 5	تطبيق عمليات التصميم الهندسي لإنتاج حلول فعالة من حيث التكلفة، تلبي الاحتياجات النوعية مع مراعاة الجوانب العالمية والثقافية والاجتماعية والاقتصادية والبيئية والأخلاقية وغيرها من الجوانب المتسقة مع النظام والظروف، وضمن مبادئ وسياق التصميم والتنمية المستدامين.	A 3
يتعرف على أهم المؤثرات التي ساهمت في تكوين الحضارة العربية والإسلامية .	LO 6		
يلخص مصادر ومكانة الحضارة العربية والإسلامية.	LO 7		
تعزيز العديد من السلوكيات والمهارات داخل وخارج نطاق العمل بحيث يعمل ضمن فريق .	LO 8	العمل بكفاءة كفرد وعضو في فرق متعددة التخصصات ومتعددة الثقافات.	A 7
يظهر مهارات إدارة الوقت بكفاءة في مجال أى مهنة ترتبط بالحضارة العربية والإسلامية .	LO 9		
يستخدم تكنولوجيا المعلومات بما يخدم الممارسة المهنية في مجال الحضارة العربية والإسلامية .	LO10		

4- طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التعلمين العملية والتجارب	العصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير / الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	التعلم الإلكتروني	النقاء الإصطناعي في التعليم
√		√		√	√	√	√			√	√			√	√

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة	
			تدريس نظري	تدريب
عملي	تمارين			
0	0	2	2	تعريف بالمقرر الدراسي ومقدمة عامة
0	0	2	2	أسس الحضارة الإسلامية : (القرآن والسنة – الأمة العربية – اللغة – الإطار الجغرافي – الشعوب المفتوحة – التأثيرات الأجنبية).
0	0	2	2	النظام السياسي : (الخلافة – الوزارة – الكتابة – الحجابة).
0	0	2	2	النظام الإداري : (الإدارات المحلية – دواوين الجند والخراج والرسائل والبريد إلخ).
0	0	2	2	النظام المالي : (موارد بيت المال – النفقات – السكة)
0	0	2	2	النظم العسكرية : (الجيش والأسطول : تكوينه وأسلحته وأساليبه)
مراجعة وامتحان منتصف الفصل الدراسي				
0	0	2	2	التعليم والثقافة : (العلوم الشرعية "علم الكلام والفقه" – العلوم العقلية)
0	0	2	2	الفنون والآثار والعمارة.
0	0	2	2	القضاء والتقاضى .
0	0	2	2	المجتمع الإسلامي : (غصلره وأجناسه – الطوائف الدينية والمذهبية)
0	0	2	2	المجتمع الإسلامي، البناء الطبقي : الحكماء والفقهاء والعلماء)
0	0	2	2	التجـر و أصحاب الحرف والصناعات..... إلخ
0	0	2	2	مراجعة عامة
اختبارات الفصل الدراسي النهائية				
16-15				

5- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
1	امتحان 1 تحريري (أعمال سنة)	5	10	10%
2	امتحان 2 تحريري (أعمال سنة)	9	10	10%
3	امتحان منتصف الفصل الدراسي	7	20	20%
4	امتحان نهائي تحريري	14	40	40%
5	امتحان نهائي عملي	لا يوجد	----	-----
6	امتحان نهائي شفهي	11	10	10%
7	تكاليفات / مشروع / ملف الإنجاز /كتيب الأنشطة	8	10	10%
8	تدريب ميداني	لا يوجد	-----	-----
9	أخرى (تذكر)	لا يوجد	-----	-----

6- مصادر التعلم والتسهيلات المادية:

خالد الشريبي ، مرفت ذكي: تاريخ مصر الحديث، مذكرة للمعهد التكنولوجي العالي بالعاشر من رمضان	المرجع الأساسي للمقرر	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
1- أحمد عبد الرازق، الحضارة الإسلامية في العصور الوسطى، القاهرة، 2004 . 2- غيداء عادل: دراسات في الحضارة العربية الإسلامية، المؤسسة العربية للدراسات ونشر، 2020. 3- سعيد عبد الفتاح عاشور وآخران: دراسات في تاريخ الحضار الإسلامية، دار المعرفة الجامعية، 2018. 4- شوقي أبو خليل: الحضارة العربية الإسلامية وموجز عن الحضارات السابقة، دار الفكر المعاصر، 2010	المراجع الأخرى	
1- https://ar.wikipedia.org/wiki 2- http://www.du.edu.eg/ 3- https://www.youtube.com/	المصادر الالكترونية (لابد من إضافة الروابط)	
https://www.ekb.eg/ar/home	المنصة التعليمية (لابد من إضافة الرابط)	
(داتا شو) وجهاز كمبيوتر محمول.	الأجهزة	التجهيزات التعليمية المساندة للتعليم والتعلم *
قاعة محاضرات مجهزة	المستلزمات	
-----	البرامج الالكترونية	
-----	معامل المهارات/ المحاكيات	
-----	المعامل الافتراضية	
-----	أخرى (تذكر)	

منسق البرنامج	منسق المقرر	
أ.د. أحمد عبد الغفار	أ.م.د. وليد رضوان	الإسم
		التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Fundamental of Architectural design			
Course Code (according to the bylaw):	ARE 111			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	0	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Basma Saad El-Din			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The principal task of the architect is to design buildings which accommodate human activity. Drawing is its most expressive form. The course introduces the student to basic drawing skills and techniques. Fundamentals of architectural drawing; conventions of graphic representation, drawing as an important means to architecture, orthographic projection, architectural composition through abstract shapes and forms, study of architectural orders, architectural space, plan, section, elevation, sectional perspective, other graphic means. The techniques; line drawings, tone drawings, humanizing the drawing (figures, trees, plants, and furniture),

efficiency in drawing, lettering.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A2,A6,A7,A8,B1,B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Research for information and engage in life-long self-learning discipline.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO2	Design architectural and planning projects using a variety of visual, verbal, and written media, including both digital and non-digital methods.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO3	Evaluate the neatness and aesthetics of the design and approach.
		LO 4	Develop building design projects across a variety of contexts, scales, complexities, and types.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO 5	Create innovative approaches for solving architectural problems.
B1	Create architectural, urban and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of history and theory, related fine arts, local culture and	LO 6	Apply quality assurance systems, codes of practice and standards, health and safety requirements, and environmental considerations.
		LO 7	Integrate different ideas, views, and knowledge from a range of sources.

	heritage, technologies and human sciences.		
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 8	Demonstrate entrepreneurial skills in practical contexts
		LO 9	Analyze topics related to humanitarian interests and moral issues.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√	-	-	√	√	-	-	-	-

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	1st Design Program (Students Room) Brainstorming Research and project point with open discussion	6	0	6	0

2	Studio Work – workshop group work Site selection and environmental analysis	6	0	6	0
3	Research work and group discussion.	6	0	6	0
4	Feedback and Submission of 1st design sketches then dissemination of the updated program	6	0	6	0
5	First sketches of plans Design of the plans and feedback	6	0	6	0
6	Quiz1+ Development of plans	6	0	6	0
7	Revision and Mid Exam				
8	Lectures on Sections and Lectures on Stairs	6	0	6	0
9	Workshop and Development of plans, and Sections	6	0	6	0
10	Final Design of plans, feedback and discussion Preliminary elevations sketches	6	0	6	0
11	Development of elevation	6	0	6	0
12	Evaluation and discussion Development layout.	6	0	6	0
13	Simi final of the 2nd design problem, development of plans, sections, elevations and layout.	6	0	6	0
14	Presentation of the 2nd design problem Project submission	6	0	6	0
15,16	Final Exam.				

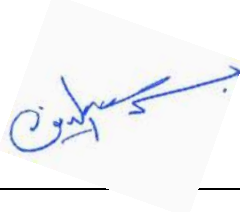
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Quiz)	6th	5	5%
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %
4	Assignments / Project /Portfolio/ Logbook	weekly	15	15%
5	Other (Tutorial and report assessment/ Projects)	4, 14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Neufert, E., Architect's Data, Crosby Lockwood Staples, London, (https://www.yumpu.com/en/document/view/64618918/ernst-neufert-architects-data 2020). 2015 International Building Code Illustrated Handbook, 1st Edition, 125958612X · 9781259586125, B y N/A International Code Council, Douglas W. Thornburg, John R. Henry, 2015 Published: July 21, 2015 Ching, Francis D. K.; Winkel, Steven R. 2021 "Building Codes Illustrated: A Guide to Understanding the 2021 International Building Code – Softcover" - Architecture: Form, Space, and Order 4th Edition, by Francis D. K. Ching (Author), 2014 - Simon unwin, Twenty-Five+Buildings, new york, 2024
	Other References	- Time-saver Standards for Building Types. (1980). United Kingdom: McGraw-Hill. - Architecture Competition: Project Design and the Building Process. (2017). United Kingdom: Taylor & Francis. - مجلة تصميم - كتاب تحليل الموقع للدكتور احمد عوف - Architecture Handbook

		Vocabulary of Architecture
	Electronic Sources (Links must be added)	• https://www.fosterandpartners.com/ • http://www.sagradafamilia.org/en/ • https://www.skyscrapercity.com/ • https://www.asla.org/ • http://www.ekb.eg/ar • http://www.architectmagazine.com/
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Projector
	Supplies	White board
	Electronic Programs	MS-Teams
	Skill Labs/ Simulators	Seminar room, workshop room and drawing studio
	Virtual Labs	
	Other (to be mentioned)	Sketches, lecture notes

	Course Coordinator	Program Coordinator
Name	Dr. Basma Saad El-Din	Dr.Maysa Ali Selim
Signature		<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Building Construction and Materials (A)			
Course Code (according to the bylaw):	ARE 112			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	0	4	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Aya Ibrahim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Introduction to two ways of construction: bearing & skeleton types; & sequence of constructing the various structural & nonstructural elements of simple structures. Stone& brick work, lintels, arches & centering. Wood, steel, reinforced concrete (flat roofs), exterior & interior stairway.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A3,A4,A5,A7,B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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	LO1	Select the most suitable structural system and foundation according to building type and soil conditions to achieve high quality and cost efficiency.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO2	Analyze the planning of the executive site and apply security and safety requirements inside and outside the site.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO3	Determine the principles and basics of technical writing standards for scientific research.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams	LO4	Illustrate the positive effects of interdisciplinary cooperation throughout project stages from design to implementation.
B3	.Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO5	Apply the structural system that best suits the architectural project.
		LO6	Design internal and external staircases for buildings.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√		√	√	√			√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction and symbols used in different projections and different drawing lines, occupational safety and health guidelines and procedures, project implementation steps	4	0	4	0
2	The sequence of construction work for structural and non-structural elements, equipment and tools used in implementation, types of structures and construction methods, buildings with load-bearing walls and all kinds of foundations (the foundations of load-bearing walls)	4	0	4	0
3	Brickwork, Brick Bonding Methods Inside Walls (English and Flemish Continuous Bonding)	4	0	4	0
4	The openings in the walls, door lintels and arches are made of bricks, building with stone, types of stones, arches of stone	4	0	4	0
5	Structural buildings, foundations of all kinds (foundations of structural buildings),	4	0	4	0
6	Quiz 1, structural systems (solid slabs, flat slabs)	4	0	4	0

7	Revision and Mid Exam				
8	Structural systems (Hollow block - paneled beams - frames systems, etc.)	4	0	4	0
9	General review and delivery of the brickwork project	4	0	4	0
10	Stairs, definitions of stair terms, stair design terms, different types of staircases	4	0	4	0
11	Examples of stairs design, concrete stairs details with cladding of (marble - stone - mosaic)	4	0	4	0
12	Details of wooden and metal stairs 1	4	0	4	0
13	Quiz 2, Details of wooden and metal stairs 2	4	0	4	0
14	General review and delivery of the staircase project	4	0	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	6	10	10%
2	Quiz 2 written (Semester work)	13	10	10%
3	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
5	Assignments / Project /Portfolio/ Logbook	13,14	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Smith, K. (n.d.). <i>Introducing architectural theory</i>. - Jankovic, L. (n.d.). <i>Designing zero carbon buildings</i>. - Kataria, K. (n.d.). <i>Urban and architectural heritage conservation</i>. - Unwin, S. (n.d.). <i>Twenty five buildings</i>. - Carpenter, W., Setiawan, A., & Welty, C. (n.d.). <i>Digital fabrication and design build studio</i>.
	Other References	عبود، ش. أ. (2021). <i>الرسومات التنفيذية المعمارية</i>. مكتبة الأنجلو المصرية. النمر، ع. (2022). <i>دليل التفاصيل المعمارية والإنشائية التنفيذية</i>.
	Electronic Sources (Links must be added)	www.understandconstruction.com www.constructionknowledge.net
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computers, Projector
	Supplies	White board
	Electronic Programs	AutoCAD

	Course Coordinator	Program Coordinator
Name	Dr. Aya Ibrahim	Dr.Maysa Ali Selim
Signature	<i>Aya Ibrahim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Free hand and architectural presentation			
Course Code (according to the bylaw):	ARE 113			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Omnia Monir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

pencil points & line techniques, proportions & blocking in proportions, values & value scale, different planes, foreground, middle ground & background, depth, representation of buildings, building details & interiors, study of nature & tree representation study of factors leading to the artistic of sketches, sketching objects: & different architectural elements & nature. This is both in & out the studio by means of the pencil, charcoal, pen & ink, for training student's eyes & hands, & to let him achieve good proportions & beauty.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A7, A9, B1, B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO1	Collaborate effectively in studio and outdoor sketching sessions , demonstrating respect for diverse perspectives in visual representation.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO2	Apply flexible sketching techniques —including pencil, charcoal, and ink—to capture architectural forms and natural elements creatively.
		LO3	Demonstrate leadership and initiative in producing original compositions that reflect artistic exploration and conceptual depth.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO4	Use proportion, blocking, and value scales to achieve technically accurate and visually balanced architectural sketches.
		LO5	Render architectural elements across multiple planes (foreground, middle ground, background), incorporating spatial layering and depth
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO6	Represent interior and exterior building features with sensitivity to human scale and environmental context.
		LO7	Sketch natural elements and trees with attention to detail and their relationship to built environments.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√		√						√	√				√	

Course Schedule:

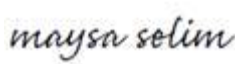
Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	Sketching Fundamentals: Line Techniques & Tools.	3	1	2	0
2	Proportions and Blocking Techniques in Architecture.	3	1	2	0
3	Value Scales and Tonal Sensitivity in Design.	3	1	2	0
4	Spatial Depth through Planar Composition.	3	1	2	0
5	Outdoor Sketching: Observing Buildings in Context + Quiz 1	3	1	2	0
6	Interior Representation: Capturing Enclosed Spaces.	3	1	2	0
7	Revision and Mid Exam				
8	Detailing Architecture: Texture, Ornament, & Material.	3	1	2	0
9	Tree Studies and Natural Forms in Built Environments.	3	1	2	0
10	Understanding Human Scale in Architectural Sketching. + Quiz 2	3	1	2	0
11	Cultural Interpretation in Visual Composition.	3	1	2	0
12	Studio Critiques: Reflecting on Sketching Practice.	3	1	2	0
13	Creative Sketching: From Observation to Expression.	3	1	2	0
14	Final Project Presentation and Submission	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam written 1 (Semester work)	5	5	5%
2	Exam written 2 (Semester work)	10	5	5%
3	Midterm exam	7	30	30 %
4	Final Written Exam	15, 16	30	30 %
5	Assignments	Weekly	15	15%
6	Project	14	15	15%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (Institute Library)	Ching, F. D. K. (2014). <i>Architecture: Form, space, and order</i> (4th ed.). John Wiley & Sons. Jones, W. (Ed.). (2011). <i>Architects' sketchbooks</i> . Thames & Hudson. Smith, S. (1997). <i>Drawing & sketching (Artist's Handbook Series)</i> . Book Sales. Marsh, J. (1999). <i>Sketching landscapes</i> . Cassell.
	Other References	Neufert, E. (2023). <i>Architects' data</i> (6th English ed.). Wiley-Blackwell The American Institute of Architects. (2015). <i>Architectural graphic standards</i> (12th ed.). Wiley.
	Electronic Sources (Links must be added)	https://www.fosterandpartners.com/ http://www.architectmagazine.com/
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Drawing pencils (HB to 6B) Charcoal (compressed and vine) Pen (fine liner, dip pen, brush pen) Black/sepia ink Sketchbook (A3), toned sheets, clipboards

	Course Coordinator	Program Coordinator
Name	Dr. Omnia Monir	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	History of Architecture			
Course Code (according to the bylaw):	ARE 114			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	--	--	2
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Omnia Monir			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course includes the study of the timeline of evolution of architectural styles through studying the different periods of the followings; Prehistoric architecture, Egyptian, Greek & Roman architecture, In addition to; early Christian architecture, Byzantine architecture and Islamic architecture. The student should be able to learn and draw different architectural features of each period.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A9, A10, B1)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO1	Compare stylistic differences between major architectural periods, focusing on form, function, and symbolism.
		LO2	Recognize iconic buildings from each civilization and analyze their architectural features to their cultural style.
A10	Acquire and apply new knowledge and practice self, lifelong, and other learning strategies.	LO3	Sketch representative architectural elements of each civilization using appropriate techniques and proportions.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO4	Identify architectural features and stylistic elements of prehistoric, Egyptian, Greek, Roman, early Christian, Byzantine, and Islamic styles.
		LO5	Describe the historical context and cultural influences shaping architectural development across civilizations.
		LO6	Distinguish architectural characteristics based on geographical, religious, and societal factors.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√			√		√	√				√	

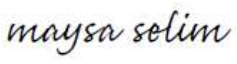
Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	General Introduction+ Prehistoric Beginnings: Symbolism & Shelter in Early Architecture	2	2	0	0
2	Egyptian Grandeur: Geometry & Sacred Design	2	2	0	0
3	Egyptian Legacy: Temples, Tombs & Mythical Structure	2	2	0	0
4	Greek Harmony: Architectural Orders and Philosophical Ideals	2	2	0	0
5	Greek Spaces: Temples, Theaters & Urban Culture + Quiz 1	2	2	0	0
6	Roman Innovation: Arches, Domes & Public Grandeur	2	2	0	0
7	Revision and Mid Exam				
8	Roman Planning: Civic and Sacred Spatial Organization	2	2	0	0
9	Early Christian Transformation: Faith & Form in Basilicas Architecture.	2	2	0	0
10	Byzantine Style: Mosaics, Domes & Heavenly Geometry. + Quiz 2	2	2	0	0
11	Byzantine Identity: Sacred Structures & Ritual Space	2	2	0	0
12	Islamic Expression: Calligraphy, Space & Sacred Design.	2	2	0	0
13	Egyptian Islamic Architecture: feature, and Examples.	2	2	0	0
14	General comparative Revision, and Final Project Jory.	2	2	0	0
15,16	Final Exam.				

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	4	5	5%
2	Quiz 2 written (Semester work)	10	5	5%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Assignments /Portfolio	Weekly	15	15%
6	Project	14	15	15%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (Institute Library)	Salgirli, S. (Ed.). (2024). <i>Inside/Outside Islamic art and architecture: A cartography of boundaries in and of the field</i>. Bloomsbury Visual Arts Binst, O. (Ed.). (2018). <i>The Levant: History and archaeology in the Eastern Mediterranean</i>. Könemann. Jokilehto, J. (2018). <i>A history of architectural conservation</i> (2nd ed.). Routledge. Cruickshank, D. (Ed.). (1999). <i>Sir Banister Fletcher's a history of architecture</i> (20th ed.). CBS Publishers & Distributors. Hillenbrand, R. (1994). <i>Islamic architecture: Form, function and meaning</i>. Edinburgh University Press. Robertson, D. S. (1992). <i>Greek and Roman architecture</i>. Cambridge University Press.
	Other References	Tuthill, L. C. (2023). <i>History of architecture: From the earliest times</i>. Legare Street Press. Watkin, D., & Hopkins, O. (2023). <i>A history of Western architecture</i> (7th ed.). Laurence King Publishing.
	Electronic Sources	https://jaars.journals.ekb.eg https://www.ekb.eg/resources
	Learning Platforms	EKB - Microsoft office
	Devices/Instruments	Data show (projector) Laptop or desktop computer
Supportive facilities & equipment for teaching and learning *	Supplies	Modeling materials (paper, foam...) Sketchbook
	Field Trip	A scientific field trip will be organized through the academic department in coordination with the supportive administrative units.

	Course Coordinator	Program Coordinator
Name	Dr. Omnia Monir	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Visual Training			
Course Code (according to the bylaw):	ARE 123			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Assoc. Prof. Sahar Ezz El Arab Ramadan			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The Study of Basic design principals, design elements, composition principles, shape, Materials, proportions and, colors, chromatic & achromatic sensations, color theory & color circle, plates & worlds, color intensity, & color harmony. Applications on theory of colors. Interiors of buildings, painting objects. The course is studied through applying design principles on 2 dimensional drawings and three-dimensional models.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A7, A9, B1,B2		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO 1	Identify design problems in circulation using clear, color-coded paths.
		LO 2	Apply the principles of engineering design to emphasize specific elements in engineering formations and drawings.
A9	Use creative ,innovative and flexible thinking and acquire entrepreneurial and headship skills to anticipate and respond to new situations.	LO 3	Develop appropriate color schemes for various geometric solids.
		LO 4	Simulate architectural forms using gouache colors.
		LO 5	Use statistical analyses of colors to emphasize the proportions and relationships of elements in engineering design.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of history and theory, related fine arts, local culture and heritage, technologies and human sciences.	LO6	Communicate effectively with audiences using different techniques of colored drawings.
		LO7	Use contemporary tools to present design projects and drawings.
B2	Produce designs that meet buildings users `requirements through understanding the relationship between people and buildings , and between	LO8	Acquire new knowledge of colors and their effects to achieve the functional and aesthetic aspects of various design elements.

buildings and their environment , and the need to relate buildings and the spaces between them to human needs and scale.	LO9	Develop design ideas with lifelong impact through innovative applications of color choices in different architectural styles.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology- Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√			√	√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Identify the types of different engineering formations and compositions in different architectural formations.	3	1	2	0
2	Executing elementary geometric shapes (circle - triangle - square) on a specific type of different architectural formations previously studied and colored in the three basic colors in gouache colors	3	1	2	0
3	Study the color wheel, and identify the contiguous and contrasting colors in it. & Study creating a balanced color gradient from white to black with gouache	3	1	2	0

4	Training on the use of gouache colors on the different specified areas.	3	1	2	0
5	Quiz 1 & Training on the use of gouache colors on the different specified shapes and solids .	3	1	2	0
6	Apply various design principles with colors and emphasize different principles of rhythm and equilibrium.	3	1	2	0
7	Revision and Mid Exam				
8	Learn how to draw three-dimensional shapes and show them in appropriate colors	3	1	2	0
9	Analyze horizontal projection of formations of geometric shapes that fulfill the principle of rhythm and achieve the required proportionality and harmony between the shapes and spaces around them within the specified space	3	1	2	0
10	make a specific color plan realizing the principle of rhythm with gouache colors for the facade of geometric shapes realizing the principle of rhythm	3	1	2	0
11	Form geometric shapes that achieve the principle of rhythm and implementation with A study for the work of a perspective on the the same colors of gouache in the horizontal plan and the façade.	3	1	2	0
12	Revision	3	1	2	0
13	semi final+ General discussion	3	1	2	0
14	Final project	3	2	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	5	10	10 %
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %

4	Assignments / Project /Portfolio/ Logbook	1,2,3,4,5,6,8,9,10,11,12,1314	30	30 %

6- Learning Resources and Supportive Facilities *

<i>Learning resources (books, scientific references, etc.) *</i>	<i>The main 5ssentiall) reference (must be written in full according to the scientific documentation method)</i>	• De Chiara, J. (1992). <i>Time-saver standards for interior design and space planning</i> (Vol. 1). Singapore: McGraw-Hill. • Ching, F. D. K. (1996). <i>Architecture: Form, space & order</i> (Vol. 1). U.S.A.: John Wiley & Sons. • Becker, G. F. (1997). <i>Art nouveau</i> (Vol. 1). Germany: Konemann. • Chen, J. S. M. (1997). <i>Architecture in color drawings</i>. New York: McGraw-Hill.
	<i>Other References</i>	• Itten, J. (1970). <i>The Elements of Color: A Treatise on the Color System of Johannes Itten Based on His Book “The Art of Color”</i>. New York: Van Nostrand Reinhold. • Lauer, D. A., & Pentak, S. (2011). <i>Design Basics</i> (8th ed.). Boston: Cengage Learning. • Wong, W. (1993). <i>Principles of Form and Design</i>. New York: Van Nostrand Reinhold. • Ocvirk, O. G., Stinson, R. E., Wigg, P. R., Bone, R. O., & Cayton, D. L. (2009). <i>Art Fundamentals: Theory and Practice</i> (11th ed.). New York: McGraw-Hill. • Abdallah, M. A. (1992). <i>Architectural Rendering (in Arabic)</i>. Cairo: Anglo Library. • Becker, G. F. (1997). <i>Art Nouveau</i>. Germany: Könemann. • Ching, F. D. K. (1996). <i>Architecture: Form, Space, and Order</i> (2nd ed.). U.S.A.: John Wiley & Sons. • De Chiara, J. (1992). <i>Time-Saver Standards for Interior Design and Space Planning</i>. Singapore: McGraw-Hill. • Wong, W. (2020). <i>Principles of Form and Design</i>. Wiley. • Zelanski, P., & Fisher, M. P. (2021). <i>Design Principles and Problems</i> (6th ed.). Cengage Learning. • Eiseman, L. (2020). <i>The Complete Color Harmony: Pantone Edition</i>. Rockport Publishers. • Lidwell, W., Holden, K., & Butler, J. (2023). <i>Universal Principles of Design (Updated & Expanded ed.)</i>. Rockport

		Publishers. • Birren, F. (2021). Color Psychology and Color Therapy: A Factual Study of the Influence of Color on Human Life. Martino Fine Books. • Ambrose, G., & Harris, P. (2022). Basics Design 01: Format. Bloomsbury Publishing.
	<i>Electronic Sources (Links must be added)</i>	www.xrite.com www.domestika.org
	<i>Learning Platforms (Links must be added)</i>	<i>EKB - Microsoft office</i>
<i>Supportive facilities & equipment for teaching and learning *</i>	<i>Devices/Instruments</i>	Data show (projector) Laptop or desktop computer
	<i>Supplies</i>	Pencils (various grades): HB, 2B, 4B, 6B- Gouache Paints-Watercolors-Colored pencils / Architectural markers-Inking pens (e.g., Micron, Staedtler)-Brushes (different sizes)

	Course Coordinator	Program Coordinator
Name	Assoc. Prof. Sahar Ezz El Arab Ramadan	Dr.Maysa Ali Selim
Signature		<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Theory of Structure (A)			
Course Code (according to the bylaw):	ARE 124			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR-Mohamed Nabil Abu EL-Amayem			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Reactions internal actions in statically determinable beams & cantilever beams, internal action in statically determinable frames & statically determinable trusses. Properties of plane areas, members under axial forces, normal stresses, shear stresses & combined stresses. This course introduces the students the first principles of the theory of structures, the different types of structures and the methods of analysis of each type. Also, It introduces the students the different types of stresses.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1, A2, A7, B3		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Identify structural analysis and structural design
		LO2	Define different types of structures, loads, supports, condition of static stability and condition equations
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	LO3	Calculate the reactions in beams, girders, frames, arches and trusses
		LO4	Find the internal forces in different types of beams, frames and draw the internal forces diagrams for the different structures
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO5	Study the stability and determinacy of structures and finding internal forces in beams and frames.
		LO6	Define the different types of arches and trusses for large halls
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs through understanding of: structural design, construction, technology and engineering problems associated with building designs.	LO7	Select the appropriate structural system and material for different civil and architectural works

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brainstorming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√								

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction to structural analysis	3	1	2	0
2	Types of structures, loads and supports	3	1	2	0
3	Condition of static stability and condition equations	3	1	2	0
4	Types of internal hinges in structures, Quiz 1	3	1	2	0
5	Calculation of reactions in beams	3	1	2	0
6	Calculation of reactions in frames and in trusses	3	1	2	0
7	Revision and Mid Exam				
8	Stability and determinacy of structures	3	1	2	0
9	Internal forces in cantilevers beams, simple beams, overhanging beams and compound beams	3	1	2	0

10	Revision, Quiz 2	3	1	2	0
11	Internal forces in inclined beams and broken beams	3	1	2	0
12	Internal forces in simple frames, compound frames and arches	3	1	2	0
13	Methods of analysis of trusses	3	1	2	0
14	Revision	3	1	2	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)	4	10	10 %
2	Exam 2 written (Semester work)	10	10	10 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Assignments / Project /Portfolio/ Logbook	Weekly	20	20 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Structural analysis and mechanics
	Other References	• THEORY OF STRUCTURES (VOL 1) Paperback – 1 July 2017, Edition • 1st, Publisher, McGraw Hill Education, ISBN-13 ,978-00746349 • Structural analysis for engineers / Nicholas Willems, William M. Lucas, Jr, 2015 published, New York : McGraw-Hill, [1978]. • Sayed Abd El-Salam, 2015 "Theory of Structures Part I and II
	Electronic Sources (Links must be added)	https://www.csiamerica.com/

	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	A- Projector. B- Computer. C- White board

	Course Coordinator	Program Coordinator
Name	DR.Mohamed Nabil Abu EL-Amayem	Dr.Maysa Ali Selim
Signature	<i>Mohamed Abu EL-Amayem</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Theories of Architecture (A)			
Course Code (according to the bylaw):	ARE 125			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR. Maysa selim			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Theories of architecture: roots of contemporary architecture Revivalism: romantic, classicism, revolutionary architects in France, development in France, England, U.S.A, & Germany. Gothic Revival; England, Germany & U.S.A. picturesque, Renaissance, revival, Eclecticism, philosophy, 2 Empire France, U.S.A, higher Victorian . Structural logic; development of iron & reinforced concrete, writing of violet le Due & Chicago School. Functional logic : biological analogy , Wright, Mechanical Analogy , Le corbusier, bauhaus School , Formal development: Effect of Art, Cubism, purism, Stijl & picturesque tendencies.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A5,A6,A8,B1,B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO 1	Define architecture and theories of architecture
		LO 2	Explain the difference between history and theory.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO 3	Analyze the characteristics of the building in different eras familiarize the distinctive features of each era.
		LO 4	Analyze the building and explains its distinctive features
		LO 5	Explain the impact of social movement on each architectural era.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO 6	Conclude the specific era of each building through the distinctive features of the building.
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO 7	Identify the effect of building materials on the form and function of architecture in each era.
B2	Produce designs that meet building users’ requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 8	Develop the ability to work effectively in groups.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√	√				√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	General introduction to the course contents. Definitions of architecture and theories of architecture. The difference between the history and theories of architecture.	3	1	2	-
2	Renaissance (Early Renaissance): Reviewing the buildings of the early Renaissance era and clarifying the distinctive features of the architecture of this era present in the buildings.	3	1	2	-
3	Renaissance (High Renaissance): Reviewing the buildings of the High Renaissance era and clarifying the distinctive features of the architecture of this era present in the buildings.	3	1	2	-
4	Renaissance (Late Renaissance): Reviewing the buildings of the early Renaissance era and clarifying the distinctive features of the	3	1	2	-

	architecture of this era present in the buildings				
5	General Revision +Quiz 1	3	1	2	-
6	Renaissance and Baroque style: Reviewing the art and sculpture work clarify and define the features	3	1	2	-
7	Revision and Mid Exam				
8	ROCOCO: Reviewing the buildings and clarifying the distinctive features of the architecture of this era present in the buildings	3	1	2	-
9	Comparison between the three styles	3	1	2	-
10	18th& 19thCentury architecture and the revival architecture	3	1	2	-
11	explain the revival architecture in detail by reviewing the buildings of revival and clarifying the distinctive features of the architecture of this era present in the buildings.	3	1	2	-
12	Explain Innovative Architecture in detail	3	1	2	-
13	Final project+Discussion	3	1	2	-
14	General Revision	3	1	2	-
15,16	Final Exam.				

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	5	10	10%
2	Midterm exam	7	20	20%
3	Final Written Exam	15, 16	40	40%
4	Assignments/ reports	weekly	15	15%
5	Sketch book	13	5	5%
6	Project	13	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	-Simon unwin, Twenty-Five+Buildings, 2024 -V.HUI, THE ARCHITECTURE PROTFOILIO GUIDEBOOK THE ESSENTIALS YOU NEDD TO SUCCEED, 2020. -D.S.ROBERTSON, GREEK & ROMAN ARCHITECTURE, 1992. -D.CRUICKSHANK, A HISTORY OF ARCHITECTURE,1999. -R.G.CAIKINS, MEDIEVAL ARCHITECTURE IN WESTERN EUROPE ,1998. -R.BRANNER, GOTHIC ARCHITECTURE,1988. - حسان قببسي، لوكوربوزيو LECORBUSIER، 1988
	Other References	- Architectural Theory. Pioneering Texts on Architecture from the Renaissance to Today,2020 - How to Draw Architecture: Illustrating Buildings and Cityscapes Paperback – December 10, 2021 - Smith, Korydon, and Miguel Guitart. Introducing architectural theory: debating a discipline. Routledge, 2013. - MALLGRAVE, Harry Francis. Architectural theory. 2006. - DAVIES, Colin. Thinking about architecture: An introduction to architectural theory. Hachette UK, 2011. - KRUFT, Hanno-Walter. History of architectural theory. Princeton Architectural Press, 1994. - اسماعيل؛ احمد يحيي. دراسة طرز التراث المعماري كمدخل لتطوير التفكير الابداعي بأقسام العمارة. مجلة العمارة والفنون والعلوم الإنسانية-23: 7.35، 2022، 53. - نور الدين. et al. تطور تناول التراث في العمارة والتصميم الداخلي المعاصر من القرن الثامن عشر الي القرن العشرين. مجلة العمارة والفنون والعلوم الإنسانية 2023.
	Electronic Sources (Links must be added)	https://en.wikipedia.org/wiki/Architectural_theory https://kreate-arch.com/design-theory
	Learning Platforms (Links must be added)	EKB - Microsoft office- Microsoft Teams
	Supportive facilities & equipment	Devices/Instruments: Data show, Laptop computer- White board Supplies: Sketch book

for teaching and learning *	Electronic Programs	Photoshop , PowerPoint, Canva

	Course Coordinator	Program Coordinator
Name	Dr.Maysa Ali Selim	Dr.Maysa Ali Selim
Signature	<i>maysa selim</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Elements of Architectural Design			
Course Code (according to the bylaw):	ARE 121			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	6	--	6
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Bassem Mohammed EL-sayed Kandil			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This course is the first course of dealing with design problems for single use buildings the student should be introduced to; Functional logic: manipulation of human environment, functional elements, public, private, service elements, and circulation elements, horizontal & vertical. Structural logic: development, material & geometric continuity, linear elements & surface elements. Design elements, space and form, functional elements, Module, material & geometric continuity. Design developed through study model technique. Examples of projects in this course include residential units, fire station, kindergarten, restaurant or coffee shop. Two projects are recommended in this course.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A2,A6,A7,A8, B1,B2)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO 1	Analyze similar models to the selected project in terms of the design idea, spaces, functional relationships, climate, and surrounding environment.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO 2	Explain Site analysis for the selected project and the climatic, social and topographic conditions of the area
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO 3	Apply technical writing standards for scientific research.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO4	Develop innovation, cooperation and integration among team members
		LO 5	Identify tasks according to the different competencies of members of the same team
B1	Create architectural, urban, and planning designs that satisfy both aesthetic and technical requirements, using adequate knowledge of: history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO 6	Choose the design idea that suits the selected project.
		LO7	Create different alternatives to the design, compare them, and choose the best
		LO8	Integrate his previous knowledge of different architectural trends and schools into the chosen design
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings, and between buildings and their environment; and the need to relate buildings and the spaces between them to human needs and scale.	LO 9	Design the general site of the project in accordance with the climatic conditions and the functional relationships between the project elements.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√	√	√	√		√	√	√			√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	An introduction to the subject and its scientific content, what is architectural design and the meaning of the word architecture, and an explanation of the idea of the first project (an economic housing project) for the poor. (group project). Follow up on what has been accomplished by groups on research on architecture for the poor (workshop).	6	0	6	0
2	Explaining how to start a design, and presenting what students have achieved in the research (Architecture of the Poor), (identifying problems and needs) Presentation of the pre-final research, and follow-up on the design idea for the proposed housing (workshop)	6	0	6	0
3	Explaining the idea, formation and composition, following the model proposed	6	0	6	0

	by the students, submitting the golden ratio research General follow-up to the research and the first and final project				
4	General follow-up to the research and the first and final project	6	0	6	0
5	Final project (first project, research, and models)+Quiz (1)	6	0	6	0
6	Presentation and explanation of the idea of the second project (restaurant). Submission and presentation of the final research	6	0	6	0
7	Revision and Mid Exam				
8	Develop the design of plans. + Develop Maquette	6	0	6	0
9	Review of all plans, and the beginning of the different elevations design	6	0	6	0
10	Review of all plans, and the different elevations and layout. and start the sections design.	6	0	6	0
11	Quiz (2)+Develop sections design and feedback. +Maquette	6	0	6	0
12	Review of all drawings ,sections, elevations+ shots +Maquette	6	0	6	0
13	final project	6	0	6	0
14	Revision	6	0	6	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	5&11	10	10%
2	Midterm exam	7	30	30%
3	Final Written Exam	15, 16	30	30%
4	Final Project	13	20	20%
5	Assignments / Portfolio	weekly	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference	-Salgirli, S. Inside/Outside Islamic art and architecture: A cartography of boundaries in and of the field. Bloomsbury Visual Arts . 2024 - Lidia Gasperoni, Construction and Design Manual Architectural Diagrams2,2019 -Twenty-Five Buildings Every Architect Should Understand 2024 -R.WHITEHEAD, STRUCTURES BY DESIGN THINKING, MAKING, BREAKING, 2020 -P.WILKINSON, GREAT BUILDINGS, 2017 -عبد الباقي ابراهيم،بناء الفكر المعماري والعملية التصميمية،1987.
	Other References	-Neufert, E., Architect's Data, Crosby Lockwood Staples, London, 2000. -Crosbie, Michael J., Time Saver standards for Architectural Design Data, McGraw Hill Book Company, New York, 2004. -On Design: Theory,Education and Practice 2024 -PRESSMAN, Andy (ed.). Architectural graphic standards. John Wiley & Sons, 2007 - CHING, Francis DK. Architecture: Form, space, and order. John Wiley & Sons, 2023. -Crosbie, Michael J., Time Saver standards for Architectural Design Data, McGraw Hill Book Company, New York, 2004 - محمود حسن عبد الرجال؛ محمد. نحو منهجية علمية متقدمة لاستخدام تقنية الذكاء الاصطناعي في استوديوهات التصميم المعماري (تطبيق) 2023. مجلة. عملي بمشاركة طلاب العمارة - يوسف؛ ديانا. تأثير التباين على عناصر التصميم الداخلي مجلة جامعة مصر للدراسات الإنسانية, 2021, 1.2: 235-260
	Electronic Sources (Links must be added)	https://en.wikipedia.org/wiki/Design_elements https://en.wikipedia.org/wiki/Design_principles
	Learning Platforms (Links must be added)	EKB - Microsoft office- Microsoft Teams
	Supportive facilities & equipment for teaching and learning *	
	Devices/Instruments	Data show, Laptop computer- White board
	Supplies	Sketchbook - canson paper
	Electronic Programs	Revit, Photoshop ,AutoCAD PowerPoint, Canva

	Course Coordinator	Program Coordinator
Name	Dr. Bassem Mohammed EL-sayed Kandil	Dr.Maysa Ali Selim
Signature	<i>Bassem kandil</i>	<i>maysa selim</i>

المعهد التكنولوجي العالي - بالعاشر من رمضان	
توصيف مقرر دراسي	

١ - معلومات أساسية :

مبادئ هندسة التشييد والبناء				اسم المقرر: (تبعاً لما ورد باللائحة)
مدن ١٠١				كود المقرر: (تبعاً لما ورد باللائحة)
قسم الهندسة المدنية				القسم/الأقسام العلمية التي شاركت في التدريس:
نظري	عملي	اخرى (تحدد)	إجمالي	إجمالي عدد الساعات المعتمدة للمقرر: (تبعاً لما ورد باللائحة)
٢	١		٣	
اختياري				نوع المقرر:
SOPHOMORE				المستوى الدراسي الذي قدم فيه المقرر:
الهندسة المدنية				البرنامج الأكاديمي:
المعهد التكنولوجي العالي				المعهد:
أ.د / شريف الترساوى				اسم منسق المقرر:
مجلس القسم العلمي للبرنامج				جهة مناقشة واعتماد تقرير المقرر:
مجلس القسم شهر أغسطس				تاريخ اعتماد تقرير المقرر:

٢ - الوصف العام للمقرر (ملخص موجز للمحتوى العلمي) :

لمحة عن عملية البناء، الأحمال على المباني، مقاومة الأحمال، الخصائص الإنشائية للمواد، الأنظمة الإنشائية، الخصائص الحرارية للمواد، الخصائص المتعلقة بالحريق، مبادئ البناء المستدام. المواد وأنظمة البناء و المواد الإنشائية ، الجير، الأسمنت والخرسانة ، التربة؛ إنشاء الأساسات ، الأسقف، السلالم، أغطية الأرضيات.

٣- نواتج التعلم للمقرر:

اتساق نواتج التعلم للمقرر مع مخرجات البرنامج (المعايير المتبناة)

نواتج التعلم للمقرر		مخرجات البرنامج / المعايير الأكاديمية المتبناة (التي يحققها المقرر تبعاً للمصفوفة في توصيف البرنامج)	
عند الانتهاء من المقرر سيكون الطالب قادراً على		(A1, A4, A9, A10)	
الكود	النص	الكود	النص
LO1	التعرف على أنواع المباني ومبادئ البناء المستدام وأنواع الرسومات المدنية والمعمارية.	A1	تحديد وصياغة وحل المشكلات الهندسية المعقدة من خلال تطبيق أساسيات الهندسة والعلوم الأساسية والرياضيات
LO2	التعرف على دور الأساسات السطحية والعميقة، وأساليب فحص التربة وتصريف المياه الجوفية.		
LO3	وصف أنواع حديد التسليح وأنواع الأسمنت والخرسانة وأنواع تغطيات الأرضيات.		
LO4	دراسة أنواع البلاطات المختلفة، وحساب الأحمال المؤثرة عليها وسمكها		
LO5	التعرف على أنواع الطوب المختلفة وحساب الكميات المطلوبة للبناء.		
LO6	تطبيق الأكود لاختيار نوع الأساس بناءً على الأحمال ونوع التربة، وتصميم وتنفيذ المنشآت الخرسانية.	A4	الاستفادة من التقنيات المعاصرة وقواعد الممارسة والمعايير وإرشادات الجودة ومتطلبات الصحة والسلامة والقضايا البيئية ومبادئ إدارة المخاطر
LO7	تطبيق الإرشادات المعمارية في تصميم السلالم طبقاً للمواد والمساحات المتاحة.		
LO8	تخطيط الموقع وتجهيزه لأعمال التنفيذ ما في ذلك تنفيذ الشدات للعناصر الإنشائية و استلامها	A9	استخدام التفكير الإبداعي والمبتكر والمرن واكتساب مهارات تنظيم المشاريع والقيادة لتوقع المواقف الجديدة والاستجابة لها
LO9	التعامل مع العطاءات والعقود والقضايا المالية للمشروعات	A10	اكتساب وتطبيق المعرفة و التعلم الذاتي وغيرها من استراتيجيات التعلم

٤- طرق التعليم والتعلم للمقرر:

التدريس المباشر		التدريس الغير مباشر										استراتيجيات التعلم بمساعدة تكنولوجيا المعلومات			
المحاضرات	التمارين العملية	المصف الذهني	التعلم القائم على المشروعات الجماعية	استراتيجية دراسة الحالة	حل المشكلات	كتابة التقارير /الأبحاث	الحوار والمناقشة	التدريب الميداني	الزيارات الميدانية	التعلم الذاتي	التعلم بالإكتشاف	برامج المحاكاة أو النمذجة	المعامل الافتراضية	ميكروسوفت تيم	الذكاء الاصطناعي في التعليم
✓	✓					✓	✓							✓	

الجدول الدراسي للمقرر:

رقم الاسبوع الدراسي	المحتوى العلمي للمقرر (موضوعات المقرر)	إجمالي عدد الساعات الأسبوعية	عدد ساعات التعلم المتوقعة		
			تدريس نظري	تدريب تمارين	أخرى (تحدد)
١	مقدمة	٣	٢	١	
٢	خطوات البناء والرسومات المدنية والمعمارية والمواد الخرسانية	٣	٢	١	
٣	حساب الكميات وأنواع الرسومات الهندسية	٣	٢	١	
٤	العطاءات والتخطيط والإعداد للموقع	٣	٢	١	
٥	طرق فحص التربة، الأساسات (الأساسات السطحية)	٣	٢	١	
٦	أنواع الأساسات (الأساسات العميقة)	٣	٢	١	
٧	مراجعة وامتحان منتصف الفصل الدراسي				
٨	التخلص من المياه الجوفية	٣	٢	١	
٩	الشدات و إستلام الأساسات	٣	٢	١	
١٠	الشدات و إستلام الأعمدة	٣	٢	١	
١١	الشدات و إستلام البلاطات	٣	٢	١	
١٢	نواع البلاطات وتوزيع الأحمال عليها وحساب السمك	٣	٢	١	
١٣	أنواع الطوب وحساب كميات المواد للبناء	٣	٢	١	
١٤	التصميم المعماري للسلالم	٣	٢	١	
١٥-١٦	إختبارات الفصل الدراسي النهائية				

٥- طرق تقييم الطلاب:

م	طرق التقييم *	توقيت التقييم المتوقع (رقم الأسبوع الدراسي)	درجات التقييم	النسبة المئوية من إجمالي درجة المقرر
١	امتحان ١ تحريري (أعمال سنة)	٣	١٠	١٠٪
٢	امتحان ٢ تحريري (أعمال سنة)	١٢	١٠	١٠٪
٣	امتحان منتصف الفصل الدراسي	٧	٢٠	٢٠٪
٤	امتحان نهائي تحريري	١٥ و ١٦	٤٠	٤٠٪
٥	تمارين و أبحاث	إسبوعيا	٢٠	٢٠٪

٦- مصادر التعلم والتسهيلات المادية:

-الكود المصري لميكانيكا التربة، اللجنة الدائمة للكود المصري، مركز بحوث الإسكان والبناء، القاهرة، ٢٠٢٤ -الكود المصري لتصميم وتنفيذ المنشآت، اللجنة الدائمة للكود المصري، مركز بحوث الإسكان والبناء القاهرة، ٢٠٢٤	المرجع الأساسي للمقرر (لابد من كتابة البيانات كاملة وفقا لطريقة توثيق علمي)	مصادر التعلم (الكتب والمراجع العلمية وغيرها) *
-الموسوعة الحديثة فى تكنولوجيا تشييد المباني ٣م، فاروق عباس حيدر، منشأة المعارف، 2006 -موسوعة التنفيذ المعماري والانشائي، حسين محمد جمعة، اللجنة الدائمة، القاهرة، ٢٠٠٥	المراجع الأخرى	
https://books-library.website/files/download-pdf-ebooks.org-1544385031Kk6O6.pdf -الملحق الثاني للكود المصري	المصادر الالكترونية (لابد من إضافة الروابط)	
EKB - Microsoft office www.researchgate.net www.engineeringcivil.com http://ocw.mit.edu/ Microsoft Teams تشيد ترم الصيفى General	المنصة التعليمية (لابد من إضافة الرابط)	
سبورة بيضاء ب- جهاز عرض	الأجهزة	التجهيزات التعليمية المساندة للتعليم والتعلم *

منسق البرنامج	منسق المقرر	
د. غادة نشأت محمد	أ.د/ شريف حسين الترساوى	الإسم
غادة نشأت		التوقيع

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Principles of Electric Machines			
Course Code (according to the bylaw):	EEC 103			
Department/s that participated in the teaching:	Electrical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	1		3
Course Type:	Elective			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	ALL ENGINEERING PROGRAMS			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Assoc. Prof. Dr. Taghreed Said			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/11/2025			

2. Course Overview (Brief summary of scientific content):

Elements of Electric Drives, DC motor drives including conventional, brushless and modern permanent magnet motors; AC motor drives including induction and synchronous motors. Magnetic Circuits: Magnetic equivalent circuit, analogy with electric circuits, losses, linear and non-linear magnetic circuits calculations. Transformers: Single phase transformers, principle of operation, equivalent circuit, equivalent parameters determination, three phase transformers, connections of transformers, autotransformers, harmonics, Principles of operation of DC machines.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A2, Ar)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	LO1	Identify concepts of magnetic circuit analysis and electromechanical energy conversion principles.
		LO2	Recognize operation Principles of electrical transformers and DC machines.
		LO3	Conclude the equivalent circuit parameters of transformers and DC machines.
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.	LO4	Illustrate performance curves of transformer and DC machines
		LO5	Select the analysis methods of transformer and DC machines problems.
		LO6	Assess and evaluate the performance characteristics of electrical machines.
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	LO7	Apply the acquired knowledge and modern tools to develop modern-day applications out of these machines according to their unique characteristics

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√			√					

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	Magnetic circuit analysis	3	2	1	0
2	Magnetic circuit analysis	3	2	1	0
3	single-phase transformers construction, theory of operation, transformation ratios of voltage and current.	3	2	1	0
4	single-phase transformers equivalent circuit.	3	2	1	0
5	phasor diagram and voltage regulation of single-phase transformer.	3	2	1	0
6	losses, efficiency, and daily efficiency of single-phase transformer.	3	2	1	0
7	Revision and Mid Exam				

8	single-phase transformer tests	3	2	1	0
9	single-phase transformer classification, and applications.	3	2	1	0
10	Electromechanical energy conversion principles.	3	2	1	0
11	DC generators construction, types, and the theory of operation	3	2	1	0
12	DC generators equivalent circuit, EMF equations, Power flow, efficiency and applications.	3	2	1	0
13	DC motors construction, types, EMF and torque equations and the theory of operation.	3	2	1	0
14	DC motor characteristics, starting, types of starters, speed control, braking and testing of all types of DC machines)	3	2	1	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz 1 written (Semester work)	4	10	10%
2	Quiz 2 written (Semester work)	10	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
5	Final Practical/Clinical/... Exam		0	
6	Final Oral Exam		0	
7	Assignments / Project /Portfolio/ Logbook	During Semester	20	20%
8	Field training		0	
9	Other (Mention)		0	

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific	The main (essential) reference (must be written in full according to the scientific documentation method)	1- Fitzgerald & Kingsley's Electric Machinery, 7th Edition, Stephen Umans, 2014 2- B. L. Theraja and A. K. Theraja " Text Book of Electrical Technology " volume-1, S. CHAND & COMPANY LTD, New Delhi, 2014 .

references, etc.) *		3- U.A. Bakshi and V. U. Bahshi " Electrical Technology", Technical Publications , Pune, India, 2020.
	Other References	
	Electronic Sources (Links must be added)	
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data Show
	Supplies	White board
	Electronic Programs	
	Skill Labs/ Simulators	
	Virtual Labs	
	Other (to be mentioned)	

	Course Coordinator	Program Coordinator
Name	Assoc. Prof. Dr. Taghreed Said	Assoc. Prof. Dr. Taghreed Said
Signature	<i>taghreed said</i>	<i>taghreed said</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Principles of Power Mechanical Engineering			
Course Code (according to the bylaw):	ENG 104			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	1	--	3
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Mechanical Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Asso. Prof. Dr. Amr Hassaan			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/12/2025			

2. Course Overview (Brief summary of scientific content):

First Law of Thermodynamics - Energy conversion - Power cycles - principles of fluid mechanics – Prime movers (Gasoline & Diesel Engines) - Pumps & Turbines Principles of heat transfer - Simple steam plants - Refrigerators.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A2, A3)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Identify common gauges used in fluid mechanics, such as barometers, manometers, Bourdon gauges, and flowmeters.
		LO2	Describe representative engineering problems and explain the working principles of relevant mechanical systems.
A2	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.	LO3	Demonstrate the application of Bernoulli's equation and analyze the effect of a jet on a stationary plate.
		LO4	Analyze the physical properties and practical behavior of fluids through experimentation.
		LO5	Distinguish between various applications involving fluid machinery using fundamental fluid mechanics principles.
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.	LO6	Select the appropriate type of flowmeter based on application requirements.
		LO7	Apply fluid mechanics principles to the design of pressure vessels, such as circular cylinders and spheres, used in industry.
		LO8	Demonstrate logical, creative, and comparative thinking to solve unfamiliar engineering problems.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√			√	√	√								√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	-Introduction to power mechanical engineering.	3	2	1	-
2	-Short summary of the basics.	3	2	1	-
3	-Heat energy and modes of heat transfer	3	2	1	-
4	Thermal expansion types	3	2	1	-
5	Describes fluid pressure, together with buoyancy and hydrostatic stability. Define Archimedes principles	3	2	1	-
6	Know gauges used in fluid mechanics, such as barometers, manometers.	3	2	1	-
7	Revision and Mid Exam				
8	Bourdon pressure and vacuum gauges.	3	2	1	-
9	Categories of flowmeters.	3	2	1	-

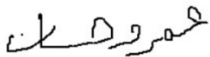
10	Demonstrates Bernoulli's equation and the impact of a jet on a stationary plate.	3	2	1	-
11	Identify relationships that exist between pressure, volume and temperature in a gas are given in a set of laws called the gas laws.	3	2	1	-
12	States the types of combustion engines and names the components of internal combustion engines.	3	2	1	-
13	Identify how the steam power plant works.	3	2	1	-
14	Basic refrigeration cycle.	3	2	1	-
15,16	Final Exam.				

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work or quiz)	5	20	20 %
2	Exam 2 written (Semester work or quiz)	10	20	20 %
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	-Bird & Carl Ross , “ Mechanical Engineering Principles “ Routledge 4 th Ed., 2019.
	Other References	- B.R. Munson, D.F. Young, T.H. Okiishi, and W.W. Huebsch, Fundamentals of Fluid Mechanics, John Wiley and Sons Inc., 9th Ed., 2021. R. E. Sonntag, C. Borgnakke and G. J. Van Wylen, Fundamentals of thermodynamics, John Wiley and sons Inc., 2009.
	Electronic Sources (Links must be added)	NA
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities &	Devices/Instruments	Data-show and Laptop
	Supplies	White board

equipment for teaching and learning *	Electronic Programs	Microsoft teams
	Skill Labs/ Simulators	NA
	Virtual Labs	NA
	Other (to be mentioned)	NA

	Course Coordinator	Program Coordinator
Name	Associate Prof. Amr Hassaan	Dr. Mohamed Ashraf
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Entrepreneurship			
Course Code (according to the bylaw):	Hum 206			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2	--	--	٢
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Mechanical Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr.Moataz Mohamed Abd El-Raouf			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/12/2025			

2. Course Overview (Brief summary of scientific content):

Preparation of students to consider his own small business project: Introduction to entrepreneurship, Definition of different project scales, characteristics of small project, planning of small project, small project organization, small project control, performance evaluation. application course project.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6,A8,A9,A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO.1	Design thinking and process tools to evaluate real-world problems and projects.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO.2	Create presentations and business plans that articulate and apply financial, operational, organizational, market, and sales knowledge.
		LO.3	Mobilize people and resources.
A9	Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO4.	Elaborate on students to consider their own small business project.
		LO5.	Analyze methodologies to Sell themselves and their ideas.
A10	Acquire and apply new knowledge, and practice self, lifelong and other learning strategies.	LO6.	Cultivate endurance to foster self-efficacy through improved communication and problem-solving skills

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brainstorming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√								√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	*Definition of Entrepreneurship. *What is meant by: Entrepreneur? * Competencies of entrepreneur.	2	2	-	-
2	*Main processes of Entrepreneurship. *The difference between entrepreneurship projects and small enterprises. *Inspiring Entrepreneurs Story of KINGINE Founders.	2	2	-	-
3	*The role of entrepreneurship and small enterprises in the development of the economy of countries. *Classification of different types of pilot projects.	2	2	-	-
4	*Entrepreneurship between science and talent. *Success story of an entrepreneur (jewellery designer Azza Fahmi).	2	2	-	-
5	Stages of Entrepreneurship Process: *Identify and evaluate the opportunity. *Develop business plans. *Resources required. *Manage the enterprise. Success story of an entrepreneur: Nike	2	2	-	-
6	-Entrepreneurial problems. -Why do so many small projects fail? + Online Quiz	2	2	-	-
7	Revision and Mid Exam				
8	-Success stories of Ingvar Kaber: IKEA Founder. -Definition of: Business incubators including its Importance.	2	2	-	-
9	-Basic services provided by business incubators. -Classification of Business incubators. -Proportions of services provided by business incubators.	2	2	-	-
10	-Examples Global and local Business incubators -success stories of El Araby Group.	2	2	-	-

	+ Online Quiz				
11	Entrepreneurial Project Presentations	2	2	-	-
12	Entrepreneurial Project Presentations	2	2	-	-
13	Entrepreneurial Project Presentations	2	2	-	-
14	Revision	2	2	-	-
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work or quiz)	6	15	15%
2	Exam 2 written (Semester work or quiz)	10	15	15%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
7	Assignments / Project /Portfolio/ Logbook	11,12,13	10	10%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	- Nieuwenhuizen, C. <i>Basics of entrepreneurship</i>. Juta and Company Ltd. (2004). - Kuratko, D. F. <i>Entrepreneurship: Theory, process, and practice</i>. Cengage learning.(2016)
	Other References	Singh, S. K., and Sanjay Gupta. <i>Entrepreneurship: E-book</i> . SBPD Publications, 2016.
	Electronic Sources (Links must be added)	https://guides.erau.edu/entrepreneurship/websites
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Devices/Instruments	Data-show and Laptop

Supportive facilities & equipment for teaching and learning *	Supplies	White board
	Electronic Programs	Microsoft teams
	Skill Labs/ Simulators	NA
	Virtual Labs	NA
	Other (to be mentioned)	NA

	Course Coordinator	Program Coordinator
Name	Dr.Moataz Mohamed Abd El-Raouf	Dr. Mohamed Ashraf
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Principles of Biomedical Engineering			
Course Code (according to the bylaw):	<u>MDE 101</u>			
Department/s that participated in the teaching:	<u>Biomedical Engineering</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	<u>2</u>	<u>1</u>		<u>3</u>
Course Type:	Elective			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Ass. Prof. Amal EL Dosoky			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	<u>8/12/2025</u>			

2. Course Overview (Brief summary of scientific content):

History of biomedical engineering, examples of biomedical engineers contributions and research fields classification of biomedical engineering, the interrelation between systems and biomedical engineering, examples of physiological systems and medical instruments – General overview about different biomedical devices and hospital departments from point of view of device name, function, and its place in the hospital.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1, A5, A8, A10		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Supports understanding of how biomedical devices solve physiological problems.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO2	investigate recent innovations in biomedical engineering using appropriate research methods.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO3	collaboration to create a presentation on a biomedical engineering topic.
		LO4	demonstrate effective communication skills through presentations and reports on biomedical devices, systems, and case studies.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	LO5	Acquire a knowledge about vital sign and Medical device.
		LO6	explore current trends and new developments in biomedical engineering independently.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√					√	√				√				

Course Schedule:

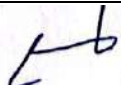
Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Lab / Practical
1	An overview: general idea about the concepts of Biomedical Engineering and its applications in the field.	3	2	1	
2	Introduction to Human anatomy and physiology.	3	2	1	
3	Cardiovascular and Respiratory Systems with Related Devices	3	2	1	
4	Nervous and Muscular Systems with Related Devices	3	2	1	
5	Classification of Biomedical Engineering and Fields Introduction to Bio-signal	3	2	1	
6	Introduction to Bio-Imaging	3	2	1	
7	Revision and Mid Exam				
8	Introduction to Bio-Instrument	3	2	1	
9	Introduction to Bio-mechanics	3	2	1	
10	Hospitals and its Organization	3	2	1	
11	Hospital Departments and Devices – Part 2 and Quiz	3	2	1	
12	Biomedical Engineering: Innovations (future trends) and Opportunities	3	2	1	
13	Student Presentations / Mini-Projects	3	2	1	
14	Student Presentations / Mini-Projects	3	2	1	
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Quiz	11	10	10%
2	Midterm exam	7	20	20 %
3	Final Written Exam	15, 16	40	40 %
4	Assignments / Mini-Projects / Sheets	Across the term and According to the schedule	30	30%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	S.A.BERGER (1996). INT.TO BIOENGINEERING. N.YORK: OXFORD. ANDREW G. WEBB (2018). PRINCIPLES OF BIOMEDICAL. NEW YORK: CAMBRIDGE
	Other References	
	Electronic Sources (Links must be added)	
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	
	Supplies	
	Electronic Programs	
	Skill Labs/ Simulators	
	Virtual Labs	
	Other (to be mentioned)	

	Course Coordinator	Program Coordinator
Name	Ass. Prof. Amal EL Dosoky	Dr. Ghada Karim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Technical Report Writing			
Course Code (according to the bylaw):	MNG 103			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	2	--	٣
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Mechanical Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Mohamed Elsayed			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	8/12/2025			

2. Course Overview (Brief summary of scientific content):

Essential elements of a technical report: Abstract - Summary - Contents - Objectives - Details of the report including figures, images, video ...etc, - Conclusions - Recommendations - References using a standard format and the different electronic sources. Report Classification: Technical (Requirement specification, Analysis, Design, and Implementation). Administrative (Directed to different operational and management levels). Levels of confidentiality for the different reports. Report Composition: Logical presentation of the report and coordination between its components. Importance of using correct grammar and punctuation. Enhancing

communication effectiveness by the use of different media. Report Implementation: Use of the appropriate software packages including any graphics or multimedia packages.

3. Course Learning Outcomes CLOs:

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A5, A8, A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A5.	Practice research techniques and methods of investigation as an inherent part of learning.	LO1	Identify the purpose, characteristics, and structure of technical writing, and distinguish it from general writing.
		LO2	Differentiate between the key components of technical reports, CVs, letters, and technical presentations.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO3	Apply the principles of technical writing to produce structured technical documents such as reports, CVs, and presentations.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	LO4	Analyze examples of technical documents through independent research to enhance communication skills and promote lifelong learning.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
✓	✓	✓	✓			✓	✓			✓				✓	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introduction of technical writing	3	1	2	-
2	Some Elements of Technical Reports (cover page, title page, abstract, acknowledgement, dedication and summary)	3	1	2	-
3	Some Elements of Technical Reports (tables of contents, list of figures, list of tables, Nomenclature, Abbreviation and Acronym)	3	1	2	-
4	Some Elements of Technical Reports (Introductory chapters(s), Literature Review, Central chapters,)	3	1	2	-
5	Some Elements of Technical Reports (Microstructure, Conclusions, Tables and Figures, Appendices)	3	1	2	-

6	Some Elements of Technical Reports (References (Harvard method))Bibliography, Plagiarism, Style)	3	1	2	-
7	Punctuation, Layout and Equations.	3	1	2	-
8	Revision and Mid Exam				
9	CV (Curriculum Vitae)	3	1	2	-
10	Letters	3	1	2	-
11	Technical Presentations	3	1	2	-
12	Submitting a technical report from the students and evaluating the report according to the explanation	3	1	2	-
13	Submitting a technical presentation from the students and evaluating the report according to the explanation	3	1	2	-
14	Submitting a technical presentation from the students and evaluating the report according to the explanation	3	1	2	-
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Technical Report (Semester work or quiz)	9	15	15%
2	Technical presentation (Semester work or quiz)	11, 12	15	15%
3	CV & letter	10	10	10%
4	Midterm Exam	8	20	20 %
5	Final Written Exam	15, 16	40	40 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific	The main (essential) reference (must be written in full according to the scientific documentation method)	-The Oracle Corporation, "Corporate citizenship report 2023," Oracle, Redwood Shores, CA, USA, 2023. Accessed: Dec. 5, 2023. [Online]. Available: http://www.oracle.com/us/corporate/citizenship/corporate-citizenship-report-2563684

references, etc.) *		Research and Technical Writing for Science and - Engineering, by Meikang Qiu, Han Qiu, Yi Zeng, 2022.
	Other References	M. Markel, Technical Communication, 11th ed. Boston, MA: Bedford/St. Martin's, 2017.
	Electronic Sources (Links must be added)	Microsoft teams
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data- show and laptop.
	Supplies	White board
	Electronic Programs	N/A
	Other (to be mentioned)	N/A

	Course Coordinator	Program Coordinator
Name	Dr. Mohamed Elsayed	Dr. Mohamed Ashraf
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Scientific Thinking			
Course Code (according to the bylaw):	<u>HUM 207</u>			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	<u>2</u>			<u>2</u>
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr./ Mustafa Muhammad Fadel			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	<u>7/26/2025</u>			

2. Course Overview (Brief summary of scientific content):

The course trains students to think logically and critically and helps them to adapt and integrate in an academic environment. The student is familiarized with methods of researching and accessing information through the library or the Internet and is trained to assess the content and sources of information, reporting, and citing scientific literature, and how to maintain high ethical standards.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1, A4,A5,A7,A8)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	LO 1	Identify the main steps of logically and critically scientific thinking.
		LO 2	Formulate the principal methods of researching and accessing
		LO 3	Rationalize the logic scientific thinking and unlogic scientific thinking.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.	LO 4	Utilize the principal methods of researching and accessing information through the library.
		LO 5	Evaluate the environmental issues, and risk management principles.
		LO 6	Assess the standard rules of researching and its quality guidelines for health and safety requirements.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO 7	Implement scientific reports depending on the scientific foundations of his study.
		LO 8	Control the time planning and team integration.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO 9	Transfer the gained knowledge orally, written, and graphically.
		LO 10	Acquire the ability to self-learn in engineering applications related to scientific thinking.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO 1	Obtain the steps of logically and critically scientific thinking.
		LO 2	acquaint the methods of researching and accessing information through the library or the Internet.
		LO 3	assess the content and sources of information, reporting, and citing scientific literature

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√		√	√	√	√	√	√	√	√			√	√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	The main steps of logically and critically scientific thinking	2	2	0	0
2	Factors that affect scientific and innovative thinking, such as the surrounding environment.	2	2	0	0
3	The principal methods of researching and accessing information through the library.	2	2	0	0
4	The techniques of researching through the Internet.	2	2	0	0
5	Evaluating the information and results with academic environment research.	2	2	0	0
6	The methods of presentations to show the findings of scientific research	2	2	0	0

7	Revision and Mid Exam				
8	Scientific analysis and linking between variables	2	2	0	0
9	Suggest scientific solutions to practical problems	2	2	0	0
10	levels of thinking and scientific thinking techniques	2	2	0	0
11	Ethical standards of scientific research.	2	2	0	0
12	The impact of innovative thinking on management in organizations and change management	2	2	0	0
13	Final Exam.				

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part).
	Other References	• Michael E Gorman; “Scientific and Technological Thinking” 2005 by Lawrence Erlbaum Associates • Richard Paul, Linda Elder: The Miniature Guide to Scientific Thinking; 2023
	Electronic Sources (Links must be added)	• https://www.youtube.com/watch?v=pOb_jKqy_s0&ab_channel=Flippin%27Science • https://study.com/learn/lesson/scientific-thinking-process-examples.html
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	
	Supplies	
	Electronic Programs	
	Skill Labs/ Simulators	x
	Virtual Labs	x
	Other (to be mentioned)	x

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work)		10	10 %
2	Exam 2 written (Semester work)		10	10 %
3	Midterm exam		20	20 %
4	Final Written Exam		40	40 %
5	Final Oral Exam		10	10 %
6	Assignments / Project /Portfolio/ Logbook		10	10 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part).	
	Other References	• Michael E Gorman; "Scientific and Technological Thinking" 2005 by Lawrence Erlbaum Associates • Richard Paul, Linda Elder: The Miniature Guide to Scientific Thinking; 2023	
	Electronic Sources (Links must be added)	• https://www.youtube.com/watch?v=pOb_jKqy_s0&ab_channel=Flippin%27ScienceVideos • https://study.com/learn/lesson/scientific-thinking-process-examples.html	
	Learning Platforms (Links must be added)	EKB - Microsoft office	
Supportive facilities & equipment for teaching and learning *	Devices/Instruments		
	Supplies		
	Electronic Programs		
	Skill Labs/ Simulators	x	
	Virtual Labs	x	
	Other (to be mentioned)	x	

	Course Coordinator	Program Coordinator
Name	Dr./ Mustafa Muhammad Fadel	Prof. Ahmed Abd El-Gafar

Signature	<i>Mustafa Muhammad Fadel</i>	

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Business Administration			
Course Code (according to the bylaw):	HUM 208			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2			2
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	<u>Prof. Eid Abd El-Baset Eid</u>			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

Nature, scope, importance & characteristics of business administration, development of the managerial thought, business external & internal environments, types of institutions, the managerial process. Functions of management: planning: planning concepts & importance, types of plans, characteristics & contents of the plan, planning stages, budgeting for planning. Organization: organization concepts & importance, characteristics of good & effective organization, types of organization structures, centralization & decentralization, span of supervision, delegation of authority, integration among the different units in the organization. Direction & supervision: Motivation, communications leadership & its different types. Control: concept & importance of control, control steps, objectives, actual performance, the deviation,

reasons of the deviation, the corrective actions, types of control, internal & external control. Decision - Making: Types of administrative decisions, decision -making process & steps, importance of information of decision making. Major functions in different companies: production, marketing, finance, human resources.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A7,A8,A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO1	Describe the main steps of strategic plans using marketing information
		LO2	Understand the role of information technology systems (IT) in supporting business operations..
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO3	Elucidate the principal of Functions of management: planning: planning concepts & importance, types of plans, characteristics & contents of the plan, planning stages, budgeting for planning.
		LO4	Explicate the fundamentals of organization work: organization concepts & importance, characteristics of good & effective organization, types of organization structures, centralization & decentralization, span of supervision, delegation of authority, integration among the different units in the organization.
		LO5	Evaluating between Direction & supervision: Motivation, communications leadership & its different types.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies..	LO6	Assess the Control: concept & importance of control, control steps, objectives, actual performance, the deviation, reasons of the deviation, the corrective actions, types of control, internal & external control.
		LO7	Evaluate the decision Making: Types of administrative decisions, decision -making process & steps, importance of information of decision making.
		LO8	Identify the major functions in different companies: production, marketing, finance, human resources.
		LO9	Maintain the high ethical standards of business work.

		LO10	Explain the gained knowledge orally.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	An overview of the administrative process.	2	2	0	0
2	The nature of the projects and their objectives	2	2	0	0
3	An overview of management functions and facility functions.	2	2	0	0
4	Factors affecting the performance of the facility.	2	2	0	0
5	Planning function	2	2	0	0
6	Regulation function	2	2	0	0
7	Revision and Mid Exam				
8	Orientation function	2	2	0	0

9	Control function.	2	2	0	0
10	Management levels and skills required for each level.	2	2	0	0
11	Administrative communication process.	2	2	0	0
12	Supplementary materials and Quiz	2	2	0	0
13	Presentations	2	2	0	0
14	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	4	10	10%
2	QUIZ 2 written (Semester work)	11	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15	40	40 %
5	Assignments (Report & Sheet)	10,12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part).
	Other References	1-Mohamed Abdallah Abd El Rehim, Fundamental of Management & Organization , Cairo University.2022 2-El Desouky Hamed Abou Zeid, the Scientific Fundamentals of Management , Cairo University.2022
	Electronic Sources (Links must be added)	https://www.ecpi.edu/blog/what-is-business-administration-all-about https://www.edx.org/learn/business-administration
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities &	Devices/Instruments	Notebook and data show equipped lecture room.

equipment for teaching and learning *	Supplies	Teaching aids and computers.
	Skill Labs/ Simulators	
	Other (to be mentioned)	Notebook and data show equipped lecture room.

	Course Coordinator	Program Coordinator
Name	Prof. Eid Abd El-Baset Eid	Prof. Ahmed Abd El-Gafar
Signature	Prof. Eid Abd El-Baset Eid	

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Introduction to Accounting			
Course Code (according to the bylaw):	HUM 201			
Department/s that participated in the teaching:	Basic Sciences			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	<u>2</u>			<u>2</u>
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:				
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	<u>7/26/2025</u>			

2. Course Overview (Brief summary of scientific content):

The scientific frame of accounting: accounting concept & objectives, acceptable principles of accounting, accounting branches, types of institutions - financial statement: balance sheet, income statement, ownership proprietary statement, cash flows statement - double entry & analysis of financial transactions: accounting continuous balance of the financial position formula, debit & credit items financial position formula – the accounting cycle: business documents, the journals the ledgers' commercial documents according to the Egyptian laws. Journalizing & recording the commercial transactions of the firm, transactions of the owner of the firm, commercial papers & documents different types of revenues & expenditure. Trail Balance: Trail balance concept & objectives, its balance & imbalance corrections in the imbalance cases. A brief presentations of accounting in the types of companies as partnerships, limited partnerships & corporation.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A6,A8, A9, A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO1	Design the presentations of accounting in she types of companies as partnerships, limited partnerships & corporation.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO2	Interpret the main concepts of basic financial accounting.
		LO3	Infer the main principle of basic financial statements.
		LO4	Elucidate the principal of balance sheet, income statement, ownership proprietary statement, cash flows statement - double entry & analysis of financial transactions.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO5	Clarify the accounting continuous balance of the financial position formula, debit & credit items financial position formula.
		LO6	Evaluate the accounting cycle: business documents, the journals the ledgers' commercial documents according to the Egyptian laws.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies..	LO7	Assess the trail balance concept & imbalance corrections in the imbalance cases.
		LO8	Record the commercial transactions of the firm, transactions of the owner of the firm, commercial papers & documents different types of revenues & expenditure.
		LO9	Mange as member in a teamwork .
		LO10	Illustrate the gained knowledge orally.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Basic concepts of financial accounting in individual projects.	2	2	0	0
2	Budget equation.	2	2	0	0
3	Basic financial statements.	2	2	0	0
4	Double cod theory.	2	2	0	0
5	Posting for the ledger	2	2	0	0
6	Inventory adjustments	2	2	0	0
7	Revision and Mid Exam				
8	Journalizing & recording the commercial transactions of the firm, transactions of the owner of the firm, commercial papers &	2	2	0	0

	documents different types of revenues & expenditure				
9	Preparing financial statements (final accounts and budget).	2	2	0	0
10	Trail Balance: Trail balance concept & objectives, its balance & imbalance corrections in the imbalance cases.	2	2	0	0
11	A brief presentation of accounting in the types of companies as partnerships, limited partnerships & corporation	2	2	0	0
12	Supplementary Material and Quiz	2	2	0	0
13	Presentations	2	2	0	0
14	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	4	10	10%
2	QUIZ 2 written (Semester work)	11	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15	40	40 %
5	Assignments (Report & Sheet)	10,12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part).
	Other References	Mohamed Sabri El Attar, Mansoura Hamed & Ahmed El-Sabagh, Principles of financial Accounting, Cairo University.2020

	Electronic Sources (Links must be added)	• https://www.oreilly.com/library/view/financial-accounting-in/9780470635292/ch03sec3.html • https://www.coursera.org/learn/financial-accounting • https://open.umn.edu/opentextbooks/textbooks/640/
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Notebook and data show equipped lecture room.
	Supplies	Teaching aids and computers.
	Skill Labs/ Simulators	
	Other (to be mentioned)	Notebook and data show equipped lecture room.

	Course Coordinator	Program Coordinator
Name		Prof. Ahmed Abd El-Gafar
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	English Literature			
Course Code (according to the bylaw):	HUM 202			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	<u>2</u>			<u>2</u>
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Mai Abouzaid			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

Introduction to the forms of literature, short story, novel, drama and poetry. Developing students' critical ability through carefully selected sample literary texts.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A8, A9, A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A8	Enhance and Develop the students' abilities and awareness for appropriate analysis and interpretation to all the scientific topics written in English words.	LO1	Enhance students' abilities in reading English Literature
		LO2	Developing reading strategies for different purposes.
		LO3	Study different types and genres of English Literature(poetry, novel, drama and short stories).
		LO4	Work effectively in team of multi-disciplinary or multi-culture.
A9	Communicate effectively, verbally and in writing with a range of audiences.	LO5	Apply the four skills of language freely with particular emphasis on dealing with literary works.
A10	Acquire and apply new knowledge and practice through English language.	LO6	Express themselves in English with confidence, especially while evaluating and criticizing the literary work.
		LO7	Comprehending various texts, including literary and informational materials.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education

√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Introduction to Literature, Poetry and Short Stories	2	2	0	0
2	The Necklace by Guy de Maupassant	2	2	0	0
3	Nice Girl by Sherwood Anderson	2	2	0	0
4	Anton Chekov's Small Fry.	2	2	0	0
5	Ernest Hemingway's The Old Man at the Bridge	2	2	0	0
6	Vendetta by Guy de Maupassant	2	2	0	0
7	Revision and Mid Exam				
8	Sir Walter Raleigh's poems.	2	2	0	0
9	Shakespeare's Poems	2	2	0	0
10	Christopher Marlowe's Poems	2	2	0	0
11	Supplementary Material and Quiz	2	2	0	0
12	Supplementary Material and Quiz	2	2	0	0
13	Presentations	2	2	0	0
14	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	4	10	10%
2	QUIZ 2 written (Semester work)	11	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15	40	40 %
5	Assignments (Report & Sheet)	10,12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	"English Literature"; HTI; Available Hard copy. Available Presentation (handed to students' part by part).
	Other References	1- History of English Literature by Edward Albert. London: Routledge, 2019. 2- Arabic Literature in Translation. Cairo: The American University in Cairo, 2022. 3- The Complete Works of William Shakespeare. London: Canterbury Classics, 2023. 4- The Norton Anthology of World Literature. London: Norton, 2023.
	Electronic Sources (Links must be added)	https://englishworld.com/
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Notebook and data show equipped lecture room.
	Supplies	Teaching aids and computers.
	Other (to be mentioned)	Notebook and data show equipped lecture room.

	Course Coordinator	Program Coordinator

Name	Dr. Mai Abouzaid	Prof. Ahmed Abd El-Gafar
Signature	<i>Mai Abouzaid</i>	

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Trade Law			
Course Code (according to the bylaw):	<u>HUM 203</u>			
Department/s that participated in the teaching:	<u>BASIC SCIENCES</u>			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	<u>2</u>			<u>2</u>
Course Type:	Elective			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	<u>ALL ENGINEERING PROGRAMS</u>			
Institute:	Higher Technological Institute			
Name of Course Coordinator:				
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	<u>7/26/2025</u>			

2. Course Overview (Brief summary of scientific content):

Kinds of contracts, contract constituents, contract administration, the limitations as imposed by law, disputes, claims, arbitration, the legal variables encountered in business and commercial transactions.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A7,A8,A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	LO1	Assess issues of the latest knowledge about the concepts, characteristics, and types of contracts, contract constituents
		LO2	Explain the main principle of Role of contracts: concept, attributes, and principles
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO3	Elucidate the main principal Dynamic nature of contract administration,
		LO4	Clarify the main principal-of limitations as imposed by law,
		LO5	Design the , the legal variables encountered in business
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies..	LO6	Solving problems related to commercial transactions.
		LO7	Evaluating search results, the limitations as imposed by law,
		LO8	Describe the main concepts of the basics of the legal variables encountered in business and commercial transactions.
		LO9	Working in a team group
		LO10	Presentation techniques in performance and dealing with others and outside the organization

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√		√				√	√			√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Fundamental of definition concepts, characteristics Trade Law - Dynamic nature and Kinds of contracts	2	2	0	0
2	Continued...	2	2	0	0
3	Concepts and requirement of contract constituents,- concepts and requirement of contract administration	2	2	0	0
4	Continued	2	2	0	0
5	Cooperative and competitive negotiations- how to use the limitations as imposed by law	2	2	0	0
6	Continued...	2	2	0	0
7	Revision and Mid Exam				
8	Good preparation of disputes, claims- the legal variables - the	2	2	0	0

	legal variables encountered in business				
9	Continued...	2	2	0	0
10	Commercial transactions- the legal variables encountered in commercial transactions	2	2	0	0
11	Continued...	2	2	0	0
12	The limitations as imposed by, disputes, claims, arbitration	2	2	0	0
13	Supplementary materials and Quiz	2	2	0	0
14	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	4	10	10%
2	QUIZ 2 written (Semester work)	11	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15	40	40 %
5	Assignments (Report & Sheet)	10,12	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part).
	Other References	محمد عبد الكريم يوسف- "الصياغة القانونية للعقود التجارية, 2021
	Electronic Sources (Links must be added)	https://www.edx.org/learn/business-administration
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment	Devices/Instruments	Notebook and data show equipped lecture room.
	Supplies	Teaching aids and computers.

for teaching and learning *	Skill Labs/ Simulators	
	Other (to be mentioned)	Notebook and data show equipped lecture room.

	Course Coordinator	Program Coordinator
Name		Prof. Ahmed Abd El-Gafar
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Building Construction and Materials (B)			
Course Code (according to the bylaw):	ARE 122			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	4	--	4
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	DR.AYA MOHAMED SABRY			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Skeleton construction reinforced concrete details and systems, ceilings structure systems, light weight structure systems; Concrete: mixing water, types of mix design, & properties of wet & hardened Concrete. Special types, quality control, influencing factors, & effects of varying mix proportions. Prefabricated units, fiber glass reinforcement. Insulation materials, joints, & details of constructional element. Analysis of building construction methods.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A4, A10, B5		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	LO1	Identify key building construction elements and their functions within the building system.
		LO2	Interpret detailed construction drawings of various building components.
		LO3	Differentiate structural from non-structural components in building systems.
A10	Acquire and apply new knowledge and practice self, lifelong, and other learning strategies.	LO4	Evaluate construction information to support ongoing professional development.
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO5	Produce technical construction drawings that meet architectural requirements
		LO6	Design construction details appropriate for different structural conditions
		LO7	Analyze the interaction between construction elements, materials, and structural systems.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√	√		√	√	√			

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Materials' symbols used in construction / the various architectural lines / the way of filling in the data on the drawings. Foundations -Kinds of foundations. + research Surface foundations (strip foundation spread foundation – meet foundation –mat and drawing of each kind). Deep foundation (alexandrine wells – stakes – caissons – stake curtains).	4	0	4	0
2	Pre-fabrication (pre-fabrication theory – countries' experiments in this field). -Pre-fabricated skeleton construction for small repeated spars. - Bearing wall concrete. - Boxy construction. 1- Pre-fabrication for moderate spars. Pre-fabricated sections' drawing.	4	0	4	0
3	Stairs - Kinds of stairs according to their design (straight stairs of one conversion – stairs of two conversions without stair wells – stairs of two and three conversions – spiral stairs – circular stairs). - The stairs areas and calculation.	4	0	4	0

	Methods of drawing the stairs.				
4	- Kinds of stairs in accordance with manufactured material (stony – mosaic – concrete covered with mosaic)+ research - Concrete stair covered with wood – ordinary and spare iron stairs.	4	0	4	0
5	Quiz - Hand rails in all types (bricks concrete – iron – wood – aluminum)	4	0	4	0
6	Carpentry Works A- Doors' frames Technical terms, the way of fixing the frame, frame components and frame drawing for the walls of thickness 0.25 m, 0.12 m.	4	0	4	0
7	Revision and Mid Exam				
8	B- Doors Wooden covering door – packet wrapping door – wrapping door with beech crusher. C- Windows : (glassy windows)	4	0	4	0
9	Finishing : A- Insulation (moisture – heat) : Drawing of real plan insulator – insulation – insulation in the ground and platform – insulation of bathroom's ground. B- Plastering works : Its components – kinds – its execution conditions – of its measurement.	4	0	4	0
10	C- Separators of expansion and descending. Drawing of expansion and descending in continuous floor in the basement – repeated floor – final surface and repeated surface. D- Painting works Its kinds – conditions of its execution – way of measurement – paintings' stages.	4	0	4	0
11	E- External Finishing Its kinds – conditions of its execution	4	0	4	0
12	Project- follow up	4	0	4	0
13	Final project	4	0	4	0
14	General Revision.	4	0	4	0
15,16	Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	QUIZ 1 written (Semester work)	5	10	10%
2	Midterm exam	7	30	30 %
3	Final Written Exam	15, 16	30	30 %
4	Final project	13	10	10%
5	Assignments / Portfolio/ Logbook	Weekly	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• Halliday, S. (2019). <i>Sustainable construction</i>. N.Y. • Levy, S. M. (2018). <i>Project management in construction</i>. N.Y. • Bhavikatti, S. S. (2019). <i>Building planning and drawing</i>. German. • Gasperoni, L. (2019). <i>Construction and design manual: Architectural diagrams 2</i>. DOM Publishers. • Jankovic, L. (2024). <i>Designing zero carbon buildings</i>. London. • Unwin, S. (2024). <i>Twenty-five+ buildings</i>. New York.

	Other References	• Gosh, S. (2016). <i>Green structures: Energy efficiency in buildings</i>. • Halliday, S. (2019). <i>Sustainable construction</i>. • ARS. (2016). <i>Shape construction (2): Polygon base</i>. • ARS. (2016). <i>Shape construction (1): Curve base</i>. • Bindhu, K. R. (2019). <i>Design of steel structures</i>.
	Electronic Sources (Links must be added)	https://www.theconstructor.org https://www.cement.org https://www.sciencedirect.com/journal/building-and-construction-materials
	Learning Platforms (Links must be added)	EKB - Microsoft office
	Devices/Instruments	أجهزة كمبيوتر بمعامل الرسم
Supportive facilities & equipment for teaching and learning *	Supplies	أدوات رسم يدوي ومسطرة T ولوحات
	Electronic Programs	AUTOCAD 2D – ReviT

	Course Coordinator	Program Coordinator
Name	DR.AYA MOHAMED SABRY	Dr.Maysa Ali Selim
Signature	<i>Aya Sabry</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Principles of Mechatronics Engineering			
Course Code (according to the bylaw):	MTE 101			
Department/s that participated in the teaching:	Mechanical Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	3		4
Course Type:	Elective			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Mechatronics Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr.Ahmed Abu El -FADL			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	Aug. 2025			

2. Course Overview (Brief summary of scientific content):

Definitions of Mechatronics Engineering, Mechatronics Engineer skills & responsibilities. A typical Mechatronics system (Target system, Sensors, I/O signal conditioning, Control unit, Actuator, &Monitoring). Methodology of analysis and design of Mechatronics system. Examples of, sensors, control unit, electro-mechanical and electromagnetic actuators, shape memory alloys (SMA), artificial muscles using SMA, piezoelectric actuators. Pneumatic actuator, electro- Pneumatic systems- Introduction and hands on a software package used in Mechatronics system analysis and design

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A1&A3 & A10 •		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	LO1	Identify principles of any mechatronics system (sensors, I/O signal conditioning, Control unit, Actuator).
		LO2	Identify methodology of analysis and design of Mechatronics system.
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.	LO3	Design for the needed mechatronics system, simulation, materials and components selection, mechanical implementation, control implementation, signal conditioning and interfacing consideration, software building and full system testing and tuning.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	LO4	Acquire new knowledge for the structure of electro-mechanical and electromagnetic actuators, Shape memory alloys (SMA), Artificial muscles using SMA.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√		√	√	√						√		√

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Definitions of the Mechatronics Engineering	4	2	1	1
2	Mechatronics Engineer skill & responsibility	4	2	1	1
3	A typical Mechatronics system (Target system, Sensors, I/O signal conditioning)	4	2	1	1
4	A typical Mechatronics system (Control unit, Actuators, & Monitoring)	4	2	1	1
5	Methodology of analysis and design of Mechatronics system	4	2	1	1
6	Examples of Sensors	4	2	1	1
7	Revision and Mid Exam				
8	Control unit	4	2	1	1
9	Electro-mechanical and electromagnetic actuators	4	2	1	1
10	Shape memory alloys (SMA)	4	2	1	1
11	Artificial muscles using SMA	4	2	1	1
12	Piezoelectric actuators	4	2	1	1

13	Pneumatic actuators and electro-pneumatic systems	4	2	1	1
14	Introduction and hands on Software Package used in Mechatronics systems analysis and design	4	2	1	1
15,16	Final Exam.				

Experiment Topics: (If any)

Serial	Experiment
1	Connection of mechatronics a system components .
2	Mechanical design for mechatronics system using software program
3	Electrical wiring component with electrical circuits
4	Programming of mechatronics system to acquire the required task.

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Semester work or quiz)	4	10	10%
2	Exam 2 written (Semester work or quiz)	11	10	10%
3	Midterm exam	7	20	20 %
4	Final Written Exam	15, 16	40	40 %
7	Assignments / Project /Portfolio/ Logbook	According to schedule	20	20%

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	W. Bolton; "Mechatronics – Electronic Control Systems in Mechanical & Electrical Engineering.", Longman, seventh edition, 2019
	Other References	Alciator & Histan, "Introduction to Mechatronics & Measurements Systems"; McGraw-Hill, Second,
	Learning Platforms (Links must be added)	EKB - Microsoft office
Supportive facilities & equipment for teaching	Devices/Instruments	Elvis LabVIEW- Breadboard –power supply
	Supplies	NON
	Electronic Programs	NON
	Skill Labs/ Simulators	NON

and learning *	Virtual Labs	NON
	Other (to be mentioned)	NON

	Course Coordinator	Program Coordinator
Name	Dr.Ahmed Abu El -FADI	Dr. Ahmed Abdalbadia
Signature	<i>Ahmed fadel</i>	

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Graduation Project			
Course Code (according to the bylaw):	ARE 253			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	0	8	--	8
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Sherif Nagy Mohamed			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The students should achieve the following assignments on two consecutive semesters: This course will be reserved for project selection and research; that includes an independent investigation on the topic of the project, (data gathering, analysis, programming, site information etc.). A comprehensive report containing all collected data should be presented for evaluation at the end of the semester.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
A2,A3,A5,A6,A7,A8,A9,B1,B2,B3,B4		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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 conclude.	LO1	Apply the technical writing of the proposal.
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.	LO2	Develop Thesis technical writing and Data gathering using various reliable, trusted resources.
A5	Practice research techniques and methods of investigation as an inherent part of learning.	LO3	Classify Studies of similar situations and case studies. Then, Compare and differentiate between architectural characters.
A6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	LO 4	Identify the project size, design criteria, elements, and components.
A7	Function efficiently as an individual and as a member of multi-disciplinary and multicultural teams.	LO 5	Select an appropriate Site location and size and Programming site analysis.
A8	Communicate effectively – graphically, verbally and in writing – with various audiences using contemporary tools.	LO 6	Identify the land use and zoning through Surveying and site visits.
A9	Use creative, innovative, and flexible thinking and acquire	LO 7	Evaluate architecture, urban and surrounding environment.

	entrepreneurial and leadership skills to anticipate and respond to new situations.		
B1	Create architectural, urban, and planning designs that satisfy aesthetic and technical requirements, using adequate knowledge of history and theory, related fine arts, local culture and heritage, technologies, and human sciences.	LO 8	Select concepts and ideas of design.
B2	Produce designs that meet building users' requirements through understanding the relationship between people and buildings and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale	LO 9	Explain the construction and materials of earlier architecture.
B3	Generate ecologically responsible, environmental conservation and rehabilitation	LO 10	Determine technology, sustainability, and smart materials.
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of project financing, project management, cost control and project delivery methods while having adequate knowledge of industries, organizations, regulations, and procedures.	LO 11	Illustrate a positive impact on the aesthetic, architecture, and urban identity

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√	√	√	√		√	√	√		√				√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Collecting project applications (a registration proposal includes three project proposals, the reasons for choosing them, their importance to the country's plan, and the site proposals)	8	0	8	0
2	Discuss the student's proposals for the site and the project and choose the appropriate location with the signatures of both the student and the supervisor.	8	0	8	0
3	Start report research Term project hand-out, data gathering for the project elements and site.	8	0	8	0
4	An analytical study of similar international projects (at least three projects)	8	0	8	0
5	Continue report research.	8	0	8	0
6	Study of similar situations and case studies, Programming site analysis.	8	0	8	0
7	Site planning addresses problems related to the environment	8	0	8	0
8	Discuss the proposed program for the components of the project. Study the standards and design criteria of the project components and elements.	8	0	8	0
9	Analytical study of the site (roads - entrances - orientation - contour) - environmental studies	8	0	8	0

10	An analysis of the elements of the project and the functional relationships between them) zoning)	8	0	8	0
11	Architecture data and criteria	8	0	8	0
12	Area and spaces	8	0	8	0
13	Site analysis	8	0	8	0
14	Zoning	8	0	8	0
15	Primitive design stage	8	0	8	0
16	Following up	8	0	8	0
17	Following up	8	0	8	0
18	Final Thesis submission				
Second semester (Practical Part)					
1	Reviewing the environmental studies of the site, the concept, and the project objective. The program and the number of masses in the layout.	8	0	8	0
2	Layout &3d mass	8	0	8	0
3	Master Plan	8	0	8	0
4	Plans + Section	8	0	8	0
5	Plans + Section + Elevation	8	0	8	0
6	Final (Plans + Section + Elevation)	8	0	8	0
7	Semifinal	8	0	8	0
8	Final Project submission				

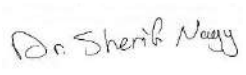
5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks

1	Final Exam (Defense)	8 th	40	40 %
2	Oral exam and submissions	weekly	20	20 %
3	Follow up	weekly	20	20 %
4	Project Thesis submission	End of Project 1st semester	20	20 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	• Neufert, E., Jones, V., Thackara, J. (1988). Architects' Data. United Kingdom: Wiley. • Emmitt, S. (2014). Design Management for Architects. Philippines: Wiley. • Pressman, A. (2014). Designing Relationships: The Art of Collaboration in Architecture. United Kingdom: Taylor & Francis. • Specialized books on various building types
	Other References	• Time-saver Standards for Building Types. (1980). United Kingdom: McGraw-Hill. • Architecture Competition: Project Design and the Building Process. (2017). United Kingdom: Taylor & Francis.
	Learning Platforms (Links must be added)	EKB - Microsoft office https://www.ekb.eg/ar/home
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Data show (projector) Laptop or desktop computer
	Supplies	Modeling materials (paper,...) Sketchbook
	Electronic Programs	BIM programs

	Course Coordinator	Program Coordinator
Name	Dr.Sherif Nagy Mohamed	Dr.Maysa Ali Selim
Signature		

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Field Training (2)			
Course Code (according to the bylaw):	FTR 161			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	18	--	18
Course Type:	Compulsory			
The level to which the course was introduced:	JUNIOR			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Heba Mahmoud Abd Elaziz			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

This second training semester should be taken at a construction site approved by the department. Students are trained on construction stages, starting from site preparation, excavation, foundation works, concrete mix (material proportion & properties), water proofing, and retaining walls. Concrete skeleton, building envelope, walls and partitions will also be included. The training semester consists of 7 weeks with a total of 18 hours\week. Periodical progress reports have to be submitted, every two weeks, by the student to his training supervisor

at the department, along with a final report. Follow up site visits by training supervisors from the department should be scheduled, and their communication with site supervisors is essential part of the evaluation process. Site supervisors will keep attendance log, and student's progress evaluation.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A8, A9, A10, B3, B4, B5)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Solve the expected engineering problems and how to avoid them during the construction phases
		LO2	Coduct engineering design processes to produce cost- effective solutions that meet specific needs by learning about different building materials and their handling methods 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.	LO3	Familiarize health and safety requirements, compliance with environmental issues, and risk management principles.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO4	Apply research techniques, whereby each student submits a set of reports, then detailed research at the end of the semester on what he has practiced during the training period.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO5	Develop students' ability to use objective engineering judgment to draw conclusions and apply them on site.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	LO6	Acquire the ability to activate self-learning strategies through scientific research and suggested training sites.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and	LO7	Identify designs that meet the requirements of building users through the selection of finishing materials and methods.

	engineering problems associated with building designs.		
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.	LO8	Explain of finishing material and its technology and engineering problems associated with building designs.
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO9	Distinguish the technical specifications of materials, structural design, construction, and technology to select appropriate materials and construction methods, thereby creating environmentally responsible designs that conserve the environment.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√			√	√	√	√	√	√		√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /

1	Demonstrate Security and safety at the site (using cranes - safe ways to store raw materials and tools - ...) and Identify the stages of concrete works and the sequence of their implementation.	18	0	0	18
2	Identify Excavation and foundation works and how to implement and receive them + submit a report at the end of the week to the supervisor	18	0	0	18
3	Formwork for columns and ceiling (wooden - metal) and how to implement and receive them + submit a report at the end of the week to the supervisor.	18	0	0	18
4	Revision and Mid Exam Submission of the report + discussion of the training with the supervisor				
5	Completing Formwork for columns and ceiling (wooden - metal) and how to implement and receive them + submit a report at the end of the week to the supervisor. Formwork for columns and ceiling (wooden - metal) and how to implement and receive them + submit a report at the end of the week to the supervisor.	18	0	0	18
6	Formwork for columns and ceiling (wooden - metal) and how to implement and receive them + submit a report at the end of the week to the supervisor.	18	0	0	18
7	Completing Formwork for columns and ceiling (wooden - metal) and how to implement and receive them + submit a report at the end of the week to the supervisor.	18	0	0	18
8	Final Exam. Submission of the final report + discussion of the training with a committee of faculty members and the supporting staff.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Commitment to attendance	Weekly	10	10 %
2	report assessment (<i>Term Work</i>)-follow up-	Weekly	20	20 %
3	Mid term	4	20	20 %
4	Final Report	8	20	20 %
5	End of term Oral exam- discussion.	8	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	Observations during the training period from the supervisors on .site and the teaching staff	-----
Supportive facilities & equipment for teaching and learning *	All the capabilities of the site available during the training period, and the number and tools	-----

	Course Coordinator	Program Coordinator
Name	Dr. Heba Mahmoud Abd Elaziz	Dr.Maysa Ali Selim
Signature	<i>Heba Abd Elaziz</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Field Training (3)			
Course Code (according to the bylaw):	FTR 231			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	18	--	18
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 1			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Heba Mahmoud Abd Elaziz			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Training in this semester will be also at a construction site, and will include all the internal technical installations and finishes. The training semester consists of 7 weeks with a total of 18 hours\week. Periodical progress reports have to be submitted, every two weeks, by the student to his training supervisor at the department, along with a final report. Follow up site visits by the training supervisors should be scheduled to monitor training progress. Site supervisor's evaluation is essential part of the assessment process.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A8, A9, A10, B3, B4, B5)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Solve the expected engineering problems and how to avoid them during the construction phases
		LO2	Conduct engineering design processes to produce cost-effective solutions that meet specific needs by learning about different building materials and their handling methods 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.	LO3	Recognize health and safety requirements, environmental compliance, and risk management principles.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO4	Apply research techniques, whereby each student submits a set of reports, then detailed research at the end of the semester on what he has practiced during the training period.
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO5	Demonstrate objective engineering judgment to draw conclusions and implement them on-site.
A10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	LO6	Acquire the ability to activate self-learning strategies through scientific research and suggested training sites.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO7	Identify designs that meet the requirements of building users through the selection of finishing materials and methods.
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of	LO8	Explain of finishing material and its technology and engineering problems associated with building designs.

	industries, organizations, regulations, and procedures involved.		
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO9	Distinguish the technical specifications of materials, structural design, construction, and technology to select appropriate materials and construction methods, thereby creating environmentally responsible designs that conserve the environment.

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√			√	√	√	√	√	√		√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Introducing the stages of implementation at the site.	18	0	0	18
2	Determine the technical assets of brickwork and how to receive it	18	0	0	18
3	Completing the technical assets of shellfish and how to receive it + submitting a	18	0	0	18

	weekend report to the supervisor + manual training if possible. Determine the technical assets of paint and how to receive it				
4	Revision and Mid Exam Submission of the report + discussion of the training with the supervisor				
5	Completing the technical assets of paint and how to receive it + submitting a weekend report to the supervisor + manual training if possible	18	0	0	18
6	Determine the technical assets of floor tiles and how to receive it + submitting a weekend report to the supervisor + manual training if possible. Determine the technical assets of suspended ceilings and how to receive it	18	0	0	18
7	Completing the technical assets of suspended ceilings and how to receive it + submitting a weekend report to the supervisor + manual training if possible. Determine the technical assets of carpentry work and how to receive it	18	0	0	18
8	Final Exam. Submission of the final report + discussion of the training with a committee of faculty members and the supporting staff.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Commitment to attendance	Weekly	10	10 %
2	report assessment (<i>Term Work</i>)-follow up-	Weekly	20	20 %
3	mid term	4	20	20 %
4	Final Report	8	20	20 %
5	End of term Oral exam- discussion.	8	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	Observations during the training period from the supervisors on .site and the teaching staff	-----

Supportive facilities & equipment for teaching and learning *	All the capabilities of the site available during the training period, and the number and tools	-----

	Course Coordinator	Program Coordinator
Name	Dr. Heba Mahmoud Abd Elaziz	Dr.Maysa Ali Selim
Signature	<i>Heba Abd Elaziz</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Field Training (4)			
Course Code (according to the bylaw):	FTR 262			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	18	--	18
Course Type:	Compulsory			
The level to which the course was introduced:	SENIOR 2			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Heba Mahmoud Abd Elaziz			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

The course will be reserved for the architectural design of graduation project: Application of all accumulated knowledge from previous courses should be demonstrated. The students are allowed to choose their own projects, subject to the approval of the final project committee.

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A8, A9, A10, B3, B4, B5)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Apply engineering design processes to produce cost-effective solutions that meet specific needs by learning about different building materials and their handling methods 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.	LO2	Develop students' ability to use objective engineering judgment to draw conclusions and apply them on-site.
		LO3	Familiarize health and safety requirements, compliance with environmental issues, and risk management principles.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO4	Identify the expected engineering problems and how to avoid them during the construction phases
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO5	Discover contemporary technologies, rules of practice, standards, and quality guidelines in various workshops.
A10	Acquire and apply new knowledge and practice self, lifelong, and other learning strategies.	LO6	Apply research techniques, whereby each student submits a set of reports, then detailed research at the end of the semester on what he has practiced during the training period.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO7	Acquire the ability to activate self-learning strategies through scientific research and suggested training sites
B4	Transform design concepts into buildings and integrate plans into overall planning within the constraints of: project financing,	LO8	Create designs that meet the requirements of building users through the selection of appropriate materials and construction methods.

	project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.		
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO9	Distinguish structural design, construction, technology, and engineering problems associated with building designs.
		LO10	Explain the technical assets of the different workshops

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√			√	√	√	√	√	√		√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	Practical Lab /
1	Identifying the stages of engineering projects contracts and the work of the technical office and defining the obligations of each party separately.	18	0	0	18
2	Completing the stages of engineering projects contracts and the work of the technical	18	0	0	18

	office and defining the obligations of each party separately.				
3	Determining the different types of tenders and defining the concept of engineering inventory and its types + submitting a weekend report to the supervisor	18	0	0	18
4	Revision and Mid Exam Submission of the report + discussion of the training with the supervisor				
5	Calculating the quantities of construction work items (excavation + backfilling + regular concrete + reinforced concrete .. etc.) as well as creating materials specifications+ sending the weekend report to the supervisor + manual training if possible.	18	0	0	18
6	Completing Calculating the quantities of construction work items (excavation + backfilling + regular concrete + reinforced concrete .. etc.) as well as creating materials specifications+ sending the weekend report to the supervisor + manual training if possible.	18	0	0	18
7	Completing Calculating the quantities of construction work items (excavation + backfilling + regular concrete + reinforced concrete .. etc.) as well as creating materials specifications+ sending the weekend report to the supervisor + manual training if possible.	18	0	0	18
8	Final Exam. Submission of the final report + discussion of the training with a committee of faculty members and the supporting staff.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Commitment to attendance	Weekly	10	10 %
2	report assessment (<i>Term Work</i>)-follow up-	Weekly	20	20 %
3	mid term	4	20	20 %
4	Final Report	8	20	20 %
5	End of term Oral exam- discussion.	8	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	Observations during the training period from the supervisors on .site and the teaching staff	-----
Supportive facilities & equipment for teaching and learning *	All the capabilities of the site available during the training period, and the number and tools	-----

	Course Coordinator	Program Coordinator
Name	Dr. Heba Mahmoud Abd Elaziz	Dr.Maysa Ali Selim
Signature	<i>Heba Abd Elaziz</i>	<i>maysa selim</i>

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Introduction to Field Training			
Course Code (according to the bylaw):	FTR 031			
Department/s that participated in the teaching:	Basic Sciences			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	lab	Total
			18	18
Course Type:	Compulsory			
The level to which the course was introduced:	FRESHMAN YEAR			
Academic Program:	Basic Sciences			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Rasha Osman			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	7/26/2025			

2. Course Overview (Brief summary of scientific content):

The student learns to improve his skills: Drawing and identifying various production pieces and operating the various pieces of machinery, Communication skills (Computer skills, language,.....).

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS).

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A1,A2,A4,A9,A10)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
A1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics	LO1	Identify the geometric construction of different components, main parts of workshop, hand tools, workspace in MATLAB program, four skills in English language.
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.	LO2	Acquire the essential practical experience in tuning a whole mechanical system to satisfy certain specific needs, practical training in workshop, computer labs, and language labs.
A4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.	LO3	Analysis the theories, equations, and applications relating to the training in engineering drawing, workshop, computer Lab. and language.
A9	Use creative, innovative, and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO4	Implement the scientific reports depending on the scientific foundations of his study and appraise virtual labs results and simulation projects.
A10	Acquire and apply new knowledge, and practice self, lifelong and other learning strategies.	LO5	Transfer the gained knowledge orally, in writing, and graphically.

4. Course Teaching and Learning Methods:

Direct Instruction	Indirect Instruction	Information Technology-Assisted Learning

Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education	
√	√					√		√		√						

Course Schedule:

Week No.	Scientific content of the course (Course Topics)		Total Weekly Hours	Expected number of the Learning Hours		
				Theoretical teaching (lectures)	Training	
					Tutorial	Practical Lab /
1	E.D	Orthographic Projections	18			18
	E.W	Introduction-Safety- Central Lathe				
	C.S.	Introduction to Microsoft words				
	LNG	Unit 1: Technology in Use.				
2	E.D	Orthographic Projections	18			18
	E.W	Milling - Shaper - wilding				
	C.S.	Introduction to Microsoft power point				
	LNG	Unit 2: Materials Technology				
3	E.D	Isometric & Missed view	18			18
	E.W	Sheet metal				
	C.S.	Introduction to Microsoft excel				
	LNG	Unit 3: Components and Assemblies				

4		Revision and Mid Exam				
5	E.D	Isometric &Missed view				
	E.W	Wood Working				
	C.S.	Main MATLAB windows - Variables.				
	LNG	Unit 4: Engineering Design				
6	E.D	Sections				
	E.W	Measurements-Casting				
	C.S.	Create arrays and matrices- Solving linear equations using MATLAB.				
	LNG	Unit 5: Breaking point				
7	E.D	Sections				
	E.W	Forging - Hand Working				
	C.S.	Plotting graphs using MATLAB.				
	LNG	Unit 6: Technical Developments				
8		Final Exam.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Final Written Exam	8	20	20 %
2	Final Oral Exam	8	20	20 %
3	Assignments / Project /Class work/ Home work	1:7	60	60%

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Midterm exam	7	20	20 %
2	Final Written Exam	15, 16	40	40 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference (must be written in full according to the scientific documentation method)	Available Presentation (handed to students' part by part), in each of the four sectors of the training.
	Other References	• Kenneth Morling, "Geometric and Engineering Drawing". Third edition, Elsevier Ltd, 2010. • Richard Shelton Kirby, The Fundamentals of Mechanical Drawing, Nabu Press, 2009. • Serope Kalpakjian, Steven Schmid, Manufacturing Engineering & Technology, Prentice Hall, 6th- Ed., 2009. • Bjarne Stroustrup "The C++ Programming Language ". Addison Wesley publishing Company, fourth edition, 2011. • Nicolai Josuttis "C++ Standard Library Tutorial and Reference". Addison Wesley publishing Company, second edition, 2012. • Mark Ibbotson; Jeremy Day, " Cambridge English for Engineering, Cambridge University Press, 2023.
	Electronic Sources (Links must be added)	
	Learning Platforms (Links must be added)	EKB - Microsoft office https://surl.lu/oqkjgh
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computers,
	Supplies	Drawing boards, Workshop equipment
	Electronic Programs	Microsoft Teams
	Skill Labs/ Simulators	Computers' lab
	Virtual Labs	
	Other (to be mentioned)	

	Course Coordinator	Program Coordinator
Name	Dr. Rasha Osman	Prof. Ahmed Abd-EL-Ghafar

Signature	<i>Rasha Osman</i>	

Higher Technological Institute (HTI) – 10 th of Ramadan City	
Course Specification	

1. Basic information:

Course Title (according to the bylaw):	Field Training (1)			
Course Code (according to the bylaw):	FTR 131			
Department/s that participated in the teaching:	Architectural Engineering			
Total number of credit hours of the course: (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	--	18	--	18
Course Type:	Compulsory			
The level to which the course was introduced:	SOPHOMORE			
Academic Program:	Architectural Engineering			
Institute:	Higher Technological Institute			
Name of Course Coordinator:	Dr. Heba Mahmoud Abd Elaziz			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	The division council minute of department			
Course Specification Approval Date:	August 2025			

2. Course Overview (Brief summary of scientific content):

Describe the technical principles of the various workshops. (A building workshop - an armed carpentry workshop - an armed blacksmith workshop - a tile workshop - a paint workshop - a plumbing workshop - a conch workshop)

3. Course Learning Outcomes CLOs :

Matrix of course learning outcomes CLOs with program outcomes POs (NARS).

Program Outcomes (NARS) (according to the matrix in the program specs)		Course Learning Outcomes	
(A3, A4, A8, A9, A10, B3, B4, B5)		Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
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.	LO1	Establish engineering design processes to produce cost-effective solutions that meet specific needs by learning about different building materials and their handling methods 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.	LO2	Develop students' ability to use objective engineering judgment to draw conclusions and apply them on-site.
		LO3	Familiarize health and safety requirements, compliance with environmental issues, and risk management principles.
A8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	LO4	Identify the expected engineering problems and how to avoid them during the construction phases
A9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	LO5	Discover contemporary technologies, rules of practice, standards, and quality guidelines in various workshops.
A10	Acquire and apply new knowledge and practice self, lifelong, and other learning strategies.	LO6	Apply research techniques, whereby each student submits a set of reports, then detailed research at the end of the semester on what he has practiced during the training period.
B3	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology, and engineering problems associated with building designs.	LO7	Acquire the ability to activate self-learning strategies through scientific research and suggested training sites
B4	Transform design concepts into buildings and integrate plans into overall planning within the	LO8	Create designs that meet the requirements of building users through the selection of

	constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations, and procedures involved.		appropriate materials and construction methods.
B5	Prepare design project briefs and documents and understand the context of the architect in the construction industry, including the architect's role in the processes of bidding, procurement of architectural services and building production.	LO9	Recognize structural design, construction, technology, and engineering problems associated with building designs.
		LO10	Explain the technical assets of the different workshops

4. Course Teaching and Learning Methods:

Direct Instruction		Indirect Instruction										Information Technology-Assisted Learning			
Lectures	Tutorial / Practical	Brain Storming	Project based learning	Case Study	Problem Base Learning	Reports & Research	Discussion	Field Training	Site Visit	Self-Learning	Discovery Learning	Simulation Programs	Virtual labs	E-Learning	AI in Education
√	√			√	√	√	√	√	√		√			√	

Course Schedule:

Week No.	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures)	Training	
				Tutorial	/ Practical Lab
1	Identifying the technical assets of the building workshop.	18	0	0	18
2	Completing the technical assets of the armed carpentry workshop + submitting a report at	18	0	0	18

	the end of the week to the supervisor + manual training if possible.				
3	Completing the technical assets of the armed blacksmithing workshop + submitting a report at the end of the week to the supervisor + manual training if possible.	18	0	0	18
4	Revision and Mid Exam Submission of the report + discussion of the training with the supervisor				
5	Identifying the technical assets of the tile workshop + submitting a report at the end of the week to the supervisor + manual training if possible.	18	0	0	18
6	Completing the technical assets of the shellfish workshop + submitting a report at the end of the week to the supervisor + manual training if possible.	18	0	0	18
7	Identifying the technical assets of the plumbing workshop + submitting a report at the end of the week to the supervisor + manual training if possible.	18	0	0	18
8	Final Exam. Submission of the final report + discussion of the training with a committee of faculty members and the supporting staff.				

5- Methods of students' assessment:

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Commitment to attendance	Weekly	10	10 %
2	Report assessment (<i>Term Work</i>)-follow up-	Weekly	20	20 %
3	mid term	4	20	20 %
4	Final Report	8	20	20 %
5	End of term Oral exam- discussion.	8	30	30 %

6- Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	Observations during the training period from the supervisors on site .and the teaching staff	-----

Supportive facilities & equipment for teaching and learning *	All the capabilities of the site available during the training period, and the number and tools	-----

	Course Coordinator	Program Coordinator
Name	Dr. Heba Mahmoud Abd Elaziz	Dr.Maysa Ali Selim
Signature	<i>Heba Abd Elaziz</i>	<i>maysa selim</i>