

Basic Engineering Sciences **Specification**



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Mathematics (1) (a)	Code	B	1011
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	Preparatory Year 1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	4	2	0	5

2. Professional Information:

2.1. Course description:

Modern Algebra: Sets, Elements of mathematical logic with applications, Relations, Mappings, Algebraic structures (Groups- Rings-Fields). **Differential Calculus:** The real number system, the extended real number system, real intervals. Real functions and their graphs (Algebraic functions, trigonometric functions and their inverses, exponential, hyperbolic and logarithmic functions). Limits and continuity. Differentiation of real functions of one variable. Applications of differentiation (maxima, minima and inflection points, curve tracing, optimization problems, related rates). The first mean value theorem and first order approximation of function.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems in real-life situations.	CO1	Explain elements of mathematical logic, relations, mappings, real functions and their graphs applications of differentiation, and its applications.
PO2	Behave professionally and adhere to engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO2	Select a suitable item to evaluate applied engineering problems.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Identify the basic items of the course.
		CLO2	Explain how to use all items of the course in applied engineering problems
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO3	Solve the suitable solution methods for various mathematics elements
		CLO4	Analyze the different problems and verifications

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Sets,	1&2	√	√		
The real number system, the extended real number system	3		√		√
Elements of mathematical logic with applications	4&5	√			
Relations,	6&7	√	√		√
Midterm Exam	8				
Real intervals. Real functions and their graphs	9	√		√	√
Mappings,	10	√			√
Limits and continuity	11		√	√	
Algebraic structures (Groups- Rings-Fields)	13	√	√	√	
Differentiation of real functions of one variable	14		√	√	
The first mean value theorem and first order approximation of function.	15	√			√
Total	15	11	8	4	6

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
Methods	CLO1	CLO2	CLO3	CLO4
1. Lecture	√	√	√	
2. Tutorials			√	√
3. Problem-based Learning	√	√		√
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Midterm Exam	√	√		√
	Quizzes		√	√	√
Discussion			√		√
Summative Assessment Method					
Final Exam		√		√	

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Midterm Exam	8	20%
Discussion	3,6,9,11	10%
Quizzes	4,7,12	10%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	Tai-Ran Hsu, Applied Engineering Analysis, published by John Wiley & Sons, 2018 (ISBN 97811119071204)
	Ray E. Bolz, CRC Handbook of Tables for Applied Engineering Science, CRC Press, 2019, doi.org/10.1201/9781315214092
Periodicals, Web Sites, ... etc:	<ol style="list-style-type: none"> 1. https://byjus.com 2. https://ncert.nic.in

2.9. Facilities required for Teaching and Learning

Different Facilities	
Lecture Hall	
Library Usage	
Data Show	
White Board	

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	√	
PO2		√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	√	√		
CO2			√	√



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	√	√		
PLO2			√	√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	<ul style="list-style-type: none"> Lecture Problem-based Learning 	<ul style="list-style-type: none"> Midterm Exam, Final Exam
		CLO2	<ul style="list-style-type: none"> Lecture Problem-based Learning 	<ul style="list-style-type: none"> Midterm Exam Discussion Quizzes
PLO2	PO2	CLO 3	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Final Exam Quizzes
		CLO4	<ul style="list-style-type: none"> Tutorials Problem-based Learning 	<ul style="list-style-type: none"> Midterm Exam, Quizzes Discussion

Course Coordinator: Ass Prof. Mohamed Abdel Fattah Elsisy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022

M. Sisi

Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Mathematics 2	Code	B 1012	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	4	2	0	5

2. Professional Information:

2.1. Course description:

Linear Algebra & Geometry: Matrix algebra and systems of linear equations. Applications (codes, matrix games). Vector spaces and subspaces. Inner product spaces. Eigenvalues and eigenvectors, diagonalization of matrices. Vector algebra and linear geometry in three dimensions. Polar coordinates. Conic sections. Complex numbers. **Integral Calculus and mathematical analysis:** Indefinite integrals with applications. Methods of integration. Definite integrals with applications (areas, volumes of revolution, lengths of curves and surface integrals). Sequences and series, power series. Mean value theorems and Taylor's theorems, Taylor's and Maclaurin's expansions of functions.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems in real-life situations.	CO1	Explain elements of Matrix algebra, systems of linear equations, Vector spaces. Indefinite integrals with applications. Methods of integration. Definite integrals with applications.
		CO2	Select a suitable item to evaluate applied engineering problems.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Identify the basic items of the course.
		CLO2	Explain how to use all items of the course in applied engineering problems
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO3	Solve the suitable solution methods for various mathematics elements
		CLO4	Analyze the different problems and verifications

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Matrix algebra and systems of linear equations	1&2	√	√		
Indefinite integrals with applications. Methods of integration	3&4		√		√
Eigenvalues and eigenvectors, diagonalization of matrices.	5	√			
Methods of integration	6&7	√	√		√
Midterm Exam	8				
Vector spaces and subspaces.	9	√		√	√
Definite integrals with applications	10	√			√
Vector algebra and linear geometry in three dimensions	11		√	√	
Sequences and series, power series	13	√	√	√	
Polar coordinates. Conic sections. Complex numbers.	14		√	√	
Taylor's and Maclaurin's expansions of functions.	15	√			√
Final Exam	16				
Total	16	9	9	4	7

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
Methods	CLO1	CLO2	CLO3	CLO4
1. Lecture	√	√	√	
2. Tutorials			√	√
3. Problem-based Learning	√	√		√
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Midterm Exam	√	√		√
	Quizzes		√	√	
Assignment				√	√
Summative Assessment Method					
Final Exam		√		√	√

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Midterm Exam	8	30%
Quizzes	7, 12	5%
Assignment	3,6,9,11	5%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	Tai-Ran Hsu, Applied Engineering Analysis, published by John Wiley & Sons, 2018 (ISBN 97811119071204)
	Ray E. Bolz, CRC Handbook of Tables for Applied Engineering Science, CRC Press, 2019, doi.org/10.1201/9781315214092
Periodicals, Web Sites, ... etc:	<p>3. https://byjus.com</p> <p>4. https://ncert.nic.in</p>

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	√	√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	√	√		
CO2			√	√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	√	√		
PLO2			√	√



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	<ul style="list-style-type: none">• Lecture• Problem-based Learning	<ul style="list-style-type: none">• Midterm Exam,• Final Exam
		CLO2	<ul style="list-style-type: none">• Lecture• Problem-based Learning	<ul style="list-style-type: none">• Midterm Exam,• Quizzes
PLO2	PO1	CLO 3	<ul style="list-style-type: none">• Lecture• Tutorials	<ul style="list-style-type: none">• Quizzes• Assignment• Final Exam
		CLO4	<ul style="list-style-type: none">• Tutorials• Problem-based Learning	<ul style="list-style-type: none">• Midterm Exam,• Assignment• Final Exam,

Course Coordinator: Ass Prof. Mohamed Abdel Fattah Elsisy

M. Elsisy

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Mechanics (a)	Code	B 1021	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	4	1	1	5

2. Professional Information:

2.1. Course description:

General principles, Vector algebra and applications to mechanics, Statics of particles, Moments of forces and couples, Equivalent systems of forces and moments, Equilibrium of rigid bodies, Centroids and centers of gravity, Analysis of structures (trusses, frames and machines), Friction, Moments of Inertia (areas and masses).

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Determine, Apply and Describe formulate the mathematics equilibrium conditions of rest for rigid bodies under the action of various loads.
		CO2	Determine, Apply and Explain The principles of statics as a science and thus apply foundations to the solution of practical problems for engineering applications.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1-PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics	CLO1	Differentiate between a particle and a rigid body
		CLO2	Describe the statically equilibrium conditions of a particle and a rigid body.
		CLO3	Apply the statically equilibrium conditions of a particle and a rigid body.
A2-PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions	CLO4	Determine the location of the centroid for a body of a regular or irregular shape.
		CLO5	Calculate the moment of inertia for an area or mass.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO2	CLO3	CLO4	CLO5
General Principles	1	√				
Analysis of Structures	2, 3, 4	√	√	√		
Static of Particle in space	5	√	√			
Rigid bodies: Equivalent force couple system	6, 7	√		√		
Mid-Term Exam	8					
Static of Rigid body in space	9	√		√		
Centroid and center of gravity	10, 11				√	
Area Moment of Inertia	12, 13					√
Mass Moment of Inertia	14					√
Total	14					



2.8. List of Reference:

Course Notes:	Vector Mechanics for Engineers: Dynamics, Twelfth Edition Ferdinand p. Beer, E. Russell Johnston, 2019
Recommended Books:	Engineering Mechanics , Dynamics, Fourteenth Edition- Hibbeler, 2018

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
White Board
Data Show

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2.
PO1	Describe and formulate the mathematics equilibrium conditions of rest for rigid bodies under the action of various loads.	Explain The principles of statics as a science and thus apply foundations to the solution of practical problems for engineering applications.

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes		
	CLO1	CLO2	CLO3
CO1	*	*	*
CO2	CLO4	CLO5	
	*	*	

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes		
	CLO1	CLO2	CLO3
PLO1	*	*	*
PLO2	CLO4	CLO5	
	*	*	

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
		CLO2	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
		CLO3	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
PLO2		CLO4	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
		CLO5	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments • Assignments

Course Coordinator: Dr. Diao El-Din Khedr

Diao el Din

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Mechanics (b)	Code	B 1022	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	4	1	1	5

2. Professional Information:

2.1. Course description:

Kinematics of particles (rectilinear and curvilinear motion), Kinetics of particles (force and acceleration method – work and energy method – impulse and momentum method), Planar Kinetics of rigid bodies (translation – rotation about a fixed axis – general plane motion), planar kinetics of rigid bodies (force and acceleration method – work and energy method – impulse and momentum method), Mechanical

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Describe, formulate and calculate the mathematical geometry and the equilibrium conditions of motion for a particle and rigid bodies under the action of various loads.
		CO2	Explain The principles of dynamics as a science and thus apply foundations to the solution of practical problems for engineering applications.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Describe the particle motion along different trajectory using different coordinate systems.
		CLO2	Classify the various types of rigid-body planar motion.
		CLO3	solve the rigid-body planar motion of velocity and acceleration using a dynamical reference.
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO4	Describe the equilibrium conditions of motion for a particle using Newton's Second Law, the principle of conservation of energy and the principle of conservation of linear momentum.
		CLO5	Use the principle of conservation of energy and the principle of conservation of linear momentum.
		CLO6	Apply the equilibrium conditions for the planar motion of the rigid body using Newton's Second Law.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
General Principles	1	√					
Kinematics of particles (Rectilinear motion)	2	√					
Kinematics of particles (motion of projectiles in a curvilinear motion)	3	√					
Kinematics of particles (components of velocity and acceleration in a curvilinear motion)	4	√					
Kinetics of particles (Newton's second law)	5, 6				√	√	
Kinetics of particles (Principle of work and energy)	7				√	√	
Mid-Term Exam	8						
Kinetics of particles (Principle of work and energy)	9				√	√	
Kinetics of particles (Principle of impulse and momentum)	10, 11				√	√	
Kinematics of Rigid bodies:(Translation and rotation motion)	12		√	√			√
Kinematics of Rigid bodies:(General Plane motion)	13		√	√			√
Kinetics of Rigid bodies (Force and acceleration)	14		√	√			√
Total	14						

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures	√	√		√		√
2. Tutorials	√		√		√	√
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Mid- Term Exam	√			√	√	
	Oral Exam		√	√	√		
	Quizzes	√	√	√			
Assignments				√		√	√
Summative Assessment Method							
Final Exam				√	√	√	√

2.7 Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Midterm Exam	8	% 20
Oral Exam	15	% 13.33
quizzes	3, 6, 13	%3.33
Assignments	Weekly	% 3.33
Final Exam	Scheduled by Faculty Council	% 60
Total		% 100



2.8. List of Reference:

Course Notes:	Vector Mechanics for Engineers: Dynamics, Twelfth Edition Ferdinand p. Beer, E. Russell Johnston, 2019
Recommended Books:	Engineering Mechanics , Dynamics, Fourteenth Edition- Hibbeler, 2018

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
White Board
Data Show

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2.
PO1	√	√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes		
	CLO1	CLO2	CLO4
CO1	√	√	√
CO2	CLO3	CLO5	CLO6
	√	√	√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes		
	CLO1	CLO2	CLO3
PLO1	√	√	√
PLO2	CLO4	CLO5	CLO6
	√	√	√



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
		CLO2	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
		CLO3.	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments • Assignments
PLO2		CLO4	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments
		CLO4	1. Lectures 2. Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments • Assignments
		CLO5	1. Lectures .2Tutorials	<ul style="list-style-type: none"> • Written Exam • Quizzes • Assignments • Assignments

Course Coordinator: Dr. Diao El-Din Khedr

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022

Diao el Din
Zeinab



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Physics (a)	Code	B1031	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	Preparatory Year 1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	4	0	2	5

2. Professional Information:

2.1. Course description:

Units and dimensions, Vectors, Electric force and electric field, Motion of charge in electric field, Electric dipole in electric field. Gauss law and applications, Electric potential,

Capacitors and dielectrics, Electric energy, Current and resistance, Magnetic field and magnetic force, Sources of magnetic field, Bio-Savart law and Ampere's laws, Electromagnetic induction and Faraday's law, Self-induction and magnetic energy. Laboratory experiments on electricity, current and resistance and magnetism.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science and specialized skills with analytic, critical and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Apply phenomena and theories of electricity and magnetism physics related to engineering application.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, analyze, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	CLO1	Explain the concepts of charges, electric fields, electric flux, Gauss's law and its application.
		CLO2	Illustrate electric potential, capacitors, current, resistance and the magnetic field.
		CLO3	Evaluate Ampere's law and its application, the magnetic Gauss's Law, Faraday's Law and Magnetic Induction.
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO4	Use the results given from experiment.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
the electric field	1,2	✓			
gauss's law	3,4	✓			
The Electric Potential	5,6		✓		
the capacitance	7		✓		
Midterm	8				
current and resistance	9		✓		
the magnetic field	10,11		✓		
Sources of Magnetic Field	12			✓	
faraday's law of induction	13			✓	
the inductance	14			✓	
Total	14	4	6	3	

2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Kirchhoff's Voltage and Current Laws	2				✓
Ohm's Law	3				✓
Metric Bridge	4				✓
Electric Field Mapping	5				✓
Quiz 1	6				
Capacitor Charging	7				✓
Capacitor Discharging	9				✓
The Electric Transformer	10				✓
Faraday's Law	11				
Quiz 2	12				✓
Total	8				8

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
Methods	CLO1	CLO2	CLO3	CLO4
1. Lectures	✓	✓	✓	
2. Practical based learning				✓
3. Tutorials	✓	✓	✓	
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.7 Assessment Methods

Assessment Methods:	Course LOs Covered				
Methods	CLO1	CLO2	CLO3	CLO4	
Formative Assessment Method					
Tests	Quizzes	✓	✓		✓
	Midterm	✓	✓		
	Experimental			✓	✓
Summative Assessment Method					
Final Exam	✓	✓	✓		

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Quizzes	4,12	5 %
Midterm	8	15 %
Experimental	15	20 %
Final Exam	Scheduled by the faculty council	60 %
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	Physics for Scientists and Engineers, R.A. Serway and J.W. Jewett, 9th Edition, 2014. Knight, R. D. (2017). <i>Physics for scientists and engineers: a strategic approach with modern physics</i> (p. 500). New York, NY: Pearson.26 july
Recommended Books:	Fundamentals of physics, Halliday & Resnick, 10th Edition,2007.

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective
	CO1
PO1	✓



3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	✓	✓	✓	✓

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	✓	✓	✓	
PLO2				✓

3.4. Assessment Alignment Matrix

PO	PLO	CLO	Teaching M.	Assessment M.
PO1	PLO1	CLO1	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Quizzes • Midterm • Final Exam
		CLO2	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Quizzes • Midterm • Final Exam
		CLO3	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Experimental • Final Exam
	PLO2	CLO4	<ul style="list-style-type: none"> • Practical based learning 	<ul style="list-style-type: none"> • Experimental

Course Coordinator: Prof: Tarek M. Abdolkader

Tarek Abdolkader

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Physics (b)	Code	B1032	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	4	0	2	5

2. Professional Information:

2.1. Course description:

Wave motion, Traveling waves in stretched strings, Sound waves and intensity, Doppler effect, Superposition of waves: interference, standing waves and beats, Interference of light waves, Interference from thin films, Diffraction of light, Polarization of light, temperature and heat, First law of thermodynamics, Kinetic theory of gases, specific heats of gases, thermodynamic processes: isochoric, isobaric, isothermal and adiabatic, Heat engines and efficiency, Carnot engine, Heat transfer: conduction, convection and radiation, Elastic properties of materials, Hooke's law, Hydrostatic and surface tension, Hydrodynamics, Viscosity. Laboratory experiments on waves in stretched strings, sound waves, interference, diffraction and polarization of light, specific heat, thermistor, thermal conductivity.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science and specialized skills with analytic, critical and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Use the basic phenomena and theories of mechanical and electromagnetic waves and thermodynamics and heat transfer physics related to engineering applications.



2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, analyze, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	CLO1	Explain the concept of waves, their types and mathematical description, some of their physical phenomena with a few simple applications on mechanical waves.
		CLO2	Discuss Young's interference of light, Thin Film, Single Slit Diffraction and Diffraction Grating.
		CLO3	Explain the meaning and concept of thermodynamics, its main and principle physical quantities, thermodynamic processes, first law of thermodynamics, ideal gas and its properties, heat engines and the second law of thermodynamics and heat transfer
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO4	Use the results given from experiments.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Wave Motion	1,2	✓			
Sound Waves	3,4	✓			
Superposition of Waves	5,6	✓			
Interference of Light	7		✓		
Midterm	8				
Diffraction of Light	9		✓		
Heat and the First Law of Thermodynamics	10,11			✓	
Ideal Gas and its Properties	12			✓	
Heat Engines and The Second Law of Thermodynamics	13			✓	
Heat Transfer	14			✓	
Total	14				

2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Simple Pendulum					✓
Mechanical Waves					✓
Malus' Law					✓
Specific Heat					✓
Resonance in Air column					✓
Single Slit Diffraction					✓
Diffraction Grating					✓
Thermistor					✓
Total					

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
Methods	CLO1	CLO2	CLO3	CLO4
1. Lectures	✓	✓	✓	
2. Practical based learning				✓
3. Tutorials	✓	✓	✓	

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Tests	Quizzes	✓		✓	
	Midterm	✓	✓		
	Practical Exam				✓
Final Exam		✓	✓	✓	

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Quizzes	4,12	5 %
Midterm	8	15 %
Experimental	15	20 %
Final Exam	Scheduled by the faculty council	60 %
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	Physics for Scientists and Engineers, R.A. Serway and J.W. Jewett, 9th Edition, 2014. Shankar, R. (2020). <i>Fundamentals of physics II: electromagnetism, optics, and quantum mechanics</i> . Yale University Press. 26 July
Recommended Books:	Fundamentals of physics, Halliday & Resnick, 10th Edition, 2007.

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective
	CO1
PO1	✓

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	✓	✓	✓	✓

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	✓	✓	✓	
PLO2				✓



3.4. Assessment Alignment Matrix

PO	PLO	CLO	Teaching M.	Assessment M.
PO1	PLO1	CLO1	<ul style="list-style-type: none">• Lectures• Tutorials	<ul style="list-style-type: none">• Quizzes• Midterm• Final Exam
		CLO2	<ul style="list-style-type: none">• Lectures• Tutorials	<ul style="list-style-type: none">• Midterm• Final Exam
		CLO3	<ul style="list-style-type: none">• Lectures• Tutorials	<ul style="list-style-type: none">• Quizzes• Final Exam
	PLO2	CLO4	<ul style="list-style-type: none">• Practical based learning	<ul style="list-style-type: none">• Experimental

Course Coordinator: Prof. Tarek M. Abdolkader

Tarek Abdolkader

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Chemistry (a)	Code	B1041	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	0	2	3

2. Professional Information:

2.1. Course description:

An introduction to acids and bases and their behavior, kinetic theory of matter and getting familiar of gas laws. Concepts of liquid properties, energy changes during formation of solutions and factors affecting the solubility. Intermolecular forces within the substance. Types of solids and their structure and properties.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum Of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems	CO1	Knowledge of basic fundamental in engineering chemistry to provide a broad foundation in chemistry that stresses on the concepts of acids and bases and Understanding the states of matter and their behavior
		CO2	Practice the experimental analysis techniques in laboratory To improve students' virtual conceptual understanding and their skills.



2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Recognize the differences between acids and bases and their strength. recognize equilibrium constant and direction of reactions.
		CLO2	recognize the different chemical bonding theories within matter and their chemical properties.
		CLO3	Solve different problems about gases, liquid, solids and solutions.
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO4	Effectively apply the basic principles of quantitative analysis using different types of titration methods.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Dissociation of water & pH scale	1	√			√
Types of acids and bases	2	√			√
Acid-base behavior & chemical structure	3	√			√
Gas laws & molecular theory	4			√	
Deviation from ideal gas to real behavior	5			√	
Intermolecular forces & properties of liquids	6&7		√		
Mid term	8	√		√	
Phase change & phase diagrams	9		√	√	
Solution process & solubility	10		√	√	
Colligative properties	11&12		√	√	
Structure and bonding in solids	13			√	
Types of crystalline solids	14			√	
Practical exam	15				√
Final Exam	16	√	√	√	
Total	16	5	5	9	4



2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Safety rules and recognize glass wares	1				√
Volumetric determination of sodium hydroxide with a standard hydraulic acid.	2	√			√
Determination of carbonate content of a soda ash sample.	3	√			√
Determination of a Mixture of carbonate and s bicarbonate content of a soda ash sample.	4	√			√
Determination of chloride ion concentration.	5		√	√	√
Indirect determination of A mixture of halides.	6		√	√	√
Total	6	3	2	2	6

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	√	√	√	
2. Tutorials	√	√	√	
3. Practical-based Learning				√
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				



2.7 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Midterm Exam	√		√	
	Practical Test				√
Summative Assessment Method					
Final Exam		√	√	√	

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Midterm Exam	8	20%
Practical Test	15	20%
Final Exam	16	60%
Total		100%

2.8. List of Reference:

Course Notes:	Prof. Elsayed Fouad, Engineering Chemistry I.
Essential Books (Textbooks):	Steven S. Zumdahl, Susan A. Zumdahl, Donald J. DeCoste, "Chemistry" 10 th edition, 2017.
Recommended Books:	J. Brady, "General Chemistry, Principles and structures", J. Chem. Educ. 1990, 67, 7, A196, Fifth Edition.

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	√	√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	√	√	√	
CO2				√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	√	√	√	
PLO2				√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	<ul style="list-style-type: none"> Lectures Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
		CLO2	<ul style="list-style-type: none"> Lectures Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
		CLO3	<ul style="list-style-type: none"> Lectures Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
PLO2	PO1	CLO4	<ul style="list-style-type: none"> Practical-based Learning 	<ul style="list-style-type: none"> Practical test

Course Coordinator: Prof. Elsayed Ali Fouad

elsayed ali fouad

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Chemistry (b)	Code	B1042	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	0	2	3

2. Professional Information:

2.1. Course description:

An introduction to thermochemistry and enthalpies of reaction, Chemical kinetics of reaction. Concepts of equilibrium and Le chatelier principles. Types of electrochemical cells and different type of metal corrosion. The properties of polymer and different types of polymerizations

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum Of engineering knowledge, science, and specialized skills with analytic, critical, and systemic thinking to identify and solve engineering problems	CO1	Knowledge of basic fundamental in engineering chemistry to provide a broad foundation in chemistry that stresses on the concepts of reaction enthalpy, reaction rate, equilibrium constant, redox reaction and Understanding members of polymer family.
		CO2	Practice the experimental analysis techniques in laboratory To improve students' virtual conceptual understanding and their skills.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Recognize enthalpy of reaction at standard conditions. Recognize properties of polymers and members of the polymer family.
		CLO2	Recognize reaction order, rate of reaction and factors affecting on reaction rate.
		CLO3	Recognize the concept of equilibrium and Le chatelier's principle.
		CLO4	Recognize redox reaction and different types of electrochemical cells. Recognize cell EMF and equilibrium constant for redox reaction. Recognize Different types of corrosion and basic principles to control.
A2- PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO5	Effectively apply the basic principles of quantitative analysis using different types of titration methods.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO2	CLO3	CLO4	CLO5
thermochemistry	1	√				
Reaction rates and the dependence of rate on concentration.	2		√			
Temperature and rate & catalysis	3		√			
The concept of equilibrium & the equilibrium constant	4			√		
Heterogeneous equilibria & application of equilibrium constant.	5			√		
Le chatelier principles	6			√		
Oxidation reduction reaction, half reaction & types of electrochemical cell.	7				√	
Mid term	8	√	√			
Standard reduction potentials & Nernst equation electrolysis	9				√	√
electrolysis & corrosion	10				√	
Basic principles of corrosion control	11				√	
Polymerization reaction	12	√				
Members of the polymer family	13	√				
Practical exam	14				√	√
Final Exam	15	√	√	√	√	
Total	15	5	4	4	6	2

2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered	
		CLO4	CLO5
Titration of potassium permanganate using oxalic acid	1	√	√
Determination of ferrous ions in ferrous sulphate using potassium permanganate solution	2	√	√
Titration of ferrous sulphate using potassium dichromate solution	3	√	√
Standardization of sodium thiosulphate with potassium dichromate solution	4	√	√
Standardization of iodine solution with sodium thiosulphate solution	5	√	√
Determination of commercial sodium thiosulphate using iodine solution	6	√	√
Determination of copper ions in copper sulphate using sodium thiosulphate solution	7	√	√
Experimental Test	15		
Total	7	7	7

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lecture	√	√	√	√	
2. Tutorials	√	√	√	√	√
3. Practical-based Learning					√
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					



2.7 Assessment Methods

Assessment Methods:		Course LOs Covered				
Methods		CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method						
Tests	Midterm Exam	√	√			
	Practical Test					√
Summative Assessment Method						
Final Exam		√	√	√	√	

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Midterm Exam	8	20%
Practical Test	15	20%
Final Exam	16	60%
Total		100%

2.8. List of Reference:

Course Notes:	Prof. Elsayed Fouad, Engineering Chemistry Ii.
Essential Books (Textbooks):	Steven S. Zumdahl, Susan A. Zumdahl, Donald J. DeCoste, "Chemistry" 10 th edition, 2017.
Recommended Books:	J. Brady, "General Chemistry, Principles and structures", J. Chem. Educ. 1990, 67, 7, A196, Fifth Edition.
Periodicals, Web Sites, ... etc:	

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board



3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	√	√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1	√	√	√	√	
CO2					√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO1	√	√	√	√	
PLO2					√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	1	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
		2	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
		3	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
		4	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Midterm Exam Final Exam
PLO2	PO1	5	<ul style="list-style-type: none"> Practical-based Learning 	<ul style="list-style-type: none"> Practical exam

Course Coordinator: Prof. Elsayed Ali Fouad

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Engineering Drawing (A)	Code	M1061	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	0	0	3	1

2. Professional Information:

2.1. Course description:

This course introduces students to technical drawing a means of professional engineering communication. It will cover: sketching, line drawing, conventional lettering and dimensioning, geometric constructions, theory of view derivation, orthographic projection of engineering bodies, pictorial projection, derivation of views from isometric drawings and vice versa, derivation of views from given views, sections and derivation of sections from given views, intersection of bodies and surfaces, development of surfaces, steel construction .

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Behave professionally and adhere to engineering ethics and standards and work to develop the profession and community and promote sustainability principles.	CO1	Emphasized the importance of drawing as a language for engineers and developed student's skills in engineering drawing
PO3	Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills.	CO2	Working in stressful environment within constraints and manage tasks and resources efficiently.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A6- PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	CLO1	Illustrate the engineering drawing (drawing tools, tangency, projections, isometrics, sections, ...)
		CLO2	Define the geometry of engineering objects
A8- PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO3	Evaluate the drawing rules in engineering drawing
		CLO4	Solve problems in the sectioning of engineering objects.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to Engineering Drawing and its importance	1	√		√	√
Lettering and Lines	2	√	√		
Geometric Constructions	3-4		√		√
Isometric Projection	5-6		√		√
Dimension Isometric Projection	7		√	√	
Mid term	8				
Orthographic Projection – from Isometric	9-10				
Orthographic Projection – missing View	11-13			√	
Revision	14	√	√	√	√
Total		4	6	4	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures.	√	√	√	
2. Design Studio		√	√	√
3. Discussions.	√		√	√
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				



2.6 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Written Exam	√		√	√
Assignments		√	√		√
Summative Assessment Method					
Final Exam		√	√	√	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Assignments	An assessment every week	40%
Mid-term exam	Week # 8	20%
Final written exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Reddy, K. V. 2010. Textbook of Engineering Drawing . B.S. Publ., Hyderabad. Xue, Y., Mu, H., Xue, L., & Wang, X. (2023, March). Teaching Innovation and Practice of Mind Mapping Applied to Engineering Drawing Course. In <i>2023 IEEE 12th International Conference on Educational and Information Technology (ICEIT)</i> (pp. 156-161). IEEE.
Recommended Books:	French, T. E., Vierch, C. J., Engineering Drawing and Graphic Technology, McGraw-Hill, 11th ed.
Periodicals, Web Sites, ... etc:	www.mechanical drawing google.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Tutorial activities
Data Show
White Board
Office meetings.
Discussion

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	√	
PO4		√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	√	√		
CO2			√	√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO6	√		√	
PLO8		√		√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO6	PO2	CLO1	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam
		CLO2	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam
PLO8	PO3	CLO3	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam
		CLO4	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam

Course Coordinator: DR. Mohamed Shehata



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Engineering Drawing (B)	Code	M1062	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	0	3	0	1

2. Professional Information:

2.1. Course description:

This course introduces students to technical drawing a means of professional engineering communication. It will cover: sketching, line drawing, conventional lettering and dimensioning, geometric constructions, theory of view derivation, orthographic projection of engineering bodies, pictorial projection, derivation of views from isometric drawings and vice versa, derivation of views from given views, sections and derivation of sections from given views, intersection of bodies and surfaces, development of surfaces, steel construction .

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Behave professionally and adhere to engineering ethics and standards and work to develop the profession and community and promote sustainability principles.	CO1	Emphasized the importance of drawing as a language for engineers and developed student's skills in engineering drawing
PO3	Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills.	CO2	Working in stressful environment within constraints and manage tasks and resources efficiently.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A6- PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	CLO1	Illustrate the engineering drawing (drawing tools, tangency, projections, isometrics, sections, ...)
		CLO2	Define the geometry of auxiliary views
A8- PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO3	Development of surfaces and the intersection of solids
		CLO4	Define the geometry of steel structures

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Welcome- first term final exam solution	1				
Section Views	2-5	√	√		√
Auxiliary Views	6-7	√	√	√	
Mid term	8				
Intersection of solids	9	√		√	√
Development of surfaces	10-11	√			√
Steel Structure	12-14		√	√	√
Revision	15		√	√	
Total		4	4	4	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures.	√	√	√	
2. Design Studio.		√	√	√
3. Discussions.	√		√	√
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				



2.6 Assessment Methods

Assessment Methods:	Course LOs Covered			
	CLO1	CLO2	CLO3	CLO4
Formative Assessment Method				
Assignments	√		√	√
Mid-term exam	√	√		√
Summative Assessment Method				
Final Exam	√	√	√	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Assignments	An assessment every week	40%
Mid-term exam	Week # 8	20%
Final written exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Reddy, K. V. 2010. Textbook of Engineering Drawing . B.S. Publ., Hyderabad.
Recommended Books:	French, T. E., Vierch, C. J., Engineering Drawing and Graphic Technology, McGraw-Hill, 11th ed. Ramatssetse, B., Daniyan, I., Mpofu, K., & Makinde, O. (2023). State of the art applications of engineering graphics and design to enhance innovative product design: a systematic review. <i>Procedia CIRP</i> , 119, 699-709.
Periodicals, Web Sites, ... etc:	www.mechanical drawing google.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Tutorial activities
Data Show
White Board
Office meetings.
Discussion



3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	√	
PO4		√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	√	√		
CO2			√	√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO6	√		√	
PLO8		√		√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO6	PO2	CLO1	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam
		CLO2	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam
PLO8	PO3	CLO3	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam
		CLO4	<ul style="list-style-type: none"> Lectures Design Studio Discussion 	<ul style="list-style-type: none"> Assignments Written final exam

Course Coordinator: DR. Mohamed Shehata

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	BYLAW2017			
Course Title	Computer Fundamentals and Programming (a)	Code	E1021	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	-	-	2	1

2. Professional Information:

2.1. Course description:

Historical introduction, computer classification and types, computer and society, computer components (Console outside and inside including Processors, Memory, Hard disks, Cards and Cables – Monitor, Keyboard, Mouse, Floppy drive, CD Rom, Printers, Modems, Scanners) – computer peripherals – data representation, number Systems – Software basics and types – operating systems – Introduction to DOS and DOS instructions – Windows (History, disk top, managing files and directories- important topics in windows such as control panel topics and system tools – Optional Topics as time permits: Notes about database, networks, Internet, Viruses, Security.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO.4	Use techniques, skills, and modern engineering tools necessary for engineering practice.	CO.1	Explore fundamental and modern programming skills and general programming concepts.
		CO.2	Construct an algorithmic solution for basic problems in engineering and mathematics

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A4- PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.	CLO.1	Recognize the digital world, networks, and the developments in computer hardware and software from the initial steps of generation to modern and future time.
		CLO.2	Explain data representation and work with different number systems.
A10- PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO.3	Determine the computational complexity of simple algorithms with the help of flowcharts.
		CLO.4	Develop simple algorithms with flow charts using a specific programming language.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO 1	CLO 2	CLO 3	CLO 4
Introduction to the world of computers.	1	✓			
Introduce the computer system hardware.	2	✓			
Present the computer software basics and operating systems.	3,4	✓			
Understand the fundamentals of numbering systems and conversion between them.	5,6		✓		
Introduction to computer networks (1).	7	✓			
Midterm Exam	8				
Introduction to computer networks (2).	9	✓			
Illustrate the important topics in windows such as control panel topics and system tools.	10	✓			
Understand and determine the computational complexity of simple algorithms with the help of flowcharts and pseudo code.	11,12			✓	✓
Introduction to computer programming languages.	13,14			✓	✓
Total					

2.5. Lab Topics:

Lap Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to the world of computers.	1	✓			
Introduce the computer system hardware.	2	✓			
Present the computer software basics and operating systems.	3,4	✓	✓		
Understand the fundamentals of numbering systems and conversion between them.	5,6		✓		
Introduction to computer networks (1).	7	✓			
Introduction to computer networks (2).	9	✓			
Illustrate the important topics in windows such as control panel topics and system tools.	10	✓			
Understand and determine the computational complexity of simple algorithms with the help of flowcharts and pseudo code.	11,12			✓	✓
Introduction to computer programming languages.	13,14			✓	✓
Total					

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Computer-based instruction	✓			✓
2. Problem-based learning		✓	✓	
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Midterm Exam	✓	✓		
	Quizzes	✓	✓		✓
Assignments		✓		✓	
Summative Assessment Method					
Final Exam		✓	✓	✓	

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Quizzes	6 th , 11 th	20%
Assignments	7 th , 9 th	20%
Midterm exam	8 th	20%
Final exam	14 th	40%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	D. Morley, C. S. Parker, D. Beskeen, C. M. Cram, J. Duffy, L. Friedrichsen, E. E. Reding, P. J. Pratt and M. Z. Last, Introduction To Computer Literacy: Understanding Computers Today and Tomorrow, Cengage Learning, 2017. Lipponen, L. (2023, January). Exploring foundations for computer-supported collaborative learning. In <i>Computer support for collaborative learning</i> (pp. 72-81). Routledge.
Recommended Books:	H.L Capron, J.A Johnson, Computers- Tools for an Information Age, Eighth Edition, prentice Hall, 2003.
Periodicals, Web Sites, ... etc:	Computer Fundamentals and Programming related Web Sites

2.9. Facilities required for Teaching and Learning

Different Facilities
Library Usage
laboratory Usage
Data Show
White Board



3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO.1	CO.2
PO.4	✓	✓

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO.1	CLO.2	CLO.3	CLO.4
CO.1	✓	✓		
CO.2			✓	✓

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO.1	CLO.2	CLO.3	CLO.4
PLO.4	✓	✓		
PLO.10			✓	✓

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO.4	PO.4	CLO.1	• Computer-based instruction	<ul style="list-style-type: none"> • Midterm Exam • Quizzes • Assignments • Final Exam
		CLO.2	• Problem-based learning	<ul style="list-style-type: none"> • Midterm Exam • Quizzes • Final Exam
PLO.10	PO.4	CLO.3	• Problem-based learning	<ul style="list-style-type: none"> • Assignments • Final exam
		CLO.4	• Computer-based instruction	<ul style="list-style-type: none"> • Quizzes

Course Coordinator: Dr. Maha Raof and Beshoy Abdou *Maha Raof*

Head of Department: Prof. Dr. Zeinab Faisal *Zeinab Faisal*

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer Fundamentals and Programming (b)	Code	E1022	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	-	-	2	1

2. Professional Information:

2.1. Course description:

Types of programming languages, Problem solving methods: flowcharts, algorithms, structured programming. Application on a Python Programming language for solving engineering problems with emphasis on assignments of numeric data types, Analysis of errors in numerical computations, Input and output. Selection control structures, Loops and iteration structures, Procedures and functions, Modular program design, Array processing.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO 4	Use techniques, skills, and modern engineering tools necessary for engineering practice.	CO 1	Characterize different programming languages and fundamental of python environment
		CO 2	Apply programming skills in core Python

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A4- PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles.	CLO 1	Recognize the basic concepts of python programming with the help of data types, operators and expressions, etc.
		CLO 2	Add control statements for altering the sequential execution of programs in solving problems
		CLO 3	Demonstrate operations on built-in functions and container data types (list, tuple, etc.)
A10- PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO 4	Solve complicated practical and engineering problems using learned tools of python

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to Python	1	✓			
Basic coding skills, working with data types, variables, Expressions, operators, and Strings	2	✓			
Learning Python logic operators and conditional statements	3, 4		✓		
Define loops and iterations in python	5, 6		✓		
Understand and apply string manipulation, guess-and-check, approximations, and bisection methods	7		✓		
Midterm Exam	8				
Learn how to write functions in Python.	9, 10			✓	
Extra examples on learned programming tools in Python	11				✓
Basic skills for working with tuples, lists and their operations	12			✓	
Clarify how to build Python modules and how to read and write files	13			✓	
Pre-exam Revision and discussion	14				✓
Total					



2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to Python	1	✓			
Basic coding skills, working with data types, variables, Expressions, operators, and Strings	2	✓			
Learning Python logic operators and conditional statements	3, 4		✓		
Define loops and iterations in python	5, 6		✓		
Understand and apply string manipulation, guess-and-check, approximations, and bisection methods	7		✓		
Midterm Exam	8				
Learn how to write functions in Python.	9, 10			✓	
Extra examples on learned programming tools in Python	11				✓
Basic skills for working with tuples, lists and their operations	12			✓	
Clarify how to build Python modules and how to read and write files	13			✓	
Pre-exam Revision and discussion	14				✓
Total					

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Computer-based instruction	✓	✓	✓	
2. Problem-based learning				✓
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				



2.7 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Midterm Exam	✓	✓		
	Quizzes	✓	✓	✓	
Assignments					✓
Summative Assessment Method					
Final Exam			✓	✓	✓

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Quizzes	6 th , 11 th	20%
Midterm exam	8 th	20%
Assignments	10 th	20%
Final exam	15 th	40%
Total		100%

2.8. List of Reference: (max. five years ago)

Essential Books (Textbooks):	Ashok Kamthane, Amit Kamthane, “Programming and Problem Solving with Python”, McGraw Hill Education (India) Private Limited, 2018
Recommended Books:	Yashavant Kanetkar, Aditya Kanetkar, “Let us Python”, BPB publication, 1st Edition, 2019
Periodicals, Web Sites, ... etc:	https://www.geeksforgeeks.org/python-programming-language/

2.9. Facilities required for Teaching and Learning

Different Facilities
Library Usage
laboratory Usage
Data Show
White Board



3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO 1	CO 2
PO 4	✓	✓

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO 1	CLO 2	CLO 3	CLO 4
CO 1	✓	✓		
CO 2			✓	✓

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO 1	CLO 2	CLO 3	CLO 4
PLO 4	✓	✓	✓	
PLO 10				✓

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO 4	PO 4	CLO 1	• Computer-based instruction	• Midterm Exam • Quizzes
		CLO 2	• Computer-based instruction	• Midterm Exam • Quizzes • Final Exam
		CLO 3	• Computer-based instruction	• Quizzes • Final Exam
PLO 10	PO 4	CLO 4	• Problem-based learning	• Assignments • Final Exam

Course Coordinator: Dr. Maha Raouf

Maha Raouf

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Technology & Society	Code	M1002	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Academic Year	Preparatory Year			
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	-	-	2

2. Professional Information:

2.1. Course description:

Introduction - history of technology – understanding technology and its challenges (definition, use, origin, work, change, costs and benefits, evaluation) - technology, globalization and social development sociological factors and effects (values, ethics, lifestyle, institutions and groups, international) - case study technology and engineering profession (ethics, problems, practice, future environment).

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Behave professionally and adhere to engineering ethics and standards and work to develop the profession and community and promote sustainability principles.	CO1	Understand what is technology and its benefits and challenges in modern societies.
		CO2	Explore the social dimensions and development according to technology advance and globalization.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A7- PLO7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	CLO1	Explain technology and the advantages and disadvantages of using it.
		CLO2	Describe how technology affects our way of thinking and the world.
A10- PLO10	Acquire and apply new knowledge, and practice self, lifelong and other learning strategies.	CLO3	Justify the social impact in design sciences.
		CLO4	Investigate the role of technology in achieving sustainable economy

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Nature of Technology	1	√			
Technological Advance	2	√			
The Origin of Technologies	3	√			
Embodying the Concept in Physical Form	4		√		
Progress and Social Impact in Design Sciences	5		√		
Models of Engineering Methodology	6		√		
Revolutions in Design Sciences	7		√		
Mid-term Exam	8				
The Three Factors of Quality of Life	9			√	
Technological Systems and Innovation	10			√	
Technology and Social Progress	11			√	
Achieving Eco-Efficiency Through Design For The Environment	12				√
Design Practice	13				√
Toward a Sustainable Economy	14				√
The Social Dimension of Technology	15				√
Total		3	4	3	4



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	Methods	CLO1	CLO2	CLO3	CLO4
1. Course Lectures		√	√	√	
2. Report					√
3. Class Discussion				√	√
4. Self-Learning					√
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
Tests	Mid-term Exam	√	√		
	Oral Test/Discussion			√	√
Summative Assessment Method					
Final Exam		√	√	√	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term exam	Week # 8	30%
Oral exam	Week # 14	10%
Final written exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference: (max. five years ago)

Course Notes:	Lecture Notes
Essential Books (Textbooks):	The Nature of Technology: What It Is and How It Evolves, W. Bian Arthur, Penguin Books, 2016.
Recommended Books:	<ul style="list-style-type: none"> The Evolution of Technology, George Basalla, 1st Edition, Cambridge University Press, 1989.



2.8. Facilities required for Teaching and Learning

Different Facilities	
Lecture Hall	√
Library Usage	√
Data Show	√
White Board	√

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO2	√	√

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	√	√		
CO2			√	√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO7	√	√		
PLO10			√	√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO7	PO2	CLO1	<ul style="list-style-type: none"> Course Lectures Class Discussion 	<ul style="list-style-type: none"> Oral Discussion
		CLO2	<ul style="list-style-type: none"> Course Lectures 	<ul style="list-style-type: none"> Case Study
PLO10	PO2	CLO3	<ul style="list-style-type: none"> Course Lectures Class Discussion 	<ul style="list-style-type: none"> Oral Discussion
		CLO4	<ul style="list-style-type: none"> Course Lectures Self-learning 	<ul style="list-style-type: none"> Report Oral Discussion

Course Coordinator: Prof. Dr. Ahmed M. El-Assal
Dr. Osama Hamdy

Head of Department: Prof. Dr. Zeinab Faisal

A - Assal
OSAMA
Zeinab

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Production engineering and workshops (A)	Code	M1071	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	-	3	3

2. Professional Information:

2.1. Course description:

This course is introductory to principles of production, function and planning of workshop, industrial safety, measurements, carpentry tools, engineering materials, metal machining, joining of materials, sheet metal work, metal forming, bench work and filling, foundry and pattern making.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for engineering practice.	CO1	Apply different branches of production engineering , i.e Manufacturing Technology, Industrial Engineering and Quality Control
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO2	Application of particular materials for specific design requirements
		CO3	E valuate basic manufacturing processes and select the appropriate process to produce various products

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A4- PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles	CLO1	Characterize the knowledge about workshop's equipment and hand tools of different manufacturing processes, and the necessary safety considerations.
		CLO2	Classify the different manufacturing processes definitions, concepts, formulae, characteristics, and capabilities.
		CLO3	Merge the use of principles and concepts to suggest appropriate solutions for engineering problems based on analytical thinking.
A6- PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	CLO4	Explore skills to carryout measurement tests using the measuring tools and hand tools and workshop equipment.
		CLO5	Apply the experience and hands skills on different trades of engineering like fitting, carpentry, machining, welding, and sheet metal.
		CLO6	Employ the appropriate techniques, skills, and modern engineering tools necessary for engineering practice.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO 1	CLO 2	CLO 3	CLO 4	CLO 5	CLO 6
Introduction and classification , Industrial Engineering (The role of production engineer , production system , Production types, Types of industries)	1	√	√		√		
Industrial Engineering (Factory planning , Production planning and control , Organization for production , Manufacturing costs	2			√		√	
Engineering materials (Composition Structure Properties Production and Applications)	3	√		√			
Quality Control (Specifications and Standards, Dimensioning, Tolerances and fits, Metrology	4				√	√	√
Casting technology	5	√			√		
Powder metallurgy	6		√			√	
Metal forming technology	7			√		√	√
Plastic processing	8		√		√		
Joining technology	9-10			√			√
Metal removal technology , Turning, drilling, milling, shaping and planning, broaching, sawing, grinding	11	√		√			
Turning technology, machining parameters, machining time, cutting tools, tool life	12-13		√		√		
Non - conventional manufacturing processes	14			√		√	√
Total	12						

2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered					
		CLO 1	CLO 2	CLO 3	CLO 4	CLO 6	CLO 6
Carpentry workshop	1-3	√					
Foundry workshop	4-6	√					
plumbing workshop	7-9	√					
lathe workshop	10-12	√					
Total	12						

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures and slides	√	√	√	√		√
2. Tutorials		√	√	√		√
3. problem-based learning	√	√	√	√	√	√
4. discussion	√	√		√	√	
1. projects			√	√	√	
2. Reports			√	√		
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Brain storming						
2. Presentation on case study						

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Discussion	√		√	√		
	First Midterm Exam	√	√			√	√
	Second Midterm Exam		√	√			
projects			√	√	√	√	
Reports		√	√	√		√	√
Summative Assessment Method							
Final Exam		√	√	√	√	√	√



2.7.1. Assessment Schedule & Grades Distribution

Assessment Method		Week	Weighting of Asses.
Test	Discussion	8,13	10%
	mid-term exam	8	30%
Report of workshop		5,11	10%
Project		2,4,6,14	10%
Final written examination		15	40%
Total			100%

2.8. List of Reference:

Essential Books (Textbooks):	Galyer, JFC and Shotbolt , CR 1990, Metrology for engineers, 5th edn, Cassell, London
Recommended Books:	Manufacturing: Design, production, Automatic and Integration. New York, NY: Gordon and Breach science publishers,2003. ISBN:9780824742737
	Katsundo Hitomi , Manufacturing Systems Engineering, A Unified Approach to Manufacturing Technology, Production Management and Industrial Economics, Routledge, 2017, doi.org/10.1201/9780203748145
Periodicals, Web Sites, ... etc:	Social media: www.youtube.com Free Books Download: search.4shared.com/search.html

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO4	√		
PO6		√	√



3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	√			√	√	
CO2	√	√	√		√	√
CO3		√	√	√		√

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO4	√	√	√			
PLO6				√	√	√

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO4	PO4	CLO1	Lecture	Oral test
			Discussion	Experimental
		CLO2	Practical based learning	Observation
			Report	Report
		CLO3	Problem based on learning	Experimental
			Project based on learning	observation
PLO6	PO6	CLO4	Brain storming	Observation
			Presentation	observation
		CLO5	• Design studies	• Design studies
			Presentation	observation
		CLO6	• Reports	Reports
			Presentation	observation

Course Coordinator: Prof Saleh Kaytbay

Saleh Kaytbay

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Production engineering and workshops (B)	Code	M1072	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	-	-	3	1

2. Professional Information:

2.1. Course description:

This course is introductory to principles of production, function and planning of workshop, industrial safety, measurements, carpentry tools, engineering materials, metal machining, joining of materials, sheet metal work, metal forming, bench work and filling, foundry and pattern making.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for engineering practice.	CO1	Apply different branches of production engineering , i.e Manufacturing Technology, Industrial Engineering and Quality Control

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A4-PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues, and risk management principles	CLO1	Characterize the knowledge about workshop's equipment and hand tools of different manufacturing processes, and the necessary safety considerations.
		CLO2	Report principles of basic machining operations including welding, filings, milling , forging

2.4. Course Topics:

Course Topics	Week	Course LO's Covered	
		CLO1	CLO2
Welding workshop	1-3	√	
Filings workshop	4-6	√	
Milling workshop	7-8, 10		√
Blacksmithing workshop	11-13		√
Total	13	5	8

2.5. Lab Topics:

Lab Topics	Week	Course LO's Covered	
		CLO1	CLO2
Welding workshop	1-3	√	
Filings workshop	4-6	√	
Milling workshop	7-8, 10		√
Blacksmithing workshop	11-13		√
Total	13	5	8

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered	
Methods	CLO1	CLO2
2. Tutorials	√	
3. projects		√
4. Reports		√
Teaching and Learning Methods for Students with Special Needs:		
Methods		
1. Brain storming		
2. Presentation on case study		

2.7 Assessment Methods

Assessment Methods:	Course LOs Covered	
Methods	CLO1	CLO2
Formative Assessment Method		
projects		√
Reports	√	
Summative Assessment Method		
Practical exam		√



2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Report of workshop	5,11	33%
Project	2,4,6,14	33%
Practical exam	15	34%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	Galyer, JFC and Shotbolt , CR 1990, Metrology for engineers, 5th edn, Cassell, London
Recommended Books:	Manufacturing: Design, production, Automatic and Integration. New York, NY: Gordon and Breach science publishers,2003. ISBN:9780824742737
	Katsundo Hitomi , Manufacturing Systems Engineering, A Unified Approach to Manufacturing Technology, Production Management and Industrial Economics, Routledge, 2017, doi.org/10.1201/9780203748145
Periodicals, Web Sites, ... etc:	Social media: www.youtube.com Free Books Download: search.4shared.com/search.html

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO4	√		

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	√	√				

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO4	√	√				

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO4	PO4	CLO1	Discussion	Experimental
		CLO2	Discussion	Experimental

Course Coordinator: Prof Saleh Kaytbay

Saleh Kaytbay

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Technical English Language	Code	U 1011	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	0	2	0	1

2. Professional Information:

2.1. Course description:

This course aims to mastering the most important terminology related to profession. Developing strategies for understanding texts in a foreign language. And to enable students to read academic paragraphs effectively; build vocabulary and take notes. The course guide students to employ basic reading skills and strategies: It will also facilitate recognizing supporting details by using punctuation marks, numbers and connecting words. In addition, the course makes use of contextual clues to infer meanings of unfamiliar words from context. Enabling students for reading and understanding the original English texts from the various sources related to the specific aspects of Electromechanical Engineering.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO5	Enable students for reading and understanding the original English texts from the various sources related to the specific aspects of Engineering	CO1	Develop basic reading comprehension skills such as scanning reading passages.
		CO2	Identify the formatting and organization of the paragraph
		CO3	Learn & understand basic grammatical rules.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A5-PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Recall learnt vocabulary in different situations.
A8-PLO8	Communicate effectively - graphically, verbally and in writing - with a range of audiences using contemporary tools.	CLO2	Identify grammar rules in different context.
		CLO3	Use scanning, skimming, inferring, etc. in reading text.
A10-PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO4	identify fine details in an audio text.
		CLO5	Identify the formatting and organization of the paragraph
		CLO6	write various writing forms

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course Technical English language	1		*				
Teaching adjectives and adverbs	2		*	*			
Teaching nouns and pronouns	3		*	*			
Overview of verb tenses	4		*	*			
Teaching of engineering terms: Vertical & horizontal measurements	5		*	*			
Teaching of engineering terms: Dimensions of circles	6		*				
Mid-term Exam	7			*			
Teaching of engineering terms: Design development	8	*		*			
Teaching of engineering terms: Polymers	9	*		*		*	
Teaching of engineering terms: Prefixes	10		*		*		
Compounds	11	*		*		*	*
Count and non-count numbers	12				*		
Using some and any	13-14		*		*	*	
Revision	15	*		*		*	*
Total	15	5	8	10	3	4	3

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*	*	*	*	
2. Design studio						
3. Problem-based Learning						
5. Presentations						
6. Case Study						
7. Projects						
8. Discussion	*	*		*		*
9. Modeling						
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test					
	Midterm Exam	*	*	*	*	*
2. Discussions						
3. Projects						
4. Assignments						
5. Presentations						
6. Modeling						
Summative Assessment Method						
Final Exam						
	*	*	*	*	*	*



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 7	40%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Lbbotson, Mark, 2009. Professional English in Use , Cambridge university press, London
Recommended Books:	Murphy, Raymond, 2013. English Grammar in Use. Cambridge university press, London
	Pawlak, M., & Csizér, K. (2023). Investigating the use of grammar learning strategies in Hungary and Poland: A comparative study. <i>Applied Linguistics</i> , 44(2), 347-369.
Periodicals, Web Sites, ... etc:	2- Concrete & The organization of paragraphs 1.ppt

2.8. Facilities required for Teaching and Learning

Different Facilities
Class
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO5	*	*	*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*	*		*	
CO2			*			
CO3	*			*	*	*

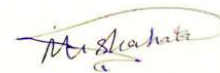
3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*					
PLO8		*	*			
PLO10				*	*	*

3.4. Assessment Alignment Matrix

PLO's	PO's	CLO's	Teaching M.	Assessment M.
PLO5	PO5	CLO1	1. Lectures 2. Discussion	1. Mid-term Exam 2. Final Exam
PLO8	PO5	CLO2 CLO3	1. Lectures 2. Discussion	1. Mid-term Exam 2. Final Exam
PLO10	PO5	CLO4 CLO5 CLO6	1. Lectures 2. Discussion	1. Mid-term Exam 2. Final Exam

Course Coordinator: Dr. Mohammad Abdelghany Shehata



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Basic Engineering Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Technical English Language	Code	U 1012	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	0	2	0	1

2. Professional Information:

2.1. Course description:

This course aims to provide students the most important terminology related to their specialization, master grammatical rules needed to understand texts , apply strategies for understanding scientific texts in English, and to enable learners read academic texts effectively. The course help students develop reading skills and strategies: It will also facilitate recognizing supporting details by using punctuation marks, numbers and connecting words. In addition, the course makes use of contextual clues to infer meanings of unfamiliar words from context. Enabling students for reading and understanding the original English texts from the various sources related to the specific aspects of Electromechanical Engineering.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO5	Enable students read and understand the original English texts from the various sources related to their specialization	CO1	Develop essential reading comprehension skills such as scanning reading passages.
		CO2	mastering the formatting and organization of the paragraph
		CO3	Acquire & master basic grammatical rules.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A5-PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Recall learnt vocabulary in different situations.
A8-PLO8	Communicate effectively, graphically, verbally and in writing with a range of audiences using contemporary tools.	CLO2	Identify grammar rules in different context.
		CLO3	Use scanning, skimming, inferring, etc. in reading text.
A10-PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO4	identify fine details in an audio text.
		CLO5	Identify the formatting and organization of the paragraph
		CLO6	write various writing forms

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to the basic course principles	1	*	*				
Pronunciation of (ed) and (s) endings	2			*			
Teaching of engineering terms: Material types	3	*					
Present cont & present simple	4						
Present perfect & past simple	5						
Teaching of engineering terms: Energy	6	*	*		*		
Revision	7	*					
Mid-term Exam	8						
Pronunciation of /s/ , /z/ , /j/ , /w /	9			*			
Teaching of engineering terms: Material properties	10		*		*		
Using of (for) and (since)	11	*	*				
How to write a technical report	12-13		*		*	*	*
Definitions (how to write a definition)	14	*				*	*
Revision	15	*		*		*	*
Total	15	8	5	3	4	3	3

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures	*	*	*		*	*
2. Design studio				*		
3. Problem-based Learning	*		*		*	
5. Presentations	*	*	*	*	*	*
6. Case Study						
7. Projects						
8. Discussion	*	*		*		*
9. Modeling						
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test					
	Midterm Exam	*	*	*	*	*
2. Discussions						
3. Projects						
4. Assignments						
5. Presentations						
6. Modeling						
Summative Assessment Method						
Final Exam						



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	40%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Lbbotson, Mark, 2009. Professional English in Use , Cambridge university press, London Dang, T. K. A., Bonar, G., & Yao, J. (2023). Professional learning for educators teaching in English-medium-instruction in higher education: A systematic review. <i>Teaching in Higher Education</i> , 28(4), 840-858.
Recommended Books:	Murphy, Raymond, 2013. English Grammar in Use. Cambridge university press, London
Periodicals, Web Sites, ... etc:	English for specific purposes journal

2.8. Facilities required for Teaching and Learning

Different Facilities
Class
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO5	*	*	*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*	*		*	
CO2			*			
CO3	*			*	*	*

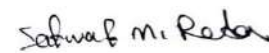
3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*					
PLO8		*	*			
PLO10				*	*	*

3.4. Assessment Alignment Matrix

PLO's	PO's	CLO's	Teaching M.	Assessment M.
PLO5	PO5	CLO1	1. Lectures 2. Discussion 3. Problem-based Learning 4. Presentations	1. Mid-term Exam 2. Final Exam 3. Assignments
PLO8	PO5	CLO2 CLO3	1. Lectures 2. Presentation 3. Discussion 4. Problem-based Learning	1. Mid-term Exam 2. Final Exam 3. Assignments
PLO10	PO5	CLO4 CLO5 CLO6	1. Lectures 2. Discussion 3. presentation 4. Problem-based Learning 5. Design studio	1. Mid-term Exam 2. Final Exam 3. Assignments

Course Coordinator: Dr. Safwat Mohamed Reda Shoaib



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6 / 9 / 2022

Architectural Engineering
Department -FIRST YEAR
Specification



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Architecture Design 1A	Code	AE 1111	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7	0	6

2. Professional Information:

2.1. Course description:

The design process and its various aspects - functional relations and circulation patterns - qualitative and quantitative study of architectural spaces - relationships between spaces and required openings - the effect of openings upon facades - human / environmental / functional relations - simple structures for small scale buildings - simple design problem solving.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Outline the architectural vocabulary and drawings which used in architectural design and architectural presentation.
		CO2	Students will be able to display projection abilities from 3D drawings and vice versa to draw efficiently and accurately according to different scales.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO3	Design innovative simple design projects.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Generate new design solutions through imagination and creativity
PLO11	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.	CLO2	Identify principles of architectural design in a simple context, scales and types that satisfy both aesthetic and technical requirements.
		CLO3	Produce all necessary architectural drawings that meet technical requirements.
PLO12	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.	CLO4	Analyze different similar building design solutions to obtain design criteria.
		CLO5	Criticize physical models of similar buildings.
		CLO6	Design simple architecture design problems that meet users' requirements
Cognitive Domain		Psychomotor Domain	
CLO2		CLO1, CLO3, CLO4, CLO6	
		Affective Domain	
		CLO5	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content and architecture design	1		*				
Explain how to draw architectural plans	2		*	*			
Explain how to draw architectural sections	3		*	*			
Explain how to draw architectural elevations	4		*	*			
Explain how to draw architectural layout.	5		*	*			
Workshop (architecture presentation)	6		*				
Introduction to 1 st project	7	*		*			*
Final Sketch & Physical Model	8	*		*		*	
Diagram of relationships of spaces, shapes of buildings and movements.	9		*		*		
Introduction to 2 nd design project	10	*		*		*	*
Introduction to site analysis	11				*		
Similar project analysis (1) & Physical Model	12		*		*	*	
Semi-final Sketch	13	*		*	*		*
Final Sketch & Physical Model	14	*		*		*	*
Total	14	5	8	9	4	4	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Design studio	*		*		*	*
3. Problem-based Learning	*			*		
4. Case Study		*		*		
5. Projects	*		*		*	*
6. Discussion	*	*		*		*
7. Modeling					*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Oral Exam		*			*	
2. Midterm Exam			*			
3. Discussions	*	*		*		
4. Projects	*		*		*	*
5. Assignments		*	*	*		*
6. Presentations					*	
7. Modeling					*	
Summative Assessment Method						
Final Exam	*		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Oral Exam	Week # 14	10%
Mid-term Exam	Week # 8	10%
Discussions	Week # 10	5%
Projects	Week # 9,13	15%
Assignments	Week # 2,3,4,5,6,7,	30%
Modeling	Week # 12	5%
Training	Preparatory year	20%
Final Exam	Scheduled by the faculty council	30%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	R Conway and Roenisch, 1987, Understanding Architecture, Routledge of Keegan, London
Recommended Books:	Ching, F., and Juroszek, S. (2018). Design Drawing. 3 rd ed., Hoboken, NJ: John Wiley & Sons, Inc.
	Karlen, M. and Fleming, R. (2016). Space Planning Basics. Hoboken, NJ: John Wiley & Sons, Inc.
Periodicals, Web Sites, ... etc:	http:// www.archnet.org http:// www.greatbuilding.com http:// www.architecture.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*	*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*		*		
CO2			*			
CO3	*				*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO9	*					
PLO11		*	*			
PLO12				*	*	*



3.4. Assessment Alignment Matrix

PLO's	PO's	CLO's	Teaching M.	Assessment M.
PLO9	PO1	CLO1	<ol style="list-style-type: none"> 1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion 	<ol style="list-style-type: none"> 1. Discussions 2. Projects 3. Final Exam
PLO11	PO7	CLO2 CLO3	<ol style="list-style-type: none"> 1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects 	<ol style="list-style-type: none"> 1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO12	PO7	CLO4 CLO5 CLO6	<ol style="list-style-type: none"> 1. Lectures 2. Problem-based Learning 3. Case Study 4. Discussion 5. Design studio 6. Presentations 7. Projects 8. Modeling 	<ol style="list-style-type: none"> 1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 7. Modeling 8. Final Exam

Course Coordinator: Dr. Mona Yehia Shedid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 5/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Building Construction 1A	Code	AE1121	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

General introduction - Drawing Techniques - Abbreviation symbols – dimensioning – technical presentation – understanding types of structures - wall bearing & skeleton types - Traditional construction - masonry - raw bricks & brick masonry – detailing - Introduction to foundation design - construction buildings types & techniques.

2.2. Course Objectives (CO): At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Apply analytic critical and systemic thinking to identify, diagnose and solve engineering problems with a wide range of complexity and variation.	CO1	Apply critical analytical thinking to solve engineering problems in a variety of scientific ways
PO3	Behave professionally and adhere to engineering ethics and standards.	CO2	Apply engineering standards and observe professional ethics in construction work
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO3	lead the work team for effective presentation at the individual and group levels & Take responsibility, and the use of modern technology to communicate information

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	CLO1	Understand the basics of structural engineering drawing and implement them into projects.		
		CLO2	Analysis the structural systems of buildings in a simple context, scales and types that meet engineering requirements.		
PLO7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural team.	CLO3	Study of buildings through group and individual work		
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO4	Define engineering technologies related to systems of building construction.		
		CLO5	Understanding of engineering problems associated with building construction.		
		CLO6	Apply construction technologies and materials into different projects.		
Cognitive Domain		Psychomotor Domain		Affective Domain	
CLO1, 4, 5		CLO2, 6		CLO3	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1	*		*		*	
Preliminary operations lecture for construction operations + The start of the guard room project Plan	2	*	*				*
A lecture on primary building materials + project completion and drawing of Elevations + Sections	3		*		*		*
Completion of the pre-construction works lecture + project submission	4	*	*		*		*
Discussion of research group No. (1) Construction systems and construction methods (load-bearing and structural walls)	5	*	*		*	*	
Discussion of research group No. (2) Types of surface foundations and insulation in installations, Types of deep foundations and insulation in structures	6	*			*	*	
Discussion of the research group No. (3) Brick stacks and bonding methods	7			*	*	*	
Mid-term Exam	8			*	*		
Discussion of the research group No. (4) stone stacks and bonding methods	9			*	*	*	
Discussion of research group No. (5) heritage coverage and construction (dome, vault, vault and wood)	10	*		*	*	*	
Large project presentation and drawing (Plan + Elevations + Sections)	11	*	*			*	*
Follow-up of a large project and drawing (Plan + Elevations + Sections)	12		*			*	*
project Semi Final submission	13		*	*			*
project Final submission	14		*	*			*
Portfolio submission and general discussion	15	*	*	*	*		*
Total	15	8	9	9	9	8	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*		*	*	*	
2. Tutorials		*	*	*		*
3. Project-based Learning		*	*			*
4. Presentations	*	*		*	*	
5. Brain Storming	*			*	*	
6. Projects	*	*	*			*
7. Discussion		*	*	*	*	
8. Self-Learning	*			*	*	*
9. Modeling		*	*	*		*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Field visit to historical buildings						
2. Discussion Session						
3. Extra Lectures						
4. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
1. Tests	Midterm Exam			*	*		
	Quizzes	*			*	*	
2. Discussions		*	*				*
3. Projects		*	*			*	
4. Assignments				*	*		*
5. Presentations		*		*	*		*
6. Modeling			*	*	*	*	
7- Portfolio		*	*	*			*
Summative Assessment Method							
8- Final Exam		*	*			*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	20%
2. Quizzes	Week 2 & 3 & 4 & 5 & 7 & 8	2.5%
3. Discussions	Week 5 & 6 & 7 & 9 & 10	2.5%
4. Projects	Week 2 & 3 & 4 & 11 & 12 & 13 & 14	10%
5. Assignments	Week 2 & 3 & 4 & 5 & 7 & 8 & 9 & 10	5%
6. Presentations	Week 5 & 6 & 7 & 9 & 10	5%
7. Modeling	Week 5 & 6 & 7 & 9 & 10	5%
8- Portfolio	Week 15	10%
9. Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Course Notes:	<ul style="list-style-type: none"> ▪ Lecture Notes
Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Barry, R. (1999). The Construction of Buildings Vol. 2. 5th Ed. New Delhi: East-West Press.
Recommended Books:	<ul style="list-style-type: none"> ▪ Allen E. & Iano j. (2018), Fundamentals of Building Construction: materials & methods, 6th . Ed. John Wiley & Sons, NJ, USA ▪ Meghashyam, K. K. (2005). Reinforced Concrete Constructions for 21st C. New Delhi :J.M. Jaina
Periodicals, Web Sites, ... etc:	<p>http:// www.caps-egypt.com http:// http://www.arcata.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		*
PO3	*	*	
PO4		*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1					*	*
CO2	*			*		
CO3		*	*			

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO6	*	*				
PLO7			*			
PLO13				*	*	*

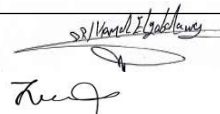
3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO6	PO2	CLO1 CLO2	<ol style="list-style-type: none"> 1. Lectures 2. Tutorials 3. Project-based Learning 4. Presentations 5. Brain Storming 6. Projects 7. Discussions 8. Self-Learning 9. Modeling 	<ol style="list-style-type: none"> 1. Midterm Exam 2. Quizzes 3. Discussions 4. Projects 5. Presentations 6. Modeling 7. Portfolio 8. Final Exam
PLO7	PO3	CLO3	<ol style="list-style-type: none"> 1. Lectures 2. Tutorials 3. Project-based Learning 4. Projects 5. Discussion 6. Modeling 	<ol style="list-style-type: none"> 1. Mid-term Exam 2. Assignments 3. Presentations 4. Modeling 5. Final Exam
PLO13	PO2 PO4	CLO4 CLO5 CLO6	<ol style="list-style-type: none"> 1. Tutorials 2. Lectures 3. Project-based Learning 4. Presentations 5. Projects 6. Discussion 7. Self-Learning 8. Modeling 	<ol style="list-style-type: none"> 1. Mid-term Exam 2. Quizzes 3. Discussions 4. Projects 5. Assignments 6. Presentations 7. Portfolio 8. Final Exam 9. Modeling

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6/ 11/ 2022





Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	History & Theory of Architecture 1A	Code	AE1131	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course description:

Ancient Egyptian Architecture - Mesopotamian - Greek Architecture - Roman Architecture.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Apply the use of technology in effective presentation and individual and group discussion to communicate information easily to all
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Applying self-learning through specialized and electronic libraries & The ability to self-learning through field visits
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Analysis of historical architectural thought and its use in the development and service of the local community
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Solving design problems using historical architectural vocabulary and elements after understanding the design idea

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Search for information from references and internet.
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO2	Understand the functions of different historic buildings
		CLO3	Outline different design principles of different historical buildings
		CLO4	Identify the different building types of the different historical civilizations
PLO11	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.	CLO5	Understanding human requirements and needs through different historic periods.
		CLO6	Determine the technical and aesthetic requirements of the historic buildings.
		CLO7	Analysis the different historic building types.
		CLO8	Compare between building types in different historical civilizations

Cognitive Domain	Psychomotor Domain	Affective Domain
CLO2, 3, 4, 5,6	CLO7, 8	CLO1

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction to course content - The house in primitive times	1	*	*		*			*	
General introduction to ancient civilizations (civilization / culture / ideology)	2	*		*				*	*
A general introduction to the ancient Egyptian civilization and other civilizations	3		*		*			*	*
Model display (1-dwelling or palace/2-temple/3-cemetery) (4-Models of columns in ancient Egyptian architecture)	4		*	*		*			*
Group No. 1: the ancient Egyptian civilization (temples, tombs, houses or palaces)	5	*			*	*	*		
Field visit to historical buildings	6	*				*		*	
Model display (1-horizontal temple/2-vertical ziggurat temple/3-residential building model/4-palace model/5-organic residential neighborhood model/6-planned residential neighborhood model) (7- Persian Palace) (8- Models of columns that appeared in the architecture of Mesopotamia and Persia)	7				*		*		*
Mid-term Exam	8				*				*
Group No. 2: Civilization of West Asia and Mesopotamia {Tigris and Euphrates} The most famous of its civilizations (Sumer, Akkad, Babylon, Assyria and Chaldeans)	9	*		*	*		*		
Group No. 3: Persian civilization {Iran}	10	*	*			*	*		*
Model display (1-Doric temple/2-Ionic temple/3-Corinthian-style temple/4- agora model/5-Greek theater model) (6- Column models that appeared in Greek architecture)	11	*		*		*		*	
Group No. 4: Classical (Greek) civilization	12		*		*		*	*	
Drawing & explaining the individual exercise Model display (1-rectangular temple/2-pantheon/3-basilica/4-bathroom/5-format/6-theater/7-colosseum /8-triumphal arches/9-Colosseum/10-houses)	13		*	*		*			*
Group No. 5: Classical Civilization (Roman)	14	*	*		*		*		
presentation and analysis of a modern inclusive model inside and outside Egypt	15			*		*		*	*
Portfolio submission and general discussion									
Total	15	8	8	7	7	7	6	7	7

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered								
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
1. Lectures	*		*	*				*	*
2. Tutorials		*			*		*		*
3. Presentations	*		*			*		*	
4. Brain Storming		*	*			*		*	
5. Discussion			*	*			*		*
6. Self-Learning	*				*	*		*	
7. Modeling		*	*				*		*
Teaching and Learning Methods for Students with Special Needs:									
Methods									
1. Field visit to historical buildings									
2. Discussion Session									
3. Extra Lectures									
4. Provide different levels of books and materials									

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered							
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method									
1. Tests	Midterm Exam				*				*
	Quizzes	*	*		*	*		*	
2. Reports		*	*			*			*
3. Discussions				*	*			*	*
4. Assignments			*	*	*			*	*
5. Presentations		*		*	*		*		*
6. Modeling		*	*			*	*	*	
7- Portfolio			*	*	*		*		
Summative Assessment Method									
8- Final Exam		*	*	*		*		*	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	10%
2. Quizzes	Week 2 & 3 & 4 & 5 & 6	5%
3. Discussions	Week 5 & 7 & 9 & 11 & 13	5%
4. Assignments	Week 2 & 3 & 4 & 7	5%
5. Presentations	Week 5 & 7 & 9 & 11 & 13	5%
6. Modeling	Week 14	5%
7- Portfolio	Week 15	5%
8. Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Lecture Notes
Recommended Books:	<p>John Mansbridge, 1999, Graphic History of Architecture, Hong Kong.</p> <p>- د. توفيق عبد الجواد ، تاريخ العمارة و الفنون في العصور الأولى ، مكتبة الأنجلو ، ١٩٧٠،</p> <p>- د. توفيق عبد الجواد ، العمارة و حضارات مصر الفرعونية ، مكتبة الأنجلو ، ١٩٨٤،</p> <p>Sir Banister Fletcher's , A History of Architecture , twentieth edition , (part one) . From www, amazone.com</p> <p>- Zahi Hawas , Alberto Siliotto , "The Illustrated Guide to The Pyramids", The American University in Cairo Press, ٢٠٠٣</p> <p>- Alberto Siliotti , Luxor, Karnak and the Theban Temples, The American University In Cairo Press, ٢٠٠٢</p>
Periodicals, Web Sites, ... etc:	<p>-http://www. Egyptmyway .com -</p> <p>-http://www.pbs.org</p> <p>-http://www. sis.gov.eg</p> <p>http://www.brynmawr.edu</p> <p>ww. google.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO4	*		*	*
PO5		*	*	
PO6		*		*
PO7	*			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1	*		*			*		*
CO2		*		*			*	
CO3	*			*	*			
CO4		*				*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO5		*	*		*	*		*
PLO10	*	*			*	*	*	
PLO11	*		*	*			*	

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO5	PO4 PO5	CLO1	1. Lectures 2. Tutorials 3. Presentations 4. Report 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Reports 4. Assignments 5. Modeling 6. Portfolio 7. Final Exam
PLO10	PO5 PO6	CLO2 CLO3 CLO4	1. Lectures 2. Tutorials 3. Presentations 4. Brain Storming 5. Discussion 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Assignments 4. Modeling 5. Portfolio 6. Final Exam
PLO11	PO6 PO7	CLO5 CLO6 CLO7 CLO8	1. Lectures 2. Tutorials 2. Presentations 3. Brain Storming 4. Discussion 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Discussions 3. Assignments 4. Presentations 5. Modeling 6. Portfolio 7. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6/ 11/ 2022



Course Specification

1. Basic Information:

Program Title	Architecture Engineering Department			
Department Offering the program	Basic Sciences Department			
Department Offering the course	Basic Sciences Department			
Date of Specification Approval	Bylaw2017			
Course Title	Technical English	Code	U1103	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	-	-	2	1

2. Professional Information:

2.1. Course description:

Library skills – Reding comprehension strategies (authentic materials of specialization fields) – writing (technical report – describing table, graphs and charts) – listening (academic lectures and presentation) – speaking of interpreting graphs and figures) – translation from English into Arabic and vice versa.

2.2. Course Objectives (CO):

The students will be able to:

Program objective		Course objective	
PO5	Master self-learning and life - long learning strategies to communicate effectively in academic/professional fields.	CO1	Use written and oral communication in a range of situation with an emphasis on academic communication.
		CO2	Identify academic terminologies related to their field of specialization.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Understand abstract ideas and arguments from a range of texts.		
PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO2	Communicate efficiently to convey ideas verbally.		
		CLO3	Recognize appropriate written and oral communication in different situations in English.		
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO4	Use vocabulary as a key ingredient in developing advanced written skills.		
		CLO5	Practice a range of grammatical structures and vocabulary accurately and effectively.		
		CLO6	Apply basic research skills through constructing a project related to an engineering or science related situation.		
Cognitive Domain		Psychomotor Domain		Affective Domain	
CLO1		CLO4, 5, 6		CLO2, 3	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1		*	*	*		
Will & be going to	2				*		*
Working, forming and heat-treating metal	3	*				*	
Prefixes	4	*	*			*	
Minerals and ceramics	5			*	*		
Subject –verb agreement (1)	6		*				*
Subject –verb agreement (2)	7			*			*
Midterm Exam	8	-	-	-	-	-	-
Design solutions	9	*			*	*	
Adjectives	10		*				*
Dimensions of circles	11	*		*			
Compounds	12	*		*			
Interconnection	13					*	*
Non-ferrous metals	14		*			*	*
Revision	15		*		*	*	*
Total	15	5	6	5	5	6	7

Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Self- learning			*		*	*
3. Discussion		*		*		
4. Interactive Learning	*		*		*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Discussions	*			*		
2. Observation	*	*			*	
3. Oral Test	*	*			*	
4. Assignments		*	*	*		*
Summative Assessment Method						
Final Exam	*		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Discussions	Week # 2,3,4,5,6,8,9,10,11, 12, 13,14	-
Assignments	Week # 2,3,4,5,6,8,9,10,11, 12, 13,14	-
Final Exam	Scheduled by the faculty council	100%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Folse, Keith, April Muchmore-Vokoun and Elena Vestri Solomon. Great Essays. 3rd ed. U.K.: Heinle Cengage Learning, 2010.
Recommended Books:	Murphy, R. and Smalzer, W., 2000. Grammar in use. Cambridge: Cambridge University Press
	Mulvey, D., 2002. Grammar the easy way. Hauppauge, N.Y.: Barron's
Periodicals, Web Sites, ... etc:	http:// www.duolingo.com https://elt.oup.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO5	*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*	*			
CO2				*	*	*



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*					
PLO8		*	*			
PLO10				*	*	*

3.4. Assessment Alignment Matrix

PLO's	PO's	CLO's	Teaching M.	Assessment M.
PLO5	PO5	CLO1	1. Tutorials 2. Discussion 3. Self- learning	1. Discussions 2. Assignments 3. Final Exam
PLO8	PO5	CLO2 CLO3	1. Tutorials 2. Interactive Learning 3. Discussion 4. Self- learning	1. Oral Test 2. Discussions 3. Observation 4. Final Exam
PLO10	PO5	CLO4 CLO5 CLO6	1. Tutorials 2. Interactive Learning 3. Discussion 4. Interactive Learning 5. Self- learning	1. Discussions 2. Observation 3. Assignments 4. Final Exam

Course Coordinator: Dr. Rasha Ahmed

Rasha Reyad

Head of Department: Prof Dr. Zeinab Faisal

Zeinab Faisal

Date: 17/11 /2022



Course Specification

1. Basic Information:

Department Offering the program	Civil Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval				
Course Title	Theory of Structure	Code	AE 1171	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	2	0	4

2. Professional Information:

2.1. Course description:

Equilibrium, stability & compatibility. - External & Internal equilibrium of statically determinate plane structures; beams, frames & trusses. - Normal, shear, torsional stresses & combined stresses. - Elastic deformations. - Introduction to the analysis of statically indeterminate structures through consistent deformations & moment distribution. - Buckling of columns. - Introduction to space structures.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science and specialized skills with analytic, critical and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Simulate engineering problem in real life
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO2	Solve engineering problem in real life
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO3	Identify the different stresses on element

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Simulate different support in real life		
		CLO2	Simulate members in real life		
		CLO3	Evaluate the internal forces for determinate structural elements		
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO4	Evaluate the internal forces for indeterminate structural elements		
		CLO5	Evaluate Normal, shear and torsional stresses		
		CLO6	Evaluate elastic deformation for structural elements		
Cognitive Domain		Psychomotor Domain		Affective Domain	
CLO1, 2		CLO3, 4, 5, 6		---	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Load and reaction for simple beams	1	*	*				
Load and reaction for beams with intermediate hinge	2	*	*				
Load and reaction for frames	3	*	*				
Load and reaction for truss	4	*	*				
Load and reaction for beams with link member	5	*	*				
Load and reaction for frames with link member	6	*	*				
Internal forces for simple beams	7	*	*	*			
Midterm exam	8						
Internal forces for beams with intermediate hinge	9	*	*				
Internal forces for frames	10	*	*	*			
Internal forces for beams with link members	11	*	*	*			
Internal forces for frames with link members and elastic deformation	12	*	*	*	*		
Internal forces for frames with link members and elastic deformation	13	*	*	*	*		
Normal, shear, torsional stresses and elastic deformation	14	*	*	*	*	*	*
Total		13	13	6	3	1	1

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Co`urse LO's Covered					
Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*	*	*			
2. Tutorials	*	*	*			
3. Problem-based Learning			*	*	*	*
4. Discussion				*		
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Method

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Quizzes	*			*	*	*
	Midterm Exam	*	*				
Assignments		*	*	*			
Summative Assessment Method							
Final Exam		*	*	*			

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Assignments	2,3,4,5,6,7,9,10,11 &13	10%
Quizzes	3,6,13&14	10%
Midterm exam	8	20%
Final Exam	16	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Theory of structures Wagih Mohamed eldakhkhni, 2020 ISBN: 0-7432-02-977-978
------------------------------	---

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO2		*	
PO4			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*				
CO2			*	*		
CO3					*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO1	*	*	*			
PLO13				*	*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	<ul style="list-style-type: none"> Lectures Tutorials 	Assignments Quizzes Midterm Exam Final Exam
		CLO2	<ul style="list-style-type: none"> Lectures Tutorials 	Assignments Midterm Exam Final Exam
PLO13	PO2	CLO3	<ul style="list-style-type: none"> Lectures Tutorials Problem-based Learning 	Assignments Final Exam
		CLO4	<ul style="list-style-type: none"> Problem-based Learning Discussion 	Quizzes
	PO4	CLO5	<ul style="list-style-type: none"> Problem-based Learning Discussion 	Quizzes
		CLO6	<ul style="list-style-type: none"> Problem-based Learning Discussion 	Quizzes

Course Coordinator: Dr. Ahmed Abdelsalam

Ahmed abd alsalam

Head of Department: Prof. Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 11/11/2022

16/11/2022

6/12/2022



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Visual Training	Code	AE 1101	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	5	0	4

2. Professional Information:

2.1. Course Description:

The course aims at developing students' skills related to visualization and visual expression of architectural/landscaping forms. It familiarizes students with basic skills, media (pencils, pen & ink, color media), and principles (shades/lights; depth/distance cues; colors/color schemes; rendering techniques; etc.) of drafting communication.

Topics include also photography, methods of model making, and principles of composition and aesthetic evaluation such as unity, proportions (Golden section, orders, module, etc.), balance, rhythm, contrast, symmetry, hierarchy, etc.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Analyze, describe and document site conditions spatially and visually and identify site opportunities and constraints.
Po5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Carry out comprehensive spatial and visual analysis and evaluation of complex urban settings.
Po6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community	Co3	Analyze, describe and document site conditions spatially and visually and identify site opportunities and constraints.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Employ practical skills and express facts in graphical form including sketching, technical drawings and digital illustrations

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Use different scales of freehand sketching, ranging from interior to landscape details.
		CLO2	Modify Professional techniques of manual presentation using different tools and media.
		CLO3	Solve problems relating building design to nature and the surrounding environment
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO4	Determine architectural and structural sense of sense and proportions.
		CLO5	Use ideas verbally and visually in clear coherent manner.
PLO11	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.	CLO6	Sketch Manual drafting and freehand sketching.
		CLO7	Create ways to link technology in construction
		CLO8	Create Drawing 3D perspective views with shades and shadows.8

Cognitive Domain	Psychomotor Domain	Affective Domain
CLO1, 4, 5	CLO3, 6, 7, 8	CLO2

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO 1	CLO 2	CLO 3	CLO 4	CLO 5	Clo6	Clo7	Clo8
Introduction to visual art & design related issue	1	*			*	*			
Presentation of (point - line -planes)	2		*	*			*		
Presentation of basic solids & volumes	3		*		*				
Presentation of irregular solids & volumes	4	*		*		*	*		
Form & shape elements (rhythm - unity)	5		*	*	*				
Scale – Balance - Module - texture – color	6	*		*		*		*	
Midterm exam & photographic skills	7	*	*		*	*			*
Site visit (Buildings biography) (plans - facades - perspectives -....)	8		*		*		*		
Shapes &space organization (radial - grid -...)	9	*		*		*		*	
Compact – chaos - linear)	10		*	*		*			*
Optical illusion	11		*		*	*		*	
Colors (relations – priorities)	12		*		*	*			*
Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
Project Architecture (Model with color &textures)	13		*		*	*			*
Semi-final Sketch	14	*		*				*	
Oral Exam & Portfolio	15	*	*		*	*	*		*
Total	15	5	8	10	3	4			

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
1. Lectures		*		*			*	
2. Design studio	*		*		*	*		*
3. Problem-based Learning	*			*				
5. Presentations			*		*	*	*	*
6. Case Study		*		*				*
7. Projects	*		*		*			
8. Discussion	*	*		*		*	*	
9. Modeling					*			*
Teaching and Learning Methods for Students with Special Needs:								
Methods								
1. Discussion Session								
2. Extra Lectures								
3. Provide different levels of books and materials								

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
Formative Assessment Method								
1. Tests	Oral Test	*	*			*	*	
	Midterm Exam			*				*
2. Discussions	*			*			*	
3. Projects	*		*		*	*		*
4. Assignments		*	*	*				
5. Presentations					*			*
6. Modeling					*	*		*
Summative Assessment Method								
Final Exam	*		*					



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Presentations	Week # 9 & 15	5%
Modeling	Week # 9 & 15	
Training	Preparatory year	20%
Final Exam	Scheduled by the faculty council	30%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Wang Shaoqiang, Sceno graphics Set Design & Paper craft Art, A New Graphic Design Approach, 2015
Recommended Books:	Jennifer Ott & Anna, 1000 Ideas for Colour Schemes, The Ultimate Guide to Making Colours Work, 2016
	Doyle, M. E. (2006). Color Drawing: Design Drawing Skills and Techniques for Architects, Landscape Architects, and Interior Designers. New Jersey: Wiley. ISBN: 978-0471741909
Periodicals, Web Sites, ... etc:	http:// www.archnet.org http:// www.greatbuilding.com http:// www.architecture.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	Co4
PO4	*			
Po5				*
Po6			*	
PO7		*		

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
CO1		*					*	
CO2			*			*		
CO3	*			*	*			
Co4			*					*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
PLO9	*			*	*			
Plo10						*	*	
PLO11		*	*					*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO9	Po4 Po5	CLO1	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
Plo10	Po6	Clo2 Clo3	Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO11	Po7	CLO4 CLO6 CLO7 CLO8	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad



Head of Department: Prof. Dr. Zeinab Faisal



Date: 8/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Architecture Design 1B	Code	AE 1112	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7		6

2. Professional Information:

2.1. Course Description:

The design process and its various aspects - functional relations and circulation patterns - qualitative and quantitative study of architectural spaces - relationships between spaces and required openings - the effect of openings upon facades - human / environmental / functional relations - simple structures for small-scale buildings - simple design problem-solving.

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Outline the architectural vocabulary and drawings used in architectural design and presentation.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO2	Display projection abilities from 3D drawings and vice versa to draw efficiently and accurately according to different scales.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO3	Design innovative simple design projects.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Generate new design solutions through imagination and creativity		
PLO11	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.	CLO2	Identify principles of architectural design in a simple context, scales and types that satisfy both aesthetic and technical requirement		
		CLO3	Produce all necessary architectural drawings that meet technical requirements.		
PLO12	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.	CLO4	Analyze different similar building design solutions to obtain design criteria.		
		CLO5	Criticize physical models of similar buildings.		
		CLO6	Design simple architecture design problems that meet users' requirements		
Cognitive Domain		Psychomotor Domain		Affective Domain	
CLO2		CLO1,3,4,5, 6		-----	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course objectives and outlines. First Project: Introduction, Functional requirements.	1		*				
Lecture: Factors to Be Considered In Architectural Design. - Submission and presentation of research.	2		*		*	*	
Lecture: Context as a basis for architectural design, context analysis. Submission of 1st Sketch - Individual desk critiques.	3	*	*	*			*
Pin-Up Jury: Submission and presentation of 2 nd Sketch	4			*			*
Submission of 3 rd Sketch - Individual desk critiques.	5			*			*
Pin-Up Jury: Submission and presentation of Semi-Final Sketch	6						
Final Submission of 1 st project & Discussion	7	*		*			
Midterm Exam	8			*			*
Second Project: Introduction, Functional requirements. Lecture: Similar project analysis - Submission and presentation of research.	9		*		*	*	
Submission of 1st Sketch - Individual desk critiques.	10		*	*	*	*	*
Submission of 1st Sketch - Individual desk critiques.	11	*					*
Pin-Up Jury: Submission and presentation of 2 nd Sketch.	12	*					*
Pin-Up Jury: Submission and presentation of Semi-final Sketch	13	*		*			*
Final Submission & Discussion	14	*		*		*	
Total	14	6	5	8	3	4	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Design Studio	*		*		*	*
3. Problem-based Learning	*			*		
4. Case Study		*		*		
5. Projects	*		*		*	*
6. Discussion	*	*		*		*
7. Modeling					*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Oral Exam		*				
2. Midterm Exam	*		*			
3. Discussions	*	*		*		
4. Projects	*		*			
5. Assignments	*		*			*
6. Modeling					*	
Summative Assessment Method						
Final Exam	*		*			



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	The weighting of Asses.
Oral Exam	Week # 7,14	4%
Mid-term Exam	Week # 8	10%
Discussions	Week # 4, 12	4%
Projects	Week # 7 & 14	20%
Assignments	Week # 3,4,5,6,7,10,11, 12, 13	28%
Modeling	Week # 14	4%
Final Exam	Scheduled by the faculty council	30%
Total		100%

2.7. List of References:

Essential Books (Textbooks):	Neuffert, E. (2000) Architect's Data– 3rd ed. Oxford: Blackwell.
	De-Chiara, J. (1995) Time Saver Standards for Housing and Residential Development, Berkshire: McGraw Hill
Recommended Books:	Ching, F., and Juroszek, S. (2018). Design Drawing. 3 rd ed., Hoboken, NJ: John Wiley & Sons, Inc.
	Karlen, M. and Fleming, R. (2016). Space Planning Basics. Hoboken, NJ: John Wiley & Sons, Inc.
Periodicals, Web Sites, ... etc:	https://www.archute.com/ https://www.pinterest.com https://www.admiddleeast.com/ https://www.behance.net https://www.desiretoinspire.net/ https://www.houzz.com/ https://stylebyemilyhenderson.com/design https://www.elledecor.com/ https://www.homeanddesign.com/ https://www.archdaily.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO6		*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes


Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*		*		
CO2			*			
CO3	*				*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO9	*					
PLO11		*	*			
PLO12				*	*	*

3.4. Assessment Alignment Matrix

PLO's	PO's	CLO's	Teaching M.	Assessment M.
PLO9	PO1 PO6	CLO1	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Discussions 2. Projects 3. Final Exam
PLO11	PO6 PO7	CLO2 CLO3	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO12	PO6 PO7	CLO4 CLO5 CLO6	1. Lectures 2. Problem-based Learning 3. Case Study 4. Discussion 5. Design studio 6. Presentations 7. Projects 8. Modeling	1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 7. Modeling 8. Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal 

Head of Department: Prof. Dr. Zeinab Faisal 

Date: 29/01 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Building Construction 1B	Code	AE1122	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

Pursuing Refused Concrete buildings and types of Roofing systems. Wooden construction – light steel detailing - Stair type's construction – introduction to technical Installations – Finishing Applied Research

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Apply analytic critical and systemic thinking to identify, diagnose and solve engineering problems with a wide range of complexity and variation.	CO1	Identify and classify the basic structural elements of the building (walls, floors and roofs) and their implementation into different kinds of buildings.
		CO2	Figure out the different types, and materials building stairs and their appropriate uses.
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO3	Take responsibility and lead the work team for effective presentation at the individual and group levels, and the use of modern technology to communicate information

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Discuss the different types of both expansion and settlement joints in buildings by scientific research.
		CLO2	Present information about different finishing materials in buildings.
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO3	Identify the main elements of concrete, steel, and wood structural systems.
		CLO4	Produce neat drawings for the principal elements and components of concrete, steel, and wood structural systems.
		CLO5	Describe the different stairs types and its various elements.
		CLO6	Design the suitable stair type for a specific use.

Cognitive Domain	Psychomotor Domain	Affective Domain
CLO1, 3, 5	CLO4, 6	CLO2

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction & Course Review	1	*	*	*		*	
R. Concrete Construction	2			*	*		
Pre-Cast Conc. Construction	3			*	*		
Timber Floors & Roofs Construction	4			*	*		
Timber Walls & Columns Construction	5			*	*		
Steel Floors & Roofs Construction	6			*	*		
Steel Walls & Columns Construction	7			*	*		
Mid-term Exam	8						
Discussion of 1 st research: Different types of both expansion and settlement joints	9	*					
Introduction To RC Stairs	10					*	*
Introduction to Cantilevered Staircase design	11					*	*
Introduction to Precast Concrete Stairs	12					*	*
Introduction to Steel Stair System	13					*	*
Discussion of 2 nd research: Different finishing materials in buildings.	14		*				
Physical Model: RC Stair System	15						*
Total	15	2	2	7	6	5	5



2.5 Teaching and Learning Methods

Teaching and Learning Methods: Methods	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures	*		*		*	
2. Tutorials				*		*
3. Problem-based Learning			*	*	*	*
7. Discussion	*	*				
8. Self-Learning	*	*				
Teaching and Learning Methods for Students with Special Needs:						
Methods						
2. Discussion Session						
3. Extra Lectures						
4. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods: Methods	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Midterm Exam			*	*		
2. Assignments			*	*	*	*
3. Reports	*	*				
4. Presentations	*	*				
5. Modeling						*
Summative Assessment Method						
6. Final Exam				*	*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Midterm Exam	Week 8	20%
2. Assignments	Week 2,3,4,5,6,7,10,11,12,13	20%
3. Reports	Week 9,14	10%
4. Presentations	Week 9,14	5%
5. Modeling	Week 15	5%
6. Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> Barry, R. (1999). The Construction of Buildings Vol. 2. 5th Ed. New Delhi: East-West Press.
Recommended Books:	<ul style="list-style-type: none"> Ching F. 2019, Building Construction Illustrated, 6th. Ed. John Wiley & sons, NJ, USA MG Shah & CM kale, Principles of Building Drawings, 2017 حيدر. فاروق عباس، الموسوعة الهندسية في تكنولوجيا تشييد المباني، الجزء الأول والثاني، مركز الدلتا للطباعة، اسبورتنج، الاسكندرية 2014
Periodicals, Web Sites, ... etc:	-----

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*	*	
PO5			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1			*	*		
CO2					*	*
CO3	*	*				



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*	*				
PLO13			*	*	*	*

3.4. Assessment Alignment Matrix

Teaching and Learning Methods:	Course LO's Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		*	
2. Tutorials				*			*
3. Problem-based Learning			*	*	*		*
7. Discussion		*	*				
8. Self-Learning		*	*				
Teaching and Learning Methods for Students with Special Needs:							
Methods							
2. Discussion Session							
3. Extra Lectures							
4. Provide different levels of books and materials							

Course Coordinator: Dr. Mona Yehia Shedid
Head of Department: Prof. Dr. Zeinab Faisal
Date: 20/ 1/ 2023

Mona Yehia
Zeinab Faisal



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	History & Theory of Architecture1B	Code	AE 1132	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	2

2. Professional Information:

2.1. Course Description:

Upon completion of this subject, the student should be aware of the functional bases for designing architectural elements

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Classify the impacts of engineering solutions on society & environment..
Po5	Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.	CO2	Select appropriate solutions for engineering problems based on analytical thinking
Po6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community	Co3	Combine, exchange, and assess different ideas, views, and knowledge from a range of sources



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Classify Theories and histories of architecture, planning, urban design, and other related disciplines.
		CLO2	Respect all alternative solutions; changes in original plan of the project, differences in style, culture, experience and treat others with respect.
		CLO3	Select appropriate solutions for engineering problems based on analytical thinking.
PLO11	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.	CLO4	Sketch Manual drafting and freehand sketching.
		CLO5	Discuss, informed opinions appropriate to specific context and circumstances affecting architecture profession & practice
		CLO6	Analyze the range of patterns and traditions that have shaped and sustained cultures and the way that they can inform design process
Cognitive Domain		Psychomotor Domain	
CLO1-CLO2		CLO3-CLO4	
		Affective Domain	
		CLO5-CLO6	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Course orientation and discussion about the design project	1		*				
building elements analysis, functional & Circulation elements	2		*	*			
Service, Protection, Ventilation elements	3		*	*			
Structural elements	4		*	*			
elements of beauty	5		*	*			
Design process, Functional Program	6		*				
Function relationships	7			*			*
Mid-term Exam	8			*			
Spatial Analyses	9	*		*		*	
Design Concept	10		*		*		
Forming in 3D	11	*		*		*	*
Forming in 3D	12				*		
Semi Final model	13		*		*	*	
Semi-final sketch	14	*		*			*
Final Sketch & Physical Model	15	*		*		*	*
Total	15	4	8	10	3	4	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Design Studio	*		*		*	*
3. Problem-based Learning	*			*		
5. Presentations			*		*	*
6. Projects	*		*		*	*
7. Discussion	*	*		*		*
8. Modeling					*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
1. Tests	Oral Test	*	*			*	
	Midterm Exam			*			
2. Discussions		*			*		
3. Projects		*		*		*	*
4. Assignments			*	*	*		*
5. Presentations						*	
6. Modeling						*	
Summative Assessment Method							
Final Exam		*		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10%
Oral Test	Week # 13	5%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	5%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	5%
Presentations	Week # 9 & 15	5%
Modeling	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Clark, Roger H. and Michael Pause. <i>Precedents in Architecture: Analytic Diagrams, Formative Ideas</i> , John Wiley & Sons, 2004..
Recommended Books:	Architectural GRAPHIC Standards. NY: John Wiley & Sons, Inc., 1996. 2 Saxon, Richard. <i>The Atrium Comes of Age</i> . Essex: Longman Group (UK) Limited, 2000.
Periodicals, Web Sites, ... etc:	http://www.conceptsindesign.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	Co4
PO4	*			
Po5			*	
Po6		*		
PO7				*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1					*	
CO2			*			
Co3		*				
CO4	*			*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*			*	*	*
PLO11		*	*			



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO5	Po4 Po65	CLO1 Clo2 Clo3	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
PLO11	Po6 Po7	CLO4 CLO5 Clo6	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad

Rasha Reyad

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 26/1 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Perspective and Sciography	Code	AE1102	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

Shade and Shadows of a dot, a line, a surface, and a volume – Shade and shadow of buildings in plans, elevations and layouts, Basics of perspective - vanishing points.

2.2. Course Objectives (CO): At the end of course, the student will be able to:

Program objective		Course objective	
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO1	Apply analytical thinking to solve engineering problems and deductive reasoning using a variety of scientific methods.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO2	Create perspective snapshots with engineering steps, to find solutions compatible with the development of the local community.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements.	CO3	Designing interior and exterior architectural scenes using shadows with aesthetic standards and functional requirements for users.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO1	Understand the basics of drawing shades & shadows, and perspective and implement them in projects.
		CLO2	Outline of shades (point, line, surface and form) through individual work
		CLO3	Analysis of engineering lines for building projections in a simple context, scales and types that meet engineering requirements.
PLO11	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.	CLO4	Apply shade and shadows (Elevations, Lay Outs, Plans and isometrics) for multiple buildings
		CLO5	Create an indoor and outdoor perspective snapshot, with one point & two vanishing points
		CLO6	Designing architectural scenes with aesthetic and human proportions that include projecting shadows on perspective, reflections and landscapes
Cognitive Domain		Psychomotor Domain	Affective Domain
CLO1, 2, 5		CLO3, 4, 5, 6	-----

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1	*		*		*	
Shadow lecture (Surface and forms completion) + applications on Elevations, general location and isometry of a residential building + discussion on a book specialized in shadow and perspective	2	*	*				*
Shadow lecture (Surface and forms) + applications on a general site, Elevations and Isometrics for a religious building, a mosque + discussion on a book specialized in shadows and perspective	3		*		*		*
Shadow Lecture (Surfaces and Rotational Volumes) + Applications on the Model of Horizontal Projection, Interface and Isometry of a Bedroom with Furniture + Discussion on a Book Specializing in Shadow and Perspective	4	*	*		*		*
Lecture on the shadow and perspective of the shapes of the different openings of doors and windows + applications on the model of a Section, an interface and a general location for a crafts center in order to be in line with the architectural design + the beginning of drawing a perspective with two vanishing points + a discussion on a book specialized in shadow and perspective	5	*	*		*	*	
Shadow and perspective lecture (stairs, entrances and minarets) + drawing a two-point perspective of a residential building	6	*		*	*	*	
Completing the shadow and perspective lecture (stairs, entrances and minarets) + drawing a two-point perspective	7			*	*	*	
Mid-term Exam	8			*	*		
Perspective Lecture - Complete the perspective with two points	9			*	*	*	
Perspective Lecture -(One & Two) vanishing point - interior design	10	*		*		*	*
Shadow lecture on perspective through architectural models	11	*	*			*	*
Shadow lecture on perspective with reflection through architectural models	12	*	*			*	*
project Semi Final submission	13		*	*	*		*
project Final submission	14		*	*	*		*
Portfolio submission and general discussion	15		*	*	*	*	
Total	15	8	9	9	10	8	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures	*				*	*	
2. Tutorials		*	*				*
3. Problem-based Learning		*	*				*
4. Interactive Learning		*	*				
5. Brain Storming	*				*	*	
6. Self-Learning	*				*	*	
Teaching and Learning Methods for Students with Special Needs:							
Methods							
1. Field visit to historical buildings							
2. Discussion Session							
3. Extra Lectures							
4. Provide different levels of books and materials							

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
1. Tests	Midterm Exam			*	*		
	Quizzes	*			*	*	
2. Assignments (class & Home)				*	*		*
3- Portfolio		*	*	*			*
Summative Assessment Method							
8- Final Exam		*	*			*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	20%
2. Quizzes	Week 2 & 3 & 4 & 5 & 6 & 7 & 9 & 10 & 11 & 12 & 13 & 14	5%
5. Assignments	Week 2 & 3 & 4 & 5 & 6 & 7 & 9 & 10 & 11 & 12 & 13 & 14	25%
8- Portfolio	Week 15	10%
9. Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Ching, Francis D.K. Architectural Graphics. Third Edition. NY: Van Nostrand Reinhold, 1996. ▪ Perspective from Basic to Creative, Robert W. Gill, Publisher: Thames and Hudson, April 2006.
Recommended Books:	<ul style="list-style-type: none"> ▪ كتاب الظل والظلال – جامعة القاهرة ▪ اسكاويان، سوسي وربيع الحرساوي. فه المنظر والإظهار المعماري. الطبعة الثالثة. بيروت: دار قابس للطباعة والنشر والتنزيح 1987
Periodicals, Web Sites, ... etc:	<p>https://www.youtube.com/playlist?list=PLitviJPgm9aZC9191D11Pr8KISLhw0j3x</p> <p>https://arab-ency.com.sy/ency/details</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO5	*		*
PO6	*	*	
PO7		*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*	*			
CO2	*				*	
CO3				*		*



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO10	*	*		*		
PLO11			*		*	*

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO10	PO5	CLO1 CLO2 CLO3	1. Lectures 2. Tutorials 3. Problem-based Learning 4. Brain Storming 5. Self-Learning	1. Midterm Exam 2. Quizzes 3. Assignments 4. Portfolio 5. Final Exam
PLO11	PO6 PO7	CLO4 CLO5 CLO6	1. Lectures 2. Tutorials 3. Interactive Learning 4. Brain Storming 5. Self-Learning	1. Midterm Exam 2. Quizzes 3. Assignments 4. Portfolio 5. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 15/ 2/ 2023

Dr. Kamal Elgabalawy

Prof. Dr. Zeinab Faisal



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Civil Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Plane Surveying	Code	AE 1172	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course description:

To introduce the student to basic elements of surveying and their architectural applications. Plotting scales, verniers, linear of angular and simple angular measurement devices. - Chain surveying, levelling & theodolites. - Map drawing. - photogrammetry and its architectural applications.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science and specialized skills with analytic, critical and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Apply wide sets of surveying knowledge, with analytic, critical, and systemic thinking to identify and solve a plane surveying problem in real-life situations.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Use techniques, and modern engineering tools that are necessary for surveying projects

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science, and mathematics.	CLO1	Identify the basic principles of a plane and topographic survey.
		CLO2	Determine horizontal and vertical angles, horizontal distance, and reduced level of points.
		CLO3	Calculate the coordinate of the traverse, adjust it.
PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions	CLO4	Use a surfer software for drawing a contour map and calculating the volumes of the project
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO5	Predict the area and the volume for the architectural project.
		CLO6	Discuss the benefits of photogrammetry in architectural applications

2.4. Course Learning Outcomes VS Three Domains of Learning:

Cognitive Domain	Psychomotor Domain	Affective Domain
CLO1, 6	CLO2,3, 4, 5	-----

2.5. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to Surveying	1,2	*					
Angular Measurement & Theodolite	3	*	*				
Calculate the H.D using tacheometry.	4	*	*				
Traversing computation	5			*			
Traversing adjustment	6			*			
Levelling	7	*	*				
Midterm exam	8	*	*	*			
Levelling	9	*	*				
Areas & Volumes Computation	10,11				*	*	
Photogrammetry	12,13,14						*
Total	14	6	4	2	2	2	3

2.6. Lab Topics:

Not Applicable

2.7 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*	*	*		*	
2. Tutorials	*	*	*		*	
3. Computer-based Instruction				*		
4. Discussion						*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.8 Assessment Methods

Assessment Methods:		Course LOs Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Midterm Exam	*	*	*			
Assignments					*		
Report							*
Summative Assessment Method							
Final Exam		*	*	*		*	

2.8.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Midterm exam	8	20
Assignments	10	5%
Report	14	5%
Final Exam	16	70%
Total		100%

2.9. List of Reference:

Course Notes:	<ul style="list-style-type: none"> Lecturer Notes
Essential Books (Textbooks):	<ul style="list-style-type: none"> Surveying for Civil and Mine Engineers Theory, Workshops, and Practicals-John Walker Joseph L. Awange- 2018-ISBN 978-3-319-53128-1- ISBN 978-3-319-53129-8 (eBook)
Recommended Books:	<ul style="list-style-type: none"> Elementary Surveying - An Introduction to Geomatics - Thirteenth Edition-2012-CHARLES D. GHILANI-ISBN-13: 978-0-13-255434-3- ISBN-10: 0-13-255434-8 Surveying Engineering & Instruments- Valeria Shank- First Edition-2012- ISBN 978-81-323-4403-2

2.10. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	*	
PO4		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*	*			
CO2				*	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO1	*	*	*			
PLO2				*		
PLO13					*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1	<ul style="list-style-type: none">LecturesTutorials	Midterm Exam Final Exam
		CLO2	<ul style="list-style-type: none">LecturesTutorials	Midterm Exam Final Exam
		CLO3	<ul style="list-style-type: none">LecturesTutorials	Midterm Exam Final Exam
PLO2	PO4	CLO4	<ul style="list-style-type: none">Computer-based Instruction	Assignments
PLO13		CLO5	<ul style="list-style-type: none">LecturesTutorials	Final Exam
		CLO6	<ul style="list-style-type: none">Discussion	Report

Course Coordinator: Dr. Rasha Mohey Al-Deen

Rasha Mohey Al-Deen

Head of Department: Prof.. Dr. Zeinab Faisal

Zeinab Faisal

Date:29/1/2023



Course Specification

1. Basic Information:

Department Offering the program	Civil Engineering Program			
Department Offering the course	Civil Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Properties of Materials	Code	AE 1174	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	4

2. Professional Information:

2.1. Course description:

Properties of Materials: Introduction to various building materials, their properties, testing and uses. Materials used in Engineering products - Standard codes & specifications - The development of innovative uses of building materials - Concrete; components, manufacturing, quality control - Partitioning materials; gypsum, lime, timber & bricks - The effects of water on building materials - The mechanics of engineering materials.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Apply the necessary tests on different types of materials and how to test them.
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO2	Prepare qualified innovative architects who can adhere to architectural engineering
PO4	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO3	Communicate effectively in academic/professional fields.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO1	<ul style="list-style-type: none"> Define types, properties, and behavior of engineering materials under static and impact loads.
		CLO2	<ul style="list-style-type: none"> Describe procedures of testing engineering materials, stress-strain curve, and different failure modes under static and impact loads.
		CLO3	<ul style="list-style-type: none"> Apply testing methods to determine mechanical properties of engineering materials and factors affecting them.
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO4	<ul style="list-style-type: none"> Decide the acceptance criteria, and quality control of engineering materials according to required specification.
		CLO5	<ul style="list-style-type: none"> Discuss the development of innovative uses of building materials and study the properties of concrete, gypsum, lime, timber, bricks and different building materials.

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO2	CLO3	CLO4	CLO5
Introduction to various building materials. Standard codes & specifications	1	*				
Partitioning materials: lime and gypsum.	2					*
Cement	3					*
Concrete aggregates, Mixing water and admixtures.	4					*
Concrete: components, manufacturing, and quality control.	5					*
Wood.	6					*
Building rocks.	7					*
Behavior of Engineering Materials under Static Tension Load	8		*	*	*	
Mid-term exam	9	*				*
Behavior of Engineering Materials under Static Tension Load	10		*	*	*	
Behavior of Engineering Materials under Static Compression Load	11		*	*	*	
Behavior of Engineering Materials under Static Bending Load	12,13		*	*	*	
Behavior of Engineering Materials under Static Shear forces.	14		*	*	*	
Total	14	2	5	5	5	7

Cognitive Domain	Psychomotor Domain	Affective Domain
CLO1&5	CLO2&3&4	-----



2.5. Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*	*	*	*	*
2. Tutorials	*	*	*	*	*
3. Practical-based Learning	*	*	*	*	
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered				
Methods		CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method						
Tests	Oral Test					
	Midterm Exam	*				*
	Experimental					
Assignments		*	*	*	*	*
Summative Assessment Method						
Final Exam		*	*	*	*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Assignments	2 to 6 and 9 to 12	10%
Mid-term exam	8	20%
Oral & Experimental	-	-
Final exam	16	70 %
Total		100%

2.7. List of Reference: (max. five years ago)

Course Notes:	Lecture Notes
Essential Books (Textbooks):	المواصفات القياسية المصرية
Recommended Books:	-1 "المواد الهندسية مقاومتها واختبارها" (الجزء الأول والثاني) ا.د. عبد الكريم عطا - ا.د. احمد العريان. -2 "مقاومة واختبار المواد" د. عبد الوهاب محمد عوض - د. إبراهيم على درويش.
Periodicals, Web Sites, ... etc:	

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO2		*	
PO4			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1	*	*			
CO2			*	*	
CO3					*

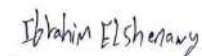
3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO2	*	*			
PLO11			*	*	*

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO2	PO1	CLO1	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments
	PO2	CLO2	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments
		CLO3	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments
PLO11	PO4	CLO4	<ul style="list-style-type: none"> • Lectures • Tutorial 	<ul style="list-style-type: none"> • Written Exam • Assignments
		CLO5	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments

Course Coordinator: Dr. Ibrahim Mohamed Ibrahim El-Sayed El-Shenawy



Dr. Ibrahim Ali Ibrahim El-Azab



Head of Department: Prof. Dr. Zeinab Faisal



Date: 15 / 02 / 2023

Architectural Engineering
Department -SECOND YEAR
Specification



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Architecture Design 2A	Code	AE 1211	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7	-	6

2. Professional Information:

2.1. Course description:

This course intends to help students further develop their architectural design abilities through the solution of moderately complex multi-functional programs. Emphasis is placed on the use of context, program functional and spatial requirements as a basis for the generation of design solutions as well as the appropriate solution of circulation and integration of structure in design development considering public buildings (commercial, administrative, mixed use, etc.) With the ability to generate creative forms. Drawings will be required for final project and perspective views.

2.2. Course Objectives (CO): At the end of course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Apply the variety of architectural design standards on different scales and contexts.
		CO2	Apply the principals of technologies, construction and materials and identify their impact on the design process.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Design projects that compose of two buildings
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Manage appropriate solutions to provide innovative architectural designs compatible with sustainability.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Design robust architectural projects with creativity and technical mastery.
		CLO2	Criticize physical models of similar buildings.
PLO11	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.	CLO3	Demonstrate knowledge of sustainability, climate change and the impact of that on a building.
		CLO4	Produce all necessary architectural drawings that meet technical requirements.
PLO12	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.	CLO5	Analyze different similar building design solutions to obtain design criteria.
		CLO6	Create simple architecture design problems that meet users' requirements

Cognitive Domain	Psychomotor Domain	Affective Domain
CLO3	CLO1,2,4,5, 6	-----

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Course orientation and discussion about the design project	1		*				
First project (multi- purpose building): School Sketch design of concept and design ideas, layout analysis Research about the project elements, structural systems, and examples of other similar projects	2		*	*			
Sketch design of master ground floor	3		*	*			
Sketch design of second and third floor	4		*	*			
Sketch design of master section	5		*	*			
Sketch design of perpendicular section	6		*				
Mid-term Exam	8						
Sketch design of Elevations	9	*		*		*	
Sketch design of development of Elevations	10		*		*		
Sketch design of Layout	11	*		*		*	*
Sketch design of 3d perspective for the final project	12				*		
Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Similar project analysis (1) & Physical Model	13		*		*	*	
Semi-final Sketch	14	*		*			*
Final Sketch & Physical Model	15	*		*		*	*
Total	15	5	8	9	3	4	3

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Design studio	*		*		*	*
3. Problem-based Learning	*			*		
5. Presentations			*		*	*
6. Case Study		*		*		
7. Projects	*		*		*	*
8. Discussion	*	*		*		*
9. Modeling					*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test	*	*		*	
	Midterm Exam			*		
2. Discussions	*			*		
3. Projects	*		*		*	*
4. Assignments		*	*	*		*
5. Presentations					*	
6. Modeling					*	
Summative Assessment Method						
Final Exam	*		*			*



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Presentations	Week # 9 & 15	5%
Modeling	Week # 9 & 15	
Training	Preparatory year	20%
Final Exam	Scheduled by the faculty council	30%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Szokolay, S. (2012), Introduction to Architectural Science; Basis for Sustainable Design, Oxford: Architectural Press.
Recommended Books:	Nufert Architects' Data, 5th Edition, SBN: 978-1-119-28435-2 August 2019 WileyBlackwell Architecture: Form, space, and order, FDK Ching - 2015 - John Wiley & Sons
Periodicals, Web Sites, ... etc:	http:// www.archnet.org http:// www.greatbuilding.com http:// www.architecture.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	Co4
PO1	*	*		
Po6			*	
PO7				*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*			*	
CO2			*			
CO3	*			*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO9	*					
PLO11		*	*			
PLO12				*	*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO9	Po1 Po6	CLO1	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
PLO11	Po6 Po7	CLO2 CLO3	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO12	Po6 Po7	CLO4 CLO5 CLO6	1. Lectures 2. Problem-based Learning 3. Case Study 4. Discussion 5. Design studio 6. Presentations 7. Projects 8. Modeling	1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 6. Presentations 7. Modeling 8. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad



Head of Department: Prof. Dr. Zeinab Faisal



Date: 8/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Building Construction 2A	Code	AE1221	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

Working drawings preparation (plans, sections, elevations, details, finishes, wood, and metal works), execution stages (site works, foundations, skeleton, scaffoldings, quality control). Contemporary construction techniques/methods, architectural/building works (partitions, curtain walls, panels), finishing materials (matmarx, bricks, timber, metals, plastics, and synthetics), finishes (plaster, cladding, suspended ceilings, etc.) expansion and settlement joints, admixtures, thermal and damp proofing.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Classify sustainable building engineering systems, materials, and techniques.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Compare among modern finishing materials in building construction and spaces fit-out.
PO5	Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.	CO3	Apply modern strategies of finishing systems, materials, techniques (in / out-doors) in project model.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Collect data in scope of course topics within an interdisciplinary group and elaborate with others.
		CLO2	Assess modern finishing systems, techniques and materials for suitable use within the building.
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO3	Apply sustainable concepts and use of sustainable finishing materials and techniques by both: Passive & Active through project design.
		CLO4	Select suitable treatments and appropriate finishing materials for building envelope and inner spaces according to building activities.
		CLO5	Solve the connections between different finishing systems, materials in both (In / Out-door).
		CLO6	Produce comprehensive execution drawings with chosen finishing (systems/ materials) with different connections through project model.
Cognitive Domain		Psychomotor Domain	
CLO4		CLO2,3,5, 6	
		Affective Domain	
		CLO1	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction & Course presentation	1	*		*			
Project Orientation & working Drawing Annotations review	2		*	*			
Flooring systems: Stones (Granite- Marble- lime/sand stone- slates...)	3	*		*	*		
Wooden floor systems: (Panels – parquets-Tiles)	4			*		*	
Industrial floors (Ceramics-Porcline – Vinyl – HPL–HDF–....) – Raised floors.	5		*			*	*
Walling systems: plastering & Painting	6	*	*				
Dry wall systems: (Gypsum – Cement – Wooden– Engineered) partitions.	7				*	*	
Midterm Exam	8		*		*	*	
Cladding systems: (Plastering – Half mechanical – Mechanical) Cladding	9			*	*	*	
Cladding systems: (Plastering – Half mechanical – Mechanical) Cladding	10		*		*		*
Curtain wall systems:(standard – semi- structural – Structural – Spider) systems.	11	*	*		*	*	*
Glass blocks – Glazed partitions – Wcs. Cubicles	12	*	*			*	
Ceiling systems: Grid panels systems	13	*			*		
Boarding systems – 3D system	14		*			*	*
Jury & Project presentation	15		*	*	*	*	*
Total		6	9	6	8	9	5

2.6 Teaching and Learning Methods

Teaching and Learning Methods: Methods	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture		*	*	*		
2. Tutorials			*		*	*
3. Project-based Learning	*	*				*
4. Projects			*	*	*	*
5. Report	*	*				
6. Presentation	*	*	*			
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*	*		*		
	Midterm Exam		*		*	*	
	Quizzes		*	*		*	
Reports		*	*				
Projects					*	*	*
Assignments				*	*	*	
Presentations		*					*
Summative Assessment Method							
Final Exam				*	*	*	*

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20 %
Oral Test	Week # 15	5 %
Discussions	Week # 9 & 15	5 %
Projects	15	15 %
Assignments	Week # 2,3,4,5,6,7,9,10,11, 12, 13,14	20 %
Presentations	Week # 14 & 15	5 %
Final Exam	Scheduled by the faculty council	40 %
Total		100%

2.8. List of Reference: (max. five years ago)

Course Notes:	
Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Building Construction Illustrated, Ching, FDK Ching -,John Wiley & Sons, 2016 NY,USA. ▪ Fundamentals of Building Constructions-7th. Edition, Edward Allen & J.Iano, Wiley, 2019, NY,USA. ▪ Fcade Construction Manual,3rd..edition,Thomas H, Roland K., Edition Detail,2018,Gmbh ▪ Building Systems for Interior design, 2nd. Edition, Corky B., Jhon Wiely&Sons,2017,USA. ▪ التصميمات التنفيذية، هشام علي حسن، دار المعرفة، القاهرة ، ▪ 2010 محمد أحمد عبد الله. الرسومات التنفيذية والتفاصيل المعمارية. مكتبة الأنجلو المصرية. مصر.
Recommended Books:	<ul style="list-style-type: none"> ▪ Construction Materials-Reference Book, 2nd. Edition, D.K. Doran, Rutledge ,2018,UK ▪ Building construction, Barry,2010,
Periodicals, Web Sites, ... etc:	<p>http:// www.sweets.construction.com http:// www.Knauf.com http:// www.Detail-online.com http:// www.greatbuilding.com http:// www.architecture.com</p>

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO4		*	
PO5			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*	*			
CO2		*	*	*		
CO3				*	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*	*				
PLO13			*	*	*	*

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO 5: Practice research techniques and methods of investigation as an inherent part of learning.	PO2	CLO1	<ul style="list-style-type: none"> Project based learning Projects Group research 	<ul style="list-style-type: none"> Oral Test Reports Presentation
		CLO2	<ul style="list-style-type: none"> Lectures Project based learning Reports Group research 	<ul style="list-style-type: none"> Oral Test Mid term. quizzes Reports
PLO13: 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.	PO4 & PO5	CLO3	<ul style="list-style-type: none"> Lectures Tutorials Projects Group research 	<ul style="list-style-type: none"> quizzes Assignments Final exam
		CLO4	<ul style="list-style-type: none"> Lectures Projects 	<ul style="list-style-type: none"> Oral Test Mid term. Projects Assignments Final exam
		CLO5	<ul style="list-style-type: none"> Tutorials Projects 	<ul style="list-style-type: none"> Mid term. quizzes Projects Assignments Final exam
		CLO6	<ul style="list-style-type: none"> Tutorials Project based learning Projects 	<ul style="list-style-type: none"> Projects Presentation Final exam

Course Coordinator: Dr.Almoataz bellah Gamal eldien



Head of Department: Prof. Dr. Zeinab Faisal



Date: 20/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer application 1	Code	AE 1203	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	-	3	4

2. Professional Information:

2.1. Course Description:

Introduction to design using computer drafting techniques- 2d computer techniques – 3D computer techniques- virtual reality techniques- Simulations Decision and evaluation techniques.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Develop students' skills in computer presentation in the design phase.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Enhance the student's practical skills in the field of computer-aided design applications.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	CLO1	Identify the capabilities of computer-aided drawing techniques in architectural expression.
		CLO2	Apply basic CAD concepts to develop and construct accurate 2D geometry through the creation of basic geometric constructions.
PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO3	Communicate graphically with the colleagues in the lab.
PLO11	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.	CLO4	Use appropriate computer-aided drawing techniques to Present architectural projects.
		CLO5	Produce professional workshop and technical drawings using computer-aided drawing techniques
Cognitive Domain		Psychomotor Domain	
CLO1		CLO2,5	
		Affective Domain	
		CLO3,4	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO 1	CLO 2	CLO 3	CLO 4	CLO 5
Introduction	1	*				
Basic Geometric Objects	2	*	*			
Modify Commands	3	*	*			
Layers & Text	4	*	*			
Dimensioning & Plotting	5	*	*			
3D Modeling & Project	6		*	*	*	
Project Submission	7	*			*	
Mid-term Exam	8					
Introduction To Photoshop	9	*				*
Tools and Layers	10	*				*
(layout + section) presentation	11	*				*
Poster Presentation	12		*	*		*
Master pen Tool	13		*			*
Essential Filters	14	*				*
Revision	15	*				*
Total	15	11	7	2	2	7

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*	*			
2. Computer-based Instruction		*		*	*
3. Projects	*	*	*	*	*
4. Discussion	*	*	*	*	*
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					



2.6 Assessment Methods

Assessment Methods:	Course LOs Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method					
1. Tests: Midterm Exam		*			*
2. Discussions	*		*		
3. Projects		*	*	*	*
4. Assignments	*	*		*	*
Summative Assessment Method					
Final (Practical) Exam		*		*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week #9,13	5%
Projects	Week # 9 & 15	20%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Final (Practical) Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of References:

Essential Books (Textbooks):	CADArtifex, Willis J., Dogra S., "AutoCAD 2020 for Architectural Design: A Power Guide for Beginners and Intermediate Users", 2020.
Recommended Books:	N/A
Periodicals, Web Sites, ... etc:	N/A

2.8. Facilities required for Teaching and Learning

Different Facilities
Computer Lab
Library usage
Data show
Whiteboard

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO4	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1	*	*	*		
CO2				*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO4	*	*			
PLO8			*		
PLO11				*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO4	PO1	CLO1	1. Lectures 2. Projects 3. Discussion	1. Discussions 2. Assignments
		CLO2	1. Lectures 2. Computer-based Instruction 3. Projects 4. Discussion	1. Tests: Midterm Exam 2. Projects 3. Assignments 4. Final Exam
PLO8	PO1	CLO3	1. Projects 2. Discussion	1. Projects 2. Discussion
PLO11	PO7	CLO3	1. Computer-based Instruction 2. Projects 3. Discussion	1. Projects 2. Assignments 3. Final Exam
		CLO4	1. Computer-based Instruction 2. Projects 3. Discussion	1. Tests: Midterm Exam 2. Projects 3. Assignments 4. Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal

Head of Department: Prof. Dr. Zeinab Faisal

Date: 11/11 /2022





Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Environmental Control	Code	AE 1201	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	3	--	3

2. Professional Information:

2.1. Course description:

The course provide students with an environmental conscious design, sustainable development and environmental Studies, integrated environmental assessment (IEA), traditional and renewable energy sources.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Use the different and recent sustainable systems.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Determine the different construction techniques matching with environment.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	The students will be able to make decisions in the architectural issues.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO3	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.	CLO1	Identify the principles of environmental conservation		
		CLO2	Discuss the different sustainable concepts of design projects		
		CLO3	Identify the principles of rehabilitation designs		
		CLO4	Determine the different and recent sustainable materials		
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO5	Determine the different principles of project financing.		
		CLO6	Outline the principles of cost control and methods of project delivery		
Cognitive Domain		Psychomotor Domain		Affective Domain	
CLO1,2,3,4,5		CLO6		-----	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1	*		*			*
Explain environment types	2,3,4	*		*		*	
Explain the types of adaptation	5,6,7		*		*		*
Mid-term Exam	8						
Explain the sustainability	9	*	*		*		
Explain the green architecture	10,11			*		*	*
Explain the green cities & green projects	12,13,14,15	*	*		*	*	
Total		9	8	6	8	9	6

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lecture	*		*	*		
2. Tutorials	*				*	*
3- Presentation		*		*		
4. Discussion	*		*		*	
5- Brain Storming	*	*				*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.7 Assessment Methods

Assessment Methods:	Course LOs Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*		*			
	Midterm Exam	*			*		
Reports			*			*	
Presentations							
Summative Assessment Method							
Final Exam							
		*	*		*		

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20%
Oral Test	Week # 13	5%
Report	Week#10	5%
Presentations	Week # 9 & 14	10%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	التصميم المعماري الصديق للبيئة، نحو عمارة خضراء، يبي وزيرى، مكتبة الاسره، 2019
Recommended Books:	Lechner N. 2015. Heating, Cooling, Lighting: Sustainable Design Methods for Architects. 4 th . Ed. John Wiley & Sons, NY, USA
	Ching F. 2019, Building Construction Illustrated, 6th. Ed. John Wiley & sons, NJ, USA.
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO4		*	
PO6			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*			*
CO2		*		*		
CO3		*			*	

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO3	*					
PLO13		*	*	*		

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO3: Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.		CLO1	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Discussion 	<ul style="list-style-type: none"> • Midterm exam. • Oral Test • Final exam
		CLO2	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Presentation • 	<ul style="list-style-type: none"> • Reports. • Presentation • Final exam
		CLO3	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Presentation 	<ul style="list-style-type: none"> • Reports. • Presentation
		CLO4	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Presentation 	<ul style="list-style-type: none"> • Reports. • Presentation
PLO13: Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.		CLO5	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Discussion 	<ul style="list-style-type: none"> • Midterm exam. • Oral Test • Final exam
		CLO6	<ul style="list-style-type: none"> • Lectures • Tutorials • 	<ul style="list-style-type: none"> • Oral Test • Final exam

Course Coordinator: Dr Ahmed Elsaadany



Head of Department: Prof. Dr. Zeinab Faisal



Date: 8/11/2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	History & Theory of Architecture 2A	Code	AE123 1	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course description:

Early Christian Architecture –Byzantine Architecture -Romanesque Architecture – Gothic Architecture

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Use different technologies in effective presentation and individual and group discussion.
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Apply self-learning through specialized and electronic libraries & the ability to self-learning through field visits
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Analysis of historical architectural thought and its use in the development and service of the local community
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Solve design problems using historical architectural vocabulary and elements after understanding the design idea

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Search for information from references and internet.
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO2	Understand the functions of different historic buildings
		CLO3	Outline different design principles of different historical buildings
		CLO4	Identify the different building types of the different historical civilizations
PLO11	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.	CLO5	Understanding human requirements and needs through different historic periods.
		CLO6	Determine the technical and aesthetic requirements of the historic buildings.
		CLO7	Analysis the different historic building types.
		CLO8	Compare between building types in different historical civilizations
Cognitive Domain		Psychomotor Domain	
CLO2,3,4,5,6		CLO7,8	
		Affective Domain	
		CLO1	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction to course content	1	*	*				*		*
Early Christian Architecture	2	*	*			*			*
Church models from the beginning of Christianity	3			*	*	*	*	*	
Byzantine Architecture	4	*	*			*			*
Show models of Byzantine-style churches	5	*			*			*	*
A field visit to ancient Egypt in the complex of religions	6	*	*			*	*		
Group No. 1: Romanesque Churches Architecture - Presentation of the Italian, French and German Romantic style	7		*	*	*	*		*	
Mid-term Exam	8				*		*		
Group No. 2: Gothic Church Architecture - View architectural elements and the most important works that reflect the style	9		*	*	*		*	*	
Group No. 3: Architecture of churches in the Renaissance - show examples in Italy, outside Italy, and in France	10	*	*	*		*		*	
Group No. 4: Architecture of Baroque Churches - Design Principles with mention of the most important works that express Baroque	11	*		*	*				*
Group No. 5: Church buildings in Egypt - with display models of churches from the ancient region of Egypt	12		*	*	*		*	*	
Presentation and analysis of a modern church model inside and outside Egypt	13	*		*		*	*		*
Presentation and analysis of a modern church model inside and outside Egypt	14	*		*			*	*	
Portfolio submission and general discussion	15		*	*	*	*	*		*
Total	15	9	9	9	8	8	9	7	7



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered								
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
1. Lectures	*		*	*					*
2. Tutorials		*		*			*	*	
3. Presentations	*		*		*				*
4. Report	*	*					*	*	
5. Brain Storming			*		*			*	
6. Discussion			*	*			*		
7. Self-Learning	*			*	*				*
8. Modeling	*	*	*					*	
Teaching and Learning Methods for Students with Special Needs:									
Methods									
1. Field visit to historical buildings									
2. Discussion Session									
3. Extra Lectures									
4. Provide different levels of books and materials									

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered							
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method									
1. Tests	Midterm				*		*		
	Exam								
	Quizzes	*	*			*			*
2. Reports		*	*					*	
3. Discussions					*		*		*
4. Assignments				*	*		*		
5. Presentations		*	*			*		*	
6. Modeling		*		*			*		*
7- Portfolio			*	*		*		*	
Summative Assessment Method									
8- Final Exam		*		*		*		*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	10%
2. Quizzes	Week 2 & 3 & 4 & 5	5%
3. Reports	Week 6	1%
4. Discussions	Week 7 & 9 & 10 & 11 & 12	4%
5. Assignments	Week 2 & 3 & 4 & 5 & 7	5%
6. Presentations	Week 7 & 9 & 10 & 11 & 12	5%
7. Modeling	Week 14 & 13	5%
8- Portfolio	Week 15	5%
8. Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Course Notes:	Lecture Notes
Essential Books (Textbooks):	<p>Wilson, Christopher (2005). <i>The Gothic Cathedral Architecture of the Great Church</i>. Thames and Hudson. ISBN 9780500276815.</p> <p>Moore, Charles (1890). <i>Development & Character of Gothic Architecture</i>. Macmillan and Co. ISBN 1410207633.</p> <p>Tonazzi, Pascal (2007) <i>Florilège de Notre Dame de Paris (anthologie)</i>, Editions Arléa, Paris, ISBN 2869597959</p>
Recommended Books:	<ol style="list-style-type: none"> 1. Beck, H.G., Kirche und theologische Literatur im byzantinischen Reich, Munich, 1977. 2. Bekker, I., izd., Corpus scriptorum historiae byzantinae, Bonn 1838. 3. Deno John Geanakoplos, Constantinople and the West. Essays on the Late Byzantine (Paleologan) and Italian Renaissances and the Byzantine and Roman Churches, Madison, Wsc. 1989. 4. Ehrhard, A., Ueberlieferung und Bestand der hagiographischen und homiletischen Literatur der griechischen Kirche, 3 sveska. Tedzte und Untersuchungen zur Geschichte der altchristlichen Literatur, Leipzig 1937-1952. 5. Friedlaender, Paul, Johannes von Gaza, Paulus Silentiarius. Kunstbeschreibungen justinianischer Zeit, Berlin-Leipzig 1912 (reprinted faximile: Hildesheim-New York 1969). 6. Grabar, A., L'empereur dans l'art byzantin, Strasbourg 1936 (London 1971). Hunger, H., Die hochsprachliche profane Literatur der Byzantiner I, Muenchen 1978. Jenkins, R. J. H., The Hellenistic Origins of Byzantine Literature, Dumbarton Oaks Papers, 17, Dumbarton Oaks 1963. 7. Junecke, Hans, Die wohlbemessene Ordnung. Pythagoreische Proportionen in der historischen Architektur, Berlin 1982. 8. Korać Vojislav, Marica Šuput, Arhitektura vizantijskog sveta, Beograd 1999. 9. Kustas G. L., Studies in Byzantine Rhetoric, Salonika 1973. 10. Maguire, Henry, Art and Eloquence in Byzantium, Princeton, W 1981., Truth and Convention in Byzantine Descriptions of Works of Art, Dumbarton Oaks Papers, 28, Dumbarton Oaks 1974. Meridier, L., L'influence de la seconde sophistiljue sur l'oeuvre de Gregoire de Nysse, Paris 1906. 11. Pevsner, Nikolaus, Studies in Art, Architecture and Design, 2 sveska, London 1968. Procopius, Prokop, Opera, III, 2, izd. J. Haury, Leipzig 1913, Procopius, izd. H. B. Dewing, Glanville Downey, svezak VII (Loeb Classical Library), London-Cambridge, Mass. 1940. 12. Richter, Jean Paul, Wuellen zur byzantinischen Kunstgeschichte, Wien 1897. Silentiarius, Paulus, Εκφρασις του ναου της Αγιας Σοφιας(ekfrazis) u: Paul Friedlaender, Johannes von Gaza, Paulus Silentiarius. Kunstbeschreibungen justinianischer Zeit, Berlin-Leipzig 1912 (faksimil ponovo štampan: Hildesheim-New York 1969). 13. Unger, Friedrich Wilhelm, Wuellen zur byzantinischen Kunstgeschichte, Wien 1878. 14. Viljamaa, T., Studies in Greek Encomiastic Poetry of the Early Byzantine Period, Helsinki 1968. 15. Weitzmann, K., The Survival of Mythological Representations in Early Christian and Byzantine Art and Their Impact on Christian Iconography, Dumbarton Oaks Papers, 14, Dumbarton Oaks 1960.
Periodicals, Web Sites, ... etc:	<p>http://lena-arch.blogspot.com/p/byzantine-architecture.html</p> <p>http://historyofarchitecture.weebly.com/byzantine.html</p> <p>https://prezi.com/nzbn2vwoelmm/early-christian-architecture/#</p> <p>http://www.slideshare.net/CarlaFaner/hoa1-lecture-6-early-christian-architecture?related=6</p> <p>http://www.victorianweb.org/art/architecture/byzantine/bf1.html</p> <p>https://vi.scribd.com/doc/46345527/Early-Christian-Byzantine-and-Romanesque-Architecture</p>



2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO4	*	*		
PO5		*		*
PO6			*	*
PO7	*		*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1		*		*		*		*
CO2	*		*		*		*	
CO3	*			*	*		*	
CO4		*	*			*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO5	*		*		*		*	*
PLO10	*	*			*	*	*	
PLO11		*	*	*		*		

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO5	PO4 PO5	CLO1	1. Lectures 2. Tutorials 3. Presentations 4. Report 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Reports 4. Assignments 5. Modeling 6. Portfolio 7. Final Exam
PLO10	PO5 PO6	CLO2 CLO3 CLO4	1. Lectures 2. Tutorials 3. Presentations 4. Brain Storming 5. Discussion 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Assignments 4. Modeling 5. Portfolio 6. Final Exam
PLO11	PO6 PO7	CLO5 CLO6 CLO7 CLO8	1. Lectures 2. Tutorials 3. Presentations 4. Brain Storming 5. Discussion 6. Modeling	1. Mid-term Exam 2. Discussions 3. Assignments 4. Presentations 5. Modeling 6. Portfolio 7. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6/ 11/ 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Civil Engineering Program			
Department Offering the course	Civil Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Reinforced Concrete and Foundations 1	Code	AE 1271	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	4

2. Professional Information:

2.1. Course description:

Design of Concrete Structures: Fundamentals of reinforced concrete structures - Analysis and design of sections subjected to bending - Loads and load distribution - Reinforcement details of beams - Solid slabs - Columns - stairs - Statically determinate frames - Ribbed and hollow block slabs - Panelled Beam slabs - Flats slabs - Connections of precast concrete structural elements.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Plan and design the Concrete Structures geometrically & structure
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO2	Prepare qualified innovative architects who can adhere to architectural engineering
PO4	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO3	communicate effectively in academic/professional fields.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO1	Develop Fundamentals of reinforced concrete structures –design and Analysis of sections subjected to bending According to ECP203-2020.
		CLO2	Evaluate Loads and load distribution - Evaluate Reinforcement details of beams. According to ECP203-2020.
		CLO3	Design Solid slabs - Design Columns – stairs. According to ECP203-2020.
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of structural design, construction, technology and engineering problems associated with building designs.	CLO4	Design hollow block slabs. According to ECP203-2020.
		CLO5	Design panelled beam slabs. Design flats slabs. According to ECP203-2020.
		CLO6	Explain Statically determinate frames.
Cognitive Domain		Psychomotor Domain	
CLO6		CLO1,2,3,4,5	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LOs Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
- Fundamentals of reinforced concrete structures	1	*					
- Analysis and design of sections subjected to bending	2	*					
- Calculate Loads and load distribution	3		*				
- Reinforcement details of beams	4		*				
- Design Solid slabs	5			*			
- Design Columns	6			*			
- Design stairs	7			*			
Midterm exam	8						
- Design Ribbed and hollow block slabs	9				*		
	10				*		
- Design Panelled Beam slabs	11					*	
- Design Flats slabs	12					*	
	13					*	
- Statically determinate frames	14						*
Practical exam	15						
Total	15	2	2	3	2	3	1

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*	*	*	*	*	*
2. Tutorials	*	*	*	*	*	*
3. Project-based Learning		*	*			
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*	*	*	*	*	*
	Midterm Exam	*	*				
Projects	Mini Projects		*	*			
Assignments		*	*	*	*	*	*
Summative Assessment Method							
Final Exam		*	*	*	*	*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Assignments	2 to 6 & 9 to 13	10 %
Midterm exam	8	20 %
Mini Projects	7	5 %
Oral	15	5 %
Final exam	16	60 %
Total		100 %

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> • Shaker elbehary handbook. • ECP203-2020. • Design of RC Structure halls – DR.M. Hilal • lectures
Recommended Books:	<ul style="list-style-type: none"> • Design of RC Structure - V. 2 - DR. Mashhour A. Ghoneim.

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO2		*	
PO4			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*				
CO2			*	*		
CO3					*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO2	*	*	*			
PLO13				*	*	*

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO2	PO1	CLO1	<ul style="list-style-type: none"> • Lecture • Tutorials • Project-based Learning 	<ul style="list-style-type: none"> • Written Exam • Mini Projects • Assignments • Oral Test
	PO2	CLO2	<ul style="list-style-type: none"> • Lecture • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments • Oral Test
		CLO3	<ul style="list-style-type: none"> • Lecture • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments • Oral Test
PLO13	PO4	CLO4	<ul style="list-style-type: none"> • Lecture • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments • Oral Test
		CLO5	<ul style="list-style-type: none"> • Lecture • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments • Oral Test
		CLO5	<ul style="list-style-type: none"> • Lecture • Tutorials 	<ul style="list-style-type: none"> • Written Exam • Assignments • Oral Test

Course Coordinator: Ass. Prof. Dr. Mohamed Makhlouf

M. Makhlouf

Head of Department: Prof. Dr. Zeinab Faisal

Z. Faisal

Date: 19/11/2022



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Architectural Design 2B	Code	AE 1212	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 nd . Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7	--	6

2. Professional Information:

2.1. Course description:

This course tends to help students further develop their design skills and ability to deal with advanced form generation processes, and design assignments, covering various levels of form generation, including: context, site, solids and voids manipulation, spaces, structure, architectural expression and character; to develop analytical and synthesising abilities and communication skills, It emphasises the importance of the setting; environmental and socio-cultural factors in the design process, introduction and experimentation with current trends and conceptions through studio and design assignment, With the ability to generate creative forms and large spans. Drawings will be required for final project and perspective views, multi-elements and limited scale projects. Considering culture public buildings facilities such as (Art centres, Libraraies, Mixed culture use, etc.).

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO 1	Analyze various architectural designs (assumptions, Criteria and standards) on different building types, scales and contexts.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO 2	Apply theories of design of various public buildings and sustainable concepts by both: Passive & Active design solutions and creative forms through design project.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO 3	Design innovative and appropriate solutions for architectural design problems.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Analyze similar projects/ buildings design solutions to obtain design criteria & standards.
		CLO2	Study multiple architectural solutions and forms to be evaluated.
PLO11	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.	CLO3	Outline the knowledge of: Technology and Sustainability and their impact of that on a building design.
		CLO4	Design all necessary architectural drawings that meet: aesthetics functional, technical and requirements.
PLO12	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.	CLO5	Produce a appropriate, innovative architecture design Forms & solutions that meet users' needs within the urban context.
		CLO6	Create appropriate innovative integrated architectural design among: (users, context and environment) with multi-activities/disciplines in the same project.
Cognitive Domain		Psychomotor Domain	
CLO3		CLO1,2,4,5, 6	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Course Introduction & first Project Discussions/Research orientation	1	*		*			
1st. Project: Museum and Arts Center: Project Lecture/Briefing/ Analytical Research/3D Conceptual approach	2	*	*				
Site / Project Analysis & 3D study model	3		*	*		*	
3D study Model & Form Generation	4		*	*	*		
Site & Master plan development	5					*	
Conceptual section & Levels study	6				*	*	*
Layout – Master/upper plans & Conceptual sections designs (Criticism)	7	*			*	*	*
Mid-Term Exam	8				*	*	*
Technical sections Design development	9				*		
Facades & 3D Design development	10		*				
3D Model development & 2D feedback	11						*
Pre-Final full design sketch (Criticism)	12	*	*		*	*	*
1st. project jury & Evaluation & 2nd. Project lecture:	13	*		*	*	*	*
2 nd . Project design development	14		*		*		
2nd. project jury & Evaluation	15			*	*	*	*
Total		5	6	5	9	8	7



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures			*			*
2. Design studio			*	*	*	
3. Problem-based Learning	*				*	
5. Presentations		*		*		*
6. Case Study	*		*			
7. Projects	*		*		*	*
8. Discussion	*	*				*
9. Modeling		*				*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test	*				
	Midterm Exam				*	*
2. Discussions	*	*				*
3. Projects					*	*
4. Assignments			*	*		
5. Presentations	*	*	*			*
6. Modeling		*			*	
Summative Assessment Method						
Final Exam				*	*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10 %
Oral Test	Week # 13	10 %
Discussions	Week # 7 &12	5 %
Projects	Week # 13 &15	15 %
Assignments	Weeks # 2,3,4,5,6,9 ,10,11, 14	10 %
Presentations	Week # 9 &15	5 %
Modeling	Week # 2 &12	5 %
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference: (max. five years ago)

Course Notes:	
Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Time saver: for Building types, 4th. Edition, De Chiara & M.Crosbie, Mc G.Hill, NY.USA, 2001 ▪ Architecture: Form, space, and order, FDK Ching - 2014 ,John Wiley & Sons ▪ The architectural concept book, James Tait, Thames &Hudson,2019, USA. ▪ Architecture Competitions Annual series I,II,...IIV, Archiworld, 2016:2020,HongKong.
Recommended Books:	<ul style="list-style-type: none"> ▪ Process + Diagram, Archi-lab press, 2020. ▪ Annual Competition A awards parts (8,9&10), archiworld, Seoul, 2018,2019,2020. ▪ Nufert Architects' Data, 5th Edition, SBN: 978-1-119-28435- 2019 Wiley Blackwell. ▪ Panel layout, (4, 5&6), Damdi , 2018. ▪ The design of small projects(Public, Education, Culture &sports),Archiworld,2020
Periodicals, Web Sites, ... etc:	<p> http:// www.archnet.org http:// www.archiworld.org http:// www.big.dk http:// www.architecture digist.com http:// www.architecture.com </p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO6		*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*				
CO2			*	*		
CO3		*			*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO9	*	*				
PLO11			*	*		
PLO12					*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO9: Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	PO1	CLO1	1. Problem-based Learning 2. Case study 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Presentation
		CLO2	1. Presentation 2. Discussions 3. Modeling	1. Modeling 2. Discussions 3. Presentation
PLO11: 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.	PO6	CLO3	1. Lectures 2. Design studio 3. Case Study 4. Projects	1. Presentation 2. assignments
		CLO4	1. Design studio 2. Presentation	1. Midterm Exam 2. assignments
PLO12: 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.	PO7	CLO5	1. Design studio 2. Problem-based Learning 3. Projects	1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 6. Presentations 7. Modeling 8. Final Exam
		CLO6	1. Lectures 2. Presentation 3. Projects 4. Discussion 5. Modeling	1. Midterm Exam 2. Discussions 3. Projects 4. Presentations

Course Coordinator: Dr. Almoataz bellah Gamal eldien



Head of Department: Prof. Dr. Zeinab Faisal



Date: 31/01 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Building construction 2-b	Code	AE1222	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

Working drawings preparation (plans, sections, elevations, details, finishes, wood, and metal works), execution stages (site works, foundations, skeleton, scaffoldings, quality control). Contemporary construction techniques/methods, architectural/building .

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Classify sustainable building engineering systems, materials, and techniques.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Compare among modern finishing materials in building construction and spaces fit-out.
PO5	Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.	CO3	Apply self-learning for modern strategies of finishing systems, materials, techniques (in / out-doors) in project model.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Collect data in scope of course topics within an interdisciplinary group and elaborate with others.
		CLO2	Identify modern finishing systems, techniques and materials for suitable use within the building.
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO3	Apply sustainable concepts and use of sustainable finishing materials and techniques by both: Passive & Active through project design.
		CLO4	Select suitable treatments and appropriate finishing materials for building envelope and inner spaces according to building activities.
		CLO5	Solve the connections between different finishing systems, materials in both (In / Out-door).
		CLO6	Produce comprehensive execution drawings with chosen finishing (systems/ materials) with different connections through project model.
Cognitive Domain		Psychomotor Domain	
CLO2		CLO3,4,5, 6	
		Affective Domain	
		CLO1	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		C L O1	C L O2	C L O3	C L O4	C L O5	C L O6
Introduction & Course presentation	1	*		*			
Project Orientation & working Drawing Annotations review	2		*	*			
Wooden details (doors- windows)	3	*		*	*		
Wooden details (doors- windows)	4			*		*	
Electrical systems in buildings	5		*			*	*
Expansion joints and subsidence in buildings	6	*	*				
Sanitary systems in buildings	7				*	*	
Midterm Exam	8		*	*		*	
plans	9			*	*	*	
sections	10		*		*		*
elevations	11	*	*		*	*	*
stairs	12	*	*			*	
details	13	*			*		
Semi final	14		*			*	*
Jury & Project presentation	15		*	*	*	*	*
Total		6	9	7	7	9	5

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1.Lecture		*	*	*		
2.Tutorials			*		*	*
3.Project-based Learning	*	*				*
4. Projects			*	*	*	*
5. Report	*	*				
6. Group Research	*	*	*			
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*	*		*		
	Midterm Exam		*		*	*	
	Quizzes		*	*		*	
	Reports	*	*				
Projects				*	*	*	
Assignments			*	*	*		
Presentations		*				*	
Summative Assessment Method							
Final Exam			*	*	*	*	

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20 %
Oral Test	Week # 15	5 %
Discussions	Week # 9 & 15	5 %
Projects	15	5 %
Assignments	Week # 2,3,4,5,6,7,9,10,11, 12, 13,14	20 %
Presentations	Week # 14 & 15	5 %
Final Exam	Scheduled by the faculty council	40 %
Total		100%

2.8. List of Reference:

Course Notes:	
Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Building Construction Illustrated, Ching, FDK Ching - ,John Wiley & Sons, 2016 NY,USA. ▪ Fundamentals of Building Constructions-7th. Edition, Edward Allen & J.Iano, Wiley, 2019, NY,USA. ▪ Fcade Construction Manual,3rd..edition,Thomas H, Roland K., Edition Detail,2018,Gmbh ▪ Building Systems for Interior design, 2nd. Edition, Corky B., Jhon Wiely&Sons,2017,USA. ▪ التصميمات التنفيذية، هشام علي حسن، دار المعرفة، القاهرة ، ▪ 2010محمد أحمد عبد الله. 2004.الرسومات التنفيذية والتفاصيل المعمارية. مكتبة الأنجلو المصرية. مصر.
Recommended Books:	<ul style="list-style-type: none"> ▪ Construction Materials-Reference Book, 2nd. Edition, D.K. Doran, Rutledge ,2018,UK ▪ Building construction, Barry,2010,
Periodicals, Web Sites, ... etc:	<p>http:// www.sweets.construction.com http:// www.Knauf.com http:// www.Detail-online.com http:// www.greatbuilding.com http:// www.architecture.com</p>

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO4		*	
PO5			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*				*	
CO2		*		*		
CO3			*			*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*	*				
PLO13			*	*	*	*

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
<p>PLO 5: Practice research techniques and methods of investigation as an inherent part of learning.</p>	PO2	CLO1	<ul style="list-style-type: none"> ● Project based learning ● Projects ● Group research 	<ul style="list-style-type: none"> ● Oral Test ● Reports ● Presentation
		CLO2	<ul style="list-style-type: none"> ● Lectures ● Project based learning ● Reports ● Group research 	<ul style="list-style-type: none"> ● Oral Test ● Mid term. ● quizzes ● Reports
<p>PLO13: 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.</p>	PO4 & PO5	CLO3	<ul style="list-style-type: none"> ● Lectures ● Tutorials ● Projects ● Group research 	<ul style="list-style-type: none"> ● quizzes ● Assignments ● Final exam
		CLO4	<ul style="list-style-type: none"> ● Lectures ● Projects 	<ul style="list-style-type: none"> ● Oral Test ● Mid term. ● Projects ● Assignments ● Final exam
		CLO5	<ul style="list-style-type: none"> ● Tutorials ● Projects 	<ul style="list-style-type: none"> ● Mid term. ● quizzes ● Projects ● Assignments ● Final exam
		CLO6	<ul style="list-style-type: none"> ● Tutorials ● Project-based learning ● Projects 	<ul style="list-style-type: none"> ● Projects ● Presentation ● Final exam

Course Coordinator: Dr.Rasha Reyad



Head of Department: Prof. Dr. Zeinab Faisal



Date: 26/1 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	History & Theory of Architecture 2B	Code	AE123 2	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course description:

Designing Community Facilities – educational, cultural, health, Recreational, commercial, administrative and touristic buildings.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Use different techniques and methods in effective presentation and individual and group discussions.
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Apply self-learning through field visits and the ability to find information through specialized and electronic libraries.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Analysis of architectural theories after understanding and using them in the development and service of the local community.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Solve design problems using design standards and study similar local and international projects.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Search for information from references and internet.
		CLO2	Understand the functions of different public buildings.
		CLO3	Develop different design principles for public buildings.
		CLO4	Identify the different types of public buildings by studying similar architectural models.
PLO11	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.	CLO5	Understand human requirements and needs across the multiple public building.
		CLO6	Determine the technical and aesthetic requirements for public functional buildings.
		CLO7	Analysis of different types of public buildings through local and international projects.
		CLO8	Compare the different types of buildings used by the public.
Cognitive Domain		Psychomotor Domain	
CLO2,4,5,6		CLO7,8	
		Affective Domain	
		CLO1	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction and general definition of the course of theories of architecture - educational buildings / tourist and hotel buildings / libraries / theaters / museums / sports buildings and social and entertainment centers / health care and hospitals / banks, stock exchanges and financial markets / commercial buildings and shopping centers / buildings of artistic culture and others	1	*	*				*		*
Lecture on educational buildings (schools)	2	*	*			*			*
Topic No. (1) Discussion and Presentation of Educational Buildings Research + Lecture on Hotel Tourist Buildings.	3			*	*	*	*	*	
Topic No. (2) Discussion and Presentation of Hotel Tourist Buildings Research + Libraries Lecture.	4	*	*			*			*
Topic No. (3) Discussion and Presentation of Libraries Research + Lecture (Theatres/Opera/Cinema/Circus).	5	*			*			*	
Topic No. (4) Discussion and Presentation of Theaters Research + Museums Lecture.	6	*	*			*	*		
Topic No. (5) Discussion and Presentation of Museums Research + Lecture of Recreational Clubs (Sports - Social - Water - Youth Centers).	7		*	*	*	*		*	
Mid-term Exam	8								
Topic No. (6) discussion and presentation of sports and entertainment buildings research + health care and hospitals lecture.	9		*	*	*		*	*	
Topic No. (7) Discussion and Presentation of Health Care and Hospitals Research + Lecture on Banks, Stock Exchange and Financial Markets.	10	*	*	*		*		*	
Topic No. (8) Discussion and Presentation of Banks, Stock Exchange and Financial Markets Research + Lecture on Commercial Buildings and Shopping Centers.	11	*		*	*				*
Topic No. (9) discussion and presentation of commercial buildings and shopping centers + lecture of cultural and artistic buildings (exhibitions - conference halls - parliament) or courts / airports / stations.	12		*	*	*		*	*	
Topic No. (10) Discussion and presentation of the research of cultural and artistic centers (exhibitions - conference halls - parliament) or courts / airports / stations + a lecture on some other buildings (airports / train stations ... and so on)	13	*		*		*	*		*
Completing some topics on public buildings + presenting the graduation projects of teaching assistants	14	*		*			*	*	
Portfolio submission and general discussion	15		*	*	*	*	*		*
Total	15	9	9	9	7	8	8	7	6

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
1. Lectures	*		*	*				*
2. Tutorials		*		*		*	*	
3. Presentations	*		*		*			*
4. Report	*	*				*	*	
5. Brain Storming			*		*		*	
6. Discussion			*	*		*		
7. Self-Learning	*			*	*			*
8. Modeling	*	*	*				*	
Teaching and Learning Methods for Students with Special Needs:								
Methods								
1. Field visit to historical buildings								
2. Discussion Session								
3. Extra Lectures								
4. Provide different levels of books and materials								

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered								
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method									
1. Tests	Midterm Exam	*	*		*		*		
	Quizzes	*	*			*			*
2. Reports									
3. Discussions									
4. Assignments									
5. Presentations									
6. Modeling									
7- Portfolio									
Summative Assessment Method									
8- Final Exam									

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	10%
2. Quizzes	Week 2 & 3 & 4 & 5	5%
3. Discussions	Week 7 & 9 & 10 & 11 & 12	5%
4. Assignments	Week 2 & 3 & 4 & 5 & 7	5%
5. Presentations	Week 7 & 9 & 10 & 11 & 12	5%
6. Modeling	Week 14 & 13	5%
7- Portfolio	Week 15	5%
8. Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Course Notes:	Lecture Notes
Essential Books (Textbooks):	<ul style="list-style-type: none"> - Neufert. E. (2000). Neufert Architects' Data, 4th edition. New Jersey: Wiley-Blackwell. ISBN: 978-1405192538 - Roth L. M. and Clark A. C. 2018, Understanding Architecture: Its Elements, History, and Meaning, 3rd. Ed., New York London: Routledge. - Ching. F. 2014, Architecture: Form, Space, and Order, 4th. John Wiley & Sons Inc. New York, united states. - Ching F. & Eckler James F. 2015, Introduction to Architecture. Canada: WILE.
Recommended Books:	<ul style="list-style-type: none"> - Principles in Design- W. H. Mayall-1979 - Architecture of Skidmore, Owings & Merrill1963 - 1973 SOM- Arthur Drexler-1974 - Harold Linton, Color Model Environments: Color and Light in Three-Dimensional Design, Harold Linton, 1985 - Owen Cappleman. Michel Jack Jordan, Foundation in Architecture: An Annotated Anthology of Beginning Design Projects, Van Nostrand Reinhold, 1993 - Time Saver Standards for Architectural Design Data-John Hancock-Callender-1974 - Elements of Design - Donald M. Anderson -1961 - Theory and Practice of Design- An Advanced Text - Book on Decorative Art - Frank G. Jackson - Principles in Design- W. H. Mayall-1979 - Architecture of Skidmore, Owings & Merrill1963 - 1973 SOM- Arthur Drexler-1974 - Harold Linton, Color Model Environments: Color and Light in Three-Dimensional Design, Harold Linton, 1985 - Owen Cappleman. Michel Jack Jordan, Foundation in Architecture: An Annotated Anthology of Beginning Design Projects, Van Nostrand Reinhold, 1993 - محمد محمود عويضة – تطور الفكر المعماري في القرن العشرين – دار النهضة العربية للطباعة و النشر – بيروت 1989 - علي رأفت : ثلاثية الإبداع المعماري : الإبداع الفني في العمارة الطبعة الأولى ، مركز أبحاث إنتر كونسلت – 1997 - محمد محمود عويضة – تطور الفكر المعماري في القرن العشرين – دار النهضة العربية للطباعة و النشر – بيروت 1989 - علي رأفت- ثلاثية الإبداع المعماري - الإبداع الفني في العمارة الطبعة الأولى ، مركز أبحاث إنتر كونسلت – 1997 - محمد ماجد خلوصي- موسوعة المعمارية للتصميم المعماري- التعليم/ التجارية/ الفنادق/ المحاكم/ المستشفيات والمراكز الصحية - 2000
Periodicals, Web Sites, ... etc:	<p>https://www.pinterest.com https://www.archdaily.com https://inhabitat.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO4	*	*		
PO5		*		*
PO6			*	*
PO7	*		*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1		*		*		*		*
CO2	*		*		*		*	
CO3	*			*	*		*	
CO4		*	*			*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO5	*		*		*		*	*
PLO11		*	*	*		*		



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO5	PO4 PO5	CLO1	1. Lectures 2. Tutorials 3. Presentations 4. Report 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Reports 4. Assignments 5. Modeling 6. Portfolio 7. Final Exam
PLO11	PO6 PO7	CLO5 CLO6 CLO7 CLO8	1. Lectures 2. Tutorials 2. Presentations 3. Brain Storming 4. Discussion 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Discussions 3. Assignments 4. Presentations 5. Modeling 6. Portfolio 7. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 20/ 1/ 2023



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Human Studies in Architecture	Code	AE1202	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2..nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	--	3

2. Professional Information:

2.1. Course description:

A look at architecture within the framework of human sciences. The history of human sciences in architecture - Human theories and society formation - Environment relationship - Perception, behavior and culture - Behavior and the built environment -Human needs in relation to social concepts - Humanities in contemporary architecture - Sampling, data gathering and social research tools - Applied behavioral research.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Recognize to various human (sciences, Scales, assumptions, Criteria) that Influences on architectural design concepts on different building types, scales and contexts.
PO3	Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills	CO2	Apply theories of Human science on various residential /public buildings and sustainable concepts through discussions & research & Self-learning by electronic libraries to proceed individual & group researches
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO3	Propose innovative approaches /design for given architectural design problems accommodates with both: (Users Needs – Environment - Human beings of community).



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO1	Identify human behavior/aspects in different spaces.
		CLO2	Recognize levels of human needs in space(s).
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO3	Classify human levels of needs according to project priorities.
		CLO4	Illustrate conceptual studies /trails (Social – functional – Environmental) graphically.
PLO12	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.	CLO5	Analyze project briefing & urban context.
		CLO6	Propose several innovative conceptual approaches to the same project.
		CLO7	Evaluate design project depends on comprehensive approach (Social – Functional – Aesthetics – Environmental).
Cognitive Domain		Psychomotor Domain	
CLO1,2,3,4		CLO5,6,7	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered						
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
Course Introduction & First Lecture General definitions	1	*		*				
Triangle o Human Needs of “Maslo”	2	*	*					
Applications on Triangle of Human Needs on different building types	3		*	*		*		
Security Needs/application on design	4			*	*			
Scale Types on architectural design	5				*			
Human Perception On design	6			*				
Aesthetics on design	7	*			*	*	*	
Mid-Term Exam	8							
Site Analysis within human context	9				*			
Creative/Convergence Thinking	10					*	*	
BASDAC	11						*	*
Pyramid of goals &Project briefing	12	*	*		*	*	*	
Design Principals/ elements	13			*	*	*	*	
Application : Group Project	14	*	*		*			*
Project presentation & Evaluation	15			*	*	*	*	
Total		5	4	7	8	5	5	2

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered						
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
1. Lectures	*	*				*	*
2. Problem-based Learning	*				*		
3. Presentations		*		*		*	
4. Case Study	*		*				
5. Projects	*		*	*	*	*	*
6. Discussion	*	*				*	*
Teaching and Learning Methods for Students with Special Needs:							
Methods							
1. Discussion Session							
2. Extra Lectures							
3. Provide different levels of books and materials							

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered						
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
Formative Assessment Method								
1. Tests	Oral Test	*						
	Midterm Exam				*	*	*	
2. Discussions		*	*				*	
3. Projects						*	*	*
4. Assignments				*	*			
5. Presentations		*	*	*			*	*
Summative Assessment Method								
Final Exam					*	*	*	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10 %
Discussions	Week # 7 & 12	2.5 %
Project	Week # 14	10 %
Assignments	Week # 2,3,4,5,6,9 ,10,11, 13	5 %
Presentations	Week # 9 & 15	2.5 %
Final Exam	Scheduled by the faculty council	70%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Hiller Bill, "The social logic of space", Cambridge University Press, New York, 1988. ▪ Newman Oscar, "Creating Defensible space" , Institute for community design analysis, Usa, 1996. ▪ Time saver: for Building types, 4th. Edition, De Chiara & M.Crosbie, Mc G.Hill, NY, USA, 2001 ▪ Architecture: Form, space, and order, FDK Ching - 2014 ,John Wiley & Sons ▪ The architectural concept book, James Tait, Thames & Hudson, 2019, USA.
Recommended Books:	<ul style="list-style-type: none"> ▪ Jones G.C."Design Methods" Jhon Willey and sons, 1992.
Periodicals, Web Sites, ... etc:	http:// www.big.dk http:// www.archnet.org http:// www.architecture digist.com http:// www.architecture.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO3		*	
PO5			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes						
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
CO1	*	*			*		
CO2	*		*	*			
CO3		*		*	*	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes						
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
PLO8	*	*					
PLO10			*	*			
PLO12					*	*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO8	PO2	CLO1	1. Problem-based Learning 2. Case study 3. Projects 4. Discussion	1. Discussions 3. Presentation
		CLO2	1. Presentation 2. Discussions 3. Modeling	1. Modeling 2. Discussions 3. Presentation
PLO10	PO3	CLO3	1. Lectures 2. Case Study 4. Projects	1. Presentation 2. assignments
		CLO4	1. Presentation	1. Midterm Exam 2. assignments
PLO12	PO5	CLO5	1. Problem-based Learning 2. Projects	1. Discussions 2. Assignments 3. Projects 4. Assignments 5. Presentations 6. Modeling 7. Final Exam
		CLO6	1. Lectures 2. Presentation 3. Projects 4. Discussion 5. Modeling	1. Midterm Exam 2. Discussions 3. Projects 4. Presentations
		CLO7	1. Projects 2. Discussion	1. Projects 2. Presentations

Course Coordinator: Dr. Almoataz bellah Gamal eldien



Head of Department: Prof. Dr. Zeinab Faisal



Date: 16/02 /2023



Course Specification

1. Basic Information:

Department Offering the program	Civil Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Reinforced Concrete and Foundations 2	Code	C1272	
Type	Compulsory <input checked="" type="checkbox"/>	Elective <input type="checkbox"/>		
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	4

2. Professional Information:

2.1. Course Description:

To study soil characteristics and mechanics, and the selection and design of foundations. Soil properties - Soil classification - Soil compaction - Stresses in soil - Soil compressibility - Theory of consolidation - Lateral earth pressure - Design of shallow foundations - Pile foundations - Retaining walls - Site investigations and selection of suitable foundations.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Develop a fundamental understanding of the nature and properties of soil and its different types and study the effect of water on its behavior in different situations, through the application of engineering principles.
PO2	Behave professionally and adhere to engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO2	Apply the laws and engineering sciences learned through understanding the behavior of soil and the use of analytical and critical thinking to solve the surrounding realistic engineering problems and study the soil-structure interaction to reach the best design conditions.
PO4	Use techniques, skills, and modern engineering tools necessary for engineering practice.	CO3	Design the different types of shallow foundations and deep foundations taking into consideration the safety risks, applicable standards, and economics.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO2	Develop and conduct appropriate experimentation and/or simulation, analyze and interpret data, assess, and evaluate findings, and use statistical analyses and objective engineering judgment to draw conclusions.	CLO1	Evaluate the variable soil parameters according to the knowledge of soil properties
		CLO2	Analyze the index properties of soils and soil classification of the different types of soils.
		CLO3	Evaluate the stresses on soil due to different loads and theory of consolidation and soil compressibility.
PLO13	Select appropriate and sustainable technologies for construction of buildings, infrastructures, and water structures; using either numerical techniques or physical measurements and/or testing by applying a full range of civil engineering concepts and techniques of: Structural Analysis and Mechanics, Properties and Strength of Materials, Surveying, Soil Mechanics, Hydrology and Fluid Mechanics.	CLO4	Design of the Shallow Foundation
		CLO5	Design of the Pile foundation and Retaining Walls
Cognitive Domain		Psychomotor Domain	
CLO1		CLO2, 3,4	
		Affective Domain	
		CLO5	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO 2	CLO 3	CLO 4	CL O5
• Soil Properties	1	*				
• Soil Properties	2	*				
• index properties of soils and soil classification	3		*			
• index properties of soils and soil classification	4		*			
• index properties of soils and soil classification	5		*			
• Stresses in Soil	6			*		
• theory of consolidation and soil compressibility.	7			*		
• Midterm exam	8	*	*	*		
• Site investigations and selection of suitable foundations	9				*	
• Design of shallow foundations	10				*	
• Design of shallow foundations	11				*	
• Pile foundations	12					*
• Pile foundations	13					*
• Retaining walls 1	14					*
• Retaining walls 2	15					*
Total		3	4	3	3	4

2.5 Teaching and Learning Methods:

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lecture	*	*	*	*	
2. Tutorials		*	*	*	
3. Report					*
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods:

Assessment Methods:		Course LOs Covered				
Methods		CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method						
Tests	Midterm Exam	*	*	*		
	Quizzes		*		*	
Assignments		*		*	*	
Report						*
Summative Assessment Method						
Final Exam				*	*	*

2.6.1. Assessment Schedule & Grades Distribution:

Assessment Method	Week	Weighting of Asses.
Assignments	2 to 6 & 9 to 13	2 %
Midterm exam	8	20 %
Quizzes	5&11	3 %
Report	12	5%
Final exam	15 and above	70%
Total		

2.7. List of References:

Essential Books (Textbooks):	<ul style="list-style-type: none"> • El-Kasaby, E. A., Soil Mechanics, Dar Al-Kutub Al-Almia, Cairo, 5th Ed., (21371/2013), ISBN 978 – 977 – 726 – 041 – 1, 2014. • El-Kasaby, E. A., Engineering of Surface Foundations, Dar Al-Kutub Al-Almia, Cairo, 5th Ed., (19440/2015), ISBN 978 – 977 – 726 – 139 – 5, 2015. • El-Kasaby, E. A., Design and Construction of Deep and Special Foundations, Dar Al-Kutub Al-Almia, Cairo, 4th Ed., (10651/2016), ISBN 978 – 977 – 726 – 168 – 5, 2016.
Recommended Books:	<ul style="list-style-type: none"> • Bowles, J., Foundation Analysis and Design, McGraw - Hill, 5th. Ed., ISBN 978 – 007 - 912 – 247 – 7, 2009.

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO2		*	
PO4			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1	*				
CO2		*	*		
CO3				*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes:

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO2	*	*	*		
PLO13				*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO2	PO1 & PO2	CLO1	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Written Exams Assignments
		CLO2	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Written Exams Assignments Quiz
		CLO3	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Written Exams Assignments
PLO13	PO4	CLO4	<ul style="list-style-type: none"> Lecture Tutorials 	<ul style="list-style-type: none"> Written Exams Assignments Quiz
		CLO5	<ul style="list-style-type: none"> Report 	<ul style="list-style-type: none"> Written Exams Report

Course Coordinator: Dr. Mohab Roshdy Ahmed

Mohab Roshdy

Dr. Mahmoud Awaad Gomaa

M. Gomaa

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 12/04/2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Technical Installations	Code	AE1216	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	---	4

2. Professional Information:

2.1. Course description:

This course helps students of the architecture department to know the technical information of the specialized departments to be taken into account during the design such as Electrical installations, artificial lighting and vision, artificial lighting sources and design, acoustic design (building and spaces), air conditioning, water supply and sewerage, drainage, solid waste disposal, firefighting and alarm, new directions.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO1	Explore various technical information of the specialized departments (assumptions, Criteria and standards) on different building types, scales and contexts.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Apply self-learning through specialized and electronic libraries & the ability to self-learning through research
PLO15	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.	CLO2	Propose preliminary design and solutions in design report.
Cognitive Domain		Psychomotor Domain	
---		CLO2	
		Affective Domain	
		CLO1	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered	
		CLO1	CLO2
Course Introduction & 1st lecture water supply (cold water)	1	*	
2 nd lecture water supply (hot water)	2	*	*
Drainage and sewerage	3	*	*
Research	4	*	
Electrical installations and artificial lighting (In door lighting)	5	*	*
Out door lighting and Smart lighting	6		*
Research	7	*	*
Mid-Term Exam	8	*	*
Air conditioning	9	*	*
Fire fighting	10		*
Research	11	*	*
Acoustic design	12	*	*
Waste Management	13	*	*
Research	14	*	*
Revision	15		
Total	15	12	12



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered	
Methods	CLO1	CLO2
1. Lectures	*	*
2. Problem-based Learning	*	*
3. Presentations	*	*
4. Brain Storming	*	
5. Discussion	*	*
6. Self-Learning		*
Teaching and Learning Methods for Students with Special Needs:		
Methods		
1. Discussion Session		
2. Extra Lectures		
3. Provide different levels of books and materials		

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered	
Methods		CLO1	CLO2
Formative Assessment Method			
1. Tests	Midterm Exam	*	*
2. Discussions		*	
3. Assignments		*	*
4. Presentations		*	*
5- Portfolio			*
Summative Assessment Method			
6- Final Exam		*	*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20 %
Discussions	Week #4 &7&11&14	5 %
Research	Week #4 &7&11&14	10 %
Assignments	Week #2,3,5,6 ,9 ,10, 12,13	15 %
Presentations	Week #4 &7&11&14	5 %
Modeling	Week #4 &7&11&14	5 %
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Waste Management: Management of Solid, Liquid and Gaseous Wastes", Environmental Pollution, Retrieved 22-4-2017. Edited. ▪ NEC ▪ "Waste management", Science Clarified, Retrieved 21-4-2017. Edited
Recommended Books:	<ul style="list-style-type: none"> ▪ الكود المصري لاسس تصميم وشروط التنفيذ لهندسة التركيبات الصحية للمباني ▪ الكود المصري لتصميم وتنفيذ خطوط المواسير لشبكات مياه الشرب والصرف الصحي ▪ الكود المصري لاسس تصميم الاعمال الكهربائية ▪ الكود المصري للحريق

2.8. Facilities required for Teaching and Learning

Different Facilities
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO5	*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes	
	CLO1	CLO2
CO1	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes	
	CLO1	CLO2
PLO5	*	
PLO15		*



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO5	PO5	CLO1	1. Lectures 2. Problem-based Learning 3. Presentations 4. Brain Storming 5. Discussion	1. Midterm Exam 2. Discussions 3. Assignments 4. Presentations 5. Final Exam
PLO15		CLO2	1. Lectures 2. Problem-based Learning 3. Presentations 4. Discussion 5. Self-Learning	1. Midterm Exam 2. Assignments 3. Presentations 4. Portfolio 5. Final Exam

Course Coordinator: Assoc. Prof. Ayman Abdel Hamid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 4/2 /2023

Architectural Engineering
Department -THIRD YEAR
Specification



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Architectural Design 3A	Code	AE1311	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7	---	6

2. Professional Information:

2.1. Course description:

This course intends to help students further develop their architectural design abilities through the solution of moderately complex multi-functional programs. Emphasis is placed on the use of context, program functional and spatial requirements as a basis for the generation of design solutions as well as the appropriate solution of circulation and integration of structure in design development considering public buildings (commercial, administrative, mixed use, etc.) With the ability to generate creative forms. Drawings will be required for final project and perspective views.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Explore various architectural design (assumptions, Criteria and standards) on different building types, scales and contexts.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO2	Apply theories of design of various public buildings and sustainable concepts by both: Passive & Active design solutions through design project.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO3	Design innovative and appropriate solutions for architectural design problems.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Analyze similar projects/ buildings design solutions to obtain design criteria & standards.
		CLO2	Propose multiple architectural solutions to be evaluated.
PLO11	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.	CLO3	Apply the knowledge of: Technology and Sustainability and their impact of that on a building design.
		CLO4	Design all necessary architectural drawings that meet: functional, technical and aesthetics requirements.
PLO12	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.	CLO5	Produce a appropriate architecture design solution for complex problems that meet users' needs within the urban context.
		CLO6	Create appropriate innovative integrated architectural design among: (users, context and environment) with multi-activities/disciplines in the same project.
Cognitive Domain		Psychomotor Domain	
-----		CLO1,2,3,4,5, 6	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Course Introduction & first Project Discussions/Research orientation	1	*		*			
First Project: a City Center : Project Lecture /Briefing/ Analytical Research/3D Conceptual approach	2	*	*				
Site / Project Analysis & 3D study model	3		*	*		*	
Master plan/ Piazza Design development	4			*	*		
Upper floors Design development	5				*		
Conceptual sections Design development	6			*			
Layout – Master/upper plans & Conceptual sections designs (Criticism)	7	*			*	*	*
Mid-Term Exam	8			*		*	*
Technical sections Design development	9				*		
Facades & 3D Design development	10						
3D Model development & 2D feedback	11						*
Pre-Final full design sketch (Criticism)	12	*	*		*	*	*
First project jury & Evaluation & 2nd. Project lecture:	13			*	*	*	*
2 nd . Project design development	14	*	*		*		
2nd. project jury & Evaluation	15			*	*	*	*
Total		5	4	6	8	6	6

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures			*			*
2. Design studio			*	*	*	
3. Problem-based Learning	*				*	
4. Presentations		*		*		*
5. Case Study	*		*			
6. Projects	*		*		*	*
7. Discussion	*	*				*
8. Modeling		*				*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test	*				
	Midterm Exam			*	*	*
2. Discussions						
3. Projects						
4. Assignments						
5. Presentations						
6. Modeling						
Summative Assessment Method						
Final Exam						



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10 %
Oral Test	Week # 13	10 %
Discussions	Week # 7 &12	5 %
Projects	Week # 13 &15	15 %
Assignments	Week # 2,3,4,5,6,9 ,10,11, 14	10 %
Presentations	Week # 9 &15	5 %
Modeling	Week # 2 &12	5 %
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference: (max. five years ago)

Course Notes:	
Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Time saver: for Building types, 4th. Edition, De Chiara & M.Crosbie, Mc G.Hill, NY.USA, 2001 ▪ Architecture: Form, space, and order, FDK Ching - 2014 ,John Wiley & Sons ▪ The architectural concept book, James Tait, Thames &Hudson,2019,USA. ▪ Architecture Competitions Annual series I,II,...,IV, Archiworld, 2016:2020,HongKong.
Recommended Books:	<ul style="list-style-type: none"> ▪ Nufert Architects' Data, 5th Edition, SBN: 978-1-119-28435- 2019 Wiley Blackwell. ▪ Sustainable Building Design, Miles Keeping,Wiley,2018,USA. ▪ Commercial buildings Aesthetics:Analysis of Commercial buildings, space, 2019, China
Periodicals, Web Sites, ... etc:	<p>http:// www.archnet.org http:// www.Foster+partners.org http:// www.big.dk http:// www.architecture digist.com http:// www.architecture.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO6		*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*			*	
CO2	*		*	*		
CO3		*		*	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO9	*	*				
PLO11			*	*		
PLO12					*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO9: Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	PO1	CLO1	1. Problem-based Learning 2. Case study 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Presentation
		CLO2	1. Presentation 2. Discussions 3. Modeling	1. Modeling 2. Discussions 3. Presentation
PLO11: 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.	PO6	CLO3	1. Lectures 2. Design studio 3. Case Study 4. Projects	1. Presentation 2. assignments
		CLO4	1. Design studio 2. Presentation	1. Midterm Exam 2. assignments
PLO12: 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.	PO7	CLO5	1. Design studio 2. Problem-based Learning 3. Projects	1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 6. Presentations 7. Modeling 8. Final Exam
		CLO6	1. Lectures 2. Presentation 3. Projects 4. Discussion 5. Modeling	1. Midterm Exam 2. Discussions 3. Projects 4. Presentations

Course Coordinator: Dr. Almoataz bellah Gamal eldien



Head of Department: Prof. Dr. Zeinab Faisal



Date: 21/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer application 2	Code	AE 1301	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	0	2	2

2. Professional Information:

2.1. Course Description:

Developing Ideas with Computers; The course goal is to facilitate the development of analytical, critical and integrative thinking-To help students to initiation, planning, execution and presentation of design computing projects or research thesis- To encourage the students to examine, discuss, question and debate issues of computing and information technology in design -To envision better design tools for the future.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Implement Ideas and Architecture designs using computer applications.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Enhance the presentation of design projects to visualize better design tools for the future.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	CLO1	Integrate different forms and ideas to develop design solutions
		CLO2	Produce multi-dimensional drawings using appropriate computer applications.
PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO3	Communicate graphically with the colleagues in the lab.
PLO11	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.	CLO4	Express three-dimensionally and engage images of places and time with innovation and creativity in the exploration of design
		CLO5	Present architectural projects using computer applications
Cognitive Domain		Psychomotor Domain	
-----		CLO1,2,4	
		Affective Domain	
		CLO3,5	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO2	CLO3	CLO4	CLO5
Introduction & User interface	1	*				
Object creation and viewports	2	*	*			
Extended Primitives	3	*	*			
Shapes & Edit spline	4	*	*			
Edit Poly	5	*	*			
Modifier List	6		*		*	
Modifier List	7	*			*	
Mid-term Exam	8					
Organic	9	*				*
Parametric	10	*				*
Material	11	*				*
Project announcement	12		*	*		*
Lighting	13		*			*
Rendering	14	*		*		*
Project Submission	15	*		*		*
Total	15	12	7	3	2	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*				
2. Computer-based Instruction	*	*			*
3. Projects	*	*	*	*	*
4. Discussion	*	*	*	*	*
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method					
1. Tests: Midterm Exam		*			*
2. Discussions	*		*	*	
3. Projects	*	*	*		*
4. Assignments	*	*		*	*
Summative Assessment Method					
Final (Practical) Exam		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week #9,13	5%
Projects	Week # 9 & 15	20%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Final (Practical) Exam	Scheduled by the faculty council	40%
Total		100%



2.7. List of References:

Essential Books (Textbooks):	Kelly L. Murdock's Autodesk 3ds Max 2020 Complete Reference Guide 1st Edition.
Recommended Books:	N/A
Periodicals, Web Sites, ... etc:	N/A

2.8. Facilities required for Teaching and Learning

Different Facilities
Computer Lab
Library usage
Data show
Whiteboard

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO4	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes


Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1	*	*	*		
CO2				*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO4	*	*			
PLO8			*		
PLO11				*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO4	PO1	CLO1	1. Lectures 2. Computer-based Instruction 3. Projects 4. Discussion	1. Discussions 2. Projects 3. Assignments
		CLO2	1. Computer-based Instruction 2. Projects 3. Discussion	1. Tests: Midterm Exam 2. Projects 3. Assignments 4. Final Exam
PLO8	PO1	CLO3	1. Projects 2. Discussion	1. Projects 2. Discussion
PLO11	PO7	CLO4	1. Projects 2. Discussion	1. Discussions 2. Assignments
		CLO5	1. Computer-based Instruction 2. Projects 3. Discussion	1. Tests: Midterm Exam 2. Projects 3. Assignments 4. Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal 

Head of Department: Prof. Dr. Zeinab Faisal 

Date: 11/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	History & Theory of Architecture 3A	Code	AE133 1	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course description:

Islamic Architecture in Egypt: Umayyad period – Tulunid period – Fatimid period – Ayubid period – Mamluk Period - Ottoman Period – Muhammed Ali Period

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Use technology in effective presentation and individual and group discussion to communicate information easily to all
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Apply self-learning strategies through specialized electronic libraries & field visits
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Analysis historical architectural thought and its use in the development and service of the local community
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Solve design problems using historical architectural vocabulary and elements after understanding the design idea

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Search for information from references and internet.
PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO2	Understand the functions of different historical buildings
		CLO3	Outline different design principles of different historical buildings.
		CLO4	Identify the different building types of the different historical civilizations
PLO11	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.	CLO5	Understanding human requirements and needs through different historic periods.
		CLO6	Determine the technical and aesthetic requirements of the historic buildings.
		CLO7	Analysis the different historic building types.
		CLO8	Compare between building types in different historical civilizations
Cognitive Domain		Psychomotor Domain	
CLO2,3,4,5,6		CLO7,8	
		Affective Domain	
		CLO1	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction to course content	1	*	*				*	*	
Historical sequence of eras and architectural models	2			*	*	*			*
General definitions of vocabulary & architectural elements	3		*		*	*			*
Architectural models of mosques in different eras	4	*		*		*		*	
Architectural composition and mosque design in the architecture of Islamic culture through the ages	5	*			*		*		*
Field visit to historical buildings	6	*		*		*	*	*	
Characteristics of Islamic architecture and display models of heritage movement paths through maps	7		*	*		*			*
Mid-term Exam	8				*				*
Group No. 1: (palaces and houses) In the architecture of Islamic culture	9	*			*		*		
Group No. 2: (Madrasa, sabil and kutab, Qubba, khanqah and Takiyya)	10	*	*			*		*	
Group No. 3: (hammam, wikala, Bimaristan, troughs or basins (hod)) In the architecture of Islamic culture	11	*			*		*		*
Group No. 4: Structural system, climate treatments and decorations In the architecture of Islamic culture	12			*	*		*	*	
Group No. 5: (Drainage, water feeding and lighting methods) In the architecture of Islamic culture	13		*	*		*		*	
presentation and analysis of a modern inclusive model inside and outside Egypt	14		*		*			*	*
Portfolio submission and general discussion	15		*	*	*		*		*
Total	15	7	7	7	9	7	7	7	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7
1. Lectures	*		*	*			*	*
2. Tutorials		*		*	*			*
3. Presentations	*	*	*			*	*	
4. Report	*		*		*			*
5. Brain Storming			*			*	*	
6. Discussion				*	*			*
7. Self-Learning	*	*		*			*	
8. Modeling		*	*		*			*
Teaching and Learning Methods for Students with Special Needs:								
Methods								
1. Field visit to historical buildings								
2. Discussion Session								
3. Extra Lectures								
4. Provide different levels of books and materials								

2.6 Assessment Methods

Assessment Methods:	Methods	Course LOs Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method									
1. Tests	Midterm Exam				*				*
	Quizzes	*	*		*			*	
2. Reports		*	*			*			*
3. Discussions				*	*			*	*
4. Assignments			*	*	*			*	*
5. Presentations		*		*	*		*		*
6. Modeling		*	*			*	*	*	
7- Portfolio			*	*	*		*		
Summative Assessment Method									
8- Final Exam		*	*	*		*		*	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	10%
2. Quizzes	Week 2 & 3 & 4 & 5 & 7	5%
3. Reports	Week 6	1%
4. Discussions	Week 9 & 10 & 11 & 12 & 13	4%
5. Assignments	Week 2 & 3 & 4 & 5 & 7	5%
6. Presentations	Week 9 & 10 & 11 & 12 & 13	5%
7. Modeling	Week 14	5%
8- Portfolio	Week 15	5%
8. Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

<p>Essential Books (Textbooks):</p>	<ul style="list-style-type: none"> ▪ Lecture Notes ▪ كمال الدين سامح, 1991م, العمارة الإسلامية في مصر, الهيئة المصرية العامة للكتاب, القاهرة. ▪ George Michell, 2018, Architecture OF The Islamic World, Hong Kong. ▪ Jim antoniou, 1998, Historic Cairo, The amerrican university in cairo press, Cairo, Egypt. ▪ The ,The Mosque, 1994, Martina Frishman And Hasan-uddin Khan . Egypt, Cairo, American university In Cairo Press ▪ كمال الدين سامح, 2000م, لمحات في تاريخ العمارة المصرية, دار الشرق, جامعة القاهرة. ▪ كمال الدين سامح, 1987 م, العمارة في صدر الإسلام, الهيئة المصرية العامة للكتاب, القاهرة. ▪ محسن محمد عطية, 1999م, موضوعات في الفنون الإسلامية, مكتبة النهضة المصرية, القاهرة. ▪ محي الدين طالو, 1999م, فنون زخرفية معمارية عبر مراحل التاريخ, دار دمشق, سوريا. ▪ نوبي محمد حسن, 2002م, عمارة المسجد في ضوء القرآن والسنة, دار نهضة الشرق, القاهرة ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الأول), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الثاني), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الثالث), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الرابع), مكتبة مدبولي, القاهرة. ▪ يور دي يورا ترجمة (عبد الهادي أبو ريده), 1998م, تاريخ الفلسفة في الإسلام, قابس, القاهرة. ▪ Mostafa shiha, 2001, the Islamic Architecture in Egypt, Prism Publications Office, Guizeh, Egypt.
<p>Recommended Books:</p>	<ul style="list-style-type: none"> ▪ أحمد أحمد يوسف- محمد عزت مصطفى, 1941م, تاريخ الطرز الزخرفية, الفكر العربي, القاهرة. ▪ أسامة النحاس, 2003م, الوحدات الزخرفية الإسلامية, دار الفكر العربي, القاهرة. ▪ ثروت عكاشة, 1994م, القيم الجمالية في العمارة الإسلامية, دار الشروق, القاهرة. ▪ جمعة أحمد قابه, 2000م, موسوعة فن العمارة الإسلامية (الطبعة الأولى), دار الملتقى, بيروت. ▪ حامد سعيد, 2001م, الفنون الإسلامية, دار الشروق, القاهرة. ▪ حسن عبد الوهاب, 1946 م, تاريخ المساجد الأثرية في القاهرة- الجزء الثاني- الصور, أوراق شرقية للطبع والنشر, القاهرة. ▪ حسنى محمد نويصر, 2000م, العمارة الإسلامية في مصر (عصر الأيوبيين والمماليك), مكتبة زهراء الشرق, القاهرة. ▪ خالد عزب, 2003, تراث العمارة الإسلامية, دار المعارف, القاهرة. ▪ سيد كريم, 1999م, القاهرة عمرها 50 ألف سنة, الهيئة المصرية العامة للكتاب, القاهرة. ▪ عبد الباقي إبراهيم- حازم محمد إبراهيم, 1987, المنظور التاريخي للعمارة في المشرق العربي, مركز الدراسات التخطيطية والمعمارية, القاهرة. ▪ عبد الباقي إبراهيم, 1982 م, تأصيل القيم الحضارية في بناء المدينة الإسلامية المعاصرة, انترناشيونال, القاهرة, بالجيزة. ▪ Doris Behrens-abouseif, 1985, the Minarets of Cairo, the American university, Egypt, Cairo.
<p>Periodicals, Web Sites, ... etc:</p>	<p>http:// www.caps-egypt.com http:// www.islamicart.com http:// www.altareekh.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO4	*		*	*
PO5		*	*	
PO6		*		*
PO7	*			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1	*		*			*		*
CO2		*		*			*	
CO3	*			*	*			
CO4		*				*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO5	*	*		*		*		*
PLO10		*	*		*	*	*	
PLO11	*		*		*		*	

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO5	PO4 PO5	CLO1	1. Lectures 2. Tutorials 3. Presentations 4. Report 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Reports 4. Assignments 5. Modeling 6. Portfolio 7. Final Exam
PLO10	PO5 PO6	CLO2 CLO3 CLO4	1. Lectures 2. Tutorials 3. Presentations 4. Brain Storming 5. Discussion 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Assignments 4. Modeling 5. Portfolio 6. Final Exam
PLO11	PO6 PO7	CLO5 CLO6 CLO7 CLO8	1. Lectures 2. Tutorials 2. Presentations 3. Brain Storming 4. Discussion 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Discussions 3. Assignments 4. Presentations 5. Modeling 6. Portfolio 7. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6/ 11/ 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Personals Skills	Code	AE 1303	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	0	0	2

2. Professional Information:

2.1. Course description:

The course aims to develop the students' personal skills – Develop their opportunities for excellence, by introducing the leadership and administrative personality traits - develop students' reasoning abilities by incorporating reasoning tasks and practices into general education courses – communication skills, features and methods of effective presentation – The most important strategies of excellence and leadership interaction – developing some personal skills and ethics related to planning self and other management – dialogue skills and persuasion strategies – communication in the work environment – writing paper, formal reports and letters.

2.2. Course Objectives (CO): At the end of course, the student will be able to:

Program objective		Course objective	
PO3	Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills.	CO1	Equipping with the basic skills needed for college presentations as well as for career presentations.
		CO2	Fosters team work spirit in problem solving in the students while trying to teach them to become effective team leaders and active team members during group discussions.
PO5	Master self-learning and life - long learning strategies to communicate effectively in academic/professional fields	CO3	Prepare to handle working in multicultural firms with maximum efficiency and minimum miscommunication.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	OUTLINE THE DIFFERENT TECHNIQUES USED IN SCIENTIFIC RESEARCH
		CLO2	Understand and practice different techniques of communication.
		CLO3	Demonstrate the capacity to use various writing forms, to achieve the specific purposes of the course.
PLO7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	CLO4	UPPLY knowledge around human communication that facilitate their ability to work collaboratively with others.
		CLO5	Demonstrate the capacity to effectively integrate multiple sources into the writing assignments of the course.
Plo10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO6	Discuss a clear, organized and accurate oral presentation of course material (for example, summaries of readings, research projects, analyses of arguments, persuasive speeches and others).
Cognitive Domain		Psychomotor Domain	
CLO2		CLO6	
		Affective Domain	
		CLO1,3,4,5	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction & Time management	1	*			*	*	
Communication skills	2		*	*			*
Presentation skills	3		*		*		
Negotiation skills	4	*		*		*	
Critical thinking & problem solving	5		*	*	*		*
Creative thinking	6	*		*		*	
Self-motivation techniques	7	*	*		*	*	*
Midterm assignment	8						
Research methods concept	9	*		*		*	
New studies	10		*	*		*	*
New studies	11,12		*		*	*	
Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PRESENTATION	13		*		*	*	
Leadership skills	14	*		*			*
Report making skills	15	*	*		*	*	*
Total	15	5	8	10	3	4	3

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Problem-based Learning	*			*		
3. Presentations			*		*	*
4. Discussion	*	*		*		*
5. SELF LEARNING		*		*		
6. INTERACTIVE LEARNING			*		*	
7. COOPRATIVE learning	*					*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test	*	*		*	
	Midterm assignment			*		
2. Discussions	*			*		
3. Assignments		*	*	*		*
4. Presentations					*	
Summative Assessment Method						
Final Exam						
	*		*			*



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	The weighting of Asses.
Mid-term Assi	Week # 8	15%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	10%
Assignments	Week #,3, ,6, 10	10%
Presentations	Week # 9 & 15	5%
Training	Preparatory year	20%
Final Exam	Scheduled by the faculty council	30%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Mike Markel; Stuart A. Selber, "Practical Strategies for Technical Communication", Macmillan Learning, 3rd edition, 2019
Recommended Books:	Mike Markel; Stuart Selber, "Technical Communication", Macmillan Learning, 13th edition, 2021
Periodicals, Web Sites, ... etc:	https://www.trainerbubble.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO3	*	*	
PO5			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1		*				
CO2			*			
CO3	*			*	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO10	*	*	*	*	*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO5 Plo7 PI010	Po3 Po5	CLO1 CLO2 Clo3 Clo4 Clo5 Clo6	1. Design studio 2. Problem-based Learning 4. Discussion	1. Oral Test 2. Discussions 3. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad



Head of Department: Prof. Dr. Zeinab Faisal



Date: 8/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Town Planning 1	Code	AE1361	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

The concept of a regional , comprehensive and incremental planning - Principles of Land use distribution - Environmental considerations - The central business district - Community facilities - Industrial areas - Circulation network - Urban planning problems in Egypt - Planning surveys - Approaches and concepts for creating alternative plans.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO3	Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills	CO1	Determine the urban planning theories, concepts, the various elements of urban form and the principles that shape the cities.
		CO2	Classify the various analytic tools of urban planning projects that consists of multi-planning units such as districts and cities, as well as their centers.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Apply the theoretical knowledge to real world cases in class assignments and project.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements	CLO1	Recall the basic concepts, schools, trends and definitions of town planning.
		CLO1	Identify the different theories and concepts that shape the cities.
		CLO2	Analyze different elements of urban form to obtain design criteria.
PLO9	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. Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO3	Apply the urban planning concepts on a selected area to create new solutions though team work groups
PLO15	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.	CLO5	Prepare and present technical report
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through an understanding of: structural design, construction, technology, and engineering problems	CLO6	Analyze urban planning theories into urban spaces while having adequate knowledge of environmental conservation.
Cognitive Domain		Psychomotor Domain	
CLO1,2		CLO3,6	
		Affective Domain	
		CLO4,5	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO2	CLO3	CLO4	CLO5
Introduction to course content	1	*				
Definitions & Terminologies	2	*		*		
Urban Settlements	3	*	*	*		
Planning Schools and theories 1	4		*	*	*	
Planning Schools and theories 2	5	*	*	*		
Urban Planning Methodologies	6	*		*		
Introduction to Land use planning 1	7		*	*	*	
Mid-term Exam	8					
Introduction to Land use planning 2	9		*		*	*
Services planning	10	*			*	
Regional planning 1	11		*		*	
Regional planning 2	12				*	
Project follow up	13		*		*	*
Semi-final Sketch	14		*		*	*
Final discussion for the project	15		*		*	*
Total		7	10	6	10	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*		*		
2. Tutorials		*			*
3. Field survey		*			*
5. Presentations				*	*
6. Research		*	*		
7. Projects	*	*		*	*
8. Discussion				*	*
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method					
1. Midterm Exam	*	*		*	
2. Discussions				*	*
3. Projects	*	*		*	*
4. Assignments		*	*		
5. Presentations			*		*
Summative Assessment Method					
Final Exam	*		*		*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20%
Discussions	Week # 9 & 15	5%
Projects	Week # 15	20%
Assignments	Week # 2,3,4,5,7	10%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	التخطيط العمراني 1 – د/ شفق الوكيل 2006- 2007
	دليل المخططات العامة والاستراتيجية – الهيئة العامة للتخطيط العمراني 2015-2016-2017
	تخطيط المدن – د/ خالد علام 2018
Recommended Books:	-----
Periodicals, Web Sites, ... etc:	-----

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board



3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO3			
PO6	*	*	
PO7		*	*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1		*	*		*
CO2			*		
CO3	*			*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO7	*	*	*		
PLO11				*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO7	PO6 PO7	CLO1 CLO2 CLO3	1. Lecture 2. Projects 3. Tutorials 4. Problem-based Learning 5. Case Study	1. Midterm Exam 2. Projects 3. Assignments 4. Presentations 5. Final Exam
PLO11	PO6 PO7	CLO4 CLO5	1. Presentations 2. Projects 3. Discussions 4. Modeling 5. Tutorials 6. Problem-based Learning	1. Mid-term Exam 2. Discussions 3. Projects 4. Modeling 5. Final Exam 6. Presentations

Course Coordinator: Associate.Prof. Ayman Abd El Hamid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 13 /11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Working Design 1A	Code	AE 1321	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	6	0	5

2. Professional Information:

2.1. Course description:

Preparation and specifications of building elements, integrated drawings (plans, sections, elevations), dimensioning and levels, architectural and construction details, fenestrations (doors and windows), partitions, fixed furniture, finishing schedules, proofing materials, claddings (internal and external), weekly assignments. Preparation of complete working drawings and design for a given (preliminary design) project, including plans, sections, elevations, details, openings, fenestrations, partitions, fixed furniture

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Apply different sustainable finishing materials in working drawings.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Identify different techniques and modern engineering tools of construction.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Identify students' ability to make engineering decisions .

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes		
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO1	Identify principles of environmental construction	
		CLO2	Identify all necessary construction, technology and architectural drawings that meet technical requirements.	
PLO14	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.	CLO3	Identify the constraints of: project financing, project management, cost control and methods of project delivery; while having adequate knowledge of industries, organizations, regulations	
		CLO4	Develop the constraints of: project management.	
PLO15	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.	CLO5	Develop the constraints of: cost control	
Cognitive Domain		Psychomotor Domain		Affective Domain
CLO1,2,3		CLO4,5,6		-----

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content and principles of environmental conservation	1	*		*			*
Explain how to draw working plans	2,3,4		*	*	*		
Explain how to draw working sections	5,6		*			*	*
Mid-term Exam	8	*					
Explain how to draw working elevations	9	*	*			*	
Explain how to draw working layout	10,11	*	*		*		
Explain how to draw working wall sections	12	*		*		*	*
Explain how to draw working details	13,14	*		*		*	*
Final project	15			*	*	*	
Total		8	8	8	6	7	6

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*			*		
2. Tutorials			*		*	
3. Project-based Learning		*				*
4. Projects	*					
5. Report			*		*	
6. Self-Learning			*			*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*			*	*	*
	Midterm Exam	*					
	Quizzes			*			*
Reports				*			
Projects	Projects	*	*				
	Mini Projects			*			
Assignments				*	*	*	
Presentations		*	*		*	*	*
Summative Assessment Method							
Final Exam			*	*			*

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	محمد أحمد عبد الله. 2018. الرسومات التنفيذية والتفاصيل المعمارية. مكتبة الأنجلو المصرية. مصر.
Recommended Books:	R Conway and Roenisch, 1987, Understanding Architecture, Routledge of Keegan, London
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
Po4			*
Po6		*	

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*					*
CO2			*		*	
CO3		*				
CO4				*		

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO13	*	*				
PLO14			*	*		
PLO15					*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO13		CLO1 CLO2	<ul style="list-style-type: none">• Lectures• Tutorials• Reports• Brain storming• Self learning• Discussion	<ul style="list-style-type: none">• Mid term.• Reports• Projects• Assignments
PL014		CLO3 CLO4	<ul style="list-style-type: none">• Lectures• Project based learning• Projects	<ul style="list-style-type: none">• Reports• Projects• Final exam
PLO15		CLO5 CLO6	<ul style="list-style-type: none">• Tutorials• Reports• Project based learning• Self-learning	<ul style="list-style-type: none">• Oral Test• Quizzes• Assignments• Presentation

Course Coordinator: Dr Ahmed Elsaadany
Head of Department: Prof. Dr. Zeinab Faisal
Date: 8/11/2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Architectural Design 3B	Code	AE1312	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7	---	6

2. Professional Information:

2.1. Course description:

This course complements and continues the aims of Architecture Design 3A in developing their architectural design skills and abilities through the solution of complex multi-functional programs. Emphasis is placed on the use of context, program functional and spatial requirements as a basis for the generation of design solutions as well as the appropriate solution of circulation and integration of structure in design development considering public buildings (health care, Hotel activity, administrative, mixed use, etc.) With the ability to generate creative forms. Drawings will be required for final project and perspective views.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Identify various architectural design (assumptions, Criteria and standards) on different building types, scales and contexts.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO2	Apply theories of design of various public buildings and sustainable concepts by both: Passive & Active design solutions through design project.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO3	Design innovative and appropriate solutions for architectural design problems.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Analyze similar projects/ buildings design solutions to obtain design criteria & standards.
		CLO2	Propose multiple architectural solutions to be evaluated.
PLO11	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.	CLO3	Apply the knowledge of: Technology and Sustainability and their impact of that on a building design.
		CLO4	Create of modern buildings with functional, technical and aesthetic requirements.
PLO12	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.	CLO5	Produce a appropriate architecture design solution for complex problems that meet users' needs within the urban context.
		CLO6	Design a futuristic architecture design that considers users, context and environment
Cognitive Domain		Psychomotor Domain	
CLO3		CLO1,2,4,5, 6	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Course Introduction & first Project Discussions/Research orientation	1	*		*			
First Project: Project Lecture /Briefing/ Analytical Research/3D Conceptual approach	2	*	*				
Site / Project Analysis & 3D study model	3		*	*		*	
Master plan/ Piazza Design development	4			*	*		
Upper floors Design development	5				*		
Conceptual sections Design development	6			*			
Layout – Master/upper plans & Conceptual sections designs (Criticism)	7	*			*	*	*
Mid-Term Exam	8						
Technical sections Design development	9				*		
Facades & 3D Design development	10						
3D Model development & 2D feedback	11						*
Final full design sketch (Criticism)	12	*	*		*	*	*
Rendering First project& follow up	13			*	*	*	*
Rendering First project& follow up	14	*	*		*		
First project jury & Evaluation &	15			*	*	*	*
Total		5	4	5	8	5	5

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures			*			*
2. Design studio			*	*	*	
3. Problem-based Learning	*				*	
4. Presentations		*		*		*
5. Case Study	*		*			
6. Projects	*		*		*	*
7. Discussion	*	*				*
8. Modeling		*				*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test	*				
	Midterm Exam				*	*
2. Discussions	*	*				*
3. Projects					*	*
4. Assignments			*	*		
5. Presentations	*	*	*			*
6. Modeling		*			*	
Summative Assessment Method						
Final Exam						
				*	*	*



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10 %
Oral Test	Week # 15	5 %
Discussions	Week #2& 15	5 %
Projects	Week # 15	20 %
Assignments	Week # 2,3,4,5,6,7,9 ,10,11, 12	10 %
Presentations	Week #12 &15	5 %
Modeling	Week # 2 &115	5 %
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Time saver: for Building types, 4th. Edition, De Chiara & M.Crosbie, Mc G.Hill, NY.USA, 2001
	<ul style="list-style-type: none"> ▪ Architecture: Form, space, and order, FDK Ching - 2014 ,John Wiley & Sons ▪ The architectural concept book, James Tait, Thames &Hudson,2019,USA. ▪ Architecture Competitions Annual series I,II,...IIV, Archiworld, 2016:2020,HongKong.
	<ul style="list-style-type: none"> ▪ Nufert Architects' Data, 5th Edition, SBN: 978-1-119-28435- 2019 Wiley Blackwell. ▪ Sustainable Building Design, Miles Keeping, Wiley,2018,USA. ▪ Commercial buildings Aesthetics:Analysis of Commercial buildings, space, 2019, China
Recommended Books:	<ul style="list-style-type: none"> ▪ Nufert Architects' Data, 5th Edition, SBN: 978-1-119-28435- 2019 Wiley Blackwell. ▪ Sustainable Building Design, Miles Keeping, Wiley,2018,USA. ▪ Commercial buildings Aesthetics:Analysis of Commercial buildings, space, 2019, China
Periodicals, Web Sites, ... etc:	<ul style="list-style-type: none"> http:// www.archnet.org http:// www.Foster+partners.org http:// www.big.dk http:// www.architecture digist.com http:// www.architecture.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*		
PO6		*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*		*		
CO2			*		*	
CO3		*				*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO9	*	*				
PLO11			*	*		
PLO12					*	*



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
<p>PLO9: Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.</p>	PO1	CLO1	1. Problem-based Learning 2. Case study 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Presentation
		CLO2	1. Presentation 2. Discussions 3. Modeling	1. Modeling 2. Discussions 3. Presentation
<p>PLO11: 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.</p>	PO6	CLO3	1. Lectures 2. Design studio 3. Case Study 4. Projects	1. Presentation 2. assignments
		CLO4	1. Design studio 2. Presentation	1. Midterm Exam 2. assignments
<p>PLO12: 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.</p>	PO7	CLO5	1. Design studio 2. Problem-based Learning 3. Projects	1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 6. Presentations 7. Modeling 8. Final Exam
		CLO6	1. Lectures 2. Presentation 3. Projects 4. Discussion 5. Modeling	1. Midterm Exam 2. Discussions 3. Projects 4. Presentations

Course Coordinator: Assoc. Prof. Ayman Abdel Hamid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 2/2 /2023



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	History & Theory of Architecture 3B	Code	AE 1332	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	2

2. Professional Information:

2.1. Course Description:

Upon completion of this subject, the student should be aware of the functional bases for designing architectural elements

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Classify the impacts of engineering solutions on society & environment..
Po5	Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.	CO2	Select appropriate solutions for engineering problems based on analytical thinking
Po6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community	Co3	Combine, exchange, and assess different ideas, views, and knowledge from a range of sources
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Study Theories and histories of architecture, planning, urban design, and other related disciplines.		
		CLO2	Develop all alternative solutions; changes in original plan of the project, differences in style, culture, experience and treat others with respect.		
		Clo3	Select appropriate solutions for engineering problems based on analytical thinking.		
4	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.	CLO4	Sketch Manual drafting and freehand sketching.		
		Clo5	Discuss, informed opinions appropriate to specific context and circumstances affecting architecture profession & practice		
		CLO6	Analyze the range of patterns and traditions that have shaped and sustained cultures and the way that they can inform design process		
Cognitive Domain		Psychomotor Domain		Affective Domain	
Clo1- clo2		Clo3- clo4		Clo5- clo6	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction and general definition of the subject of theories of architecture - architecture in the 19-20th century	1		*				
Introduction and general definition of the subject of theories of architecture - architecture in the 19-20th century	2		*	*			
Prevailing architectural trends and schools during the nineteenth century	3		*	*			
Prevailing architectural trends and schools during the twentieth century	4		*	*			
Modernism (first and second generation of architects)	5		*	*			
The third generation of architects and the postmodern trend	6		*				
Hi-tech direction	7			*			*
Mid-term Exam	8			*			
Deconstructionism (Frank Gehry - Zaha Hadid)	9	*		*		*	
Aga Khan Award (Pritzker Prize (Nobel Architecture))	10 11		*		*		*
Folk Arts and Architecture in Egypt (Hassan Fathy - Ramses Wissa Wasef)	12				*		
The architects Mario Botta - Rasem Badran - Abdel Halim Ibrahim - Abdel Wahed El Wakeel	13		*		*	*	
Semi-final sketch	14	*		*			*
Final Sketch & Physical Model	15	*		*		*	*
Total	15	4	8	10	3	4	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*		*		
2. Design studio	*		*		*	*
3. Problem-based Learning	*			*		
5. Presentations			*		*	*
6. Projects	*		*		*	*
7. Discussion	*	*		*		*
8. Modeling					*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Tests	Oral Test	*	*		*	
	Midterm Exam			*		
2. Discussions						
3. Projects						
4. Assignments						
5. Presentations						
6. Modeling						
Summative Assessment Method						
Final Exam						

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10%
Oral Test	Week # 13	5%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	5%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	5%
Presentations	Week # 9 & 15	5%
Modeling	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	(عمارة القرن العشرين (عرفان سامي تأليف: عرفان سامي(مؤلف) ; اللغة: عربي ; النشر: القاهرة (مصر) : دار نافع للطباعة و النشر 1979 ; المكان: غزة-المكتبة المركزية-مراجع ع طلاب
Recommended Books:	Banister Fletcher and Dan Cruickshank, Sir Banister Fletcher's History of Architecture , Arch. Press 20th edition ,1996.
Periodicals, Web Sites, ... etc:	http://www.conceptsindesign.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	Co4
PO4	*			
Po5			*	
Po6		*		
PO7				*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*		*	
CO2			*	*	*	
Co3		*		*		*
CO4	*	*				*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO5	*			*	*	*
PLO11		*	*			



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO5	Po4 Po65	CLO1 Clo2 Clo3	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
PLO11	Po6 Po7	CLO4 CLO5 Clo6	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad

Rasha Reyad

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 26/1 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Site Planning and Landscape Architecture	Code	AE 1364	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course Description:

The unit covers the two closely related disciplines: site planning and landscape design, reviews: objectives, principles, conceptions, approaches and outputs; site selection and evaluation, site organization, recording of natural and man-made settings; landscape evaluation, cost and economic considerations, applications and case studies, landscape details and construction; seminars; limited research assignments and applications.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO1	Analyze factors affecting the decision of choosing the appropriate landscape architecture design.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements.	CO2	Generate landscape architecture designs that consider both aesthetic and functional requirements.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Analyze site & different factors affecting landscape design solutions.
		CLO2	Generate new landscape design solutions through imagination and creativity.
PLO11	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.	CLO3	Recall the roles of Landscape Architecture to applicate in the design process.
		CLO4	Analyze different landscape design projects to obtain design criteria.
PLO12	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.	CLO5	Design landscape architecture design problems that meet users' needs in outdoor spaces.
		CLO6	Create designs of Landscape Architecture projects that respect the environment.
Cognitive Domain		Psychomotor Domain	
CLO3		CLO1,2,4,5,6	

Affective Domain			



Benha University
Benha Faculty of Engineering
Architectural Engineering Department



2.4. Course Topics:

Course Topics	Week	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
introduction to course objectives and outlines. Introduction to Landscape Architecture.	1	*			*		
lecture : Factors to Be Considered in Landscape Architecture design context as a basis for landscape architectural design, context Site analysis. submission and presentation of research. Introduction to 1 st Project.	2	*		*			*
lecture: Landscape design Process - Elements of Landscape (Space, Shape, Line, Texture, Pattern, Color) Submission of 1st Sketch.	3			*			
lecture: Principles of Landscape Design: (Balance, Proportion, Simplicity, Focal Point, Unity, Rhythm) Pin-Up Jury: Submission and presentation of 2 nd Sketch	4			*	*		
Submission of 3 rd Sketch - Individual desk critiques.	5	*	*				
Pin-Up Jury: Submission and presentation of Semi-Final Sketch	6					*	*
Final Submission of 1 st project	7		*			*	
Midterm: Discussion of 1st project	8					*	
Second Project: Introduction, requirements.	9					*	
Submission and presentation of research.	10					*	*
Submission of 1st Sketch - Individual desk critiques.	11				*		
Pin-Up Jury: Submission and presentation of 2 nd Sketch.	12				*		
Follow up of 2 nd project	13,14					*	
Final Submission & Discussion	15		*			*	
Total		3	2	2	4	3	5

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures	*		*		*	
2. Tutorials				*		*
3. Presentations		*			*	*
4. Projects		*				*
5. Discussion	*		*		*	
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Discussions	*		*		*	
2. Projects		*				*
3. Assignments	*			*	*	*
Summative Assessment Method						
Final Exam			*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Discussions	Week # 8&15	5%
Projects	Week # 7&15	15%
Assignments	Week # 3,4,5,6,10,11,12,13	20%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of References:

Essential Books (Textbooks):	Time-Saver standards for landscape architecture (1998): design and construction data / co-editors, Charles W. Harris, Nicholas T. Dines ; assistant editor, Kyle D.
	الأشجار والشجيرات والتخيل المستخدمة في اللاندسكيب، د. هشام حسن علي، كلية الهندسة، جامعة أسيوط، 2020.
Recommended Books:	Strake B., Simonds J., Landscape Architecture Fifth Edition: A Manual of Environmental Planning and Design Landscape Architecture, 2016
Periodicals, Web Sites, ... etc:	www.houzz.com www.plantsmap.com www.pinterest.com https://www.archute.com/ https://www.admiddleeast.com/ https://www.behance.net https://www.desiretoinspire.net/ https://www.archdaily.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO6	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*	*		
CO2		*			*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO7
PLO9	*	*				
PLO11			*	*		
PLO12					*	*

3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO9	PO6	CLO1 CLO2	1. Lectures 2. Tutorials 3. Presentations 4. Projects 5. Discussion	1. Discussions 2. Projects 3. Assignments 4. Final Exam
PLO11	PO6 PO7	CLO3 CLO4	1. Lectures 2. Tutorials 3. Presentations 4. Projects 5. Discussion	1. Discussions 2. Projects 3. Assignments 4. Final Exam
PLO12	PO6 PO7	CLO5 CLO6	1. Lectures 2. Tutorials 3. Presentations 4. Projects 5. Discussion	1. Discussions 2. Projects 3. Assignments 4. Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal



Head of Department: Prof. Dr. Zeinab Faisal



Date: 12 /2 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Program			
Department Offering the course	Architectural Engineering Program			
Date of Specification Approval	Bylaw2017			
Course Title	Technical Report	Code	AE1302	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	0	---	2

2. Professional Information:

2.1. Course description:

This course helps students of the architecture department to know the technical information of preparing a report about a selected topic, the report is submitted and discussed at the end of the term.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO3	Work in and lead a heterogeneous team and display leadership qualities, business administration, and entrepreneurial skills.	CO1	Identify various techniques of writing technical reports.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Apply theories of writing of various topics through technical reports.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Apply self-learning through specialized and electronic libraries & the ability to self-learning through research
		CLO2	Analyze various reports to know the process of writing.
PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools	CLO3	Propose preliminary structure of the technical report.
		CLO4	Produce reports with various topics
Cognitive Domain		Psychomotor Domain	Affective Domain
---		CLO2,3,4	CLO1

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Lecture 1: Introduction and Definitions.	1	*		*	
Lecture 2: Types and Contents	2	*	*		
Discussions 1: Reports (models)	3		*	*	
Lecture 3: Contents 2	4	*			*
Lecture 4: Referencing + Discussions 2 of the reports	5		*	*	
Lecture 5: Citation	6				
Discussions 3 of the reports	7			*	*
Mid-term Exam	8		*	*	
Lecture 6: Format	9	*			*
Discussions 4 of the reports (model 2)	10		*	*	
Lecture 7: Professional Reports	11		*		*
Lecture 8: Methods + Submission of phase one of the reports	12	*			*
Revision	13		*	*	
Final submission of the reports	14			*	*
Final Exam (Oral Test)	15	*			*
Total	15	6	8	8	7

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	*		*	*
2. Problem-based Learning		*	*	*
3. Presentations	*	*		*
4. Brain Storming	*		*	
5. Discussion		*	*	*
6. Self-Learning	*			*
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
1. Tests	Midterm Exam		*	*	
	Oral Test	*		*	*
2. Discussions		*	*		*
3. Assignments				*	*
4. Presentations		*	*		
Summative Assessment Method					
5- Final Exam		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20 %
2. Discussions	Week #3 &5&7&10	10 %
3. Assignments	Week #3 &5&7&10	10 %
4. Presentations	Week #3 &5&7&10	20%
5- Final Exam (Oral Test)	Week # 15	40%
Total		100%



2.7. List of Reference:

Course Notes:	<ul style="list-style-type: none"> Lecture Notes
Recommended Books:	<ul style="list-style-type: none"> www.sciencedirection.com/science/article/abs/pii/s2212443812000495 Chandrasekhar,R.(2008) How to write a thesis:Aworkin guide ,University of western Aistralia

2.8. Facilities required for Teaching and Learning

Different Facilities
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO3	*	
PO5		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	*		*	
CO2		*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO5	*	*		
PLO8			*	*



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO5	PO3	CLO1 CLO2	1. Lectures 2. Problem-based Learning 3. Presentations 4. Brain Storming 5. Discussions 6. Self-Learning	1. Mid-term Exam 2. Discussions 3. Presentations 4. Final Exam
PLO8	PO5	CLO3 CLO4	1. Lectures 2. Problem-based Learning 3. Presentations 4. Brain Storming 5. Discussions 6. Self-Learning	1. Mid-term Exam 2. Discussions 3. Assignments 4. Final Exam

Course Coordinator: Assoc. Prof. Ayman Abdel Hamid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 4/2 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Urban Design1	Code	AE1342	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course Description:

Introduction to urban design, housing and related fields; relevance of contextual design; history and development of urban form and housing; an introduction to site planning and design principles, elements, processes and products; examples and application, local and international, limited assignments

2.2. Course Objectives (CO):

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Analyze housing problem in any society and how to provide solutions to it.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO2	Design innovative and appropriate solutions of housing problems.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements.	CO3	Apply the theoretical base of studying by the most important theories and trends of urban form and housing.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes			
PLO7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams.	CLO1	Define the concept of Housing, Quality of life and human needs		
		CLO2	Follow the effective collaboration within multidisciplinary team		
PLO11	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.	CLO3	Recall the basic concepts, schools, trends and definitions of housing.		
		CLO4	Analyze different housing projects solutions to obtain design criteria.		
		CLO5	Apply the housing indicators through different case studies		
PLO12	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.	CLO6	Classify housing prototypes due to different socio-economic groups.		
		CLO7	Criticize physical models and housing projects to study the relationship between buildings and their environment.		
		CLO8	Create innovative designs of housing projects.		
Cognitive Domain		Psychomotor Domain		Affective Domain	
CLO1, 3		CLO4,5, 7,8		CLO2	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction & Course Review	1	*		*			*		
Definition & Housing Concept	2			*					
The Neighborhood; A Residential Environment	3&4			*	*				
Discussion of 1 st research: Quality of Life and human needs in Urban Areas	5	*	*						
Housing Prototypes & Principles of Residential Units	6&7					*	*	*	
Mid-Term Exam	8								
Introduction to Project	9					*		*	*
Principles and design of Residential Buildings	10					*	*		
Analysis of similar housing projects	11								
Follow up the Housing Project	12				*				
Similar project analysis (1) & Physical Model	13				*			*	
Semi-final Sketch	14					*			*
Final Sketch & Physical Model	15		*			*		*	*
Total		2	2	3	3	5	3	4	3

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
1. Lectures	*		*			*		
2. Tutorials				*	*		*	*
3. Presentations		*			*		*	*
4. Case Study				*				
5. Projects		*			*		*	*
6. Discussion	*		*			*		
7. Modeling							*	
Teaching and Learning Methods for Students with Special Needs:								
Methods								
1. Discussion Session								
2. Extra Lectures								
3. Provide different levels of books and materials								

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method								
1. Midterm Exam			*			*		
2. Discussions	*		*			*		
3. Projects		*			*		*	*
4. Assignments				*	*			*
5. Presentations	*			*				
6. Modeling							*	
7. Reports	*	*						
Summative Assessment Method								
Final Exam			*			*		*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week # 5 & 7	2.5%
Projects	Week # 15	15%
Assignments	Week # 10, 11,12, 13, 14	10%
Presentations	Week # 5	2.5%
Modeling	Week # 7 & 15	10%
Reports	Week # 5	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Adams, Thomas, The Design of Residential Areas: Basic Considerations, Principles, and Methods Forgotten Books publisher, 2017.
	Carmona ,Matthew,Public Places Urban Spaces :The Dimensions of Urban Design ,2021 ,Routledge
	نسمات عبد القادر، سيد التوني، اشكالية النسيج والطابع، 1997
Recommended Books:	David F., William A. V. & Kenneth G., The SAGE Handbook of Housing Studies, SAGE Publications Ltd, 2012
Periodicals, Web Sites, ... etc:	-----

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO6		*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1			*	*		*		
CO2		*					*	*
CO3	*				*			

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO7	*	*						
PLO11			*	*	*			
PLO12						*	*	*



3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO7	PO2	CLO1 CLO2	1. Lecture 2. Discussion 3. Presentations 4. Projects	1. Discussion 2. Presentations 3. Reports 4. Projects
PLO11	PO7	CLO3 CLO4 CLO5	1. Lecture 2. Discussion 3. Tutorials 4. Case Study 5. Presentations 6. Projects	1. Midterm Exam 2. Discussions 3. Final Exam 4. Assignments 5. Presentations 6. Projects
PLO12	PO6	CLO6 CLO7 CLO8	1. Lecture 2. Discussion 3. Tutorials 4. Presentations 6. Projects 7. Modeling	1. Midterm Exam 2. Discussions 3. Final Exam 4. Projects 5. Modeling 6. Assignments

Course Coordinator: Dr. Mona Yehia Shedid

Head of Department: Dr Zeinab Faisal

Date: 20 /1 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Working Design 1B	Code	AE 1322	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	6	--	5

2. Professional Information:

2.1. Course description:

The course introduces preparation of integrated execution documents for projects, preparation of working drawings of a pre-designed medium to large scale project, including wide spans, general conditions and specifications, quantity surveying, analysis of bids, and shop and as built drawings. It also provides students with Principles and practices in plumbing and sanitary systems as well as the electrical and mechanical systems- its design, installation, operation, and maintenance in buildings.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Recognize the ways of choosing finishing materials.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	use the advanced techniques of modern engineering construction tools
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and	CO3	demonstrate students' ability solving urban problems.
	serve the local community.		

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content and principles of environmental conservation	1	*		*			*
Explain how to draw advanced working plans with details and the convert of design plan to working plan.	2,3,4	*	*				
Explain how to draw working for complicated sections in levels	5,6	*	*				*
Mid-term Exam	8						
Explain how to draw working elevations in levels	9	*	*			*	
Explain how to draw working layout and contour lines.	10,11	*	*		*		
Explain the shop drawings with details	12,13,14	*		*		*	
Final project	15			*	*		
Total		6	4	3	2	2	2

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*			*		
2. Tutorials			*	*	*	
3. Project-based Learning		*				*
4. Projects	*					
Report			*		*	
Self-Learning			*			*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*			*	*	*
	Midterm Exam	*					
	Quizzes			*			*
Reports				*			
Projects	Projects	*	*				
	Mini Projects			*			
Assignments				*	*	*	
Presentations		*	*		*	*	*
Summative Assessment Method							
Final Exam			*	*			*

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%



2.8. List of Reference:

Essential Books (Textbooks):	محمد أحمد عبد الله. 2018. الرسومات التنفيذية والتفاصيل المعمارية. مكتبة الأنجلو المصرية. مصر.
Recommended Books:	The Professional Practice of Architectural Working Drawings 5th Edition, 2017. Building Construction Illustrated 6th Edition, 2020. Architectural Detailing: Function, Constructability, Aesthetics 3rd Edition, 2016.
	Barry's Advanced Construction of Buildings, 4th Edition, 2018
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
Po4			*
Po6		*	

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*					*
CO2			*		*	
CO3		*				
CO4				*		

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO13	*	*				
PLO14			*	*		
PLO15					*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO13:	PO2	CLO1 CLO2	<ul style="list-style-type: none">• Lectures• Tutorials• Reports• Brain storming• Self-learning• Discussion	<ul style="list-style-type: none">• Midterm.• Reports• Projects• Assignments
PL014:	PO4	CLO3 CLO4	<ul style="list-style-type: none">• Lectures• Project based learning• Projects	<ul style="list-style-type: none">• Reports• Projects• Final exam
PLO15 :	PO6	CLO5 CLO6	<ul style="list-style-type: none">• Tutorials• Reports• Project based learning• Self-learning	<ul style="list-style-type: none">• Oral Test• Quizzes• Assignments• Presentation

Course Coordinator: Dr Ahmed Elsaadany

Head of Department: Prof. Dr. Zeinab Faisal

Date: 22/1/2023

Architectural Engineering
Department -FOURTH YEAR
Specification





Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Architecture Design (4)	Code	AE 1411	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	3	7	-	6

2. Professional Information:

2.1. Course description:

The design process and its various aspects - functional relations and circulation patterns - qualitative and quantitative study of architectural spaces - relationships between spaces and required openings - the effect of openings upon facades - human / environmental / functional relations - simple structures for small scale buildings - simple design problem solving.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Outline the architectural vocabulary and drawings which used in architectural design and architectural presentation.
		CO2	Determine the various dimensions of housing problem and the range of approaches, policies, and practices that could be carried out to solve this problems.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO3	Design innovative complex design projects.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO9	Use creative, innovative and flexible thinking and acquire entrepreneurial and leadership skills to anticipate and respond to new situations.	CLO1	Generate new design solutions through imagination and creativity
PLO11	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.	CLO2	Identify principles of architectural design in a complex context, scales and types that satisfy both aesthetic and technical requirements.
		CLO3	Produce all necessary architectural drawings that meet technical requirements.
PLO12	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.	CLO4	Analyze different similar building design solutions to obtain design criteria.
		CLO5	Criticize physical models of similar buildings.
		CLO6	Create architecture design problems that meet users' requirements by dealing with a multi-use project ,residential ,administrative ,and commercial and applying the unified building Law 119 of 2008 and the new building conditions.
PLO14	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.	CLO7	Generate new design solutions using the new materials with suitable cost and compatible with the environment.
PLO15	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.	CLO8	Create architectural design research / report, site analytics, similar projects and standards to reach design criteria and final design report.



Cognitive Domain	Psychomotor Domain	Affective Domain
CLO2	CLO1,3,4,5, 6,7	CLO8

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction to course content and Introduction to 1st project.	1		*						
Project research and diagrams of the floors	2		*	*					*
Residential plans	3		*	*					
Residential plans	4		*	*					
Administrative and commercial plans	5		*	*					
Complete set of the all plans	6		*						
Main elevations and sections	7	*		*					
Mid- term Exam	8	*		*		*			
Semifinal sketch Complete set of the all plans, elevations, and sections	9	*		*		*	*		
final sketch	10		*		*			*	
Follow up the final project	11				*				
Final 1st project and discussion.	12		*		*	*		*	*
Introduction to 2nd design project	13	*		*			*		
Follow up the final project	14	*		*					
Final 2nd design project and discussion	15	*		*		*	*	*	*
Total	15	5	8	9	3	4	3	3	3



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
1. Lectures		*		*				
2. Design studio	*		*		*	*		
3. Problem-based Learning	*			*				
4. Presentations			*		*	*		*
5. Case Study		*		*			*	*
6. Projects	*		*		*	*	*	*
7. Discussion	*	*		*		*		
8. Modeling					*	*		
Teaching and Learning Methods for Students with Special Needs:								
Methods								
1. Discussion Session								
2. Extra Lectures								
3. Provide different levels of books and materials								

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method									
1. Tests	Oral Test	*	*			*			
	Midterm Exam			*					
2. Discussions		*			*				
3. Projects		*		*		*	*	*	*
4. Assignments			*	*	*		*		
5. Presentations						*		*	*
6. Modeling						*			
Summative Assessment Method									
Final Exam		*		*			*		



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20%
Discussions	Week # 12 & 15	5%
Projects	Week # 12 & 15	25%
Assignments	Week # 2,3,4,5,6,7,10,11,13	10%
Presentations	Week # 12 & 15	5%
Modeling	Week # 12 & 15	5%
Final Exam	Scheduled by the faculty council	30%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	R Conway and Roenisch, 1987, Understanding Architecture, Routledge of Keegan, London Building Law 119 of 2008
Recommended Books:	Ching, F., and Juroszek, S. (2018). Design Drawing. 3 rd ed., Hoboken, NJ: John Wiley & Sons, Inc.
	Karlen, M. and Fleming, R. (2016). Space Planning Basics. Hoboken, NJ: John Wiley & Sons, Inc.
Periodicals, Web Sites, ... etc:	http:// www.archnet.org http:// www.greatbuilding.com http:// www.architecture.com

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO1	*	*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1		*		*				
CO2			*				*	
CO3	*				*	*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO9	*							
PLO11		*	*					
PLO12				*	*	*		
PLO14							*	*
PLO15							*	*



3.4. Assessment Alignment Matrix

PLO's	PO's	CLO's	Teaching M.	Assessment M.
PLO9	PO1 PO6	CLO1	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
PLO11	PO6 PO7	CLO2 CLO3	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO12	PO6 PO7	CLO4 CLO5 CLO6	1. Lectures 2. Problem-based Learning 3. Case Study 4. Discussion 5. Design studio 6. Presentations 7. Projects 8. Modeling	1. Discussions 2. Assignments 3. Oral Test 4. Projects 5. Assignments 6. Presentations 7. Modeling 8. Final Exam

Course Coordinator: Assoc. Prof. Ayman Abd El Hamid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 13/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Working Dr.&Const.Methods (2)	Code	AE 1421	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	6	0	5

2. Professional Information:

2.1. Course description:

The course introduces preparation of integrated execution documents for projects, preparation of working drawings of a pre-designed large-scale project, the writing of specifications documents presented with working drawings, structures, quantities, and specifications, plumbing and sanitary systems, electrical and mechanical systems, and shop and as built drawings.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	Apply different sustainable finishing materials in working drawings.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Identify different techniques and modern engineering tools of construction.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Recognize the different engineering ethics and standards.



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO1	Outline principles of environmental structure
		CLO2	Identify all necessary construction, technology and working drawings that meet technical requirements.
PLO14	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.	CLO3	Determine the constraints of: project financing,
		CLO4	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.
PLO15	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.	CLO5	Identify the constraints of: project management,
		CLO6	Outline the constraints of: cost control and methods of project delivery
Cognitive Domain		Psychomotor Domain	
CLO1,3,5		CLO2,6	
		Affective Domain	
		CLO4	

2.4. Course Topics:+

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1	*		*			*
Explain how to draw working plans with large scale	2,3,4		*	*		*	
Explain how to draw working sections with large scale	5,6,7	*	*		*		
Mid-term Exam	8					*	
Explain how to draw working elevations with large scale	9	*	*				*
Explain how to draw working layout with large scale	10,11	*	*				*
Explain how to draw shop drawing	12	*		*	*		
Explain how to draw working advanced details	13			*	*	*	
Final project	14,15			*	*	*	*
Total		8	9	9	7	7	6

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*			*	*	*
2. Tutorials		*	*		*	*
3. Project-based Learning	*	*				
4. Projects	*			*		
Report			*		*	
Self-Learning			*	*		*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*				*	
	Midterm Exam	*					*
	Quizzes			*			*
Reports				*			
Projects	Projects	*	*		*		
	Mini Projects			*	*		
Assignments				*		*	
Presentations		*	*		*		
Summative Assessment Method							
Final Exam			*	*	*		

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	محمد أحمد عبد الله 2018. الرسومات التنفيذية والتفاصيل المعمارية. مكتبة الأنجلو المصرية. مصر.
Recommended Books:	R Conway and Roenisch, 1987, Understanding Architecture, Routledge of Keegan, London
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO2	*	*		
PO4			*	
PO6				*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*			
CO2		*			*	
CO3						*
CO4				*		

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO13	*	*				
PLO14			*		*	
PLO15				*		*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO13: Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	PO2	CLO1 CLO2	<ul style="list-style-type: none">• Lectures• Tutorials• Reports• Brain storming• Self learning• Discussion	<ul style="list-style-type: none">• Mid term.• Reports• Projects• Assignments
PL014: 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.	PO4	CLO3	<ul style="list-style-type: none">• Lectures• Tutorials• Project based learning• Projects• Reports	<ul style="list-style-type: none">• Reports• Projects• Final exam
PLO15: 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.	PO6	CLO4 CLO5 CLO6	<ul style="list-style-type: none">• Lecture.• Projects• Self - learning	<ul style="list-style-type: none">• Projects• Mini Projects• Presentation• Final exam

Course Coordinator: Dr Ahmed Elsaadany

Head of Department: Prof. Dr. Zeinab Faisal

Date: 8/11/2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Principals of Interior design	Code	AE 1413	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	6

2. Professional Information:

2.1. Course Description:

In-depth studies in Interior Design elements - Emphasis on design drawings and detailing – Materials selection and specifications – Technical Systems (lighting, air-conditioning, plumbing, and sanitary aspects, ...)- Furniture design and textile –Components of Aesthetic quality in interior spaces – Design applications.

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Understand the fundamentals of the interior design process.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Generate interior designs that consider both aesthetic and functional requirements.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	CLO1	Apply principles of interior design to create designs satisfy both aesthetic and functional requirements.
		CLO2	Explore different factors affecting the interior design process such as environmental, socio-cultural, and economic aspects to produce a sustainable design solution.
PLO12	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.	CLO3	Investigate several similar interior design solutions to obtain design criteria.
		CLO4	Generate interior design solutions that meet users' requirements.
Cognitive Domain		Psychomotor Domain	
-----		CLO1,2,3,4	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to interior design	1	*			
Elements of Interior design. <ul style="list-style-type: none"> ▪ Point and line ▪ Form and space ▪ Materials and Textures ▪ Patterns 	2	*	*		
Elements of Interior design. <ul style="list-style-type: none"> ▪ Color 	3	*	*		
Interior design principles <ul style="list-style-type: none"> ▪ Size and Scale ▪ Rhythm ▪ Emphasis 	4	*	*		
Interior design principles <ul style="list-style-type: none"> ▪ Proportions ▪ Unity and Variety ▪ Balance (Symmetrical, asymmetrical) 	5	*	*		
How to design a Mood board	6		*	*	
Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Interior Design Process	7	*		*	
Mid-term Exam	8				
Design Workshop 1	9			*	*
Design Workshop 2	10			*	*
Design Workshop 3	11			*	*
Design Workshop 4	12		*		*
Design Workshop 5	13		*		*
Design Semi-final Sketch	14	*			*
Design Final Sketch	15	*			*
Total	15	9	7	5	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	*	*		
2. Design Studio		*		*
3. Presentations	*	*	*	
4. Projects	*	*	*	*
5. Discussion	*	*	*	*
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered			
	CLO1	CLO2	CLO3	CLO4
Formative Assessment Method				
1. Tests: Midterm Exam	*			*
2. Discussions	*	*	*	
3. Projects	*		*	*
4. Assignments	*	*	*	*
5. Presentations	*	*	*	*
Summative Assessment Method				
Final Exam	*	*		*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week # 2,4,5,6,9,11,13	5%
Projects	Week # 9 & 15	25%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%



2.7. List of References:

Essential Books (Textbooks):	De Chiare, Joseph. Time Saver Standards for Interior Design. McGraw- Hill Book Company, N.Y 2001.
Recommended Books:	Ph. E. (2021), By Design: The World's Best Contemporary Interior Designers. Henderson Sh. (2021) Interiors in Context, The Monacelli Press, USA Magntorn I., The Sustainable Home: Easy Ways to Live with Nature in Mind, Pavilion Books, USA, 2022
Periodicals, Web Sites, ... etc:	https://www.archute.com/ https://www.pinterest.com https://www.admiddleeast.com/ https://www.behance.net https://www.desiretoinspire.net/ https://www.houzz.com/ https://stylebyemilyhenderson.com/design https://www.elledecor.com/ https://www.homeanddesign.com/ https://www.archdaily.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Design Studio
Library usage
Data show
Whiteboard

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	*	*		
CO2			*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO3	*	*		
PLO12			*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO3	PO1	CLO1	<ul style="list-style-type: none"> ▪ Lectures ▪ Presentations ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Midterm Exam ▪ Discussions ▪ Projects ▪ Assignments ▪ Presentations ▪ Final Exam
		CLO2	<ul style="list-style-type: none"> ▪ Lectures ▪ Design Studio ▪ Presentations ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Discussions ▪ Assignments ▪ Presentations ▪ Final Exam
PLO12	PO7	CLO3	<ul style="list-style-type: none"> ▪ Lectures ▪ Design Studio ▪ Presentations ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Discussions ▪ Projects ▪ Assignments ▪ Presentations
		CLO4	<ul style="list-style-type: none"> ▪ Design Studio ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Midterm Exam ▪ Projects ▪ Assignments ▪ Presentations ▪ Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal



Head of Department: Prof. Dr. Zeinab Faisal



Date: 11/11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Urban Design2	Code	AE1463	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

Scope, objectives, output, major schools and trends, urban tissue, visual perception, townscape, urban form, analysis and design of urban spaces and paths, images and mental maps, community development: socio - economic aspects, legislation and development control, case studies- The urban design project, covers: development, upgrading, conservation and community design of an existing and a new area.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO1	Design innovative and appropriate solutions of urban problems.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Apply the theoretical base of studying by the most important theories and trends, urban fabric, visual perception, appearance of urban formation.

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO11	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.	CLO1	Recall the basic concepts, schools, trends and definitions of urban design.
		CLO2	Analyze different urban design solutions to obtain design criteria.
		CLO3	Use the different dimensions of urban design.
PLO12	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.	CLO4	Criticize urban projects to study the relationship between buildings and their environment.
		CLO5	Create innovative designs of urban spaces projects.
Cognitive Domain		Psychomotor Domain	
CLO1		CLO2,3,4,5	

Affective Domain			

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO1	CLO2	CLO3	CLO4	CLO5
Introduction to course content & urban design	1&2	*		*		
Traditions of thought in urban design	3	*	*	*		
The city image and its elements	4		*	*	*	
Form and space: quality of perception	5	*	*	*		
Urban morphology	6	*		*		*
Urban tissue & Introduction to project	7		*	*	*	
Mid-term Exam	8	*	*		*	
Introduction to environmental psychology	9	*		*	*	
How to study public life	10		*		*	*
Analysis of urban design projects	11	*			*	*
Similar project analysis	12		*		*	*
Semi-final Sketch	13.14		*		*	*
Final Sketch	15		*		*	*
Total		8	10	8	10	7

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*		*		
2. Tutorials		*			*
3. Problem-based Learning		*			*
5. Presentations				*	*
6. Case Study		*	*		
7. Projects	*	*		*	*
8. Discussion				*	*
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method					
1. Midterm Exam	*	*		*	
2. Discussions				*	*
3. Projects	*	*		*	*
4. Assignments		*	*		
5. Presentations			*		*
Summative Assessment Method					
Final Exam	*		*		*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	13%
Discussions	Week # 9 & 15	4%
Projects	Week # 15	20%
Assignments	Week # 2,3,4,5,7	13%
Presentations	Week # 9 & 15	10%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Gehl, J., Svarre, B., How to Study Public Life, Island Press, 2013
	Carmona ,Matthew,Public Places Urban Spaces :The Dimensions of Urban Design ,2021 ,Routledge
	Lang ,Jon Lang Urban Design: A Typology of Procedures and ProductsBy.2017
Recommended Books:	Lynch, K., The Image of the City, MIT Press, 1960.
Periodicals, Web Sites, ... etc:	-----

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO6	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1		*		*	*
CO2	*		*		

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO11	*	*	*		
PLO12				*	*



3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO11	PO6 PO7	CLO1 CLO2 CLO3	1. Lecture 2. Projects 3. Tutorials 4. Problem-based Learning 5. Case Study	1. Midterm Exam 2. Projects 3. Assignments 4. Presentations 5. Final Exam
PLO12	PO6 PO7	CLO4 CLO5	1. Presentations 2. Projects 3. Discussions 4. Tutorials 5. Problem-based Learning	1. Mid-term Exam 2. Discussions 3. Projects 4. Final Exam 5. Presentations

Course Coordinator: Dr. Mona Yehia Shedid

Head of Department: Dr Zeinab Faisal

Date: 5 /11 /2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Architectural Criticism	Code	AE1512	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

The course goal is to introduce the theory of architectural criticism- its different approaches and critics- methods of documentations, evolutions and presentation of critical works- applications on case studies.

2.2. Course Objectives (CO): At the end of course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Evaluate critical analytical thinking to solve engineering problems in a variety of scientific ways
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Apply engineering standards and observe professional ethics in construction work



Benha University
Benha Faculty of Engineering
Architectural Engineering Department



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	CLO1	Understand the basics, levels and stages of architectural criticism.
		CLO2	Analyze buildings in a simple context.
PLO3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	CLO3	Evaluate buildings to develop architectural work after issuing a judgment on it, through individual and group study.
		CLO4	Apply critical article for applying the stages of architectural criticism in the field of architecture and urbanism.
Cognitive Domain		Psychomotor Domain	
CLO1,		CLO2, 3, 4	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to course content	1	*		*	
Introduction to architectural criticism	2	*	*		
Completing the knowledge introduction to architectural criticism	3	*	*		
View and analyze individual exercises	4	*	*		
A theoretical background on architectural criticism	5	*			*
Architectural criticism and its methods	6	*			*
View and discuss critical articles	7	*		*	
Mid-term Exam (Presentations and Discussion) only	8				
View and discuss the individual critical article	9			*	*
View and discuss the individual critical article	10			*	*
Criticism and urbanism in the context of history	11	*	*		*
Presentation and discussion of collective critical research	12		*		*
Presentation and discussion of collective critical research	13		*	*	*
Presentation and discussion of collective critical research	14		*	*	*
Portfolio submission and general discussion	15		*	*	*
Total	15	8	8	7	9

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
Methods	CLO1	CLO2	CLO3	CLO4
1. Lectures	*		*	*
2. Tutorials		*	*	
3. Problem-based Learning		*	*	*
4. Presentations	*	*		*
5. Brain Storming	*		*	
6. Discussion		*	*	*
7. Self-Learning	*			*
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Field visit to historical buildings				
2. Discussion Session				
3. Extra Lectures				
4. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
1. Tests	Midterm Exam		*	*	
	Quizzes	*		*	*
2. Discussions		*	*		*
3. Assignments				*	*
4. Presentations		*	*		
5- Portfolio			*	*	
Summative Assessment Method					
6- Final Exam		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	20%
2. Quizzes	Week 2 & 3 & 4 & 5 & 6 & 7	5%
3. Discussions	Week 8 & 9 & 10 & 11 & 12	10%
4. Assignments	Week 2 & 3 & 4 & 5 & 6 & 7	10%
5. Presentations	Week 5 & 6 & 7 & 9 & 10	10%
6- Portfolio	Week 15	5%
7. Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ عبد الرؤوف، على. (2014)، النقد المعماري ودوره في تطوير العمران المعاصر – الحالة المصرية والعربية، المشاع الإبداع، القاهرة – مصر. ▪ محمود، زكي نجيب. (1997)، ثقافتنا في مواجهة العصر، الهيئة المصرية العامة للكتاب، مصر. ▪ حواس، سهير زكي. 2002م، القاهرة الخديوية، مركز التصميمات المعمارية، القاهرة – مصر.
Recommended Books:	<ul style="list-style-type: none"> ▪ Bokern, Anneke, 2020 „How to choose an architecture photographer“, in Wonderland. Platform for Architecture. Abu-Lughod, J. L. 1971. Cairo 1001 years of the city victorious. Princeton, N.J.: Princeton University Press. ▪ Attoe, Wayne. 1978. Architecture and Critical Imagination. New York: John Wiley and Sons. ▪ Banham, Reyner. 1996. A Black Box: The Secret Profession of Architecture“, in Mary Banham et al eds., A Critic Writes: Essays by Reyner Banham, University of California Press, Berkeley. ▪ Banham, R. 1980. Theory and Design in The First Machine Age. MIT Press; 2 edition.
Periodicals, Web Sites, ... etc:	<ul style="list-style-type: none"> - https://www.diwanbooks.com/book-pdf/%D8%A7%D9%84%D9%86%D9%82%D8%AF-%D8%A7%D9%84%D9%85%D8%B9%D9%85%D8%A7%D8%B1%D9%8A/ - http://analchemistryofarchitecture.blogspot.com/ - http://www.aecplusm.com/download/201207/pharaohs/pharaohs.htm#.UuoDkefHlvA - https://www.youtube.com/watch?v=q1hHnaYL_U4&list=PLitviJPgm9aYRDCQjE1Ucicxa2g5TdaFq



2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	*	
PO5		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	*		*	
CO2		*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	*	*		
PLO3			*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1 CLO2	<ol style="list-style-type: none"> Lectures Tutorials Presentations Brain Storming Discussions Self-Learning 	<ol style="list-style-type: none"> Mid-term Exam Quizzes Discussions Assignments Presentations Portfolio Final Exam
PLO3	PO5	CLO3 CLO4	<ol style="list-style-type: none"> Lectures Tutorials Problem-based Learning Presentations Discussions Self-Learning 	<ol style="list-style-type: none"> Mid-term Exam Quizzes Discussions Assignments Presentations Portfolio Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 15/ 2/ 2023






Course Specification

1. Basic Information:

Program Title	Architectural Engineering Department			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Quantities & Specifications	Code	AE 1524	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	--	5

2. Professional Information:

2.1. Course description:

The course enhances Students' awareness of accuracy in respect of estimating needs of materials, construction elements, equipment's, or techniques whether quantitatively or qualitatively. It helps students to consider the impact of estimating quantities and deciding the specifications on the design and execution of buildings. The students are able to understand the process of generating, bidding, and performing construction contracts, components of direct and indirect construction costs, work breakdown, contingency and risk.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of engineering knowledge, science and specialized skills with analytic, critical and systemic thinking to identify and solve engineering problems in real life situation.	CO1	Recognize the types and the cost of finishing materials.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	Identify advanced techniques of modern engineering construction tools



2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	CLO1	Identify supervising monitoring the implementation of engineering projects.
		CLO2	Identify advanced technologies that meet technical requirements.
PLO14	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.	CLO3	Identify the constraints of: more complicated projects financing, project management, cost control
		CLO4	Describe the constraints of project delivery; while having adequate knowledge of industries, organizations, regulations
PLO15	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.	CLO5	demonstrate the advanced constraints of: cost control
		CLO6	interpret the constraints of: the methods of project delivery.
Cognitive Domain		Psychomotor Domain	
CLO1,2,3,4		CLO5,6	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content and the main purpose of the course.	1	*		*			*
Explain some expressions in the field (the owner – contractor ... etc)	2,3,4		*	*			
Explain how to plan the work in the field	5,6	*	*			*	*
Mid-term Exam	8	*					
Explain Excavation and backfilling	9	*	*			*	
Explain the concrete	10,11	*	*		*		*
Explain the finishing materials and stairs	12,13,14	*		*	*	*	
Final project	15			*	*		*
Total		10	8	8	7	6	6

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*			*		
2. Tutorials			*	*	*	
3. Project-based Learning		*				*
4. Projects	*					
Report			*		*	
Self-Learning			*			*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.7 Assessment Methods

Assessment Methods:		Course LOs Covered					
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Oral Test	*			*	*	*
	Midterm Exam	*					
	Quizzes			*			*
Reports				*			
Projects	Projects	*	*				
	Mini Projects			*			
Assignments				*	*	*	
Presentations		*	*		*	*	*
Summative Assessment Method							
Final Exam			*	*			*

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	حساب الكميات والمواصفات، أحمد أبو عودة، مكتبة المجتمع العربي للنشر والتوزيع السلسلة: الهندسة المدنية، يناير 2014
Recommended Books:	الكميات والمواصفات، ماجد خلوصي، مكتبة المجتمع العربي للنشر والتوزيع السلسلة: الهندسة المعمارية، 2020
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	*	
PO4		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*	*				
CO2			*	*	*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO6	*	*				
PLO14			*	*		
PLO15					*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO6:	PO1	CLO1 CLO2	<ul style="list-style-type: none"> • Lectures • Tutorials • Reports • Brain storming • Self learning • Discussion 	<ul style="list-style-type: none"> • Mid term. • Reports • Projects • Assignments
PL014:	PO4	CLO3 CLO4	<ul style="list-style-type: none"> • Lectures • Project based learning • Projects 	<ul style="list-style-type: none"> • Reports • Projects • Final exam
PLO15 :	PO4	CLO5 CLO6	<ul style="list-style-type: none"> • Tutorials • Reports • Project based learning • Self-learning 	<ul style="list-style-type: none"> • Oral Test • Quizzes • Assignments • Presentation

Course Coordinator: Dr Ahmed Elsaadany

Head of Department: Prof. Dr. Zeinab Faisal

Date: 22/1/2023



Course Specification

1. Basic Information:

Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	profession practice & legislations	Code	AE 1402	
Type	Compulsory <input checked="" type="checkbox"/>		Elective <input type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	2

2. Professional Information:

2.1. Course Description:

The course explains the roles and the relationship between the different participants in the construction process; the Architect, the contractor and the owner. It is a study of the professional practice, codes and legislations in terms of rights, commitments, ethics and scope of services. Types of contracts, fees and bidding are important issues of this course. Also, case studies of real sites are examined, discussed and analyzed in classes

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Develop the student's knowledge and awareness regarding the different roles he/she will play in his future professional practice
Po6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community	Co2	Develop the student's knowledge and awareness regarding the duties and rights of different parties of the project life cycle: Client, Contractor, and Architect.
PO7	Create architectural designs that satisfy both aesthetic, and technical and meet building users' requirements	CO3	Apply "building law bylaw", "building safety code", and "Egyptian Engineers Syndicate" bylaws for fee estimation

2.3. Course Learning Outcomes (CLO's):

Program Learning Outcomes		Course Learning Outcomes	
PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	CLO1	Analyze the architectural project legality in light of local building codes and legislations
		CLO2	Evaluate construction contracts agreement and guarantee against construction flaws.
PLO14	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	CLO3	Evaluate a correct consultation contract between the client and the architect in light of the needed scope of work.
		Clo4	Calculate the architect's fee based on the needed scope of work according to the Egyptian Engineers Syndicate bylaws.
Plo 15	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.	Clo5	Applying "Building Law No.119 Est. 2008" and its bylaw in design projects.
		Clo6	Apply fire safety requirements in design projects.
Cognitive Domain		Psychomotor Domain	
Clo1		Clo2-clo3-clo4	
		Affective Domain	
		Clo5-clo6	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Course Orientation	1		*				
Planning Codes	2		*	*			
Planning Codes	3		*	*			
Building Codes	4		*	*			
Building Codes	5		*	*			
Building fire protection Codes	6		*				
Building fire protection Codes	7			*			*
Mid-term Exam	8						
Client/ Consultant relation; Consultation Contracts	9	*		*		*	
Client/ Consultant relation; Consultation Contracts	10		*		*		
introduction; Professional practice, and legislations roles	11	*		*		*	*
Professional practice, and legislations roles	12				*		
Professional practice, and legislations roles	13		*		*	*	
Professional practice, and legislations roles	14	*		*			*
Final discussion	15	*		*		*	*
Total	15	4	8	9	3	4	4

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures		*	*	*		
2. Problem-based Learning	*			*		
3. Presentations			*		*	*
4. Discussion	*	*		*	*	*
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						



2.6 Assessment Methods

Assessment Methods:		Course LOs Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
1. Tests	Oral Test	*	*			*	
	Midterm Exam			*			
2. Discussions		*			*		
3. Assignments			*	*	*		*
4. Presentations						*	
Summative Assessment Method							
Final Exam		*		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Oral Test	Week # 13	5%
Discussions	Week # 9 & 15	5%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	5%
Presentations	Week # 9 & 15	10%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	Egyptian Engineers Syndicate' bylaws regarding the architecture profession
Recommended Books:	Nassar; Gamal El-Din, Arabic translation of conditions of contract for construction for building and engineering works designed by the employer, guidance for the preparation of particular conditions, forms of letter of tender, contract agreement and dispute adjudication board, 2001 Nigel Ostime, Riba Architect's Job Book, 9th Edition, RIBA Publications, 2013.
Periodicals, Web Sites, ... etc:	

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO4	*		
Po6		*	
PO7			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*				*	
CO2			*	*		
Co3		*				*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO4	*					*
PLO14		*		*		
Plo15			*		*	



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO4	Po4 Po6	CLO1 Clo2	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Final Exam
PLO14	Po6 Po7	CLO3 CLO4	1. Lectures 2. Case Study 3. Discussions 4. Presentations	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
Plo15	Po7	Clo5 Clo6	1. Problem-based Learning 2. Projects 3. Discussion	1. Discussions 2. Projects 3. Assignments 4. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad

Head of Department: Prof. Dr. Zeinab Faisal

Date: 26/1 /2023



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Aesthetics and Form Generation	Code	AE151 6	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

The course goal is to introduce the basics and traditions Ethics and image perception in today architectural and urban design- to develop the form generation and space design skills- to study the relationship between historical and today architectural and urban outcomes.

2.2. Course Objectives (CO): At the end of course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Apply critical analytical thinking to solve engineering problems in a variety of scientific ways
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Evaluate engineering standards and observe professional ethics in construction work

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A1- PLO1	Identify, formulate, and solve complex engineering problems by applying engineering fundamentals, basic science and mathematics.	CLO1	Understand the basics, levels and stages of architectural formation aesthetics.
		CLO2	Analyze buildings in a simple context.
A3- PLO3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	CLO3	Choose appropriate solutions for designing and modeling spaces.
B1- PLO11	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.	CLO4	Apply the stages of aesthetics of architectural formation in the field of architecture and urbanism.
Cognitive Domain		Psychomotor Domain	
CLO1		CLO2, 3, 4	

Affective Domain			

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to course content	1	*		*	
The basics of architectural and urban aesthetics	2	*	*		
Concepts of architectural and urban aesthetics	3	*	*		
Architectural and urban aesthetics trends	4	*	*		
Basics of visual perception	5	*			*
How to form mental images	6	*			*
Designing spaces and developing molding skills	7	*		*	
Mid-term Exam	8		*	*	
Group No. 1: features of architecture and urbanism in the context of history in El Nahasin area	9			*	*
Group No. 2: Features of architecture and urbanism in the context of history in Al-Ghouriya region	10			*	*
Group No. 3: Features of architecture and urbanism in the context of history in the Gamaleya region	11	*	*		*
Group No. 4: features of architecture and urbanism in the context of history in the Al-Darb Al-Ahmar region	12		*		*
Group No. 5: Features of Architecture and Urbanism in the Context of History in Downtown, Khedivial Cairo	13		*	*	*
Group No. 6: Features of architecture and urbanism in the context of history in the El Mosky region	14		*	*	*
Portfolio submission and general discussion	15		*	*	*
Total	15	8	8	7	9



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	*		*	*
2. Tutorials		*	*	
3. Problem-based Learning		*	*	*
4. Presentations	*	*		*
5. Brain Storming	*		*	
6. Discussion		*	*	*
7. Self-Learning	*			*
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Field visit to historical buildings				
2. Discussion Session				
3. Extra Lectures				
4. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered			
Methods		CLO1	CLO2	CLO3	CLO4
Formative Assessment Method					
1. Tests	Midterm Exam		*	*	
	Quizzes	*		*	*
2. Discussions		*	*		*
3. Assignments				*	*
4. Presentations		*	*		
5- Portfolio			*	*	
Summative Assessment Method					
6- Final Exam		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	20%
2. Quizzes	Week 2 & 3 & 4 & 5 & 6 & 7	5%
3. Discussions	Week 8 & 9 & 10 & 11 & 12	10%
4. Assignments	Week 2 & 3 & 4 & 5 & 6 & 7	10%
5. Presentations	Week 5 & 6 & 7 & 9 & 10	10%
6- Portfolio	Week 15	5%
7. Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ul style="list-style-type: none"> ▪ Lecture Notes ▪ Neufert, "Architect's Data, Grosby Lockwood Staples", London, 1970 ▪ Ching, Francis D.K., "Architecture: Form, Space and Order", Van Nostrand Reinhold Co. NY. USA, 1979 ▪ Linton, Harold, "Color Model Environments: Color and Light in Three-Dimensional Design", Harold Linton, 1985 ▪ Cappleman, Owen- Jordan, Michel Jack, "Foundation in Architecture: An Annotated Anthology of Beginning Design Projects", Van Nostrand Reinhold, 1993 ▪ Mostafa shiha, 2021, the Islamic Architecture in Egypt, Prism Publications Office, Guizeh, Egypt. ▪ سهير زكي حواس, 2002م, القاهرة الخديوية, مركز التصميمات المعمارية, القاهرة - مصر. ▪ محسن محمد عطية, 1999م, موضوعات في الفنون الإسلامية, مكتبة النهضة المصرية, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الأول), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الثاني), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الثالث), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الرابع), مكتبة مدبولي, القاهرة.
Recommended Books:	<ul style="list-style-type: none"> ▪ أحمد أحمد يوسف- محمد عزت مصطفى, 1941م, تاريخ الطرز الزخرفية, الفكر العربي, القاهرة. ▪ ثروت عكاشة, 1994م, القيم الجمالية في العمارة الإسلامية, دار الشروق, القاهرة. ▪ عبد الباقي إبراهيم- حازم محمد إبراهيم, 1987, المنظور التاريخي للعمارة في المشرق العربي, مركز الدراسات التخطيطية والمعمارية, القاهرة. ▪ عبد الباقي إبراهيم, 1982 م, تأصيل القيم الحضارية في بناء المدينة الإسلامية المعاصرة, انترناشيونال, القاهرة, بالجيزة.
Periodicals, Web Sites, ... etc:	<p>http:// www.caps-egypt.com http:// www.islamicart.com http:// www.altareekh.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	*	
PO5		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	*		*	
CO2		*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO1	*	*		
PLO3			*	
PLO11				*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO1	PO1	CLO1 CLO2	1. Lectures 2. Tutorials 3. Presentations 4. Brain Storming 5. Discussions 6. Self-Learning	1. Mid-term Exam 2. Quizzes 3. Discussions 4. Assignments 5. Presentations 6. Portfolio 7. Final Exam
PLO3	PO5	CLO3	1. Lectures 2. Tutorials 3. Problem-based Learning 4. Brain Storming 5. Discussions	1. Mid-term Exam 2. Quizzes 3. Assignments 4. Portfolio
PLO11	PO5	CLO4	1. Lectures 2. Presentations 3. Problem-based Learning 4. Self-Learning 5. Discussions	1. Quizzes 2. Discussion 3. Assignments 4. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Architecture of Islamic Societies	Code	AE153 2	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

The course goal is to study the regional Islamic Architecture in depth- and it introduces the characters and elements of Islamic Architecture in Iraq, Iran, India, North Africa, Spain, Yemen, and South –East Asia.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Apply self-learning strategies through specialized electronic libraries & field visits
PO5	Master self-learning and life -long learning strategies to communicate effectively in academic/professional fields.	CO2	Analyze historical architectural thought and its use in the development and service of the local community
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	Use technology in effective presentation and individual and group discussion to communicate information easily to all
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Solve design problems using historical architectural vocabulary and elements after understanding the design idea



2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A5- PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Search for information from references and internet.
A10- PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO2	Understand the functions of different historical buildings
		CLO3	Identify the different building types of the different historical civilizations
		CLO4	Outline different design principles of different historical buildings.
B1- PLO11	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.	CLO5	Understand human requirements and needs through different historic periods.
		CLO6	Analysis the different historic building types.
		CLO7	Determine the technical and aesthetic requirements of the historic buildings.
		CLO8	Compare between building types in different historical civilizations
Cognitive Domain		Psychomotor Domain	
CLO1, 3, 4, 5, 7		CLO6, 8	
		Affective Domain	
		CLO2	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction to course content	1	*	*				*	*	
Historical sequence of eras and architectural models	2			*	*	*			*
Vocabulary and architectural elements in Islamic architecture	3	*			*	*			*
Architectural models of Islamic architecture outside Egypt	4		*	*		*		*	
Architectural installation and mosque design in the architecture of Islamic culture outside Egypt	5		*		*		*		*
Regional Islamic architecture	6		*	*		*	*	*	
Characteristics of Islamic architecture and presenting models of heritage movement paths through maps	7	*		*		*			*
Mid-term Exam	8								
Group No. 1: features and vocabulary of Islamic architecture in Iraq	9		*		*		*		
Group No. 2: features and vocabulary of Islamic architecture in the Levant	10	*	*			*		*	
Group No. 3: Features and vocabulary of Islamic architecture in Iran and India	11		*		*		*		*
Group No. 4: features and vocabulary of Islamic architecture in Yemen	12			*	*		*	*	
Group No. 5: The Fifth Group: Features and Vocabulary of Islamic Architecture in North Africa and Andalusia	13	*		*		*		*	
Group No. 6: Features and Vocabulary of Islamic Architecture in Southeast Asia	14	*			*			*	*
Portfolio submission and general discussion	15	*		*	*		*		*
Total	15	7	7	7	8	7	7	7	7

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered								
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
1. Lectures		*	*	*	*			*	*
2. Tutorials	*				*	*			*
3. Presentations	*	*	*				*	*	
4. Brain Storming			*				*	*	
5. Discussion					*	*			*
6. Self-Learning	*	*			*			*	
7. Modeling	*		*			*			*
Teaching and Learning Methods for Students with Special Needs:									
Methods									
1. Field visit to historical buildings									
2. Discussion Session									
3. Extra Lectures									
4. Provide different levels of books and materials									

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered							
Methods		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Formative Assessment Method									
1. Tests	Midterm Exam				*				*
	Quizzes	*	*		*			*	
2. Discussions				*	*			*	*
3. Assignments		*		*	*			*	*
4. Presentations			*	*	*		*		*
5. Modeling		*	*			*	*	*	
6- Portfolio		*		*	*		*		
Summative Assessment Method									
7- Final Exam		*	*	*		*		*	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
1. Mid-term Exam	Week 8	10%
2. Quizzes	Week 2 & 3 & 4 & 5 & 6 & 7	5%
3. Discussions	Week 9 & 10 & 11 & 12 & 13	5%
4. Assignments	Week 2 & 3 & 4 & 5 & 7	5%
5. Presentations	Week 9 & 10 & 11 & 12 & 13	5%
6. Modeling	Week 14	5%
7- Portfolio	Week 15	5%
8. Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

<p>Essential Books (Textbooks):</p>	<ul style="list-style-type: none"> ▪ Lecture Notes ▪ George Michell, 2019, Architecture OF The Islamic World, Hong Kong. ▪ ,The Mosque , 1994 ,Martina Frishman And Hasan-uddin Khan . Egypt, Cairo, The American university In Cairo Press ▪ كمال الدين سامح, 2000م, لمحات في تاريخ العمارة المصرية, دار الشرق, جامعة القاهرة. ▪ كمال الدين سامح, 1987 م, العمارة في صدر الإسلام, الهيئة المصرية العامة للكتاب, القاهرة. ▪ محسن محمد عطية, 1999م, موضوعات في الفنون الإسلامية, مكتبة النهضة المصرية, القاهرة. ▪ محي الدين طالو, 1999م, فنون زخرفية معمارية عبر مراحل التاريخ, دار دمشق, سوريا. ▪ نوبي محمد حسن, 2002م, عمارة المسجد في ضوء القرآن والسنة, دار نهضة الشرق, القاهرة ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الأول), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الثاني), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الثالث), مكتبة مدبولي, القاهرة. ▪ يحيى وزيري, 1999م, موسوعة عناصر العمارة الإسلامية (الجزء الرابع), مكتبة مدبولي, القاهرة. ▪ يور دي يورا ترجمة (عبد الهادي أبو ريدة), 1998م, تاريخ الفلسفة في الإسلام, قابس, القاهرة. ▪ Mostafa shiha, 2001, the Islamic Architecture in Egypt, Prism Publications Office, Guizeh, Egypt.
<p>Recommended Books:</p>	<ul style="list-style-type: none"> ▪ أحمد أحمد يوسف- محمد عزت مصطفى, 1941م, تاريخ الطرز الزخرفية, الفكر العربي, القاهرة. ▪ أسامة النحاس, 2003م, الوحدات الزخرفية الإسلامية, دار الفكر العربي, القاهرة. ▪ ثروت عكاشة, 1994م, القيم الجمالية في العمارة الإسلامية, دار الشرق, القاهرة. ▪ جمعة أحمد قابه, 2000م, موسوعة فن العمارة الإسلامية (الطبعة الأولى), دار الملتقى, بيروت. ▪ حامد سعيد, 2001م, الفنون الإسلامية, دار الشرق, القاهرة. ▪ حسن عبد الوهاب, 1946 م, تاريخ المساجد الأثرية في القاهرة- الجزء الثاني- الصور, أوراق شرقية للطبع والنشر, القاهرة. ▪ خالد عزب, 2003, تراث العمارة الإسلامية, دار المعارف, القاهرة. ▪ سيد كريم, 1999م, القاهرة عمرها 50 ألف سنة, الهيئة المصرية العامة للكتاب, القاهرة. ▪ عبد الباقي إبراهيم- حازم محمد إبراهيم, 1987, المنظور التاريخي للعمارة في المشرق العربي, مركز الدراسات التخطيطية والمعمارية, القاهرة. ▪ عبد الباقي إبراهيم, 1982 م, تأصيل القيم الحضارية في بناء المدينة الإسلامية المعاصرة, انترناشيونال, القاهرة, بالجيزة.
<p>Periodicals, Web Sites, ... etc:</p>	<p>http:// www.caps-egypt.com http:// www.islamicart.com http:// www.altareekh.com</p>

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	CO4
PO4	*		*	*
PO5		*	*	
PO6		*		*
PO7	*			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
CO1		*	*			*		*
CO2	*			*			*	
CO3		*		*	*			
CO4	*					*		*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
PLO5	*							
PLO10		*	*	*				
PLO11					*	*	*	*



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO5	PO4 PO5	CLO1	1. Tutorials 2. Presentations 3. Self-Learning 4. Modeling	1. Quizzes 2. Assignments 3. Modeling 4. Portfolio 5. Final Exam
PLO10	PO5 PO6	CLO2 CLO3 CLO4	1. Lectures 2. Tutorials 3. Presentations 4. Brain Storming 5. Discussion 6. Modeling	1. Mid-term Exam 2. Quizzes 3. Assignments 4. Modeling 5. Portfolio 6. Final Exam
PLO11	PO6 PO7	CLO5 CLO6 CLO7 CLO8	1. Lectures 2. Tutorials 2. Presentations 3. Brain Storming 4. Discussion 5. Self-Learning 6. Modeling	1. Mid-term Exam 2. Discussions 3. Assignments 4. Presentations 5. Modeling 6. Portfolio 7. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Building Construction	Code	AE1324	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course Description:

The course introduces the student to the principles and fundamentals of building construction. Topics include the basic concepts of structural systems and foundations according to building loads and soil characteristics. In addition, the course presents the basic units of wall construction systems and clarifies the different methods of building insulation. The course aims to:

- Teach students the main principles and fundamentals of building construction.
- Enhance the student with practical skills for preparing technical and professional working drawings using engineering tools.
- Produce graduates equipped to solve basic construction problems

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	analyze, describe, and document site conditions spatially and visually and identify site opportunities and constraints.
Po5	Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.	CO2	Apply comprehensive spatial and visual analysis and evaluation of complex urban settings.
Po6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community	Co3	observe, analyze, describe and document site conditions spatially and visually, and identify site opportunities and constraints.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Apply practical skills and express facts in graphical form including sketching, technical drawings and digital illustrations

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A5- PLO5	Practice research techniques and methods of investigation as an inherent part of learning.	CLO1	Search basic structural systems and their components.
		CLO2	Discuss the symbols and codes of different building materials.
A7- PLO7	Function efficiently as an individual and as a member of multi-disciplinary and multi-cultural teams	CLO3	Carry out field work in team group to design suitable working and execution drawings for structural and foundation
		CLO4	Compare between construction systems & their materials.
B3- PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO5	Prepare technical and professional drawings using engineering tools.
		CLO6	coordinate construction elements as one integrated whole system.
		CLO7	• discuss construction problems and items in an appropriate professional manner.
		CLO8	• Transfer techniques and solutions from one field of architecture to another.
Cognitive Domain		Psychomotor Domain	
Clo1-clo2-clo3		Clo4-clo5	
		Affective Domain	
		Clo6- Clo7-clo8	

2.4. Course Topics:

Course Topics	week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Introduction to building construction: Building construction and building technology, building design and implementation process and the role of architects in building design and construction. The course contents, structural systems, foundation systems, masonry work and insulation in buildings.	1	*	*		*			*	
Building construction & structural systems: (bearing walls, skeleton, large span structures... etc). Identification of building technology (concepts, applications...), building construction and structural systems. Classification of main structure systems (short, medium and large span structures). Load types and lateral forces in buildings, and the strength of materials. Load bearing wall structural system (load transfer, structural system components and constraints)	2		*	*			*		*
Skeleton structure system (load transfer, structural system components, constraints,& site terminologies. Frame structure system concept & components.	3	*	*	*		*			
Large span structure (frames, trusses, space trusses, folded plates, shell, pneumatic, tensile and cable & membrane structures) and the role of technology in the construction process. High rise structure systems: Core and bundle of tubes systems.	4		*	*				*	
Foundation types: Shallow and deep foundations (strip, isolated, raft, piles...). Soil report (soil test, soil classification and stress, underground water level and report recommendations). Strip foundation types.	5		*	*			*		*
Isolated and combined footings' components (column, reinforced concrete base, plain concrete base and underground beam types).	6	*	*			*			
Continuation of the previous lecture and evaluation.	7			*			*		
Site visit (Buildings biography) (plans - facades - perspectives -....)	8			*					
Raft & Pile foundation systems components.	9	*		*		*			
Presentation of research (1).	10		*		*			*	
0 Masonry Work: Brick and block types (red brick, cement block...) Special bricks & blocks (light brick & block, glass brick....). Brick and block bonds (running bond, English bond)	11	*		*		*	*		*
Lintel and parapet in wall construction.	12				*			*	
Building insulation types: Water, moisture, heat insulation concepts and types (roof & bathroom in types).	13	*		*	*		*		
Building insulation: Water and moisture insulation (ground and basement floors). Retaining walls.	14		*			*		*	*
Presentation of research (2) & project submission. General revision	15		*		*	*			*
Total		6	9	9	5	6	5	5	5

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
1. Lectures		*		*			*	
2. Design studio	*		*		*	*		*
3. Problem-based Learning	*			*				
5. Presentations			*		*	*	*	*
6. Case Study		*		*				*
7. Projects	*		*		*			
8. Discussion	*	*		*		*	*	
9. Modeling					*			*
Teaching and Learning Methods for Students with Special Needs:								
Methods								
1. Discussion Session								
2. Extra Lectures								
3. Provide different levels of books and materials								

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
Formative Assessment Method								
1. Tests	Oral Test	*	*			*	*	
	Midterm Exam			*				*
2. Discussions		*			*		*	
3. Projects		*		*		*	*	*
4. Assignments			*	*	*			
5. Presentations						*		*
6. Modeling						*	*	*
Summative Assessment Method								
Final Exam		*		*				



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	5%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	10%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Presentations	Week # 9 & 15	2%
Modeling	Week # 9 & 15	2%
Training	Preparatory year	1%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	SEELY, I.H. - Building Technology- Mac Millan - London - 1995.
Recommended Books:	<ul style="list-style-type: none"> • BARRY, R.,The Construction of Buildings, (Vol. I, IV) Ed., Granada Technical Books, London, 1980. • CHING, F., Building Construction Illustration, John Wiley, New York, 1991. • CHUDLEY, R., Construction Technology, 2nd Ed., Essex, England: Longman, 1987. • GREENO, Roger, Principles of Construction.- 2nd Ed., Essex: Longman, 1986. • LYONS, Arthur, Materials for architects and Builders, Oxford: Elsevier, 2007. • MCKAY, W.B., Building Construction, (Vol. 1) last Ed., Longman, London. • MC ROVEN, Ch., Building with Stone, Lippincott & Crowell Publishers, New York1980. • NASHED, Fred, Time – Saver Details for Exterior wall Design, N.Y.:McgrawHill,1996. • NIKOLAS, Davies & JOKINIEMI, Erkki, Dictionary of Architecture and Building construction, 2st Edition. 2020. • OSBOURN, D., Introduction to Building, England: Wesley,1997. • ROSEN, Harold J, Architectural Materials for Construction, N.Y.: McGraw – Hill, 1996. • ROY, Chudley & GREENO, Roger.BA, Advanced construction Technology,3rd Edition, 2005
Periodicals, Web Sites, ... etc:	

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	Co4
PO4	*			
Po5				*
Po6			*	
PO7		*		

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
CO1		*					*	
CO2			*			*		
CO3	*			*				
Co4					*			*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
PLO9	*			*	*			
Plo10						*	*	
PLO11		*	*					*



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO9	Po4 Po5	CLO1	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
Plo10	Po6	Clo2 Clo3	Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO11	Po7	CLO4 CLO6 CLO7 CLO8	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022

Rasha Reyad
Zeinab Faisal



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer Aided Analysis (Information Systems) (1)	Code	AE1465	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

The course is designed to introduce the student to the rapidly expanding field of Geographic Information Systems (GIS)- theory and application – spatial problems and digital solutions- geography, information and systems- Database and project design – GIS as decision making tool – planning alternatives.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Understand the basic principles and techniques of GIS
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Apply the student's practical skills in the field of computer aided design applications.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A10- PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO1	Illustrate GIS knowledge in projects.
B1- PLO11	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.	CLO2	Understand the basic concepts and theories of ArcGIS software.
		CLO3	Describe data storage, editing and retrieval techniques used in a GIS
		CLO4	Apply spatial analysis functions on a GIS to solve a Geospatial problem
Cognitive Domain		Psychomotor Domain	
CLO2, 3		CLO1, 4	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to course content	1		*	*	
Definition of GIS	2	*			
Representing Geographic Phenomena	3,4		*	*	
Geographic Data Models	5,6		*	*	
Data Collection	7		*		
Map Design	9		*		
Statistical Mapping	10		*		
GIS Analysis	11,12,13	*			*
GIS Project Design	14,15	*			*
Total		6	8	5	5

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures		*	*	
2. Computer-based Instruction		*	*	
3. Projects	*			*
4. Discussion	*			*
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered			
	CLO1	CLO2	CLO3	CLO4
1. Midterm Exam		*	*	
2. Discussions	*			*
3. Projects	*			*
4. Assignments		*	*	
Summative Assessment Method				
Final Exam	*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week # 15	5%
Projects	Week # 15	20%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Final Exam	Scheduled by the faculty council	40%
Total		100%



2.7. List of Reference:

Essential Books (Textbooks):	Getting to Know ArcGIS, fifth edition, Esri Press By Michael Law, Amy Collins ISBN: 978-1-58948-510-5, 2018
	Paul Bolstad , GIS Fundamentals: A First Text on Geographic Information Systems, Sixth Edition, 978-1593995522, 2019
Periodicals, Web Sites, ... etc:	https://www.esri.com/en-us/esri-press/browse

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO4	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1		*	*	
CO2	*			*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO10	*			
PLO11		*	*	*



3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO10	PO10 PO7	CLO1	1. Projects 2. Discussion	1. Discussion 2. Projects 3. Final Exam
PLO11	PO10 PO11	CLO2 CLO3 CLO4	1. Lectures 2. Computer-based Instruction 3. Discussions 4. Tutorials	1. Mid-term Exam 2. Discussions 3. Projects 4. Final Exam 5. Assignments

Course Coordinator: Dr. Mona Yehia Shedid

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer Aided Analysis (Information Systems) (2)	Code	AE1562	
Type	Compulsory <input type="checkbox"/>	Elective <input checked="" type="checkbox"/>		
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course description:

The course is designed to introduce the student to advanced techniques Geographic Information Systems (GIS)- Time and GIS- Time map, digital data analysis and remote sensing- Data base and meta data clearinghouse- surface simulation and 3D modeling- GIS and heritage documentation.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Understand the principles of advanced techniques and methods of Geographic Information Systems (GIS)
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Apply the student's practical skills in the field of computer aided design applications.



2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A10- PLO10	Acquire and apply new knowledge; and practice self, lifelong and other learning strategies.	CLO1	Understand the basic concepts and theories of Geographic Information Systems (GIS) software.
		CLO2	Apply GIS knowledge by Time map, digital data analysis and remote sensing
B1- PLO11	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.	CLO3	Describe data storage, Data base, meta data clearinghouse editing and retrieval techniques used in a GIS
		CLO4	Apply the functions of spatial analysis, surface simulation and 3D modeling- GIS and heritage documents to a GIS to solve a geospatial problem
Cognitive Domain		Psychomotor Domain	
CLO1, 3		CLO2, 4	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to the course content	1		*	*	
Introducing advanced geographic information systems	2	*			
Training on geographic information systems using time	3		*	*	
Time map training	4		*	*	
Digital analysis training	5	*		*	
Remote sensing training	6		*		
Work through classified information bases	7		*		*
Mid Term Exam	8	*			*
Application to stereometric analyses	9		*	*	
Application to digital analytics	10	*			*
Surface simulation training and application	11	*	*		
3D simulation training and application	12				*
Training and application of heritage preservation operations using geographic information systems	13		*		*
GIS Project Design 1	14	*		*	*
GIS Project Design 2	15	*		*	*
Total		7	8	7	7



2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	*		*	
2. Computer-based Instruction		*		*
3. Projects	*	*		*
4. Discussion	*		*	
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered			
	CLO1	CLO2	CLO3	CLO4
1. Midterm Exam	*			*
2. Discussions	*		*	
3. Projects	*	*		
4. Assignments		*	*	*
Summative Assessment Method				
Final Exam		*	*	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week # 15	5%
Projects	Week # 15	20%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Final Exam	Scheduled by the faculty council	40%
Total		100%



2.7. List of Reference:

Essential Books (Textbooks):	Getting to Know ArcGIS, fifth edition, Esri Press By Michael Law, Amy Collins ISBN: 978-1-58948-510-5, 2018
	Paul Bolstad , GIS Fundamentals: A First Text on Geographic Information Systems, Sixth Edition, 978-1593995522, 2019
Periodicals, Web Sites, ... etc:	https://www.esri.com/en-us/esri-press/browse

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO4	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1		*	*	
CO2	*			*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO10	*			
PLO11		*	*	*

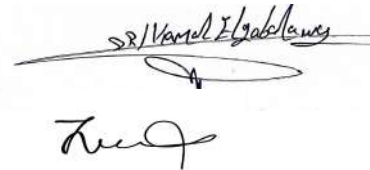
3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO10	PO4 PO7	CLO1 CLO2	1. Projects 2. Discussion	1. Mid-term Exam 2. Discussion 3. Projects 4. Final Exam
PLO11	PO4 PO7	CLO3 CLO4	1. Lectures 2. Computer-based Instruction 3. Discussions 4. Tutorials	1. Mid-term Exam 2. Discussions 3. Projects 4. Assignments 5. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Dr. Kamal Elgabalawy



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer Aided Environmental Design	Code	AE 1451	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	1st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course Description:

Computer Aided Environmental Design and planning - environmental design software – environmental systems simulation and evaluation: acoustic, thermal, lighting, air-flow and integrated systems.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Understand the principles of Environmental Design and planning, environmental design software
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Apply the student's practical skills in simulating and evaluating environmental systems: acoustic, thermal, lighting, airflow and integrated systems.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A3- PLO3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development	CLO1	Understand the basic concepts and theories of computer-aided environmental design and planning.
		CLO2	Apply Environmental design and planning program information in the building, street and city
B3- PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO3	Describe data storage, Data base, meta data clearinghouse editing and retrieval techniques used in environmental systems simulation
		CLO4	Apply the functions of spatial analysis, evaluation: acoustic, thermal, lighting, air-flow and integrated systems.
Cognitive Domain		Psychomotor Domain	
CLO1, 3		CLO2, 4	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to the course content	1		*	*	
The use of computers in the environmental design process	2	*			
The use of computers in the environmental planning process	3		*	*	
Introducing specialized programs in the environmental design & planning process	4&5		*	*	
Acoustics ecosystem simulation training	6	*	*		
Training in simulating thermal ecosystems	7		*		*
Mid Term Exam	8	*			*
Training in simulating thermal ecosystems	9		*	*	
Training in simulating environmental systems of air movement	10	*			*
Application to stereometric analyses	11	*	*		
Digital analytics application	12				*
Training in simulating and evaluating the integrated system of the building	13		*		*
Computer in environmental design - Project Design	14&15	*		*	*
Total		7	8	7	7

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	*			*
2. Computer-based Instruction		*	*	
3. Projects	*	*		*
4. Discussion		*	*	
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered			
	CLO1	CLO2	CLO3	CLO4
1. Midterm Exam	*			*
2. Discussions		*	*	
3. Projects	*	*		
4. Assignments	*		*	*
Summative Assessment Method				
Final Exam		*	*	

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week # 15	5%
Projects	Week # 15	20%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	20%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks) :	Ching F. 2019, Building Construction Illustrated, 6th. Ed. John Wiley & sons, NJ, USA.
	Getting to Know, fifth edition, Esri Press By Michael Law, Amy Collins ISBN: 978-1-58948-510-5, 2018
	Paul Bolstad , Fundamentals: A First Text on Geographic Information Systems, Sixth Edition, 978-1593995522, 2019 Lechner N. 2015. Heating, Cooling, Lighting: Sustainable Design Methods for Architects. 4 th . Ed. John Wiley & Sons, NY, USA
Periodicals, Web Sites, ... etc:	https://maj.s.journals.ekb.eg/article_210514.html https://www.esri.com/en-us/esri-press/browse https://mjaf.journals.ekb.eg/article_20578_6c731935b0edffc47b008554cfb8716b.pdf

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO4	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1		*	*	
CO2	*			*



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO3	*			
PLO11		*	*	*

3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO3	PO4 PO7	CLO1 CLO2	1. Projects 2. Discussion	1. Mid-term Exam 2. Discussion 3. Projects 4. Final Exam
PLO11	PO4 PO7	CLO3 CLO4	1. Lectures 2. Computer-based Instruction 3. Discussions 4. Tutorials	1. Mid-term Exam 2. Discussions 3. Projects 4. Assignments 5. Final Exam

Course Coordinator: Dr. Kamal Elgabalawy

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Computer application 3	Code	AE 1382	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	0	2	3

2. Professional Information:

2.1. Course Description:

Developing Ideas with Computers; The course goal is to facilitate the development of analytical, critical and integrative thinking-To help students to initiation, planning, execution and presentation of design computing projects or research thesis- To encourage the students to examine, discuss, question and debate issues of computing and information technology in design -To envision better design tools for the future.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	Implement Ideas and Architecture designs using computer applications.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Present design projects to visualize better design tools for the future.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A4- PLO4	Utilize contemporary technologies, codes of practice and standards, quality guidelines, health and safety requirements, environmental issues and risk management principles.	CLO1	Identify the capabilities of computer-aided drawing techniques in architectural expression to develop design solutions
		CLO2	Produce multi-dimensional drawings using appropriate computer applications.
A8- PLO8	Communicate effectively – graphically, verbally and in writing – with a range of audiences using contemporary tools.	CLO3	Connect graphically with colleagues in the lab.
B1- PLO11	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.	CLO4	Express three-dimensionally and engage images of places and time with innovation and creativity in the exploration of design
		CLO5	Present architectural projects using computer applications
Cognitive Domain		Psychomotor Domain	
--		CLO1,2,4	
		Affective Domain	
		CLO3,5	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered				
		CLO 1	CLO 2	CLO 3	CLO 4	CLO 5
COURSE INTRODUCTION • The virtual building • Intelligent objects • Geometric Description Language (GDL) • Lines	1	*				
WALLS & OPENINGS • Wall techniques • Inserting windows & doors • Circles & curves • First 3D shots	2	*	*			
CONSTRUCTING A BUILDING • Drawing in 3D • Slabs, beams & columns • Zones & fills • Multiple stories	3	*	*			
INTELLIGENT 3D OBJECTS • Parametric libraries • Roofs • Perspective views • Meshes • Printing & plotting hints	4	*	*		*	
LEC 1: INTEGRATION BETWEEN VIEWS • Dimensions in plan • Sections & elevations • Dimensions in sections & elevations • 3D view settings.	5	*	*		*	
LEC 2: INTEGRATION BETWEEN VIEWS • Dimensions in plan • Sections & elevations • Dimensions in sections & elevations • 3D view settings.	6		*		*	
CUSTOMIZATION • Creating new lines, fills, composites, materials, & zones • New layer groups • New shortcuts & palettes • Preferences	7	*			*	
Midterm EXAM.	8		*			*
DESIGN PRESENTATION • 3D sections • Rendering options • Movies & VR scenes • Sun control	9	*		*		*
LEC: PUBLISHING YOUR DRAWINGS TUT: • Plotmaker concepts & techniques • Customizing documents in Plotmaker • Hotlinks between drawings & Plotmaker layouts	10	*		*	*	*
CALCULATIONS • Creating element lists, component lists, & zone lists • Converting lists into spreadsheets • Customizing bills of materials • GDL	11	*			*	*
Project • ArchiFM • Cymap	12		*	*		*
Project	13		*	*		*
Project	14	*		*		*
Project	15	*		*		*
Total	15	11	8	6	6	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
1. Lectures	*				
2. Computer-based Instruction	*	*			*
3. Projects	*	*	*	*	*
4. Discussion		*		*	*
Teaching and Learning Methods for Students with Special Needs:					
Methods					
1. Discussion Session					
2. Extra Lectures					
3. Provide different levels of books and materials					

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered				
	CLO1	CLO2	CLO3	CLO4	CLO5
Formative Assessment Method					
1. Tests: Midterm Exam		*			*
2. Discussions	*		*	*	
3. Projects	*		*		*
4. Assignments	*	*		*	*
Summative Assessment Method					
Final (Practical) Exam		*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	10%
Discussions	Week #9,13	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Final (Practical) Exam	Scheduled by the faculty council	60%
Total		100%

2.7. List of References:

Essential Books (Textbooks):	Kelly L. Murdock's Autodesk 3ds Max 2020 Complete Reference Guide 1st Edition.
Recommended Books:	N/A
Periodicals, Web Sites, ... etc:	N/A

2.8. Facilities required for Teaching and Learning

Different Facilities
Computer Lab
Library usage
Data show
Whiteboard

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO4	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
CO1	*	*	*		
CO2				*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes				
	CLO1	CLO2	CLO3	CLO4	CLO5
PLO4	*	*			
PLO8			*		
PLO11				*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO4	PO1	CLO1	1. Lectures 2. Computer-based Instruction 3. Projects 4. Discussion	1. Discussions 2. Projects 3. Assignments
		CLO2	1. Computer-based Instruction 2. Projects 3. Discussion	1. Tests: Midterm Exam 2. Projects 3. Assignments 4. Final Exam
PLO8	PO1	CLO3	1. Projects 2. Discussion	1. Projects 2. Discussion
PLO11	PO7	CLO4	1. Projects 2. Discussion	1. Discussions 2. Assignments
		CLO5	1. Computer-based Instruction 2. Projects 3. Discussion	1. Tests: Midterm Exam 2. Projects 3. Assignments 4. Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Environmental Assessment & Rating Tools in Building	Code	AE 1552	
Type	Compulsory <input type="checkbox"/>	Elective <input checked="" type="checkbox"/>		
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	--	4

2. Professional Information:

2.1. Course description:

Importance of assessing the environmental Impact of buildings – Concept & definitions of int’ – Regional – Local Assessment building tools – analytical studies of most used Environmental assessment & rating tools: "LEED": "BREEAM", "CASBEE", "Green Star", Green Pyramid - Comparative Analysis among assessment tools – Field of usage – Rating & Measurements system for each tool – Levels of Evaluation for each tool – Advantages & Dis-advantages of each assessment tool.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	demonstrate students' abilities in using sustainable systems.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	test student ability in using construction techniques matching with environment.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	test students' abilities to make decisions in the architectural issues.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A3-PLO3	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.	CLO1	Identify principles of environmental conservation
		CLO2	develop the student abilities of design and sustainable projects
		CLO3	demonstrate principles of rehabilitation designs
		CLO4	Identify student knowledge of sustainable materials
B3-PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO5	explain student principles of project financing.
		CLO6	translate students principles of cost control and methods of project delivery
Cognitive Domain		Psychomotor Domain	
Clo1,2,4,5,6		Clo3	
Affective Domain			

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1	*		*			*
Explain Importance of assessing the environmental Impact of buildings	2,3,4	*	*	*			
Explain Local Assessment building tools	5,6,7	*	*		*		*
Mid-term Exam	8	*		*	*	*	
Explain analytical studies of most used Environmental assessment & rating tools: "LEED": "BREEAM", "CASBEE", "Green Star"	9	*	*		*		
Explain Green Pyramid	10,11	*	*			*	
Explain Comparative Analysis among assessment tools	12.13.14	*	*			*	
Total		6	5	2	2	2	2

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*			*	*		
2. Tutorials	*					*	*
3- Presentation			*		*		
4. Discussion	*			*		*	
5- Brain Storming	*		*				*
Teaching and Learning Methods for Students with Special Needs:							
Methods							
1. Discussion Session							
2. Extra Lectures							
3. Provide different levels of books and materials							

2.7 Assessment Methods

Assessment Methods:	Course LOs Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Midterm Exam	*		*	*	*	
Presentations			*	*		*	*
Summative Assessment Method							
Final Exam		*	*		*		

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20%
Presentations	Week # 9	20%
project	Week # 14	20%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	التصميم المعماري الصديق للبيئة، نحو عمارة خضراء، يبي وزيرى، مكتبة الاسره، 2019
Recommended Books:	Lechner N. 2015. Heating, Cooling, Lighting: Sustainable Design Methods for Architects. 4 th . Ed. John Wiley & Sons, NY, USA
	Ching F. 2019, Building Construction Illustrated, 6th. Ed. John Wiley & sons, NJ, USA.
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO4		*	
PO6			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*			*
CO2		*		*		
CO3		*			*	



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO3	*	*	*	*		
PLO13					*	*

3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO3: Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	PO2	CLO1	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Discussion 	<ul style="list-style-type: none"> • Midterm exam. • Final exam
	PO2	CLO2	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Presentation 	<ul style="list-style-type: none"> • Reports. • Presentation • Final exam
	PO4	CLO3	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Presentation 	<ul style="list-style-type: none"> • Reports. • Presentation
	PO4	CLO4	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Presentation 	<ul style="list-style-type: none"> • Reports. • Presentation
PLO13: Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	PO6	CLO5	<ul style="list-style-type: none"> • Lectures • Tutorials • Brain storming • Discussion 	<ul style="list-style-type: none"> • Midterm exam. • Final exam
	PO6	CLO6	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Final exam

Course Coordinator: Dr Ahmed Elsaadany

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Interior design	Code	AE 1514	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	4	0	4

2. Professional Information:

2.1. Course Description:

Concepts and principles of Interior Design- Design Approaches and Styles – Interior Design elements – Factors influencing interior design decisions (Perception, colors, aesthetic aspects, human and functional needs, technical requirements) - Presentations methods and techniques – Design

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO1	Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CO1	Match the appropriate elements to be used in the available interior space
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO2	Generate interior designs that consider both aesthetic and functional requirements.



2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A3- PLO3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	CLO1	Utilize interior design principles to create designs meet both aesthetic, global and functional needs.
		CLO2	Investigate different factors that influence the interior design process, including Ecological, socio-cultural, and economic aspects for developing sustainable design solutions.
B2- PLO12	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.	CLO3	Analyze similar interior design solutions as a design reference.
		CLO4	Create interior design solutions that satisfy the relationship between people and buildings.
Cognitive Domain		Psychomotor Domain	
----		CLO1, 2, 3, 4	
		Affective Domain	

2.4. Course Topics:

Course Topics	Week	Course LO's Covered			
		CLO1	CLO2	CLO3	CLO4
Introduction to concept and principles of interior design The role of the interior designer Project 01 definition and discussion	1	*			
The interior design user behaviors Project 01 Design development	2	*	*		
The interior design process Human behavior & human scale Project 01 Design development	3	*	*		
Elements of interior design Project 01 Design development	4	*	*		
Criteria for choosing furniture Project 01 Design development	5	*	*		
Colors; potential psychological & physiological effects Project 01 Design development (prefinal review)	6		*	*	
Project 01 presentation and evaluation (midterm evaluation) Project 02 headlines	7	*		*	
Commercial and public interiors Project 02 Design development	8			*	*
Commercial and public interior user behaviors Project 02 Design development	9			*	*
Interior space planning in commercial buildings (1) Project 02 Design development	10			*	*
Interior space in Commercial buildings (2) Project 02 Design development	11			*	*
Project 02 Design development	12		*		*
Aesthetic values in interior design Project 02 Design development	13		*		*
Project 02 Design development (prefinal review)	14	*			*
Project 02 submission, presentation, and evaluation	15	*			*
Total	15	9	7	6	9

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered			
	CLO1	CLO2	CLO3	CLO4
1. Lectures	*	*		
2. Design Studio		*		*
3. Presentations	*	*	*	
4. Projects	*	*	*	*
5. Discussion	*	*	*	*
Teaching and Learning Methods for Students with Special Needs:				
Methods				
1. Discussion Session				
2. Extra Lectures				
3. Provide different levels of books and materials				

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered			
	CLO1	CLO2	CLO3	CLO4
Formative Assessment Method				
1. Tests: Midterm Exam	*		*	
2. Discussions		*		*
3. Projects	*		*	*
4. Assignments	*	*	*	*
5. Presentations		*	*	*
Summative Assessment Method				
Final Exam	*	*		*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	15%
Discussions	Week # 2,4,5,6,9,11,13	5%
Projects	Week # 9 & 15	25%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Presentations	Week # 9 & 15	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of References:

Essential Books (Textbooks):	De Chiare, Joseph. Time Saver Standards for Interior Design. McGraw-Hill Book Company, N.Y 2001.
Recommended Books:	Ph. E. (2021), By Design: The World's Best Contemporary Interior Designers.
	Henderson Sh. (2021) Interiors in Context, The Monacelli Press, USA
	Magntorn I., The Sustainable Home: Easy Ways to Live with Nature in Mind, Pavilion Books, USA, 2022
Periodicals, Web Sites, ... etc:	https://www.archute.com/ https://www.pinterest.com https://www.admiddleeast.com/ https://www.behance.net https://www.desiretoinspire.net/ https://www.houzz.com/ https://stylebyemilyhenderson.com/design https://www.elledecor.com/ https://www.homeanddesign.com/ https://www.archdaily.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Design Studio
Library usage
Data show
Whiteboard

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO1	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
CO1	*	*		
CO2			*	*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes			
	CLO1	CLO2	CLO3	CLO4
PLO3	*	*		
PLO12			*	*

3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO3: Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	PO1: Apply a wide spectrum of fundamentals of the science and specialized skills with analytic, creativity and critical thinking to identify and solve architecture design problems in real life situation.	CLO1	<ul style="list-style-type: none"> ▪ Lectures ▪ Presentations ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Midterm Exam ▪ Discussions ▪ Projects ▪ Assignments ▪ Presentations ▪ Final Exam
		CLO2	<ul style="list-style-type: none"> ▪ Lectures ▪ Design Studio ▪ Presentations ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Discussions ▪ Assignments ▪ Presentations ▪ Final Exam
PLO12: 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.	PO7: Create architectural designs that satisfy both aesthetic, and technical and meet building users' requirements	CLO3	<ul style="list-style-type: none"> ▪ Lectures ▪ Design Studio ▪ Presentations ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Discussions ▪ Projects ▪ Assignments ▪ Presentations
		CLO4	<ul style="list-style-type: none"> ▪ Design Studio ▪ Projects ▪ Discussion 	<ul style="list-style-type: none"> ▪ Midterm Exam ▪ Projects ▪ Assignments ▪ Presentations ▪ Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal



Head of Department: Prof. Dr. Zeinab Faisal



Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Introduction to Environmental Studies	Code	AE 1352	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2 nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	--	3

2. Professional Information:

2.1. Course description:

The course provide students with Site environmental analysis, ecological systems, environmental design and planning principles, environmental design principles and criteria sustainable design, current research issues and topics in environmental architecture.

2.2. Course Objectives (CO):

At the end of course, the student will be able to:

Program objective		Course objective	
PO2	Prepare qualified innovative architects who can adhere to architectural engineering ethics and standards and work to develop the profession and the community and promote sustainability principles.	CO1	demonstrate students' abilities in using sustainable systems.
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO2	test student with construction techniques matching with environment.
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO3	test students' abilities to make decisions in the architectural issues.

2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes			
A3- PLO3	Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	CLO1	Identify principles of environmental conservation		
		CLO2	Conclude relationship between the building design and their context.		
		CLO3	Demonstrate principles of sustainable designs		
		CLO4	Identify student knowledge of sustainable materials		
B3- PLO13	Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	CLO5	Explain principles of rehabilitation design.		
		CLO6	Integrate relationship of structure, building materials, and construction elements into design process.		
Cognitive Domain		Psychomotor Domain		Affective Domain	
Clo1,2,4,5,6		CLO3			

2.4. Course Topics:

Course Topics	Week	Course LO's Covered					
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course content	1	*		*			*
Explain Site environmental analysis	2,3,4	*	*	*			
Explain ecological systems	5,6,7	*	*		*		*
Mid-term Exam	8						
Explain environmental design and planning principles	9	*	*		*		
Explain environmental design principles and criteria sustainable design	10,11	*	*			*	
Explain current research issues and topics in environmental architecture projects	12.13.14	*	*			*	
Total		6	5	2	2	2	2

2.6 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lecture	*			*	*		
2. Tutorials	*					*	*
3- Presentation			*		*		
4. Discussion	*			*		*	
5- Brain Storming	*		*				*
Teaching and Learning Methods for Students with Special Needs:							
Methods							
1. Discussion Session							
2. Extra Lectures							
3. Provide different levels of books and materials							

2.7 Assessment Methods

Assessment Methods:	Course LOs Covered						
	Methods	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method							
Tests	Midterm Exam	*		*	*	*	
Presentations			*	*		*	*
Summative Assessment Method							
Final Exam		*	*		*		*

2.7.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	20%
Presentations	Week # 9 & 14	20%
Final Exam	Scheduled by the faculty council	60%
Total		100%

2.8. List of Reference:

Essential Books (Textbooks):	التصميم المعماري الصديق للبيئة، نحو عمارة خضراء، بيبي وزيرى، مكتبة الاسره، 2019
Recommended Books:	Lechner N. 2015. Heating, Cooling, Lighting: Sustainable Design Methods for Architects. 4 th . Ed. John Wiley & Sons, NY, USA
	Ching F. 2019, Building Construction Illustrated, 6th. Ed. John Wiley & sons, NJ, USA.
Periodicals, Web Sites, ... etc:	http:// www.greatbuilding.com http:// www.architecture.com

2.9. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library Usage
laboratory Usage
Data Show
White Board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective		
	CO1	CO2	CO3
PO2	*		
PO4		*	
PO6			*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*			*
CO2		*		*		
CO3		*			*	

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO3	*					
PLO13		*	*	*		



3.4. Assessment Alignment Matrix

PLO	PO	CLO	Teaching M.	Assessment M.
PLO3: Apply engineering design processes to produce cost-effective solutions that meet specified needs with consideration for global, cultural, social, economic, environmental, ethical and other aspects as appropriate to the discipline and within the principles and contexts of sustainable design and development.	PO2	CLO1	<ul style="list-style-type: none"> Lectures Tutorials Brain storming Discussion 	<ul style="list-style-type: none"> Midterm exam. Final exam
	PO2	CLO2	<ul style="list-style-type: none"> Lectures Tutorials Brain storming Presentation 	<ul style="list-style-type: none"> Presentation Final exam
	PO4	CLO3	<ul style="list-style-type: none"> Lectures Tutorials Brain storming Presentation 	<ul style="list-style-type: none"> Presentation
	PO4	CLO4	<ul style="list-style-type: none"> Lectures Tutorials Brain storming Presentation 	<ul style="list-style-type: none"> Presentation
PLO13: Generate ecologically responsible, environmental conservation and rehabilitation designs; through understanding of: structural design, construction, technology and engineering problems associated with building designs.	PO6	CLO5	<ul style="list-style-type: none"> Lectures Tutorials Brain storming Discussion 	<ul style="list-style-type: none"> Midterm exam. Final exam
	PO6	CLO6	<ul style="list-style-type: none"> Lectures Tutorials 	<ul style="list-style-type: none"> Final exam

Course Coordinator: Dr Ahmed Elsaadany

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Project Management	Code	AE1522	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	2nd Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course Description:

This course is designed to introduce and reinforce project management principles, tools, and techniques, including project planning, scheduling, and controlling; budgeting, staffing, task and cost control; communication; resources management; and quality, safety, and environmental management. Students will be provided an overview of project management covering fundamental elements of the project management process...

2.2. Course Objectives (CO):

At the end of the course, the student will be able to:

Program objective		Course objective	
PO4	Use techniques, skills, and modern engineering tools necessary for architectural engineering practice.	CO1	analyze, describe and document site conditions spatially and visually and identify site opportunities and constraints.
Po5	Master self-learning and life-long learning strategies to communicate effectively in academic/professional fields.	CO2	Carry out comprehensive spatial and visual analysis and evaluation of complex urban settings.
Po6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community	Co3	Develop students' ability to observe, analyze, describe and document site conditions spatially and visually and identify site opportunities and constraints.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements	CO4	Employ practical skills and express facts in graphical form including sketching, technical drawings and digital illustrations

2.3. Course Learning Outcomes (CLOs)

CBE/Program Learning Outcomes		Course Learning Outcomes		
A6- PLO6	Plan, supervise and monitor the implementation of engineering projects, taking into consideration other trades requirements.	CLO1	Define the construction process, stages and parties, and the various types of construction contracts in projects.	
		CLO2	Define the tools and techniques of project management.	
		CLO3	Explain the quality, safety, health and environmental management systems considering the project and relevant international practices and standards	
B4- PLO14	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.	CLO4	Choose relevant software for use in project management.	
		CLO5	Consider the economic, social, and environmental issues as well as management	
		CLO6	Design project management systems for projects	
B5- PLO15	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	CLO7	Perform budgets and project briefs for civil engineering projects	
		CLO8	Present data in technical way.	
Cognitive Domain		Psychomotor Domain		Affective Domain
Clo1-clo2-clo3-clo4		Clo5-clo6-clo7		Clo8



2.4. Course Topics:

Course Topics	Week	Course LO's Covered							
		CLO1	CLO2	CLO3	CLO4	CLO5	CLO6	CLO7	CLO8
Project cycle Characteristics of construction	1		*			*			*
WBS (work breakdown structure) OBS (organization breakdown structure). Project activities Levels of planning.	2		*		*				*
Types and techniques of project scheduling Relationships between activities and constraints.	3	*	*	*		*		*	*
Drawing the network schedule diagram CPM calculations. Application of scheduling software	4		*	*		*		*	*
Productivity for planning. The cost models. Application of scheduling software.	5	*	*	*		*	*	*	*
Project control. Application of scheduling software.	6		*	*		*	*	*	*
Project budgeting. Resource loading	7								
Midterm exam	8	*	*		*		*	*	*
Quality management and control.	9		*		*		*	*	*
HSE management and control.	10						*		
HSE management and control.	11	*							
Forming in 3D	12	*					*		
Semi Final model	13		*		*				
Semi-final sketch	14			*		*			
Final Sketch & Physical Model	15	*			*		*		
Total		6	9	5	5	6	7	6	8

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
1. Lectures		*		*			*	
2. Design studio	*		*		*	*		*
3. Problem-based Learning	*			*				
5. Presentations			*		*	*	*	*
6. Case Study		*		*				*
7. Projects	*		*		*			
8. Discussion	*	*		*		*	*	
9. Modeling					*			*
Teaching and Learning Methods for Students with Special Needs:								
Methods								
Lecture								
Presentations								
Participation								
Case Study								
Project								
Reading								

2.6 Assessment Methods

Assessment Methods:		Course LOs Covered						
		CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
Formative Assessment Method								
1. Tests	Quizzes			*	*	*		*
	Midterm Exam	*	*	*	*	*		*
3. Projects			*					*
4. Assignments	*	*	*		*	*	*	*
Summative Assessment Method								
Final Exam				*	*	*		*



2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Mid-term Exam	Week # 8	5%
Oral Test	Week # 13	10%
Discussions	Week # 9 & 15	5%
Projects	Week # 9 & 15	15%
Assignments	Week # 2,3,4,5,6,7,10,11, 12, 13,14	10%
Presentations	Week # 9 & 15	5%
Modeling	Week # 9 & 15	5%
Training	Preparatory year	5%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of Reference:

Essential Books (Textbooks):	<ol style="list-style-type: none"> 1. O'Brien and Plotnick – 2006 – CPM in Construction Management - 6th Edition, McGraw Hill 2. Pulmia and Khandelwal- 2002 – Project Planning and Control with CPM and PERT, 4th ed., Laxmi Publications Ltd. 3. Fellows et al. –2022 - Construction Management in Practice, 2nd Edition, Blackwell Science 4- Project Management Body of Knowledge (PMBOK) 5th edition
Recommended Books:	A Guide to the Project Management Body of Knowledge
Periodicals, Web Sites, ... etc:	1- https://www.microsoft.com/en-us/microsoft-365/project/project-management-software

2.8. Facilities required for Teaching and Learning

Different Facilities
Design studio
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective			
	CO1	CO2	CO3	Co4
PO4	*			
Po5				*
Po6			*	
PO7		*		

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
CO1		*					*	
CO2			*			*		
CO3	*			*	*			
Co4			*					*

3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes							
	CLO1	CLO2	CLO3	CLO4	CLO5	Clo6	Clo7	Clo8
PLO6	*			*	*			
Plo14						*	*	
PLO15		*	*					*



3.4. Assessment Alignment Matrix

PLOs	PO	CLOs	Teaching M.	Assessment M.
PLO6	Po4 Po5	CLO1	1. Design studio 2. Problem-based Learning 3. Projects 4. Discussion	1. Oral Test 2. Discussions 3. Projects 4. Final Exam
Plo14	Po6	Clo2 Clo3	Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam
PLO15	Po7	CLO4 CLO6 CLO7 CLO8	1. Lectures 2. Case Study 3. Discussions 4. Design studio 5. Presentations 6. Projects	1. Mid-term Exam 2. Oral Test 3. Discussions 5. Projects 6. Assignments 7. Final Exam

Course Coordinator: Dr. Rasha Ahmed Reyad

Rasha Reyad

Head of Department: Prof. Dr. Zeinab Faisal

Zeinab Faisal

Date: 6 / 9 / 2022



Course Specification

1. Basic Information:

Program Title	Architectural Engineering Program			
Department Offering the program	Architectural Engineering Department			
Department Offering the course	Architectural Engineering Department			
Date of Specification Approval	Bylaw2017			
Course Title	Town Planning (2)	Code	AEAE 1461	
Type	Compulsory <input type="checkbox"/>		Elective <input checked="" type="checkbox"/>	
Semester	1 st Semester			
Teaching Hours	Lec.	Tut.	Lab.	Credit hours
	2	2	0	3

2. Professional Information:

2.1. Course Description:

The unit covers the two closely related disciplines: site planning and landscape design, reviews: objectives, principles, conceptions, approaches and outputs; site selection and evaluation, site organization, recording of natural and man-made settings; landscape evaluation, cost and economic considerations, applications and case studies, landscape details and construction; seminars; limited research assignments and applications.

2.2. Course Objectives (CO):

Program objective		Course objective	
PO6	Strengthening students' ability to make decisions, solve problems, and develop architectural and urban solutions to develop and serve the local community.	CO1	Analyze factors affecting the decision of choosing the appropriate landscape architecture design.
PO7	Create architectural designs that satisfy both aesthetic, technical and meet building users' requirements.	CO2	Generate landscape architecture designs that consider both aesthetic and functional requirements.



2.3. Course Learning Outcomes (CLO's):

CBE/Program Learning Outcomes		Course Learning Outcomes	
A6- PLO6	Plan, supervise and monitor implementation of engineering projects, taking into consideration other trades requirements.	CLO1	Analyze site & different factors affecting landscape design solutions.
		CLO2	Generate new landscape design solutions through imagination and creativity.
B2- PLO12	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.	CLO3	Recall the roles of Landscape Architecture to applicate in the design process.
		CLO4	Analyze different landscape design projects to obtain design criteria.
		CLO5	Design landscape architecture design problems that meet users' needs in outdoor spaces.
B5- PLO15	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.	CLO6	Use appropriate materials to specify and implement different designs of Landscape Architecture projects that respect the environment.
Cognitive Domain		Psychomotor Domain	
CLO3		CLO1,2,4,5,6	

Affective Domain			

2.4. Course Topics:

Course Topics	Week	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Introduction to course objectives and outlines. Introduction to Landscape Architecture.	1	*			*		
Lecture: Factors to Be Considered in Landscape architecture Design. Context as a basis for landscape architectural design, context Site analysis. submission and presentation of research. introduction to 1 st project	2	*		*			*
lecture: Landscape design Process - Elements of Design. (Space, Shape, Line, Texture, Pattern, Color) Submission of 1 st Sketch.	3			*			
lecture: Principles of Landscape Design: (Balance, Proportion, Simplicity, Focal Point, Unity, Rhythm) Pin-Up Jury: Submission and presentation of 2 nd Sketch	4			*	*		
Submission of 3 rd Sketch - Individual desk critiques.	5	*	*				
Pin-Up Jury: Submission and presentation of Semi-Final Sketch	6					*	*
Final Submission of 1 st project	7		*			*	
Midterm: Discussion of 1 st project	8					*	
Second Project: Introduction, requirements. Submission and presentation of research.	9 10					*	*
Submission of 1 st Sketch - Individual desk critiques.	11				*		
Pin-Up Jury: Submission and presentation of 2 nd Sketch.	12				*		
Follow up of 2 nd project	13,14					*	
Final Submission & Discussion	15		*			*	
Total		3	2	2	4	3	5

2.5 Teaching and Learning Methods

Teaching and Learning Methods:	Course LO's Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
1. Lectures	*		*		*	
2. Tutorials				*		*
3. Presentations		*			*	*
4. Projects		*				*
5. Discussion	*		*		*	
Teaching and Learning Methods for Students with Special Needs:						
Methods						
1. Discussion Session						
2. Extra Lectures						
3. Provide different levels of books and materials						

2.6 Assessment Methods

Assessment Methods:	Course LOs Covered					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
Formative Assessment Method						
1. Discussions	*		*		*	
2. Projects		*				*
3. Assignments	*			*	*	*
Summative Assessment Method						
Final Exam			*			*

2.6.1. Assessment Schedule & Grades Distribution

Assessment Method	Week	Weighting of Asses.
Discussions	Week # 8&15	10%
Projects	Week # 7&15	25%
Assignments	Week # 3,4,5,6,10,11,12,13	25%
Final Exam	Scheduled by the faculty council	40%
Total		100%

2.7. List of References:

Essential Books (Textbooks):	Time-Saver standards for landscape architecture (1998): design and construction data / co-editors, Charles W. Harris, Nicholas T. Dines ; assistant editor, Kyle D.
	الأشجار والشجيرات والتخيل المستخدمة في اللاندسكيب، د. هشام حسن علي، كلية الهندسة، جامعة أسيوط، 2020.
Recommended Books:	Strake B., Simonds J., Landscape Architecture Fifth Edition: A Manual of Environmental Planning and Design Landscape Architecture, 2016
Periodicals, Web Sites, ... etc:	www.houzz.com www.plantsmap.com www.pinterest.com https://www.archute.com/ https://www.admiddleeast.com/ https://www.behance.net https://www.desiretoinspire.net/ https://www.archdaily.com/

2.8. Facilities required for Teaching and Learning

Different Facilities
Lecture Hall
Library usage
Data show
White board

3. Matrix:

3.1. Program Objectives VS Course Objectives

Program Objectives	Course Objective	
	CO1	CO2
PO6	*	
PO7		*

3.2. Course Objectives VS Course Learning Outcomes

Course Objectives	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
CO1	*		*	*		
CO2		*			*	*



3.3. Program Learning Outcomes VS Course Learning Outcomes

Program Learning Outcomes	Course Learning Outcomes					
	CLO1	CLO2	CLO3	CLO4	CLO5	CLO6
PLO6	*	*				
PLO12			*	*		
PLO15					*	*

3.4. Assessment Alignment Matrix

PLO's	PO	CLO's	Teaching M.	Assessment M.
PLO6	PO6	CLO1 CLO2	1. Lectures 2. Tutorials 3. Presentations 4. Projects 5. Discussion	5. Discussions 6. Projects 7. Assignments 8. Final Exam
PLO12	PO6 PO7	CLO3 CLO4	1. Lectures 2. Tutorials 3. Presentations 4. Projects 5. Discussion	1. Discussions 2. Projects 3. Assignments 4. Final Exam
PLO15	PO6 PO7	CLO5 CLO6	1. Lectures 2. Tutorials 3. Presentations 4. Projects 5. Discussion	5. Discussions 6. Projects 7. Assignments 8. Final Exam

Course Coordinator: Prof. Dr. Zeinab Faisal

Head of Department: Prof. Dr. Zeinab Faisal

Date: 6 / 9 / 2022

15. Appendix

15.1 Program Mission

Program Mission		Faculty Mission			(NARS 2018) CBE															
		F1	F2	F3	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	B1	B2	B3	B4	B5	
The architecture program at the Faculty of Engineering Benha is committed to preparing an architect who is intellectually and scientifically qualified and has the ability to compete in the labor market and keep pace with scientific and technological development in the field of architecture in a manner that serves and achieves the needs of society within the framework of an ethical approach that allows continuous improvement and preservation of the environment and society.	M1	The architecture program at the Faculty of Engineering Benha is committed to preparing an architect who is intellectually and scientifically qualified and has the ability to compete in the market labor.	*					*			*	*	*			*			*	*
	M2	Keep pace with scientific and technological development in the field of architecture.		*		*	*			*				*	*		*	*	*	
	M3	In a manner that serves and achieves the needs of society within the framework of an ethical approach that allows continuous improvement and preservation of the environment and society.			*			*	*			*	*			*	*	*		

Faculty Mission	Benha Faculty of Engineering - Benha University is committed to graduate well prepared engineers equipped with knowledge and skills necessary to compete in labor market, and capable of using and developing modern technology, and providing research in engineering fields to serve society and community.
F1	Benha Faculty of Engineering - Benha University is committed to graduate well prepared engineers equipped with knowledge and skills necessary to compete in labor market.
F2	Capable of using and developing modern technology.
F3	Providing research in engineering fields to serve society and community.

15.3. Graduate Attributes

Graduate Attributes	Requirements			Credit Hours of Subject Area						
	University	Faculty	Program	Humanities and Social Sciences	Mathematics and Basic Sciences	Basic Engineering Sciences	Applied Engineering and Design	Computer Applications and ICT	Projects and Practice	Discretionary
G1: Master a wide spectrum of engineering knowledge and specialized skills and can apply acquired knowledge using theories and abstract thinking in real life situations.		1		1	1		1			
G2: Apply analytic critical and systemic thinking to identify, diagnose and solve engineering problems with a wide range of complexity and variation.			1				1		1	1
G3: Behave professionally and adhere to engineering ethics and standards.		1		1		1				1
G4: Work in and lead a heterogeneous team of professionals from different engineering specialties and assume responsibility for own and team performance.		1				1		1		1
G5: Recognize his/her role in promoting the engineering field and contribute in the development of the profession and the community.			1		1	1			1	
G6: Value the importance of the environment, both physical and natural, and work to promote sustainability principles.	1						1		1	
G7: Use techniques, skills and modern engineering tools necessary for engineering practice.		1						1		1
G8: Assume full responsibility for own learning and self-development, engage in lifelong learning and demonstrate the capacity to engage in post- graduate and research studies.	1			1	1	1				
G9: Communicate effectively using different modes, tools and languages with various audiences; to deal with academic/professional challenges in a critical and creative manner.	1			1		1		1		
G10: Demonstrate leadership qualities, business administration and entrepreneurial skills	1						1	1		
G11: Knowing the laws, legislations and requirements in the field of architecture and urbanism and how to apply them to meet local needs and global developments.			1						1	1
G12: The ability to combine outstanding creative design with technological development to improve the quality of the built environment and meet social, technological, and environmental challenges.			1	1			1		1	
G13: Solve architectural problems with a wide range of complexity and variation throughout applying analytic critical and systemic thinking.			1				1		1	
G14: 14. Demonstrate understanding of cultural, historical and established architectural theories, philosophies and context.			1	1						1

15.6. Assessment Methods VS Teaching & Learning Methods

Assessment Methods			Teaching and Learning Methods																
			Lecture	Tutorials	Computer-based Instruction	Design Studio	Problem-based Learning	Project-based Learning	Interactive Learning	Presentations	Case Study	Report	Co-operative Learning	Brain Storming	Projects	Simulation	Discussion	Practical-based Learning	Self Learning
Formative Assessment	Tests	Oral Test					*		*	*	*			*		*	*	*	
		Mid- term	*	*															
		Experimental			*												*		
		Quizzes	*	*															
	Reports							*		*					*		*		
	Observation					*		*			*	*							
	Discussions	*	*		*	*	*		*	*	*		*	*	*	*		*	
	Projects	Projects				*	*		*	*	*	*		*	*	*	*	*	*
		Mini Projects				*	*		*	*		*		*	*	*	*		*
	Assignments		*	*	*	*													
Presentations						*		*	*	*			*						
Summative Assessment	Final Exam	*	*																