Ministry of Higher Education and Scientific Research University of Technology Department of Architecture Engineering / Baghdad-Iraq

Academic Calendar 2003/2007

Historical Background

The University of Technology (UoT)/ Department of Architectural Engineering was established in 1977 in order to help fulfilling the market need of architects. The number of students accepted annually for B.Sc. in Architectural Engineering studies fluctuated between 50 to 80 Iraqi students in addition to 10% of that number allocated for other Arab students.

The M.Sc. in Architectural Engineering program (2-years program) started in 1986. The number of M.Sc. students rose to over 20 postgraduate students in the academic year (2001-2002) with additional programs namely M.Sc. in Urban Design and M.Sc. in Architectural Technology that started respectively over the following two years.

The PhD in Architectural Engineering program started in 1992, which is a three years program at minimum including various architectural, urban, housing and architectural technology research subjects.

Strategic Goals:

There are a number of strategic goals emphasized by the department:

1- Preparing a new generation of architects who have the theoretical and practical base to address architectural challenges and suggest alternatives in architecture field to arrive at the best architectural solutions inspired from the architectural heritage.
2- Preparing a new generation of architects who can tackle the various philosophic and architectural issues and problems especially in contemporary architecture. In addition to giving feedback for a better local and universal architecture.
3- Ensuring that graduates have the ability to understand the different theories in the practical context, thus addressing the different technical and practical issues in the fieldwork.
4- Updating the curriculum continuously to be in line with the latest developments in the field worldwide.
5- Enhancing teaching methods using the different visual and sound instruments as well as implementing the power of computers in architectural and urban design.
6- Promoting high-education (Masters and PhDs) through providing all necessities to enhance it and keep a balance with undergraduate education qualitatively and quantitatively.
7- Establishing a common research base for enhancing the characteristics of the local Iraqi Architecture through researches handled by the teaching staff and postgraduate students while keeping these researches applicable in practice.
8- Give consultation services and research services to the different governmental organizations and consultancy/engineering centers.

Graduate Students Characteristics

1- Have the capability to implement the theoretical knowledge in the fieldwork as well as developing it through continuous searching and learning.
2- Have the capability to understand the intellectual changes while analyzing these changes to reach better results.
3- Have the required understanding of the different research, thinking and analysis methods to reach better results.
4- Have good understanding of the society and culture of his/her environment, how to deal with them in his/her architectural/urban design projects giving the specific social characteristics and architectural/urban heritage.
5- Respect practice bases and boundaries in line with the local laws, legislations, and requirements.

FIRST YEAR

Symbol	Subject	First Semester		Second Semester		Total Credit
		Weekly Hours		Weekly Hours		
		Theoretic	Practic	Theoretic	Practical	
AE 101	Architectural Design and Drawing	2	8	2	8	12
AE 102	Free hand drawing	-	3	-	3	3
AE 103	Art and Architecture Principles	2	-	2	-	4
AE 104	Building Construction (1)	2	-	2	-	4
AE 105	Mathematics	2	-	2	-	4
AE 106	Computers	1	2	1	2	4
AE 107	Workshops	-	6	-	6	4
AE 108	History of Architecture (1)	2	-	2	-	4
AE 109	French	2	-	2	-	4
Total		13	19	13	19	43
		32		32		

SECOND YEAR

Symbol	Subject	First Semester		Second Semester		Total Credit
		Weekly Hours		Weekly Hours		
		Theoretical	Practical	Theoretical	Practical	
AE 201	Architectural Design	2	8	2	8	12
AE 202	Architectural Presentation	1	3	1	3	4
AE 203	Free hand drawing (2)	-	3	-	3	3
AE 204	Descriptive geometry (Semester 1)	1	2	-	-	2
AE 205	Building Construction (2)	1	2	1	2	4
AE 206	Structure (1)	2	-	2	-	4
AE 207	Computers (2)	1	2	1	2	4
AE 208	Logic and design methodologies (1)(Semester 2)	-	-	2	-	2
AE 209	History of architecture (2)	2	-	2	-	4
		10	20	11	18	
Total		30		29		39

THIRD YEAR

Symbol	Subject	First Semester		Second		Total Cred
		Weekly Hours		Weekly Hours		
		Theoretical	Practic	Theoretic	Practic	
AE 301	Architectural Design	1	9	1	9	11
AE 302	Building construction (3)	1	4	1	4	6
AE 303	Structure (2)	2	-	2	-	4
AE 304	Planning principles (Semester 2)	-	-	2	-	2
AE 305	History of Architecture (3)	2	-	2	-	4
AE 306	Building Services (Plumping)	2	-	-	-	2
AE 307	Building Services (air conditioning)	-	-	2	-	2
AE 308	Computer (3)	1	3	1	3	5

AE 309	Architectural and Environment	2	-	2	-	4
AE 3010	Logic and design methodology (2)	2	-	-	-	2
Total		13	16	13	16	42
		28		29		

FOURTH YEAR

Symbol	Subject	First Semester		Second Semester		Total Credit
		Weekly Hours		Weekly Hours		
		Theoretical	Practical	Theoretical	Practical	
AE 401	Architectural and Urban Design	1	9	1	9	11
AE 402	Interior design (Semester 1)	1	4	-	-	3
AE 403	Landscape Design	-	-	1	4	3
AE 404	Advanced Building technology (Semester1)	2	-	-	-	2
AE 405	Building Services (Semester 1)	2	-	-	-	2
AE 406	Architectural Acoustics (Semester 2)	-	-	2	-	2
AE 407	Programming architectural spaces	-	-	1	2	2
AE 408	Basics of Psychology	2	-	-	-	2
AE 409	Theories of architecture	2	-	2	-	4
AE 410	Theories of Urban Design	2	-	2	-	4
AE 411	Arab, Islamic and local architecture	2	-	2	-	4
AE 412	housing	-	-	2	-	4
AE 413	Architectural criticism Theory (Semester2)	-	-	2	-	2
Total		16	13	15	15	45
		30		29		

FIFTH YEAR

Symbol	Subject	First Semester		Second Semester		Total Cred
		Weekly Hours		Weekly Hours		
		Theoretic	Practica	Theoretic	Practica	
AE 501	Graduation Project	1	15	1	6	12
AE 502	Architectural detailing	-	4	1	14	10
AE 503	Engineering Management	2	-	-	-	2
AE 504	Professional practice (Semester 2)	-	-	2	-	2
AE 505	Building regulations	2	-	-	-	2
AE 506	specification & quantities	-	-	2	-	2
AE 507	Research methods	1	2	-	-	2
AE 508	Arab contemporary architecture	2	-	-	-	2
AE 509	Iraqi contemporary architecture	-	-	2	-	2
AE 510	Philosophy and architecture	-	-	2	-	2
Total		8	21	10	20	38
		29		30		

Curriculum Subjects Description 2003-2007

FIRST YEAR

Symbol	Subject	First Semester		Second Semester		Total Credit
		Weekly Hours		Weekly Hours		
		Theoretic	Practic	Theoretic	Practical	
AE 101	Architectural Design and Drawing	2	8	2	8	12
AE 102	Free hand drawing	-	3	-	3	3
AE 103	Art and Architecture Principles	2	-	2	-	4
AE 104	Building Construction (1)	2	-	2	-	4
AE 105	Mathematics	2	-	2	-	4
AE 106	Computer	1	2	1	2	4
AE 107	Workshops	-	6	-	6	4
AE 108	History of Architecture (1)	2	-	2	-	4
AE 109	French	2	-	2	-	4
Total		13	19	13	19	43
		32		32		

AE (101) Design and Architectural Drawing (2 hours theoretical +8 practical / week)
Annual
(Semester 1)

week	Characterization
1	Using drawing tools
2	Drawing lines of different formations
3	Showing optical grades for lines and surfaces (Tones)
4	Presenting different materials - flooring – water flats - the sky
5-6	Drawing shades and shadows
7-8	Drawing elevation elements
9-11	Using inking tools

12-15	using colors

Semester 2

week	Characterization
16-18	Drawing basic lines -dots - straight line - slash-line –curved line - Drawing angles - drawing basic shapes
19	Practical Exercise - Drawing a formation of lines (decorations)
20	Definition of the principles and concepts of design in general - Balance - repetition – Compatibility - domination – Homogeneity - contradiction
21	Study the types of relationships between the basic shapes in accordance with the principles of design / practical exercises
22	Studying colors - the color circle
23	Study networks (grids) two-dimensional and three-dimensional
24-25	Practical Exercises for the design principles on networks
26	Outer space and mass - the internal space and the block
27-28	Definition of the function and the conduct of the architectural design process / Practical Exercise
29-30	(sketch design)

(102) Freehand Drawing (3 -hour practical / week) Annual

Semester (1)

week	Characterization
1-5	Drawing with pencil : Explain concepts about art (painting) and its relationship to architecture and the fundamentals of freehand drawing tools and materials used in painting Drawing lines in all directions by drawing basic shapes (Engineering) Like cube and parallel ribs and the pyramid , etc. .. Explain concepts about the direction of the lines and how to use enablers for

	drawing lines and shapes (geometric shapes) Visit a field of scientific and technical Al Mustansiriya school -Al Sufafeer market and alleys : Sense perception shapes and space through various blocks (sizes, shapes and lines) .
6-10	Drawing with specific semantics geometric forms like the Baghdad column (named Dalag) - bricks - the chair - the table Aware of the weight of the blocks and shapes and sizes through the light and shade with a pencil or any material assistance such as coal or special pens misled
11-15	Drawing geometric shapes on materials and copper - pottery Drawing windows- Baghdadi Old through a scientific visit to places of heritage Drawing special models for the students of the first phase of advanced (abstract) Graphic design models for stage III or IV
	Semester 2
16-19	Drawing architectural elements like stair - part of the drawing architectural details like window building or door .... etc. Drawing parts of the traditional elements of heritage buildings and by visiting local heritage places (like Adhimiya) drawing architectural elements like Stalactites heritage .
20-22	The second phase of painting a watercolor : Explain the concept of colors and their relationship with some exercises to explain the concept of transparency in the colors and types of materials used mattresses Draw a circle colors and exercises in fresh colors and mixed by drawing geometric shapes
23-25	Models designed with an abstract character sketch of the improved colors through (Tone)
26-27	Fee forms different colored materials like Cloth pottery and things rigid nature (Still -life)
28-30	Drawing with color architectural elements derived from local heritage like columns, part of window-like objects (Shanashel Baghdadi) or other architectural elements of the traditional Baghdadi house

(103) Art and Architecture principles (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1-2	The definition of art in general - the definition of architecture in general, and to identify the architecture links the different areas of life .
3	The definition of the concept of design in general .. Aspects heritage and objectivity in the simplified design ..
4	design In general dote, line, elements ,surface, orientation ,mass
5	A general discussion between students and professors article about practical work ..project architect technician exercise after the most important elements of the previous analysis ..
6	Complete the rest of the design elements and ..color light. Texture . optical illusion
7	A general discussion between students and professors article about exercise ..practical architectural project ..after analysis most important design elements of the project
8	The definition of the concept of whole and part ..entrance to define design principles and forms of relations ..harmony .. gradient .. conflict
9	The concept of unity in ..dominance design ..repetition. ..balance
10-12	Group discussion for two architects then analyzed by the students and by design principle prevailing in each project
13-14	The concept of proportionality
15	Exam

Semester 2

week	Characterization
16	Architectural design - design process and the result of design with the most important areas in the usual architectural design
17	Style in architecture

18	Group discussion to train promising students about different architectural currents and by diverse considerations and methods adopted in
19	The idea in architectural design as Black Box and Glass Box of thinking.
20-21	Programming and Architectural Design
22-23	Architectural design output of the process design. The physical aspect of the design of -mass -space - shape and body
24	Group discussion of the exercise prepared by students. Analysis of two architects from different architectural style in terms of the formal aspects (physical) of the project
25-26	Basic requirements for Architecture as the product of my design -Appropriate - durability - artistic beauty
27-28	Group discussion of the exercise by the students through the analysis of a range of different projects in terms of the achievement of the basic requirements for Architecture
29	Creativity and awareness of architecture
30	Exam

(104) Installation of buildings (1) (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1-3	The construction of bricks : Bricks measurements , common kinds, both locally and globally , how to prepare bricks to build with bricks drawing types
4-6	The construction stones : types of stones and rocks at construction joints with how to prepare the stones for the construction and methods of use
7-9	Types of foundations continued : According inception different foundation with soil type materials (soft , hard) with drawn and how different section

10-11	Connection types in the Block : (English , German and the other type)
12	Trimmings : types, methods of implementation, the materials used in
13	Arches : types, methods of implementation, the material used in the method of drawing (Abbasi Hilali)
14	Way of drawing Trimmings practically taking the longitudinal and cross sections for it
15	practical way to Draw arc by taking elevation and section for it

Semester 2

week	Characterization
16-17	Building blocks of concrete prefabricated works : Identify the kinds of blocs and the way of connecting them
18-19	Methods of vertical transmission : the construction of a Bering parts of the stair , ways of calculating Tread , Riser and took the way of stair port trimmings Jack arching
20-21	Drawing a way of stairs and take the clip with a clarifying suitable materials used in it and ways of putting the stairs in buildings
22	Exercise descriptive Residential house is taking it in a story and how to draw the foundation structurally –how to draw first floor and second floor and the roof with construction details
23-26	Taking longitudinal and cross sections in the house and try to understand the construction of the Bering wall , with steps leading to the floor with the other details of the material end surface
27-30	Taking elevation in the House showing the types of material and whether the finishing from bricks or stone or concrete blocks

(105) Mathematics (2 hours Theory / week) Annual

week	Characterization
1	General review of the analytical geometry and trigonometric laws

2-4	The inverse function and draw some algebraic functions function
5-7	Derivative and integration
8	Trigonometric functions
9	Logarithmic functions
10	Exponential functions
11	Hyperbolic functions
12-15	The sizes and the length of the arc space and volume applications

Semester 2

week	Characterization
16	Methods of integration
17-22	Computer numerical integration using the Trapezoid rule
23-24	Retail method using trigonometric ratios
25	Matrices and delimiters and solving linear equations using the system
26	A- method of deletion of Chaos
27	B- method of Jacobi
28-30	C- the way Gauss and uses the computer

(106) computers (1) (1 hour theoretical / 1 hour practical) Annual

week	Characterization
1	Computerized definition , its components and how they work
2	Definition file types and renamed. Explanation of the operating system Ms. Dos internal orders
3	= = =
4	Introduction to windows ,desktop ,using the mouse ,my computer
5	ZOOMING ANY WINDOW ,creating new folder ,select folder
6	How to start any program ,print program ,shutdown

7	Microsoft office (new, open, save, save as, and page setup ….)
8	View (tool bars ,header and footer ,zoom) format
9	Tools & table
10	Table (Auto format ,sort, formula)
11	Microsoft excel
12	Clearing cell , saving your work
13	ENTER FORMULA manually
14	Charts
15	Examination
16	power point
17	Edit, undo, repeat, cut, and copy
18	Insert new slide ,slide number
19	Format ,font ,alignment ,text
20	Auto cad introduction
21	Ellipse ,polygon , donut , solid ,fills, break
22	Trim ,extend ,change
23	Hatch ,text end , change , linetype
24	Dim
25	Layer
26	Internet
27	===
28	===
29	===
30	Examination

(107) shops (6 hour practical / week) Annual

week	Characterization
1-2	Unit carpentry
3-5	Unit carpentry production
6-7	Welding unit
8-11	Construction unit
12-14	Unit Electricity Power and its fittings and network and in domestic
15	Examinations

Semester 2

week	Characterization
16-18	Models Bases
19-22	Models trees outdoor spaces
23-26	Models buildings
27-29	Models domes and complex forms
30	Examinations

(108) History of Architecture (1) (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1	Introduction to the History of Architecture
2-13	Mesopotamian architecture prehistoric age Historical times (the era of pre- Strains) - Sumerians - Akkadians -alababileon -acurion -alcaldaon)
14-15	Examinations

Semester 2

week	Characterization
16-19	Logic Building adjacent to Mesopotamia
20-27	Nile Valley Building
28-29	Review and field visits / archaeological
30	Examinations

(109) French (2 hours theoretical / week) Annual

Vocabulary: vocabulary according to the first level and the second at the French Cultural Center

SECOND YEAR

Symbol	Subject	First Semester		Second Semester		Total Credit
		Weekly Hours		Weekly Hours		
		Theoretic	Practical	Theoretic	Practical	
AE 201	Architectural Design	2	8	2	8	12
AE 202	Architectural	1	3	1	3	4
AE 203	Free hand drawing (2)	-	3	-	3	3
AE 204	Descriptive geometry (Semester1)	1	2	-	-	2
AE 205	Building Construction	1	2	1	2	4
AE 206	Structure (1)	2	-	2	-	4
AE 207	Computer (2)	1	2	1	2	4
AE 208	Logic and design methodology (1)(Semester2)	-	-	2	-	2
AE 209	History of architecture (2)	2	-	2	-	4
		10	20	11	18	
Total		30		29		39

(201) Designing (2 hours theoretical / 8 -hour practical) Annual

(A) how to deal with functional problems and design different goals and sites for projects
(B) how to deal with the powerful determinants of the proposed sites in exercises
(C) how to create a product of an architectural exhibit the characteristics and features of the Iraqi school 's identity , in particular, and the Arab Muslim general
(D) Teach the student who designed? Wayne designed. Moreover, how to design?

(202) architecture presentation (1 hour theoretical +3 practical / week hours) Annual

week	Characterization
1-2-3	Information retrieval for drawing diagrams and horizontal sections and interfaces by drawing an integrated architectural project is taken from an architectural magazine
4-6	Inking use as a way to presentation
7-10	The principles of drawing isometric
11-12	Drawing an external isometric block project
13-15	The principles of drawing horizontal plans manner anthropomorphic

Semester 2

week	Characterization
16-20	The use of water colors as a way to presentation
21-23	Use of wood colors as a way to presentation
24-25	To determine how the principles of simplified architectural external perspective
26-27	Drawing an external perspective of the previous project
28-29	To determine how the principles of simplified internal perspective , one point
30	Bi-Annual Day Sketch exam one of the previous topics

(203) freehand drawing (3 -hour practical / week) Annual
Semester 1

week	Characterization
1-3	A watercolor drawing geometric shapes of different architectural elements (parts of buildings)
4-6	Drilling in the form of threads decorative paint on sheets of gypsum (template) and digs by tool drilling and measuring 15 cm x 20 cm
7-9	Drawing on the wall (replace) with pieces of plywood measuring A3 and attend substance of Fresco (lime , sand and glue) and used a watercolor by different finishes

10-11	Drilling on the zinc metal or wood and temporarily working on coordination with the Faculty of Arts / Department of Section studio to work in the said section
12-15	drawing watercolor different views of the university buildings with gardens - drawing perspective buildings - Drawing architectural elevations

Semester 2

week	Characterization
16-18	Drawing a watercolor or use air brush in architectural designs elevation - plans (Perspective)
19-20	Ceramic work in collaboration with the Faculty of Arts temporarily
21-22	(Synthesis sculpture) work different abstract monument - Canvas)
23-30	Work and design elevation topics agreed manner mosaic using colored glass on the floor of the White Cement on the plate opposite formatted to work mosaic

204) Descriptive Geometry (1 hour theoretical +2 practical / week) Bi-Annual

Semester 1

week	Characterization
1-2	Straight Line - mess, in a vacuum
3-4	Levels and their positions in a vacuum
5-7	Models
8-10	Miscarriage three dimensions
11-14	Individuals - simplify engineering objects on one level after opening with it
15	Examinations

(205) buildings constructions (2) (1 hour theoretical +2 hour practical) Annual

Semester1

week	Characterization
1	Structural building on concrete components
2	Practical application on the structure of a building

3	Foundations , types and how they are implemented in accordance with the works and the type of soil
4	Practical application raft foundations , including the basement
5	Ceilings of concrete Casting on site and details
6	practical application
7	Vertical transmission in buildings
8	Practical application of the straight stair and circle stair
9	Construction materials and finishes used in vertical transmission
10	Practical application stair helix
11	Doors, types and designs, dimensions, specifications
12	Practical application on the door made of wood sheet
13	Windows, types and designs, dimensions, specifications
14	Practical application of the iron windows
15	Review past materials taking into consideration the connecting threads with each

Semester 2

week	Characterization
16-17	finishing in structural concrete construction materials Interior and exterior flooring Interior and exterior walls Ceilings
18	Practical application on finishing materials
20-19	Joints in the concrete structural buildings
21	Practical application on the joints

22-23	Flatness materials in the roof floor of the building structural concrete
24	Practical application on the flatness materials
25-26	Elevators in buildings and structural methods of fire protection using (core)
27	practical application
28-29	Methods of covered elevation by prefabricated concrete units
30	practical application

(206) Construction (1) (2 hours theoretical / week) Annual
Semester 1

week	Characterization
1	Mechanical engineering - Introduction
2	Power and influence
3-5	Resultant
6-8	Gables
9-12	Internal forces in the facilities
13-15	Bending moments and shear forces schemes

Semester 2

week	Characterization
16	Strength of Materials
17-20	Bending moments and shear forces and axial forces schemes
21	Stresses
22-24	Stresses of moments

25-26	Shear stresses
27	Axial stress
28-29	Elongation in the facilities Loaded pivotal
30	Examinations

(207) Computing (2) (1 hour theoretical +2 practical) / Annual

Semester1

week	Characterization
1-2	Simple definition for the Windows programs and the possibility of making the folder
3	Auto cad program introduction
4	Explanation of meta -related storage and open new files and name it
5-6	Explain drawing orders and making overlap between the order of the drawing and model
7-9	Explain the methods of drawing (Plan) architecturaly
10-15	Give exercise includes an integrated project in terms of planned and elevation section , which has been used previously

Semester 2

week	Characterization
16-20	Explain ways to move from 2D to 3D
21-22	making composition forms a simple wire frame 3D
23-25	Explain the composition of the surfaces of the triangular forms ways with practical exercises
26-28	Use the previous application in 2D and converted to 3D three- dimensional

	holographic
29-30	Modern software

THIRD YEAR

Symbol	Subject	First Semester		Second		Total Cred
		Weekly Hours		Weekly Hours		
		Theoretical	Practic	Theoretic	Practic	
AE 301	Architectural Design	1	9	1	9	11
AE 302	Building construction (3)	1	4	1	4	6
AE 303	Structure (2)	2	-	2	-	4
AE 304	Planning principles (Semester2)	-	-	2	-	2
AE 305	History of Architecture (3)	2	-	2	-	4
AE 306	Building Services(plumping)	2	-	-	-	2
AE 307	Building Services(air conditioning)	-	-	2	-	2
AE 308	Computer (3)	1	3	1	3	5
AE 309	Architectural and the environment	2	-	2	-	4
AE 3010	Logic and design methodology (2)(Semester 1)	2	-	-	-	2
Total		13	16	13	16	42
		28		29		

(301) / Architectural Design (1 hour theoretical +9 hour practical / week) Annual Aimed first Semester article introduce students to the design of a functional target projects within the urban fabric.

In the second Semester article aims to introduce students to design a multi-storey building with large spaces using modern materials and techniques article includes three projects are distributed as follows:

week	Characterization
1-9	The first project - a public library or any functional building
10-22	The second project - the theater
23-30	The third project - a multi-storey building

(302) Installation of buildings (3) (1 hour theoretical +4 hour practical / week) Annual

Semester 1

week	Characterization
1-2	Structural systems for roofing longitudinal spaces : 1. (Shell system) 2. (folded stabs) 3. (Space frame)
3	Practical application of the shell systems
4-5	4. systems rigid 5. trusses 6. Inflated stabs
6	Practical application on trusses
7	1- (Arch system) 2- (tensile system)
8	Practical application of the tension styles
9-11	Structural system Iron
12	Practical application on the Iron construction
13-14	finishing materials used in the construction of structural system Iron
15	Practical application on finishing materials

Semester 2

week	Characterization
16-18	pre-construction build
19-20	Practical application on the pre- construction
21-22	finishing materials used in the pre- construction
23-24	Practical application on finishing materials
25-26	Methods of covering the exterior of the buildings multiple floors of concrete prefabricated units
27	Practical application on covering materials
28-30	Detail Information Systems

(303) construction (2) (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1	Previous Static construction
2-3	Use tables solutions for non- specific Static
4	Introduction to concrete
5	Cement industry
6	Properties of sand and gravel used in concrete works
7-15	The design of the concrete beam

Semester 2

week	Characterization
16-17	Examples for the design of beams in buildings

18-19	The design of concrete slabs in buildings / Introduction
20-24	The design of concrete slabs in buildings in one direction
25-27	Introduction to the design of short concrete columns
28-29	Design concrete foundations
30	Examinations

(304) the principles of planning (2 hours theoretical / week), Bi-Annual (2)

week	Characterization
16	Explanatory introduction of the article , concepts and terminology general background
17	The concept of planning and planning related to the terms of specialization and other activities
18	Planning and architecture, the emergence of cities and the development of urban planning
19	Planning process and the development of modern theories of planning
20	Planning levels
21	Types of planning : urban , national and regional planning
22	Theories of planning in the genesis of cities
23	Modern city components and examples of different schemes cities
24	Factors and elements of the city's growth and the Volumes city
25	The main center and secondary centers in the city and groupware service models with designs
26	Factors influencing the location of the city

27	The principles of land use , residential areas and patterns of design
28	Transport and traffic routes within cities and between them and urban transport systems
29	Different uses and the structure of the city sites
30	Examinations

(305) / Architecture History (2) (2 hours theoretical / week) / Annual

Semester 1

week	Characterization
1-2	The Industrial Revolution and its impact on architectural thought
3-6	The beginning of the architectural school (stages of history, the new art, selectivity, etc.)
7-10	Modern technological developments
11-12	The impact of new urban planning on architecture
13-15	Modern architecture

Semester 2

week	Characterization
16-18	A world-class modern architecture and the emergence of
19-22	Masters of modern architecture
23-25	The failure of modernity
26-27	What after Postmodernism
28-29	New schools in the development of architectural thought with the study of the new architecture
30	Examinations

(306) Building Services (plumping) (2 hours theoretical / week), Bi-Annual

Semester 1

week	Characterization
1-2	Building Services(plumping) and requirements
3-4	Types of sewer systems - sewer network inside a building design
5	The sewage system outside the building
6-7	Equipment and devices for health services and the disposal of dirty water
8-9	Pure water services - cold water network and water irrigation design
10-12	Hot water services
13-14	Maintenance requirements, open blockages.... etc.
15	Examinations

(307) Air conditioning Services (2 hours theoretical / week) Annual

Semester 2

week	Characterization
16	Thermal environment and the requirements of physical services
17	Comfort and functional requirements and their relationship and ventilation systems
18	Heat Pump
19-21	Cooling systems - air handlers
22-23	Criteria for the selection of refrigeration and air-conditioning systems in buildings
24-25	Seiko metric measurements
26-27	Heat gain - Thermal insulation - the distribution of the central organs of the requirements conditioning networks
28-29	The central unit : the conditioning requirements
30	Examinations

(308) Computer (3) (1 hour theoretical +3 practical / week hours) Annual

Semester 1

week	Characterization
1-3	Run a program (3D studio Max) and to identify the components
4-7	Change the distribution of the screen scenes and control the scenes and zooming and browsing
8-10	Statistics modification tools , integrating models
11-12	Repetition of objects and materials , import models
13-15	Creation of geometric elements , geometric elements record

Semester 2

week	Characterization
16-17	Advanced geometric elements Cylinder, chamber, oil tank, hedra, prism The establishment of an annular wave
18-19	Shapes (star, ngon, Dount, Arc, Line, Circle)
20-21	Text
22-23	Helix , section, process modification, copying, arrays
24-25	Boolean operations (subtraction, interesting, union)
26-28	Lighting , materials Add principles of the Movement and shading
29-30	Give initial principles for advanced systems architecture

(309) Architecture and Environment (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1	Introduction to climatic environment
2-3	Thermal comfort
4	Iraq's climate analysis
5-7	Engineering behavior of the movement of the sun around the buildings
10-11	The sun into force of the slots and the various ways to control it Account
12	Test the appropriate geometric ratios of the buildings to relieve the heat load
13-15	Heat exchange in buildings, structures and calculate the temperature and thermal leakage and time-delay

Semester 2

week	Characterization
16-17	The movement of wind on buildings
18	Natural ventilation
19-20	Natural ventilation
21	Window design and other elements of ventilation air like air cache
22-23	Climatic features of the role of heritage
24-26	natural lighting
27	Artificial lighting
28-29	Integration between the natural and artificial
30	Examinations

(3010) logic design methodology (2 hours theoretical / week), Bi-Annual (1)

Semester 1

week	Characterization
1	Illustrate the importance of art and give definitions for process design and control design methods
2	Definition of the most important architectural design curricula
3	The focus in the subsequent weeks to analyze the information and give decisions help determine the concept of the design process
4-5	Site analysis and includes the election of the appropriate site for the project and the elements of the site and elements of analysis of the building site within the urban framework process
6	Symbolic analysis includes: - Meaning in architecture and ways of creating architectural form and the rules of contact
7	Catalyst idea, metaphor and define , the source of metaphor
8	The relationship between metaphor and the idea of any relationship between the meanings
9	Relation between metaphor (reference) the results of any form output
10	The mechanics of review metaphor (reference) within a single system and within the range of systems
11	Functional analysis includes Analysis of spaces properties
12	Analysis of the relationship between the spaces
13	Matrix, zoning, bubble analysis
14	Similar examples analysis process
15	Examinations

Symbol	Subject	Weekly Hours		Weekly Hours		Total Cred
		Theoretical	Practical	Theoretical	Practical	
AE 401	Architectural and Urban Design	1	9	1	9	11
AE 402	Interior design	1	4	-	-	3
AE 403	Landscape Design	-	-	1	4	3
AE 404	Advanced Building technology (Semester1)	2	-	-	-	2
AE 405	Building	2	-	-	-	2
AE 406	Architecture and acoustics (Semester2)	-	-	2	-	2
AE 407	Programming architectural spaces	-	-	1	2	2
AE 408	Basics of Psychology	2	-	-	-	2
AE 409	Theories of architecture	2	-	2	-	4
AE 410	Theories of Urban Design	2	-	2	-	4
AE 411	Arab and Islamic and local architecture	2	-	2	-	4
AE 412	housing	-	-	2	-	4
AE 413	Architectural criticism Theory (Semester2)	-	-	2	-	2
Total		16	13	15	15	45
		30		29		

(401) Urban and Architectural Design / (1 hour theoretical +9 hour practical / week) / Annual

Urban and architectural design articles designed to introduce students to how urban design projects on several levels. Three projects included:

The first deals with how to design an urban project on a small scale like urban dictation or treating the nodes as a space within an urban city and its relationship to other tracks and the blocks surrounding the definition of student

The second project, the student realizes the concept of strategic redevelopment as one of the strategies of urban renewal in the city with the need for the student's commitment to the proposed standards in the basic designs of cities.

Third project Cares about design of residential complexes, keeping in mind the preparation of the basic schemes and patterns of buildings and residential units assembly, with the application of the element that has been addressed in the article theory in the first Semester.

Semester 1

week	Characterization
1-5	

	The first project - an urban project on the small / urban scale or design of the nodes in the city
6-15	The second project - a project to develop one of the sites in the city within the existing urban fabric
	Semester 2
16-30	The third project - a residential complex

(402) Design of interior spaces / (1 hour theoretical +4 hour practical / week), Bi-Annual (1)

Semester 1

week	Characterization
1	Introduction to the design of interior spaces , the distribution of schedule design project
2	Attributes interior spaces and their own identity and privacy of their own language
3	The impact of architectural movements on interior design
4	shape in the inner space
5	Color in the inner space with practical application
6	Lighting interior spaces with practical application
7	Material and texture in the interior spaces with practical application
8	Aesthetics inner space
9	Methods used metaphor in the internal spaces
10	Architectural styles and methods to achieve
11	Functional and structural and symbolic , service and environmental standards in the internal spaces
12	Interior Design methodology
13	Psychological dimension and behavioral in the internal spaces
14	Furniture in the inner space
15	Plug-ins , mass, the fourth dimension in the internal space

Exterior design (1 hour theoretical +4 hour practical / week) separated (2)

Semester 2

week	Characterization
16-17	Introductory Lecture + Brief History
18	Planning The location and design the external spaces
19	Aesthetic and visual aspect of the design
20	Climate and environmental aspect in the design
21-23	Elements of the design of the external spaces Natural elements (water, plants , ground) Elements of man-made (flooring, stairs , slopes , walls ..... etc.)
24-30	Discuss Seminar students

(404) advanced building techniques (2 hours theoretical / week), Bi-Annual (1)

Semester 1

week	Characterization
1-2	Introduction of advanced concrete structures , Prior effort
3-6	Designs beams prior effort and high
7-10	Prefabricated - concrete designs intersection of Beam + Bracket column
11	introduction of metal constructions - designs tables
12-14	Design and check a metal column tables
15	Examinations

(405) Building Services (2 hours theoretical / week), Bi-Annual (1)

Semester 1

week	Characterization
1-2	the vertical transport in multi -storey buildings
3	

	Types of transport and the causes of choice
4-5	Operating Systems - Account lifts
6	Waste collection in the complexes requirements
7-9	Waste collection systems in multi -storey buildings and their specifications
10-11	Electrical service requirements - Definitions , coordination of electrical services with architectural design
12	Electrical services coding
13-14	Fire-fighting and its relationship to public services for the building system
15	Examinations

(406) Architecture and acoustics (2 hours theoretical / week) separated (2)

Semester 2

week	Characterization
16	Introduction to sound in the architecture and the types of sound waves
17-18	Audio sources , the speed of sound in the air, the sound intensity and the intensity and level of acoustic pressure and acoustic power
19-20	Acoustic requirements of audio halls
21-22	Sound audio and halls problems
23-24	Methods of calculating reverberation time
25-27	The design of the halls of audio and reflectors
28	Noise and noise in urban environment
29	Methods of protection from noise A- cities on the fast lines B buildings located on the fast lines C how to calculate the reduction of the noise level in the urban environment
30	Examinations

(407) Programming architectural spaces (1 hour theoretical +2 hour practical / week)
Bi-Annual

week	Characterization
16-18	Thesis project chose

19-20	Project definition and setting goals and Capacity
21-22	Determine the components of the project
23-24	Analysis of the proposed sites for the project
25-26	Identify areas spaces project
27-29	A comprehensive analysis of satellite components and relationships and apply spaces can also be examples of a similar analysis of selected project
30	To submit a final report

(408) Basics of Psychology (2 hours / week) Bi-Annual

Semester 1

week	Characterization
1	Introduction to Psychology include introducing students to the most important scientific terms and terminology pertaining to psychology and architecture
2	The first part of the Schools of Psychology
3	The second part of the Schools of Psychology
4	Cognition and Architecture
5	Visual perception of architectural details
6	The process of creative thinking
7	memory
8	Personal : how to build a personal architectural
9	Personal : how to deal with the customer's personal
10	Architect analyze psychological to an Iraqi businessman contemporary architects
11-14	Discuss reports prepared by the student for one previous articles
15	Examinations

(409) theories of architecture (2 hours theoretical / week) Annual

Semester 1

week	Characterization

1	Definition of theory
2-4	The role of theory in building design strategies
5-7	How formed theory
8-9	Theory of Architecture as part of a system of thought in the community
10-15	Input formation theory External internal
	Semester 2
16-19	The role of the forum in the formulation of the theory in architecture perception Delivery theory
20-21	Theoretical Trends in Architecture Romantic Trend
22-23	Classical Trend
24-25	Modernity Trend
26-27	after Modernity Trend
28-29	clastic and beyond Trend
30	Examinations

(4010) urban design theories (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1	General Definitions : - urban planning , urban dictation , scale humanitarian
2	The collapse of the urban concepts of modern architecture
3-5	The shift in urban trends for the period 1960-1980 (post- modern architecture) First - the effect of collage city Theory Second - trends contextual urban design Third - the concept of the stereotypical urban Fourth - the concept of sense of place and the concept of the city memory
6-8	Urban transformations towards the progressive design (Piece meal Ds.) Rather than for the overall planning and strategies to achieve them
9-10	Similarities and differences in the urban concepts for each of the new local architecture and biogenic with post- modern architecture
11-14	Changing trends in urban architecture disassembly

15	Similarities and differences in attitudes between urban architecture folding (Folding) and architecture disassembly
	Semester 1
16	Classification of urban theories according to the intellectual approach, which starts from him. Structuralism approach - applications in various fields
17-19	Curriculum structural applications in urban theories 1. theory Space syntax -Bill Hillir
20	2. timeless architecture and language stereotypes
21	3. urban stereotypes and the concept of the urban context - New trends Rationalists
22	Phenomenological method and its applications in various fields
23	Phenomenological approach applications in urban theories 1. Theory The image of the city - Kevin Lynch
24-26	2. Existential Space Theory
27	Psychological analysis and its impact on urban theories
28	Defensive Space Newman 's theory - Defensible Space
29	Psychology ecological studies in the field of applications behavior
30	Examinations

(4011) Arab and Islamic and local architecture (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1	Architecture in the Arabian Peninsula in the eras of pre- Islam
2	Islamic architecture features
3	Factors affecting the development of the Arab Islamic architecture
4	Islamic architecture in the Islamic era Advanced (early)
5-6	Islamic architecture in the (Umawy) period
7-11	Islamic architecture in the(Abbasi) period

12-13	Islamic architecture in Andalusia period
14-15	Islamic(Mughal) architecture and the(Fatimi) period
	Semester 2
16-18	Islamic architecture and Ayyubid and Mamluk
19-20	Islamic architecture in the Ottoman period
21-24	Basic functional patterns in Islamic buildings
25-26	Cities in the Islamic Architecture
27-28	Essential elements of Islamic architecture
29	Islam and the arts - the basic features of Islamic art and decoration
30	Examinations

(4012) Housing (2 hours theoretical / week) Annual

Semester 1

week	Characterization
1	Definition of Housing and problems , residential environment, the difference between house and housing
2	Housing unit and its characteristics , and structural concept phenomenal
3	Housing and guidance structuralism
4	Structural directives - flexibility and cycle life of the family The concept of flexibility with Bracken
5	Structural instructions in the housing , the concept of the style and residential patterns
6	Residential buildings pattern _ single family residential buildings
7-8	Residential style buildings - multi- residential buildings multistory families
9	Patterns assembly
10	Residential complexes planning
11	Housing densities
12	

	Patterns of roads in residential areas and patterns of planning
1314	Patterns of standards - the concept of the standard and the need for him
15	Examinations
	Semester 2
16	Costs in the housing
17	Supported technologies in housing projects
18	Scarcity of housing factors and the deficit in the housing projects
19	Housing market, types, housing unit in the housing market
20	Supply and demand housing
21-22	The need for housing and guess
2324	Residential program
25	Housing policy
26-27	Strategies housing - housing renewal
28	housing subsidy self
29	Investments in the housing sector
30	Examinations

(4013) Architectural criticism Theory (2 hours theoretical / week), Bi-Annual (2)
Semester 2

week	Characterization
16-17	Criticism definition and fields
18-19	Single Criticism evolving system - philosophy - the theory - history
20-21	Literary criticism - art criticism - architectural criticism
22-23	Similarities and differences between the artistic , literary and architectural criticism factors
24-26	criticism theories - phenomenological - structuralist , post- structuralist - clastic
27-29	criticism trends in architecture - Normative criticism - criticism interpretative - descriptive criticism - Other trends

30	Examinations

FIFTH YEAR

Symbol	Subject	First Semester		Second Semester		Total Cred
		Weekly Hours		Weekly Hours		
		Theoretic	Practica	Theoretic	Practica	
AE 501	Thesis design	1	15	1	6	12
AE 502	Architectural details and design	-	4	1	14	10
AE 503	Engineering Management	2	-	-	-	2
AE 504	Professional practice (Semester2)	-	-	2	-	2
AE 505	specialized study	2	-	-	-	2
AE 506	specification & quantities	-	-	2	-	2
AE 507	Search methods	1	2	-	-	2
AE 508	Arab contemporary architecture	2	-	-	-	2
AE 509	Iraqi contemporary architecture	-	-	2	-	2
AE 510	Philosophy and architecture	-	-	2	-	2
Total		8	21	10	20	38
		29		30		

(501) thesis design (1 hour theory + 15 hours practical / week) Semester One + (1 hour theoretical +4 hour practical / week) Semester II This article aims to do the student an integrated project illustrates the absorption of all aspects of the study

Semester 1

week	Characterization
1-3	Seminar preparation
4-5	Seminar
6-8	First design and define a strategy for solutions
9-10	First design
11-12	Design section and elevation

13-15	Semi- final design
	Semester 2
16-23	Study semi- final design in the light of the design changes resulting from material architectural details
24	Prepare a report and submit the final thesis
25-30	The final presentation and exam

(502) architectural details / (4 -hour practical / week - the first Semester) + (1 hour theory + 14 hours practical / week - Semester II)

Semester 1

week	Characterization
1-4	Study Possible executive styles and served with seminar
5-7	The evolution of the idea of design in accordance with Executive possible methods
8-15	Enlarge part of the project is set by the professors for detailed by the student
	Semester2
16-17	Preliminary drawings of the details of creating
18-19	first submission
20-21	Second submission
22-24	Simi final
25-30	The completion of the detailed drawings and submit them before the date of the final exams of the thesis design

(503) Engineering Management (2 hours theoretical / week), Bi-Annual (1)

Semester 1

week	Characterization
1-4	Engineering Management , Privacy procedural projects and methods of control
5-7	Programming work methods (linear , charts the retina)

8-9	Planning manner assess the progress of the review of the program (pert)
10-12	Analysis of the cost of the project and quality control
13-14	Programming wages and material and human requirements and budget
15	Examinations

(504) professional practice (2 hours / week), Bi-Annual (2)

Semester 2

week	Characterization
16	Architect and duties
17	The reasons for the use of the architect
18	Career ladder gradient
19-20	Permissions mattresses classification engineers
21	Professional architectural organizations
22-24	Principles of practice and professional conduct
25-29	Wages and contract engineering
30	Examinations

(505) building laws (2 hours theoretical / week), Bi-Annual (1)

Semester 1

week	Characterization
1	1. The basic requirements for each building Durability requirements
2	The structural stability requirements
3-4	Fire processing requirements
5	Means of fire-fighting requirements when it occurs
6	Moisture resistance requirements
7	Public health requirements
8	Indoor environmental conditions requirements

9	General standards requirements
10	2. The master plan laws of the city of Baghdad
11	3. secretion of land laws
12-14	The repercussions of building spaces for urban areas
15	Examinations

(506) specification & quantities conjectures (2 hours theoretical / week), Bi-Annual (2)

week	Characterization
16-17	Importance conjectures General and definitions
18-19	Various conjectures ways
20-21	Calculation of quantities and units
22-23	Methods of preparing the bill of quantities
24-25	Detailed cost calculation to implement items
26-27	Contract documents
28-29	Technical Specifications –importance - the way to prepare
30	Examinations

(507) Research Methods (1 hour theory +2 hour practical / week), Bi-Annual (1)

week	Characterization
1	Scientific thinking (scientific knowledge) and publicize it Features + targets of scientific knowledge (science)
2-3	Research
4-5	Ways to acquire knowledge / old ways , especially the controversy and types
6	Kinds of problems with a focus on the research problem
7	Kinds of problems with a focus on the research problem

8	Hypothesis and theory and the law
9	The process of scientific research structure
10-12	The largest study of the processes involved in the steps of the scientific method when solving a problem
13-14	Research tools (measuring and levels)
15	Examinations

(508) Arab contemporary architecture (2 hours theoretical / week) separate (1)

week	Characterization
1	Contemporary Arab architecture
2	Architectural heritage and the impact of general concepts
3-5	Contemporary Arab architecture and identity
6-8	Identity and originality
9	Identity and the other
10	Identity and Globalization
11-12	Contemporary Arab architecture and privacy
13-14	Style in contemporary Arabic architecture
15	An Empirical Study and discuss

(509) Iraqi contemporary architecture (2 hours Theory / week) separated (2)

week	Characterization
16-18	The foundations of intellectual and philosophical concepts of the modern Iraqi Architecture
19-20	External influence and local perspectives
21-25	Iraqi genesis of contemporary architecture, foreigners Building
26-27	Contemporary Iraqi school in light of the arguments of Iraqi intellectuals
28-29	An Empirical Study and discuss

30	Examinations

(5010) Philosophy and Architecture (2 hours theoretical / week) separated (2)

week	Characterization
16-17	Definition of philosophy and areas of concern to the
18-19	The impact of philosophy in shaping the intellectual premises
20-23	Philosophical orientations
24-30	Relations between philosophy and architecture

Summary of courses hours for five year's study

The number of items and the total hours / year and units

class	Number of items			Total hours / year			unit
	Annual	Bi-Annual	Total	theoretical	Practical	Total	
First year	9	–	9	390	570	960	43
Second year	7	2	8	315	570	885	39
Third year	6	4	8	390	480	870	42
Fourth year	5	8	9	465	420	885	45
Fifth year	2	8	6	270	615	885	38
Total				1830	2655	4485	207
%				40.8	59.2	100	

Total of hours

Science	total of hours	Percentage %
Engineering	3507	78.2
the basic	668	14.9
the public	310	6.9
Total	4485	100