Ministry of Higher Education and Scientific Research
University of Technology
Department of Architecture

Curriculum 1982-1987

FIRST YEAR CURRICULUM

Subject		Weekly Hours			
		First Term		Second Term	
		Theoretical	Practical	Theoretical	Practical
1-	Architectural Design	2	3	2	3
2-	Draughtsman ship & Descriptive	1	4	1	4
3-	History of Architecture	2	-	2	-
4-	Statics	2	-	-	-
5-	Technology of Materials	-	-	2	-
6-	Mathematics	3	-	3	-
7-	English	2	-	2	-
8-	National Studies	2	-	2	-
9-	Workshops	_	9	-	9
	Total	14	16	14	16

Notes: First Aids is taught for (30) hours /year
Physical Education is taught for (60) hours /year
Summer training is for (4) weeks that is (120) hours per term

SECOND YEAR CURRICULUM

	Subject	Weekly Hours			Total Credit
		Theo	Tutor	Practical	
1-	National Studies	1	1	-	2
2-	Arabic and Vernacular Architecture	2	1	-	4
3-	Workshops	-	-	2	2
4-	Building Physics	1	1	-	2
5-	Structure	2	-	-	4
6-	Building Construction	2	1		4
7-	Building Services	1	1	-	4
8-	Architectural Design	3	5	6	12
	Total	12	10	8	32

THIRD YEAR CURRICULUM

Subject		Weekly Hours			Total Credit
		Theo	Tutor	Practical	
1-	National Studies	1	1	-	2
2-	Principles of Planning	1	1	-	2
3-	Environmental Service and Energy optimization	1	1	-	2
4-	Theory of Architecture	2	-	-	4
5-	Structure (2)	2	-	-	4
6-	Building Construction (3)	2	-		4
7-	Building Services (2)	1	1	-	2
8-	Architectural Design	4	2	8	16
	Total	14	6	8	36

FOURTH YEAR CURRICULUM

	Subject	Weekly Hours			Total Credit
		Theo	Tutor	Practical	
1-	National studies	1	1	-	2
2-	Sociology	1	1	-	2
3-	Statistics and Programming	1	-	1	3
4-	Architectural Theories	2	-	-	4
5-	Planning Theories	2	-	-	2
6-	Project Management and Professional Relationships	1	1		2
7-	Structural Design	2	-	-	4
8-	Urban Design	4	2	8	16
	Total	14	5	9	37

FIFTH YEAR CURRICULUM

Subject		Weekly Hours			Total Credit
		Theo	Tutor	Practical	
1-	Architecture and Environment	1	1	-	2
2-	Specialized Studies	1	-	1	3
3-	Computer and Architecture	1	-	2	4
4-	Building Economics and Specifications	2	-	-	4
5-	Architectural Design and Thesis	4	2	12	12
	Total	9	4	15	33

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Description Subjects of Curriculum 1982-1987

FIRST YEAR

Subject	Architectural Design	
Term	No of Hours	
	Theoretical	Practical
First	2	3
Second	2	3

Syllabus

Through this subject, the department seeks to create in the student a comprehensive understanding of architectural design including lines, surfaces, their meeting points, forms, spaces, basic components of design. Then the subject goes into details of some buildings forms but the various tools and furniture used daily to understand the factors which gave these forms and their measurements. By the end of the first year, the student will be able to do a simplified exercise in architectural design.

Subject	Draughtsman ship and Descriptive	
Term	No of Hours	
	Theoretical	Practical
First	1	4
Second	1	4

Syllabus

This subject covers three topics

A- Descriptive Geometry: It helps the student draw solid and projected complex objects and visualize their motion in space. He will know methods of projection , types of surfaces and planes, sub-planes and their rotation to reach the final form.

B- Architectural Drawing: Through this lesson will know architectural drawing loops, rules for drawing in pencil and ink and basics of a geometrical forms and their elevation, then form projections in three dimensions. In the second term the student will move to drawing architectural charts.

C- Free Sketch: By free sketch is meant drawing by hand, using a ruler or other drawing tools. It aims to develop the student 's ability to transfer what he sees with his naked eye of solid forms and scenes to two-dimension forms on paper, keeping ratios, measures, colors and shades as he sees them in nature. The student is trained in drawing a variety of shapes . In the second term, the student goes out of the university to draw various architectural and historical subjects

Subject	History of Architecture
Term	No of Hours
First	Theoretical 2 Practical --
Second	2 --
Syllabus	
This subject deals with origin and development of architecture through the ages and the various factors affecting it such as social and economic developments, religion, weather and climate, geographical position, materials and method of building, how each factor influences the architectural style at a specific period . The aim is to introduce the student to history in general and the relationship between historical development and architecture. In the first year, the student studies the ancient ages, the civilization of Mesopotamia, the civilization of Nile valley , the Greek and Roman architecture . Byzantine architecture, Middle Ages and Renaissance architecture up to the Industrial Revolution.	

Subject	Statics
Term	No of Hours
First	Theoretical 2 Practical --
Second	-- --
Syllabus	
The subject deals with principles of a static body, the definition of resultant, system of force, force and its components , force equilibrium , structural analysis, concept of center of gravity.	

Subject	Technology of Materials
Term	No of Hours
First	Theoretical - Practical --
Second	2 --
Syllabus	
In this subject which is taught for one term during the first year, the student will learn about cement, brick, ordinary cement, steel, stone and plaster.	

Subject	Mathematics
Term	No of Hours
First	Theoretical 3 Practical --
Second	3 --
Syllabus	
This subject covers calculus which includes number matrices, functions, ends, integration , a review of analytical geometry and polar axes.	

Subject	English
Term	No of Hours
First	Theoretical 2 Practical --
Second	2 --
Syllabus	
Extracts of general scientific interest covering such topics as vectors, a house of their own, the living room and computers are offered. Some grammar points such as how to make questions and the passive voice are taught.	

Subject	National Studies
Term	No of Hours
First	Theoretical 2 Practical --
Second	2 --
Syllabus	
National and Socialist Education covers the study of the importance of Arab and Islamic heritage during many ages including the present time. The relationship among society components and their differences with other nations in Asia, Africa, Europe and America. It also deals with Islam and its cultural and national dimension and the revolutionary aspect it brought out. The humanitarian side which characterizes the Arab society is also covered. This is shown in the humane way the Arabs dealt with the people they conquered. It deals also with Arab role in inventions and at the same time reception of modern science. They contribute to it by authoring, translating books on it. National and Socialist Education covers also with the revolutionary movement represented by the revolutionary Arab ideology represented by Baath Socialist Party which has been advocating the revolutionary Arab ideology since 1940s . The nature of nationalism concept and national theory represented y the slogan of unity, freedom and socialism.	

Subject	Workshops	
Term	No of Hours	
	Theoretical	Practical
First	-	9
Second	-	9

Syllabus

The idea behind the workshops subject is to familiarize the student with the most important crafts and handwork related to engineering. It trains the student to make some production parts (made of metal or wood) used in basic engineering.
The university workshops consist of nine units which cover the most common crafts in Iraq: carpentry,, filing, electricity, plumbing, autos, casting, turning, and welding.
A student according to the regulation must spend nine hours a week in the workshops
In addition to practical training, films and slides are shown which give a historical review of DC`+.

SECOND YEAR

Subject	National Studies	
Theory	Tutorials	Practical
1	1	-

Syllabus

The syllabus of this subject is centrally set and covers the following:

1- The concept and practices of the Baath Revolution during the underground struggle until it came to power in 17/30 July 1968
2- The achievement of the revolution –the party ideology, achievements at various levels : national, local, international economic and so on
3- Revival and the revolution : cultural, artistic and educational revival, means to achieve revival plans

Subject	Arabic and Vernacular Architecture	
Theory	Tutorials	Practical
1	1	-

Syllabus

1- Introduction to Islamic, Arab architecture, town planning, the importance of studying it
2- Urban fabric
3- Classification of Islamic Arab architecture in terms of function: religious. residential, service, defensive buildings, special and functional analyses of these buildings
4- Constructional elements in Islamic Arab architecture
5- Ways and means to air-condition the buildings during the hot weather
6- Ways and means to be adopted for keeping the architectural heritage
7- Lessons learnt from the architectural heritage and ways to use these in modern the architecture through showing designs and drawings of contemporary buildings characterized by their heritage features

The subject introduces the student to urban fabric and local, Islamic, and Arab architecture according to function, characteristics and method of taking advantage of the lessons learnt from them.

Subject	Workshop	
Theory	Tutorials	Practical
-	-	2

Syllabus

This subject will cover:

1- Photography: In this section the student will get acquainted with photography devices, lenses, filters and films, methods of camera positioning, natural and artificial light effect, theoretical aspects of processing solution sed in the photography lab which contains all types of photography devices used in black and white photography as well as advanced devices such as video recorders. The student is required to use the lab to make a documentary film of a distinctive building.
2- Pattern workshop: The student is required to make a pattern of the building he has designed in the subject of architectural design, using means and materials suitable for building nature and scale. He will also learn about the techniques used in pattern making. The student is required to make structural and constructional details for the subject building construction
3- Ceramics workshop: The student is required to do a number of exercises based on his design after he has learnt the theoretical side of the material, glazing, the technology used. The workshop also provide the student with the opportunity to make sculptures through casting or carving
4- At the end of the academic year, the student is required to submit complete design and execute it in any unit within the university workshops. The design should cover making a piece of furniture such as a chair, table, bookcase etc.

The students choose two from the four options mentioned above.

Subject	Building Physics	
Theory	Tutorials	Practical
1	1	-

Syllabus

The subject covers:

1- Protect man from the harmful environmental effects and prepare a descriptive analysis of climate
2- Measure of heat comfort
3- Assess and measure building heat conduction, structural factors affecting heat

level
4- Seasonal effects and effect of orientation
5- Sun orbit, and sun rays and their effect on shape of a form
6- Sun effect on heat load
7- Natural and artificial lighting : types, quantity and method of design to meet environment requirements
8- Sound insulation, treatment of sound problem in environment and its effect on design

This subject depends on introducing the student to an environment convenient to man in a space and the way he can affect it and the way the architectural designer can find theoretical and practical solutions.

Subject	**Structure**	
Theory	Tutorials	Practical
2	-	-

Syllabus

Materials Technology:
1.1stone, brick, thermo -stone, concrete brick
1.2 plastics
1.3 wood
1.4 concrete
1 ,5 steel
1- Statics
2.1forces
2.2 momentum and couples
2.3 resultant of force and momentum in two directions
2.4 applications to the center of body average and pressure
2.5 inertia (second momentum of area)
3-Strucutre
3.1 compressive force, shear force. twisting force
3.2.3.1.1 type of supports
3.1.2 types of loads
3.1.3 classification of beams
.1. 3.4compressive forces graph, shear forces, twisting forces (using shear method)
3.2 Beam shear and twisting stress
3.2.1 formula to calculate twisting stress
3.2.2 formula to calculate shear stress
3.2.3 examples of calculating shear force. twisting force in beams
3.3 Plane trusses
3.3.1 types of trusses
3.3.2 truss analysis and design (structural design not steel design)

3.4 analysis of indeterminate structures (approximate analysis)
3.5 structural elastic settlement using diagrams only

This subject is taught from the theoretical perspective with practical exercises. It introduces the student to the subject of structures which he will study later.

Subject	**Building Construction**	
Theory	Tutorials	Practical
2	-	-

Syllabus

Complementary building parts

1.1 staircases, banisters (vertical movement)
1.2 staircase and banister design and the accepted bases
1.3 types and details as regards materials used

1- Wood and metal doors and windows
2.1 types and components
2.2 installing and details as regards materials used
2.3 wood and metal partitions ,installing and finishing false ceilings,

3- Basements and their treatment

4- Building structure
4.1 structural network
4.2.pre-fabricated and unfabricated building elements
4.3columns and beams
4.4walls
4.5 foundations
4,6 floors
4.7 finishing materials

5- Standard checking

6 Pre-fabricated buildings

7 Concentration at this stage is on building structure , its components and construction elements and their types. The student is introduced to standard checking and pre-fabricated buildings and their influence on design the student makes.

8 The syllabus is connected to design subject by preparing architectural details of building the student has designed the subject of design.

Subject	Building Services	
Theory	Tutorials	Practical
1	1	-

Syllabus

The student will be introduced to the provision of sanitary elements of the services at two levels: The first level covers provision of public service to building compounds and the second level involves service inside a building . The student will be familiar with provision of hot and cold water and methods of getting rid of rain water on roof tops , in sidewalks, floors, and the materials used for this purpose, also the methods of getting rid of rubbish and litter in buildings and the materials used for this purpose and of designing them Methods for calculating pipe and manhole sizes .Below is a list of topics to be taught arranged in order of sequence

1- Water supply
2- Drains
3- Wastewater treatment
4- Rubbish collection
5- Design of water supply and drains

Subject	Architectural Design	
Theory	Tutorials	Practical
3	5	6

Syllabus

This subject introduces the student to the main factors which influence the development and modification of design. They are:
-The architectural function and method of information collection about it and studying its space requirements
-Building materials, their types and method of use in building
-Environmental effects such as position and climate. These factors have a bearing on the design process,
In addition, it is important to consider the building personality and its architectural expression provided the structure size does not exceed one building in a project at this stage. At the end of the year, the student is required to submit detailed diagrams of one of designs he has prepared during the year
The graphics continues to receive attention through materials used in architectural free drawing. Architectural Design is connected to other subjects such as Local and Arab Architecture, Workshops. Building Construction, Building Physics etc.

THIRD YEAR

Subject	National Studies	
Theory	Tutorials	Practical
1	1	-

Syllabus

1-Historicsl dimension of Arab society
2-Origin and cultural development within human environment
3-Variation and integration towards cultural unity
4-Characteristics of Arab thought resulting from the interaction among man, society and land, allied states and the emergence of a unified state
5-Historical development within the historical framework since three thousand B.C. till World War I
6-Cocept and spread of Islam
7-Decline of culture
8-Main challenges facing the nation : Anti-Arab, colonization, disparity, backwardness, Zionism, threat to the Gulf, contradiction between rulers and the people
9-National revival
10-Society and its components
11-Culture and education

Subject	Principles of Planning	
Theory	Tutorials	Practical
1	1	-

Syllabus

1- Definition and importance of planning
2- Planning levels: national, regional, urban
3- Development of urban settlements and development : border, circular, etc
4- Factors influencing selecting town location: geography, geology, economy
5- Historical development of town
6- Development and component of modern town
7- Types of modern town planning in terms of sectors : industry, sports, communications, services etc
8- New theory : development centers, decentralization
9- Area and planning
10- Principles of land use and relation through use
11- Land distribution and building laws

12- Master plans and planning laws

This subject aims to introduce the student to various levels of planning so that he can connect the human potentials with available physical elements and how to treat the different specializations involved in this science

Subject	Environmental services and Energy Optimization	
Theory	Tutorials	Practical
2	1	-

Syllabus

This subject deals with
Thermal comfort

1- Continuous heat transfer
2- Dynamic heat transfer
3- Designing shading system
4- Effect of external environmental features on energy saving
5- Positive design in solar energy
6- Negative design in solar energy
7- Effect of sun rays on building shape
8- Wind blow around a building
9- Window design for natural ventilation
10- Methods in energy saving
11- Climatic characteristics of traditional housing
12- Types of human activities
13- Designing thermally-equitable buildings

After he has knowledge about the factors influencing the environment in the subject Building Physics in the second year, he is given more details so that he can better understand the principles of climatic design of a building and the bases of energy saving and find alternative energy sources for mechanical use.

Subject	Theory of Architecture	
Theory	Tutorials	Practical
2	-	-

Syllabus

This subject deals with:

1- Architecture from 1800 to World War I
2- Architecture between World War I and World War II

3- Architecture after World War II, with reference to development in the philosophy of various architectural schools
4- Modern rends in contemporary architecture
5- Modern local architecture since World War I

The syllabus of the subject concentrates on the theoretical and technical aspects and their effect on the development of architecture from this critical period especially as regards modern or contemporary architecture including philosophy of various schools of thought .

Subject	Structure	
Theory	Tutorials	Practical
2	-	-

Syllabus

Reinforced Concrete Design

A-Fundamentals of Reinforced Concrete Design

1- Introduction to properties of reinforced concrete
2- Loads: Loading – load types and distribution in a structure
3- Reinforced concrete units: roof types, beams, columns, foundations
4- Settlement requirements
5- Design of reinforced concrete beams.
6- Roof design
7- Columns
8- Foundations
9- Design problem is given at the beginning of the year and submitted at the end of the year. It involves designing a multi-storey building

B-Advance Concrete Design

1- Beams and shoulders
2- Composite structures
3- Pre-stressed concrete
4- Shear walls
5- Types of shells
6- Folded plates
7- Pipe structure

Subject	Building Construction	
Theory	Tutorials	Practical
2	-	-

Syllabus

The subject provides the student with the opportunity to develop the information about pre-fabricated buildings which he has gained. But at this stage he will concentrate on the steel structure and the standardized elements connected with this type of modern fabrication. The student learn the methods to prepare detailed diagrams and the means to co-ordinate between design and details. The student is required to submit at the end of the year comprehensive detailed drawing of the last project he designed.

The syllabus of the subject coves:

1- Joints in a building
2- Steel-structured buildings
   2,1- Structural factors and elements
   2.2-Foundations, roofs and floors
   2.3-Types of connectors for steel sections
   2-4-Coating and finishing materials
3-Structural elements
4-Standardizd coordination
5-Systems of integration

Subject	Building Services	
Theory	Tutorials	Practical
1	1	-

Syllabus

This subject covers:

1- Air-conditioning systems
2- Heating and cooling of sectors
3- Design requirements of air-conditioning
4- Heating spaces and regulating heat transfer
5- Electricity in Buildings and communication systems
6- Mechanical transfer (elevators, conveyors)
7- Fire prevention
8- Design treatment of sound effects

The subject covers also other building service requirements, paying attention to practicable means for building service.

Subject	Architectural Design	
Theory	Tutorials	Practical
4	2	8

Syllabus

At this stage, the student is required to submit a project one block building which is supposed to fulfill many functions and another project building compound with a variety of functions but serving one specific activity. The project should address environmental aspects using advanced methods and building materials. In addition, the student should deal with environmental aspects and spaces indoors.
Implementation diagrams of one of the projects is made in co-ordination with subject building construction so that the student gets familiar with design process with all its stages.

FOURTH YEAR

Subject	National Studies	
Theory	Tutorials	Practical
1	1	-
Syllabus		
At this stage, the Political Report submitted to the Ninth Congress of Baath Socialist Party shall be discussed.		

Subject	Sociology	
Theory	Tutorials	Practical
1	1	-
Syllabus		

1- Definition of sociology, its relation to other sciences
2- Society: definition, characteristics, condition for forming, types
3- Social basis for social class
4- Social institutions
5- Social discipline
6- Population
- its growth and development, urban and rural movement
- population center and growth
- natural grow * deaths* births

7- Ecology
8- Town
9- Problem of modern town
10- Housing
- housing problems
- neighborhood
- rural homes and urban homes
- vertical housing and horizontal housing
- family size
- effect of social values on housing

7.9-Spacial relationship between town and its suburbs
8.9- Environment and cultural behavior
9,9 -Cultural organization and its effect on special organization

10,9-Components of housing space
11.9-Recognition level in Islamic Arab space.
12.9-Relation between traditional and modern spaces
13.9- Continuity and change

The subject introduces the student to the effect of the society with its patterns and development on architecture and life style and the interaction between it and the designer.

Subject	**Architectural Theories**	
Theory	Tutorials	Practical
2	-	-

Syllabus

The subject covers the following:

1- Architectural relation and communication
2- Comprehension
3- Urban measure
4- Analysis
5- Sensing space at various levels
6- Introduction to the Islamic town
7- Islamic philosophy of space
8- Special relation between the center and the circumference at the level of space content and the level of urban organization
9- Cultural environmental behavior
10- Cultural organization effect on special organization
11- Component of housing space
12- Levels of perception in Islamic Arab space
13- Relations between traditional and modern spaces
14- Continuity and change

Through this syllabus, the philosophy of architectural theory can be formulated together with architectural elements of traditional and modern space to make this philosophy connected with the concept of local architecture which must feel its culture and thought . The vocabulary should concentrate on the cultural concept related with the nature of the region.

Subject	Statistics and Programming	
Theory	Tutorials	Practical
1	-	1

Syllabus

In the first term, the student will be familiar with statistical aspect that he will use in his study of urban design. In the second term, the student will use the statistical knowledge he has obtained in the first term in programming and he will be able to use statistics in his computer applications

A-Statistics :

1- introduction to statistics, statistical technique, tables and diagrams

2-Repetitive , concept of variable, distribution , statistical graphs, solid repetitive distribution, relative frequency.

3-reality measurement, arithmetic mean, arithmetic average, minimum extent, comparison among arithmetic mean, arithmetic average, and minimum extent

4-introduction to measurement of degree of distribution ,range, deviation average, standard deviation average, relative distribution

5-Samples, types, simple random samples, problems ,applications, distribution

6-patterns, linear patterns, attracting patterns, optimum patterns, problems and drawbacks, examples

B-Programming

1- Introduction to computers
2- Flowcharting
3- Introduction to Fortran
4- Decision making elements
5- Looping structure
6- Job control card
7- The Accumulation process
8- The counting process
9- Arrays
10- Data representation
11- Functions
12- Sub routines
13- Statistical use and programming.

Subject	Planning Theories	
Theory	Tutorials	Practical
2	-	-

Syllabus

The subject covers the following:

1- Urban Services
   - 1.1- Roads and streets and their types
   - 1.2- Network of water supply and drainage
   - 1.3- Telephones – electricity – gas
   - 1.4- Learning centers
   - 1.5- Health centers
   - 1.6- Other main centers

2- Master planning
   - 2.1 details about land use
   - 2.2 .Development planning covering:
   - 2.2.1 building construction in terms of type, income, social status and their effects on the principles of urban design
   - 2.2.2 Commercial and industrial areas in towns
   - 2.2.3 Amusement parks , tourist attractions, green zones
   - 2.2.4 Transportation and traffic in towns
   - 2,2,5 Residential areas

3- Detailed planning
   - 3.1Neighborhoods
   - 3.2 City center
   - 3.3 Modern village center
   - 3.4 Tourist village center

This subject complements what the student learnt the year before in principles of planning subject because it increases his knowledge in the functions urban planning affords.

Subject	Project Management and Professional Relationships	
Theory	Tutorials	Practical
1	1	-

Syllabus

The subject deals with the following:

A-Project management

1- Planning
   - 1.1 Introduction
   - 1.2 Planning before bidding
   - 1.3 Planning before contracting
   - 1.4 Control

2- Planning method
   - 2,1Work progress table
   - 2.2 Critical path method
   - 2.3 Work assessment method (Berth method)
   - 2.4Balance line method

3- Cost control
   - 3,1 Direct cost
   - 3.2 Indirect cost
   - 3.3 Optimum cost

4- Prediction of cash payment

5- Resources specifying
   - 5.1 Partitioning resources
   - 5.2 Balance of resources requirement

B-Work relation

1- Bases of contracts and tenders
2- General tender requirements
3- Engineers' Union Law
4- Engineering contract
5- Consultancy bureau management
   - 5.1 Human requirements
   - 5.2 Consultancy cost
   - 5,3 Consultancy methods

An engineer after graduation, faces several responsibilities involving legal and administrative aspect in consultancy bureau or work place. Therefore this subject introduces him to this field.

Subject	Structural Design	
Theory	Tutorials	Practical
2	-	

Syllabus

The subject deals with the following:

A-Steel Design

1- Physical and chemical properties
2- Loads on a steel structure
3- Means of connection and connectors
4- Structural units under axial tension
5- Structural units under axial compression
6- Structural units under axial twisting
7- Sections loaded axially
8- Plates under load momentum

B-Advanced Steel Design

1-cabled structures
2-steel structure and domes
3-cabled frames
4-steel towers
5-suspenions

This subject aims at providing the student with means to calculate steel structures in particular and also with construction of advanced structures and their effect on. architectural design

Subject	Urban Design	
Theory	Tutorials	Practical
2	2	8

Syllabus

The aim behind teaching urban design is to introduce the student to innovate an urban sector starting from field survey to land use with architectural details and ending in designing a part of this sector. The student introduced also to the connection of the structure to the urban fabric in which the structure acts functionally and architecturally. He also gets more details on external an internal spaces.

The student is required to submit design of a building a number of buildings on harmony with the existing urban fabric.

FIFTH YEAR

Subject	Architecture and Environment	
Theory	Tutorials	Practical
1	1	-

Syllabus

1- General introduction to environmental balance
2- Ecology, human settlement, urbanism in general and how it has evolved and its effects on to environmental balance
3- Population movement in the twentieth century - concentration in towns- problems arising from the effect of human concentration on environmental balance
4- The town- environmental problems, and noise
5- Several lecturers will speak on how they have been affected by environment and its effect on their designs, their architectural philosophy . The subject is thus free from academic problems and create interaction between the lecturers and the students. The lecturers give their solutions to the problems they faced in an environment with special characteristics in terms of climate, culture, and geography.

Subject	Specialized Studies	
Theory	Tutorials	Practical
1	-	1

Syllabus

The design thesis a student selects requires that each student present a technical and well-prepared study. The thesis topic is determined by the available specialized academic staff and it usually falls within these topics : air-conditioning, structures, computer application etc .The first chapter should concentrate on theoretical aspects while the second chapter concentrates on the practical side
The thesis topic varies from year to year depending on the specializations the department has.

Subject	Computer and Architecture	
Theory	Tutorials	Practical
1	-	2

Syllabus

1- Revision in Fortran with architectural project application
2- Simple optimization examples
3- Some fundamentals of computer system
4- Conversational computing versus batch processing
5- Word Applications
6- Applications to energy optimization programs

Subject	Architectural Design and Thesis	
Theory	Tutorials	Practical
4	3	12

Syllabus

The final year in a Department of Architecture is characterized by the freedom the final year student is given in which he reflects the knowledge and professional experience he has acquired during his study in the department reflected in the preparation of his design thesis which is not limited to the design side only but also shows architectural consciousness in terms of aesthetics, technology , service and economics and so on. The design thesis is a comprehensive end to the study in the department. Starting from this, the thesis is performed as follows

1- The student chooses a topic for the thesis in the second term while still in the fourth year. The department approval is required.
2- The student carries out a field study including design of space requirements and guide for the activity showing the position and nature of the structure for the thesis during the summer holidays and the beginning of the coming first term
3- The student gives a seminar on his project the date of which is decided by the department . The seminar will be attended by specialist and all final year students
4- The student prepares preliminary drawings in stages decided by the department. The academic staff are asked to supervise a stages. Each given mark will be taken into consideration in the final assessment of the thesis.
5- The student prepares a detailed report on the applied aspects covering such things as structure, services, building methods and so on according to the nature of the project.

Subject	Building Economics and Specificatio	
Theory	Tutorials	Practical
2	-	-

Syllabus

This subject covers :

1- Economic comparison
2- Principles of engineering economics
3- Principles of cost control
4- Economics of planning
5- Construction economics
6- Utility cost

Economy is an important aspect which should be considered in any construction starting from design to construction completion, being influenced by the building methods used locally with their legal and official aspects.