CURRICULUM

OF

ARCHITECTURE
B. ARCH (5-YEAR)

(Revised 2013)

HIGHER EDUCATION COMMISSION
SECTOR H-9, ISLAMABAD
PAKISTAN

CURRICULUM DIVISION, HEC

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PREFACE

The curriculum, with varying definitions, is said to be a plan of the teaching-learning process that students of an academic programme are required to undergo. It includes objectives & learning outcomes, course contents, scheme of studies, teaching methodologies and methods of assessment of learning. Since knowledge in all disciplines and fields is expanding at a fast pace and new disciplines are also emerging; it is imperative that curricula be developed and revised accordingly.

University Grants Commission (UGC) was designated as the competent authority to develop, review and revise curricula beyond Class-XII vide Section 3, Sub-Section 2 (ii), Act of Parliament No. X of 1976 titled **"Supervision of Curricula and Textbooks and Maintenance of Standard of Education".** With the repeal of UGC Act, the same function was assigned to the Higher Education Commission (HEC) under its Ordinance of 2002, Section 10, Sub-Section 1 (v).
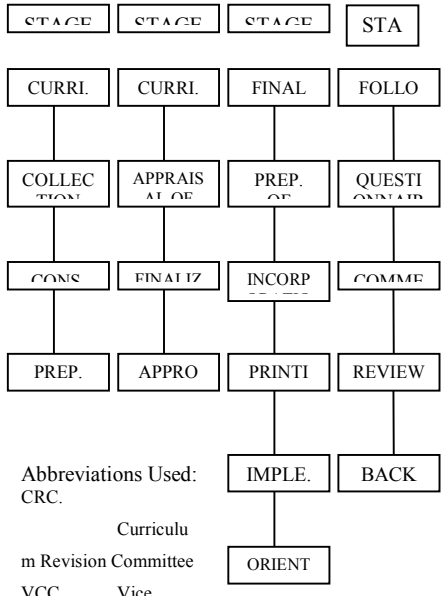
In compliance with the above provisions, the Curriculum Division of HEC undertakes the revision of curricula after every three years through respective National Curriculum Revision Committees (NCRCs) which consist of eminent professors and researchers of relevant fields from public and private sector universities, R&D organizations, councils, industry and civil society by seeking nominations from their organizations.

In order to impart quality education which is at par with international standards, HEC NCRCs have developed unified templates as guidelines for the development and revision of curricula in the disciplines of Basic Sciences, Applied Sciences, Social Sciences, Agriculture and Engineering in 2007 and 2009.

It is hoped that this curriculum document, prepared by the respective NCRC's, would serve the purpose of meeting our national, social and economic needs, and it would also provide the level of competency specified in Pakistan Qualification Framework to make it compatible with international educational standards. The curriculum is also placed on the website of HEC (www.hec.gov.pk).

(Fida Hussain)
Director General (Academics)

CURRICULUM DEVELOPMENT PROCESS

STAGE	STAGE	STAGE	STA
CURRI.	CURRI.	FINAL	FOLLO
COLLEC TION	APPRAIS AL OF	PREP. OF	QUESTI ONNAIR
CONS	FINALIZ	INCORP	COMME
PREP.	APPRO	PRINTI	REVIEW
		IMPLE.	BACK
		ORIENT	

Abbreviations Used:
CRC.
        Curriculu
m Revision Committee
VCC   Vice

INTRODUCTION

MINUTES OF THE FINAL MEETING OF HEC NATIONAL CURRICULUM REVISION COMMITTEE ON ARCHITECTURE HELD AT HEC REGIONAL CENTRE, LAHORE FROM JUNE 17-19, 2013

The Final meeting of National Curriculum Revision Committee (NCRC) in the discipline of Architecture was held from June 17-19, 2013 at HEC Regional Centre, Lahore to finalize the preliminary draft curriculum of Architecture (B.Arch. 5-Year) and make recommendations for the promotion and development of the discipline. The following members attended the meeting:-

1. Dr. Anis Ahmad Siddiqi as   **Convener**
    Professor & Head of Department
    Architecture College of Arts & Design
    University of Punjab, Lahore.
2. Dr. Khalid Waseem Bajwa as   **Secretary**
    Professor & Head of Department
    Department of Architecture and Design
    COMSATS Institute of Information Technology
    (CIIT), Lahore.
3. Dr. Neelum Naz
    Professor & Head of Department
    Department of Architecture
    University of Engineering and Technology
    Lahore.
4. Dr. Gulzar Haider
    Professor & Dean
    School of Architecture
    Beacon house National University, Lahore.
5. Mr. Muhammad Khalid
    Associate Professor
    Department of Architecture
    CECOS University of IT & Emerging Sciences
    Peshawar.
6. Ms. Azra Zaigham
    Vice President (A&P)
    (Nominee of Pakistan Council of Architects &
    Town Planners) NESPAK, Lahore.

7. Mrs. Naushaba Azhar
   Program Manager& Head of Department
   Department of Architecture
   The Superior College,
   Lahore.
8. Ms. Yasira Naeem Pasha
   Assistant Professor& Chairperson
   Department of Architecture & Planning Dawood
   College of Engineering and Technology
   Karachi.
9. Dr. Anita Kapadia
   Assistant Professor
   School of Art Design and Architecture
   National University of Science & Technology
   Islamabad.
10. Mr. Adil Nazir,
    Principal Arch,
    NESPAK House, 9-C, Block N, Model Town
    Lahore.
11. Mr. Usman Maqsood Mirza,
    Lecturer,
    Architecture College of Arts & Design
    University of Punjab, Lahore.
12. Ms. Maira Khan,
    Lecturer,
    Architecture College of Arts & Design
    University of Punjab, Lahore.

2.   The Following members of the NCRC could not attend the meeting due to their official/personal engagement:-

1. Dr. Ali Akbar Husain
   Professor & Head of Department
   Department of Architecture
   Indus valley School of Art and Architecture
   Karachi.
2. Ms. Fariha Amjad Ubaid
   Associate Professor
   Department of Architecture & Planning
   NED University of Engineering & Technology
   Karachi.
3. Mr. Muhammad Ashraf Shanjer
   Member PCATP
   Pakistan Council of Architects & Town Planners
   Karachi.

4.   Mr. Shabbir Ullah Qureshi
      Chairman
      Department of Architecture
      NWFP University of Engineering & Technology
      Abbottabad Campus,
      Abbottabad.
5.   Mr. Hussain Raza
      Raza Associates
      Gulberg-III, Kalma Chowk, Lahore.

3.   The meeting started with recitation of Verses from the Holy Quran by Mr. Muhammad Khalid. Mr. Nazeer Hussain, Director HEC RC, Lahore on behalf of the Chairperson and the Executive Director HEC welcomed the participants and thanked all the members of the committee for sparing their precious time to participate in the meeting. He further added that their efforts will go a long way in developing workable, useful and comprehensive five year degree program in Architecture. He briefed the participants on the aims and objectives of the meeting with a particular focus on revising 2008 Architecture curriculum so as to make it compatible with international standards and demands as well as ensuring the uniformity of academic standard within the country.

4.   Dr. Anis Ahmad Siddiqi, Professor/HOD, Architecture College of Arts & Design, University of Punjab, Lahore as **Convener** thanked the members for their participation. Mr. Riaz-ul-Haque, Assistant Director, HEC then requested the Convener of the Committee to convene proceedings of all technical sessions of the meeting for three days.

5.   The Committee reviewed and discussed the curriculum of Architecture, prepared in its preliminary meeting held on November 19-21, 2012, in detail taking into account various suggestion input by members.

6.   The Committee considered the inputs given by the various members and after detailed discussion incorporated their suggestions in the draft curriculum. The Committee, after three days deliberations, achieved the following objectives:

   1.   Reviewed and finalized the draft curriculum for Bachelor Studies (BS 5-year) in the discipline of Architecture so as to bring it at par with international standards.
   2.   Incorporated latest reading & writing material against each course.

3. Brought uniformity and developed minimum baseline courses in each and every course of study.
4. Made recommendations for promotion/development of the discipline.

7. The Convener of the NCRC thanked the members for their input in revising curriculum keeping in view the requirement of the country and to make it more practical competitive and effective.

8. Mr. Riaz-ul-Haque, Assistant Director, Curriculum HEC thanked the Convener and all the members of the committee, on behalf of Mr. Fida Hussain, Director General (Academics), HEC who could not attend the meeting due to official engagements, for sparing precious time and for their quality contribution towards finalization of the preliminary draft curriculum in the discipline of Architecture. The committee appreciated the efforts made by the officials of HEC and of HEC Regional Center Lahore, for providing local hospitality.

9. The meeting ended with vote of thanks to and from the chair.

FRAMEWORK FOR BACHELOR IN ARCHITECTURE (5 YEAR)

Architectural education needs are different for different regions within Pakistan. **This curriculum provides a broad outline and framework of knowledge areas with a built-in flexibility for it to be adapted by different schools of architecture according to their specific needs.**

Institutes/Schools/Universities are advised to follow PCATP studio guidelines/policies for architectural design studios and dissertation/thesis requirements for final year thesis.

The proposed template is for individual Institute/School/Department to interpret it in view of their ideology and broad objectives of their architectural education.

COURSE STATUS	KNOWLEDGE AREAS							
CORE COURSES **Guideline: Total Cr. Hrs. required for graduation: 170 – 180 Cr. Hrs** **Semester Load: 17-18 Cr. Hrs**	**A** **STUDIOS / WORKSHOPS** **Project Based Learning augmented by focused lectures / seminars**	**Cr. Hrs.**	**B** **ALLIED SCIENCES AND TECHNOLOGIES** **Lecture / Practice Based Learning**	**Cr. Hrs.**	**C** **HISTORY, THEORY AND CRITICAL ANALYSIS** **Lecture / Seminar Based Learning**	**Cr .Hrs.**	**D** **PROFESSIONAL PRACTICE AND COMMUNICATION TOOLS** **Lecture / Practice Based Learning**	**Cr. Hrs.**
■ **Required offerings by all institutions** ■ **Can be offered either as independent course or in combination** ■ **Nomenclature can vary provided course contents are covered**	Architecture Studio	52	Materials and Construction	8	History of Architecture	8	Visual Communication and Media	6
	Focus Studio	10	Energy and Environment	4	Theory of Architecture	4	Digital Tools for Architects	4
	Thesis	20	Structures for Architects	4	Architecture in Pakistan	2	Architectural Research Methods	2
			Building Services and Systems	6	Urban Design / Urban Planning	2	Professional Practice	2
					Pakistan Studies	2	Technical English and Creative Writing	4
					Islamic Studies	2		
		82		22		20		18

OPTIONAL / ELECTIVE COURSES

Optional: Selected and offered by the institution as mandatory for the students

   Elective: Offered by the institution and selected by the students

- List is a suggestion and in no way finite
- Can be offered either as independent course or in combination or extension of core course contents

Space, Place & Environment	Urban Design
Space and Power	Urban Planning
Environmental Psychology	Urban Development
History of Ideas	Human Settlement / Housing
	Low Income Housing
Vernacular Architecture of Indian Sub-Continent	Participatory Design
Culture and Architecture	Sustainable Design
Popular Culture	
Cultural Heritage	Landscape Architecture
Conservation Techniques	Indo-Islamic Gardens & Landscapes
	Landscape Design
Sonic / Visual / Olfactory and other Scapes	Design For Special Users
Aesthetics and Appreciation	
Fine Arts	Design For Disaster Risk
Architectonics	Environmental Impact Analysis
Geometry and Proportions	Disaster Risk Management
Talking (writing) Design	
Mathematics For Architects	Surveying and Levelling
Bio-Mimicry	GIS For Architects
Advanced Computer Applications For Architects	
Digital Technologies and Design	Building Economics
Architectural Signage	Project Planning And Management
Advanced Architectural Presentation Techniques	Real Estate/ Facility Management
	Specifications And Quantity Surveying
Building Crafts	
Calligraphic Arts	Stage and Set Design
	Interior Architecture
Model-Making For Architects	
Architectural Photography	

SCHEME OF STUDIES FOR BACHELOR IN ARCHITECTURE (5 YEAR)

Notes:

- One credit hour for theory courses means contact of 50-60 minutes each week throughout the semester.
- One credit hour for studio/workshop courses means 100-120 minutes each week throughout the semester.
- A six week (summer) internship at the end of 3rd year or 4th year is recommended.
- Institutes/Schools/Departments of Architecture/Universities should arrange frequent study tours up and down the country for the student to acquaint themselves of the conditions in all region of the country.

	Semester-I	Credit Hours (Theory, Practice, Contact Hours)
1	Foundation Studio–I	6 (1,5,11)
2	History of Architecture–I	2 (2,0,2)
3	Pakistan Studies	2 (2,0,2)
4	Islamic Studies	2 (2,0,2)
5	Visual Communication–I	2 (1,1,3)
6	English–I (Functional English)	2 (2,0,2)
	Sub-Total	**16 (10,6,22)**
	Optional / Elective (Possibility)	**2**
	Semester–II	Credit Hours (Theory, Practice, Contact Hours)
1	Foundation Studio–II	6 (1,5,11)
2	History of Architecture–II	2 (2,0,2)
3	Visual Communication–II	2 (1,1,3)
4	English–II (Communication Skills)	2 (2,0,2)
5	Materials and Construction–I	2 (1,1,3)
6	Energy and Environment–I	2 (2,0,2)
	Sub-Total	**16 (9,7,23)**
	Optional / Elective (Possibility)	**2**
	Semester–III	Credit Hours (Theory, Practice, Contact Hours)
1	Architectural Studio–III	8 (1,7,15)
2	Materials and Construction–II	2 (1,1,3)

3	Energy and Environment–II	2 (2,0,2)
4	Structures for Architects–I	2 (2,0,2)
5	History of Architecture–III	2 (2,0,2)
6	Visual Communication–III	2 (1,1,3)
	Sub-Total	**18 (9,9,27)**
	Optional / Elective (Possibility)	**0**

	Semester–IV	**Credit Hours** (Theory, Practice, Contact Hours)
1	Architectural Studio–IV	8 (1,7,15)
2	Materials and Construction–III	2 (1,1,3)
3	Structures for Architects–II	2 (2,0,2)
4	Building Services and Systems–I	2 (1,1,3)
5	History of Architecture–IV	2 (2,0,2)
6	Digital Tools for Architects–I	2 (0,2,4)
	Sub-Total	**18 (7,11,29)**
	Optional / Elective (Possibility)	**0**

	Semester–V	**Credit Hours** (Theory, Practice, Contact Hours)
1	Architectural Studio–V	8 (1,7,15)
2	Materials and Construction–IV	2 (1,1,3)
3	Building Services and Systems–II	2 (1,1,3)
4	Theory of Architecture–I	2 (2,0,2)
5	Digital Tools for Architects–II	2 (0,2,4)
	Sub-Total	**16 (5,11,27)**
	Optional / Elective (Possibility)	**2**

	Semester–VI	**Credit Hours** (Theory, Practice, Contact Hours)
1	Architectural Studio–VI	8 (1,7,15)
2	Building Services and Systems–III	2 (1,1,3)
3	Theory of Architecture–II	2 (2,0,2)
4	Architecture in Pakistan	2 (2,0,2)
	Sub-Total	**14 (6,8,22)**
	Optional / Elective (Possibility)	**4**

	Semester – VII	Credit Hours (Theory, Practice, Contact Hours)
1	Architectural Studio–VII	8 (1,7,15)
2	Urban Design	2 (2,0,2)
	Sub-Total	10 (3,7,17)
	Optional / Elective (Possibility)	8
	Semester–VIII	Credit Hours (Theory, Practice, Contact Hours)
1	Architectural Studio–VIII (Focus Studio: Urban Design / Landscape / Interior Design / Culture & Identity)	10 (2,8,18)
2	Architectural Research Methods	2 (2,0,2)
	Sub-Total	12 (4,8,20)
	Optional / Elective (Possibility)	6
	Semester–IX	Credit Hours (Theory, Practice, Contact Hours)
1	Thesis Design–I	8 (1,7,15)
2	Professional Practice	2 (2,0,2)
	Sub-Total	10 (3,7,17)
	Optional / Elective (Possibility)	6
	Semester–X	Credit Hours (Theory, Practice, Contact Hours)
1	Thesis Design–II	12 (0,12,24)
	Sub-Total	12 (0,12,24)
	Optional / Elective (Possibility)	2
A. Studios / Workshops		82 (10,74,158)
B. Allied Sciences and Technologies		22 (15,7,29)
C. History, Theory and Critical Analysis		20 (20,0,20)
D. Professional Practice and Communication Tools		18 (11,7,25)
	TOTAL CORE COURSES	142 (56,88,232)
	TOTAL OPTIONAL / ELECTIVE COURSES	32
	TOTAL	174

DETAIL OF COURSES FOR BACHELOR IN ARCHITECTURE (5-YEAR)

A. STUDIOS / WORKSHOPS

TITLE OF COURSE	**Foundation Studio / Architecture Studio / Focus Studio**
TOTAL CREDIT HOURS	82
PRE-REQUISITE	Courses shall form a stream and each preceding course shall be a pre-requisite for the next course in line.
NOTES	Architecture is a pro-active force to conceptualize, design and realize built environments of all scales. The production of architecture is holistic in nature, and has always been a juncture for compounding of relevant and pertinent disciplines. As a manifestation of cultural, historical and theoretical influences, architecture is a complex phenomenon and today occupies the diagonal of many more knowledge fields than it used to be understood. This realization asks for rethinking design education, especially focus of the design studios and studio pedagogy, to address the demands for freshness and contemporary relevance. It demands linking multiple analyses of theory and practice, manifested in directionality of the architectural design studios that engage in a holistic approach to design direction, nurturing sensitivity towards programmatic, historical, cultural, and societal needs.
	The challenge to steer a studio is thus latent in how the project / exercise is introduced and unfolded by the studio instructor. It requires developing project write-ups as setting up of a challenge and therefore more than a list of requirements. As studio instructors, the writing and conduct of design exercises holds extreme importance in order to clearly realize what should / can be achieved. As an agent of enlightening, the studio instructor has to have peculiar qualities: a quest for finding new ways of architectural genesis by having a strong lateral and cross disciplinary reading of the field; perceptiveness for experimentation; and

	ability to ask and respond to hard and tough questions. The studio instructors must demonstrate achievement in teaching through their ability to arouse curiosity in and stimulate creative work by students, and capacity to develop relationships between the topics being addressed in the design studio and the broader field of architecture. In addition, special attention to Explorative, Conceptual, Schematic and Architectural Drawings is needed in helping students to develop sensitivity towards drawings both as apparatus for design and for technical communication. Teacher student ratio should be no more than 1:15, recommended is 1:12.
COURSE OBJECTIVE YEAR ONE SEMESTER 1 AND 2	**Re-Rooting of Minds | Triggering Creative Attentiveness** The core objective of the first year is to acknowledge that the entering student has everyday living experiences of the designed (built) environments including that of designed objects (ranging from small scale artefacts to larger products). The first year studio courses take these experiences of the everyday as a resource to raise creative consciousness of the students. **Re-Rooting of Minds refers to the academic process of strengthening ties with the everyday in order to trigger creative attentiveness for "seeing" that can generate an urge for excellence.**
COURSE OUTLINE YEAR ONE SEMESTER 1 AND 2	▪ **Creative Awakening** – Knowing the "Worlds" around us ▪ **Creative Observation** – Analysing the "Worlds" around us ▪ **Creative Expressions** – Remaking the "Worlds" around us
	▪ Sensibility towards Creative Process ▪ Analytical Attitude ▪ Ability to Communicate (Architectural) Ideas
COURSE OBJECTIVE YEAR TWO SEMESTER 3	**Placing of Designed Object in Pre-Existing Environments | Determinants of Design** Building on the Creative Consciousness / Attentiveness raised in the first year, the second year defines the Architectural Demands of **Design**

AND 4	**Thinking, Design Process and Design Solution**. It acknowledges that architectural design continuously attends to **intuitive as well as rational analysis and synthesis**.
COURSE OUTLINE YEAR TWO SEMESTER 3 AND 4	Deepening of **Creative Understanding** with respect to: Potentials of Materials Configurations / Morphology Precedent Study Theoretical Significance Function/Use ▪ Opening up to **Creative Thinking / Experimentation** in terms of: Explorative Drawings Study / Conceptual Models Creative Writing ▪ Converging on **Making / Doing** Rationalization Architectural Graphics Scale Model
COURSE OUTCOME YEAR TWO SEMESTER 3 AND 4	Understanding of Design Process involving Intuitive and Rational responses Understanding Explorative and Communicative Drawings Attention to Scale and Size
COURSE OBJECTIVE YEAR THREE SEMESTER 5 AND 6	**Pragmatic Cognizance of Architecture** While the second year focuses on developing the ability to handle exploration and convergence as the basics of architectural design in terms of architectural analysis and synthesis of idea, the third year aims to further the design skills to a stage where the architectural intents are resolved and become communicative. Design needs to be resolved contextually, conceptually and programmatically. The conceptual basis for design can have a background drawn from one or more of the Knowledge Areas defined earlier in this booklet.
COURSE OUTLINE YEAR THREE SEMESTER 5 AND 6	Architecture as Contextual Construct Architecture as Conceptual Construct Theory based enquiry Issue based enquiry techniques based enquiry Potentials of Programme

COURSE OUTCOME YEAR THREE SEMESTER 5 AND 6	Understanding of Design Process as a (non-linear) multi-faceted endeavour Elaborate Architectural Graphics
COURSE OBJECTIVE YEAR FOUR SEMESTER 7 AND 8	**Critical Re-Visions | Critical Frames** Year four is the pre-final year and students / faculty need strict assessment in terms of competencies. While it should capitalize onto previous learning experience, this would be the level where **scale and complexity** can be strategically varied in terms of project demands to Landscape, Urban Architecture or even Interior Architecture; or issues of Culture and Identity for the **broadening and enriching of architectural comprehension**.
COURSE OUTCOME YEAR FOUR SEMESTER 7 AND 8	Inculcating Comprehensive Understanding of Architecture Ability to consult all types / sorts of Design References / Precedents Inventive Attitude
COURSE OBJECTIVE YEAR FIVE SEMESTER 9 AND 10	**Locating of Architectural Idea in specific temporal and spatial context and coming up with a design solution at Architectural Scale** Year five defines minimum requirement for thesis in terms of theoretical synthesis and understanding of technology (structure and material) and services incorporated.
COURSE OUTLINE YEAR FIVE SEMESTER 9 AND 10	Theoretical Underpinning and Understanding of Architectural Idea / Issues Pragmatic and Innovative Translation of Ideas Incorporation and Integration of Environmental and Building Systems Advanced Graphic Presentation/Communication Skills Developing skills for Design Dialogue with reference to Design Solution
COURSE OUTCOME	Bringing conventions to the state-of-the-art / cutting-edge Understanding Architecture as Multifaceted Multi-

YEAR FIVE SEMESTER 9 AND 10	disciplinary discipline
READING LIST	**As per institution's ideology**

TITLE OF COURSE	**Urban Design / Urban Planning**
TOTAL CREDIT HOURS	2
PRE-REQUISITE	As per institution's policy
NOTES	None
COURSE OBJECTIVE	To inculcate the theories and approaches of urban design / urban planning for raising sensitivity towards inter-relation of **Architecture and City** taking into consideration three dimensional aspects of Physical Design.
COURSE OUTLINE	Understanding the relationship of design scale and considering the factors impacting / involving design development for urban interventions in order to contextualize and localize theoretical insights developed: ▪ Urban Regeneration / Preservation ▪ Housing and Urban Settlement ▪ Dynamics of Inner city and Suburbia ▪ Classical, contemporary and alternative urban design paradigms ▪ Urban Infrastructure ▪ Policy and Bye-law
COURSE OUTCOME	Ability to contemplate architectural design interventions as part of a larger built environment
READING LIST	**As per institution's ideology**

B. ALLIED SCIENCES AND TECHNOLOGIES

TITLE OF COURSE	**Materials and Construction I, II, III, IV**
TOTAL CREDIT HOURS	8

PRE-REQUISITE	As per institution's policy
NOTES	For practical implication of the materials in construction process, each institution is encouraged to develop materials archives with the assistance of HEC / Industry / Research Institutions. HEC is also advised to take appropriate steps to revive research institutions like Building Research Institute
COURSE OBJECTIVE	To study the properties of traditional and contemporary materials, their selection criteria and use in construction, structural and non-structural as well as in interior and exterior of the buildings. Critical analysis of the properties of materials and their response to the specific environment.
COURSE OUTLINE	▪ Introduction to building and construction materials and their classifications ▪ The study of building materials, elements, components, assemblies, sub-systems and systems ▪ The study of building finishes and details ▪ Introduction to working drawings, details and specifications
COURSE OUTCOME	Ability to select appropriate materials and building systems for construction and finishes
READING LIST	**As per institution's ideology**

TITLE OF COURSE	Structures for Architects I and II
TOTAL CREDIT HOURS	4
PRE-REQUISITE	Courses shall form a stream and each preceding course shall be a pre-requisite for the next course in line.
NOTES	None
COURSE OBJECTIVE	Emphasis on integration of building and structure. Conceptual understanding of basic structural systems and structural requirements and their behaviour under different loading conditions for architectural design.

COURSE OUTLINE	▪ Types of structural systems: load bearing, frame, trussed, tensile, shells, pneumatic etc. ▪ Structural components: beams, posts, lintels and roofing etc. ▪ Loading conditions in buildings: live, dead, moving, imposed and induced etc.
COURSE OUTCOME	Ability to understand the natural and induced forces that act upon building systems and components and select appropriate structural systems for building
READING LIST	**As per institution's ideology**

TITLE OF COURSE	**Energy and Environment I and II**
TOTAL CREDIT HOURS	4
PRE-REQUISITE	Courses shall form a stream and each preceding course shall be a pre-requisite for the next course in line.
NOTES	None
COURSE OBJECTIVE	Study of climatic and other environmental factors vis-à-vis built environment and flow of various forms of energies in environment / building.
COURSE OUTLINE	▪ Understanding of building as an energy system and environmentally responsive design ▪ Social, economic and ethical aspects of use of energy in buildings ▪ Understanding of different parameters of weather data ▪ Impact of buildings on the environment
COURSE OUTCOME	Ability to critically appraise building vis-à-vis its location and its performance in environment
READING LIST	**As per institution's ideology**
TITLE OF COURSE	**Building Services and Systems I, II and III**
TOTAL CREDIT HOURS	6
PRE-REQUISITE	As per institution's policy
NOTES	None

COURSE OBJECTIVE	To study building systems essential in the functioning of buildings.
COURSE OUTLINE	- Introduction to various lighting and illumination systems in buildings: natural and artificial - Study of sound propagation in building environments and architectural acoustics - Study of different MEP systems and techniques: heating, ventilation, air conditioning (HVAC), water supply, sanitation, fire fighting system and equipments, safety and security systems - Universally accessible buildings - Vertical and horizontal transportation systems such as elevators, escalators, conveyors/power walks - Study of MEP working drawings - Introduction to international and local building and engineering codes
COURSE OUTCOME	Ability to select appropriate building system, environmentally responsive to the social, economic and contextual factors
READING LIST	**As per institution's ideology**

C. HISTORY, THEORY AND CRITCAL ANALYSIS

TITLE OF COURSE	**History of Architecture I, II, III, IV and Architecture in Pakistan**
TOTAL CREDIT HOURS	10
PRE-REQUISITE	As per institution's policy
NOTES	None
COURSE OBJECTIVE	- To promote awareness of the social, cultural, political, economic and technological contexts of architecture, so as to create architecture that is relevant to its place and time - To stimulate interest in architectural history as an academic discipline - To encourage correct use of architectural vocabulary in architectural design and discourse - To enable students to identify cross-cultural interactions/influences on architecture.

COURSE OUTLINE	The first two courses would provide a survey of history of Architecture from pre historic to present times to be followed in subsequent semesters with a more detailed study of the architecture of the major periods of history and regions of the world: Ancient Mesopotamia, Egypt, Indus Valley, Greece, Rome, Byzantine, Gandhara, Islamic, Gothic, Renaissance, Baroque, Pre-Modern, Modern, Contemporary including Architecture in Pakistan.
COURSE OUTCOME	Ability to identify and utilize appropriate historic precedents towards architectural design in the studios
READING LIST	**As per institution's ideology**

TITLE OF COURSE	**Theory of Architecture I and II**
TOTAL CREDIT HOURS	4
PRE-REQUISITE	As per institution's policy
NOTES	None
COURSE OBJECTIVE	To develop the analytical and critical faculty of the student, encouraging an integrated approach to design.
COURSE OUTLINE	Critical analysis of architecture to develop the ability to understand architectural issues theoretically.
COURSE OUTCOME	Cognitive recognition of architectural theories in historic, geographical and stylistic contexts
READING LIST	**As per institution's ideology**

D. PROFESSIONAL PRACTICE AND COMMUNICATION TOOLS

TITLE OF COURSE	**Visual Communication I, II and III**
TOTAL CREDIT HOURS	6
PRE-REQUISITE	As per institution's policy
NOTES	None

COURSE OBJECTIVE	To learn tools and techniques to develop and present design ideas graphically
COURSE OUTLINE	- Freehand drawing; lettering; drafting - Solid geometry, sectional solid geometry - Sciagraphy, and orthographic projections; understanding and preparation of plans, elevations, and sections of a building - Introduction to non-Euclidian geometry: perspectives (one point, and multiple points) - Rendering techniques in different mediums - Model-making - Architectural Photography
COURSE OUTCOME	Ability to communicate graphically
READING LIST	**As per institution's ideology**

TITLE OF COURSE	**Digital Tools for Architects I and II**
TOTAL CREDIT HOURS	4
PRE-REQUISITE	As per institution's policy
NOTES	None
COURSE OBJECTIVE	To train students to apply digital tools for design and presentation by developing skills in software for 2-D & 3-D drawings, rendering and animation
COURSE OUTLINE	AutoCAD, Sketch-up, Revit, 3-D Studio Max, Photoshop, Illustrator, etc.
COURSE OUTCOME	Ability to develop and present design using digital tools
READING LIST	**As per institution's ideology**

TITLE OF COURSE	**Architectural Research Methods**
TOTAL CREDIT HOURS	2
PRE-REQUISITE	As per institution's policy

NOTES	None
COURSE OBJECTIVE	To study systematic modes of inquiry and develop critical thinking; To be able to write descriptive, narrative, discursive, argumentative; To be able to write a research proposal (emphasis on style, content, language, form, clarity, consistency); To be able to conduct of research
COURSE OUTLINE	▪ Types of research, research design, sampling, methods of data collection from primary and secondary sources, analysis and interpretation ▪ Research writing, plagiarism, citation, and referencing
COURSE OUTCOME	Ability to conduct quality research and organise it in a report form.
READING LIST	**As per institution's ideology**

TITLE OF COURSE	**Professional Practice**
TOTAL CREDIT HOURS	2
PRE-REQUISITE	As per institution's policy
NOTES	None
COURSE OBJECTIVE	To understand various aspects of professional practice and ethics
COURSE OUTLINE	▪ Professional ethics, responsibility in design, building bye laws, regulations and legal aspects, office management, contractual arrangements, business conduct ▪ Construction supervision, issuing of certificates, construction and project management ▪ Concepts of architectural specification writing, building costs and life cycle costing ▪ Role of professional bodies in regulating the profession ▪ Preparation of Contract Documents ▪ Introduction to internationals codes of professional practice tender like, NFPA, ISO, ASHRAE, FIDIC, IBC.

COURSE OUTCOME	Ability for professional decision making and understanding the architect's responsibilities to client, colleagues and society.
READING LIST	**As per institution's ideology**

Annexure "A"

TITLE OF COURSE	English–I (Functional English)
TOTAL CREDIT HOURS	2
PRE-REQUISITE	None
NOTES	None
COURSE OBJECTIVE	Enhance language & report writing skills; be able to answers to questions on a given text; improving listening by showing documentaries/films; translation skills; paragraph writing; vocabulary building.
COURSE OUTLINE	- Basics of Grammar - Parts of speech and use of articles - Sentence structure, active and passive voice - Practice in unified sentence - Analysis of phrase, clause and sentence structure - Transitive and intransitive verbs - Punctuation and spelling - General topics and every-day conversation
COURSE OUTCOME	Ability to use English functionally in their courses
READING LIST	1. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 1. Third edition. Oxford University Press. 1997. ISBN 0194313492 2. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 2. Third edition. Oxford University Press. 1997. ISBN 0194313506 3. Writing. Intermediate by Marie-Christine Boutin, Suzanne Brinand and Francoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 0 19 435405 7 Pages 20-27 and 35-41. 4. Reading. Upper Intermediate. Brain Tomlinson and Rod Ellis. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 453402 2.

TITLE OF COURSE	English–II (Communication Skills)
TOTAL CREDIT HOURS	2

PRE-REQUISITE	English–I (Functional English)
NOTES	None
COURSE OBJECTIVE	Enable the students to meet their real life communication needs; personality development (emphasis on content, style and pronunciation); improving listening by showing documentaries/films; translation skills
COURSE OUTLINE	▪ Practice in writing a good, unified and coherent paragraph ▪ Introduction to Essay Writing, CV and Job Application ▪ Skimming and scanning, intensive and extensive, and speed reading, summary and précis writing and comprehension ▪ Letter/memo writing, minutes of meetings, use of library and internet
COURSE OUTCOME	Ability to communicate in English
READING LIST	5. Practical English Grammar by A.J. Thomson and A.V. Martinet. Exercises 2. Third edition. Oxford University Press 1986. ISBN 0 19 431350 6. 6. Writing. Intermediate by Marie-Christine Boutin, Suzanne Brinand and Francoise Grellet. Oxford Supplementary Skills. Fourth Impression 1993. ISBN 019 435405 7 Pages 45-53 (note taking). 7. Writing. Upper-Intermediate by Rob Nolasco. Oxford Supplementary Skills. Fourth Impression 1992. ISBN 0 19 435406 5 (particularly good for writing memos, introduction to presentations, descriptive and argumentative writing). 8. Reading. Advanced. Brian Tomlinson and Rod Ellis. Oxford Supplementary Skills. Third Impression 1991. ISBN 0 19 453403 0. 9. Reading and Study Skills by John Langan 10. Study Skills by Richard Yorky.

TITLE OF COURSE	Pakistan Studies
TOTAL CREDIT HOURS	2
PRE-REQUISITE	None
NOTES	None
COURSE OBJECTIVE	• Develop vision of historical perspective, government, politics, contemporary Pakistan, ideological background of Pakistan. • Study the process of governance, national development, issues arising in the modern age and posing challenges to Pakistan.

COURSE OUTLINE	**1. Historical Perspective**
	  a. Ideological rationale with special reference to Sir Syed Ahmed Khan, Allama Muhammad Iqbal and Quaid-e-Azam Muhammad Ali Jinnah.
	  b. Factors leading to Muslim separatism
	  c. People and Land
	    i. Indus Civilization
	    ii. Muslim advent
	    iii. Location and geo-physical features.
	2. Government and Politics in Pakistan
	Political and constitutional phases:
	  a. 1947-58
	  b. 1958-71
	  c. 1971-77
	  d. 1977-88
	  e. 1988-99
	  f. 1999 onward
	
	3. Contemporary Pakistan
	  a. Economic institutions and issues
	  b. Society and social structure
	  c. Ethnicity
	  d. Foreign policy of Pakistan and challenges
	  e. Futuristic outlook of Pakistan

COURSE OUTCOME	Understanding of local historical and contemporary dynamics.

READING LIST	1. Burki, Shahid Javed. *State & Society in Pakistan,* The Macmillan Press Ltd 1980.
	2. Akbar, S. Zaidi. Issue in Pakistan's Economy. Karachi: Oxford University Press, 2000.
	3. S.M. Burke and Lawrence Ziring. Pakistan's Foreign policy: An Historical analysis. Karachi: Oxford University Press, 1993.
	4. Mehmood, Safdar. Pakistan Political Roots & Development. Lahore, 1994.
	5. Wilcox, Wayne. The Emergence of Bangladesh., Washington: American Enterprise, Institute of Public Policy Research, 1972.
	6. Mehmood, Safdar. Pakistan Kayyun Toota, Lahore: Idara-e-Saqafat-e-Islamia, Club Road, nd.
	7. Amin, Tahir. Ethno - National Movement in Pak., Isb: Institute of Policy Studies, Islamabad.
	8. Ziring, Lawrence. Enigma of Political Development. Kent England: Wm Dawson & sons Ltd, 1980.
	9. Zahid, Ansar. History & Culture of Sindh. Karachi: Royal Book Company, 1980.
	10. Afzal, M. Rafique. Political Parties in Pakistan, Vol. I, II & III. Islamabad: National Institute of Historical and cultural Research, 1998.
	11. Sayed, Khalid Bin. The Political System of Pakistan. Boston: Houghton Mifflin, 1967.
	12. Aziz, K.K. Party, Politics in Pakistan, Islamabad: National Commission on Historical and Cultural Research, 1976.
	13. Muhammad Waseem, Pakistan under Martial Law, Lahore: Vanguard, 1987.
	14. Haq, Noor ul. Making of Pakistan: The Military Perspective. Islamabad: National Commission on Historical and Cultural Research, 1993.

TITLE OF COURSE	Islamic Studies
TOTAL CREDIT HOURS	2
PRE-REQUISITE	None
NOTES	None
COURSE OBJECTIVE	1 To provide Basic information about Islamic Studies 2 To enhance understanding of the students regarding Islamic Civilization 3 To improve Students' skill to perform prayers and other worships 4 To enhance the skill of the students for understanding of issues related to faith and religious life

COURSE OUTLINE	**INTRODUCTION TO QURANIC STUDIES**
	  1) Basic Concepts of Quran
	  2) History of Quran
	  3) Uloom-ul –Quran
	
	STUDY OF SELECTED TEXT OF HOLY QURAN
	  1) Verses of Surah Al-Baqrah Related to Faith (Verse No-284-286)
	  2) Verses of Surah Al-Hujrat Related to Adab Al-Nabi (Verse No-1-18)
	  3) Verses of Surah Al-Mumanoon Related to Characteristics of faithful (Verse No-1-11)
	  4) Verses of Surah al-Furqan Related to Social Ethics (Verse No.63-77)
	  5) Verses of Surah Al-Inam Related to Ihkam(Verse No-152-154)
	
	STUDY OF SELECTED TEXT OF HOLY QURAN
	  1) Verses of Surah Al-Ihzab Related to Adab al-Nabi (Verse No. 6, 21, 40, 56, 57, 58.)
	  2) Verses of Surah Al-Hashar (18,19,20) Related to thinking, Day of Judgment
	  3) Verses of Surah Al-Saf Related to Tafakar, Tadabar (Verse No-1,14)
	
	SEERAT OF HOLY PROPHET (S.A.W) I
	  1) Life of Muhammad Bin Abdullah (Before

Prophet Hood)
2) Life of Holy Prophet (S.A.W) in Makkah
3) Important Lessons Derived from the life of Holy Prophet in Makkah

SEERAT OF HOLY PROPHET (S.A.W) II
1) Life of Holy Prophet (S.A.W) in Madina
2) Important Events of Life Holy Prophet in Madina
3) Important Lessons Derived from the life of Holy Prophet in Madina

INTRODUCTION TO SUNNAH
1) Basic Concepts of Hadith
2) History of Hadith
3) Kinds of Hadith
4) Uloom–ul-Hadith
5) Sunnah & Hadith
6) Legal Position of Sunnah

SELECTED STUDY FROM TEXT OF HADITH
INTRODUCTION TO ISLAMIC LAW & JURISPRUDENCE
1) Basic Concepts of Islamic Law & Jurisprudence
2) History & Importance of Islamic Law & Jurisprudence
3) Sources of Islamic Law & Jurisprudence
4) Nature of Differences in Islamic Law
5) Islam and Sectarianism

ISLAMIC CULTURE & CIVILIZATION
1) Basic Concepts of Islamic Culture & Civilization
2) Historical Development of Islamic Culture & Civilization
3) Characteristics of Islamic Culture & Civilization
4) Islamic Culture & Civilization and Contemporary Issues

ISLAM & SCIENCE
1) Basic Concepts of Islam & Science
2) Contributions of Muslims in the Development of Science
3) Quran & Science

	ISLAMIC ECONOMIC SYSTEM
	   1) Basic Concepts of Islamic Economic System
	   2) Means of Distribution of wealth in Islamic Economics
	   3) Islamic Concept of Riba
	   4) Islamic Ways of Trade & Commerce
	
	POLITICAL SYSTEM OF ISLAM
	   1) Basic Concepts of Islamic Political System
	   2) Islamic Concept of Sovereignty
	   3) Basic Institutions of Govt. in Islam
	
	ISLAMIC HISTORY
	   1) Period of Khlaft-E-Rashida
	   2) Period of Ummayyads
	   3) Period of Abbasids
	
	SOCIAL SYSTEM OF ISLAM
	   1) Basic Concepts of Social System of Islam
	   2) Elements of Family
	   3) Ethical Values of Islam

COURSE OUTCOME	Basic understanding of the Islamic Civilisation and teachings of Islam
READING LIST	1. Hameed ullah Muhammad, "Emergence of Islam" , IRI, Islamabad 2. Hameed ullah Muhammad, "Muslim Conduct of State" 3. Hameed ullah Muhammad, 'Introduction to Islam 4. Mulana Muhammad Yousaf Islahi," 5. Hussain Hamid Hassan, "An Introduction to the Study of Islamic Law" leaf Publication Islamabad, Pakistan. 6. Ahmad Hasan, "Principles of Islamic Jurisprudence" Islamic Research Institute, International Islamic University, Islamabad (1993) 7. Mir Waliullah, "Muslim Jurisprudence and the Quranic Law of Crimes" Islamic Book Service (1982) 8. H.S. Bhatia, "Studies in Islamic Law, Religion and Society" Deep & Deep Publications New Delhi (1989) 9. Dr. Muhammad Zia-ul-Haq, "Introduction to Al Sharia Al Islamia" Allama Iqbal Open University, Islamabad (2001).