CURRICULUM
OF
CITY & REGIONAL PLANNING
BS & MS
(Revised 2012)

HIGHER EDUCATION COMMISSION
ISLAMABAD
CURRICULUM DIVISION, HEC

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Dr. M. Tahir Ali Shah  Deputy Director (Curri)
Mr. Farrukh Raza  Asst. Director (Curri)
Mr. Abdul Fatah Bhatti  Asst. Director (Curri)

Composed by: Mr. Zulfiqar Ali, HEC, Islamabad
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The curriculum of subject is described as a throbbing pulse of a nation. By viewing curriculum one can judge the stage of development and its pace of socio-economic development of a nation. With the advent of new technology, the world has turned into a global village. In view of tremendous research taking place world over new ideas and information pours in like a stream of fresh water, making it imperative to update the curricula after regular intervals, for introducing latest development and innovation in the relevant field of knowledge.

In exercise of the powers conferred under Section 3, Sub-Section 2 (ii) of Act of Parliament No. X of 1976 titled “Supervision of Curricula and Textbooks and Maintenance of Standard of Education” the erstwhile University Grants Commission was designated as competent authority to develop review and revise curricula beyond Class-XII. With the repeal of UGC Act, the same function was assigned to the Higher Education Commission under its Ordinance of 2002 Section 10 Sub-Section 1 (v).

In compliance with the above provisions, the HEC undertakes revamping and refurbishing of curricula after regular intervals in a democratic manner involving universities/DAIs, research and development institutions and local Chamber of Commerce and Industry. The intellectual inputs by expatriate Pakistanis working in universities and R&D institutions of technically advanced countries are also invited to contribute and their views are incorporated where considered appropriate by the National Curriculum Revision Committee (NCRC).

To bring international compatibility to qualifications held from Pakistani universities/DAIs for promotion of student’s mobility and job seekers around the globe, a Committee comprising of Conveners of the National Curriculum Revision Committee of HEC met in 2009 and developed a unified template for standardized 4-year/8-semester BS degree programmes. This unified template was aimed to inculcate broader base of knowledge in the subjects like English, Sociology, Philosophy, Economics etc. in addition to major discipline of study. The Bachelor (BS) degree course requires to be completed in 4-year/8-semester, and shall require qualifying of 130-140 credit hours of which 77% of the curriculum will constitute discipline specific and remaining 23% will comprise compulsory and general courses.

In line with above, NCRC comprising senior university faculty and experts from various stakeholders and the respective accreditation councils has finalized the curriculum for BS 4-year & MS 2-year in City & Regional Planning. The same is being recommended for adoption by the universities/DAIs channelizing through relevant statutory bodies of the universities.

MUHAMMAD JAVED KHAN
Adviser (Academics)

April, 2012
Abbreviations Used:
NCRC.  National Curriculum Revision Committee
VCC.  Vice-Chancellor’s Committee
EXP.  Experts
COL.  Colleges
UNI.  Universities
PREP.  Preparation
REC.  Recommendations
LI  Learning Innovation
R&D  Research & Development Organization
HEC  Higher Education Commission

CURRICULUM DEVELOPMENT

STAGE-I  
CURRI. UNDER CONSIDERATION
COLLECTION OF EXP NOMINATION UNI, R&D, INDUSTRY & COUNCILS
CONS. OF NCRC.
PREP. OF DRAFT BY NCRC

STAGE-II  
CURRI. IN DRAFT STAGE
APPRAISAL OF 1ST DRAFT BY EXP
FINALIZATION OF DRAFT BY NCRC

STAGE-III  
FINAL STAGE
PREP. OF FINAL CURRI.
PRINTING OF CURRI.

STAGE-IV  
FOLLOW UP
QUESTIONNAIRE
COMMENTS
REVIEW
ORIENTATION COURSES BY LI, HEC
BACK TO STAGE-I
INTRODUCTION
The final meeting of National Curriculum Revision Committee on City and Regional Planning (NCRC-CRP) was held at HEC Regional Centre, Karachi on 9-11 February 2012. Earlier, a preliminary meeting of NCRC-CRP was held at the same venue from September 29 to Oct 01, 2011 to review the BS and MS City and Regional Planning Curriculum developed in 2006. The following members attended the final meeting:-

1. Prof. Dr. S. Shabih-ui-Hassan Zaidi Convener
   Professor and Chairman
   Department of City and Regional Planning,
   University of Engineering and Technology,
   Lahore

2. Mr. Mubushar Hussain Member/Secretary
   Director, National institute of Disaster Management-
   NDMA / DRR Mainstreaming Expert
   One UN DRM Joint Programme
   Crisis Prevention and Recovery Unit (CPRU)
   United Nations Development Programme (UNDP)/
   National Disaster Management Authority (NDMA)
   Prime Minister's Secretariat, Islamabad

3. Dr. Mohammad Aslam Khan Member
   HEC Foreign Professor
   Institute of Geography, Urban and Regional Planning
   University of Peshawar,
   Peshawar

4. Prof. Dr. Amir Khan Member
   Director,
   Institute of Geography, Urban and Regional Planning,
   University of Peshawar,
   Peshawar

5. Mr. Mohammad Tahir Banuri Member
   Director,
   Centre for Physical Planning and Research/
   Centre for Regional and Urban Studies
   (CPPR / CRUST)
   Department of Architecture and Design,
   Academic Block-11, COMSATS Institute of Information
   Technology, Chak Shahzad,
   Islamabad
6. Dr. Mohammad Atiq ur Rahman  
   Member  
   Associate Professor (Environment Science)  
   Department of City & Regional Planning,  
   Lahore College for Women University (LCWU),  
   Jail Road, Lahore

7. Dr. Rizwan Hameed  
   Member  
   Professor,  
   Department of City & Regional Planning  
   University of Engineering and Technology,  
   Lahore

8. Ms. Fariha Amjad Ubaid  
   Member  
   Associate Professor  
   Department of Architecture & Planning  
   NED University of Engineering and Technology  
   City Campus, Maulana Din Muhammad Wafai Road,  
   Karachi

9. Ms. Naushaba Azhar  
   Member  
   Associate Professor and Head of Department  
   Department of Architecture, The Superior College,  
   17 K M Raiwind Road, Lahore

10. Mr. Zainul Abedin  
    Member  
    Professor,  
    Centre for Regional and Urban Studies (CRUST),  
    COMSATS Institute of Information Technology,  
    Chak Shahzad, Islamabad.

11. Brig (R) Zafar Jamil  
    Member  
    Advisor, Knowledge Management, Earthquake  
    Reconstruction and Rehabilitation Authority,  
    Islamabad

12. Mr. Jahangir K. Sherpao  
    Member  
    CITE-Architecture Planning & Design  
    Group, Plot No. 79, I & T Centre, G-8/ I,  
    Islamabad.

13. Plnr. Masood ul Hassan Jafri  
    Member  
    Director/Head Urban Planning,  
    E.A Consulting Pvt. Ltd, AL-9, 15th  
    Lane, Khayaban-e-Hilal, Phase-VII,  
    DHA, Karachi.

    (Representative, Pakistan Council of Architects and  
    Town Planners)
The meeting started with recitation from the Holy Quran. Mr. Nazir Hussain and Mr. Ghulam Haider Khan Directors HEC Regional Centre, Karachi welcomed the participants and Dr. M. Tahir Ali Shah, Deputy Director (Curriculum) briefed the participants on the aim and objectives of the meeting with a particular focus on revising the course outlines of BS (4-year) and MS (2-year) City and Regional Planning to make them compatible with International standards as well as ensuring the uniformity of academic standard in Pakistan.

The committee continued with previously elected convener and secretary to conduct the meeting formally.

The committee during its deliberation considered the following:

**Objectives**

1. To finalize the curriculum in the discipline of City and Regional Planning and to bring it at par with international standards.
2. To incorporate latest contents and references in each course.
3. To bring uniformity and to develop minimum baseline courses for BS and MS in City & Regional Planning.
4. To make recommendations for promotion / development of the City and Regional Planning discipline in Pakistan.

After thorough deliberation, the committee unanimously approved the final curriculum of the BS (4-year) and MS (2-year) City and Regional Planning degree programme. Dr. M. Tahir Ali Shah thanked the Convener, Secretary and all members of the Committee for sparing their time and for their contribution towards preparation and finalization of the curriculum. He further stated that their efforts will go a long way in developing workable, useful and comprehensive degree programs in City and Regional Planning.

The committee highly appreciated the efforts made by the officials of HEC Regional Centre, Karachi, for making arrangements to facilitate the committee and their accommodation at Karachi. The meeting ended with the vote of thanks to the HEC officials for providing an ideal environment to discuss the agenda. The convener of the NCRC also thanked the secretary and members for their inputs in reshaping the city and regional planning teaching / learning landscape of the country to make it more practical, competitive, efficient and safer to live and work.
Part-I

BS/B.Sc PROGRAMME (4-YEAR) IN “CITY AND REGIONAL PLANNING”

OBJECTIVES:

Following are the major objectives of the curriculum for BS in “City and Regional Planning”:

1. To inculcate and cultivate a new visionary insight among the students in the profession of City and Regional Planning who can meet the challenges of the contemporary and future epochs within our context.
2. To incorporate contemporary philosophies, techniques, technologies and domains of knowledge in the planning curricula.
3. To impart skills and knowledge to the planning professionals dealing with the emerging problems and issues at the urban and regional scales with considering ground realities.
4. To equip the CRP graduates with Climate Change adaptability and Disaster Risk Management concepts and techniques enhancing their role in achieving sustainable development in the country.
5. To equip the students with theoretical knowledge and field experience dealing with problems and issues of built environment.
6. To develop entrepreneurial skills for launching professional career in the field of City and Regional Planning.
7. To impart such skills and knowledge to the CRP graduates so that they can pursue career in development sectors at national and international levels.
8. To elevate the City and Regional Planning professionals to international standards.
### SCHEME OF STUDIES FOR BS/B.Sc. (City and Regional Planning)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
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<td>Theory</td>
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<tr>
<td>FIRST SEMESTER</td>
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<tr>
<td>1.</td>
<td>Introduction to City and Regional Planning</td>
<td>2</td>
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<tr>
<td>2.</td>
<td>Technical Drawing and Computer Aided Design</td>
<td>1</td>
<td>2</td>
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<tr>
<td>3.</td>
<td>Mapping and Remote Sensing</td>
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<td>4.</td>
<td>Sociology</td>
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<tr>
<td>5.</td>
<td>Mathematics</td>
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<td>6.</td>
<td>English-I (Functional English)</td>
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<td></td>
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<td>13</td>
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<tr>
<td>SECOND SEMESTER</td>
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<tr>
<td>7.</td>
<td>History of Urban Planning</td>
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<td>8.</td>
<td>Transportation Engineering</td>
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<td>9.</td>
<td>Surveying</td>
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<td>2</td>
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<td>10.</td>
<td>Applied Statistics</td>
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<td>11.</td>
<td>Economics</td>
<td>3</td>
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<td>12.</td>
<td>Islamic Studies/Ethics Studies/Pakistan</td>
<td>2</td>
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<td>13.</td>
<td>English-II (Communication Skills)</td>
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<td>THIRD SEMESTER</td>
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<td>14.</td>
<td>Transportation Planning</td>
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<td>Planning Legislation</td>
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<td>Professional Practice for Planners</td>
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<td>17.</td>
<td>Architectural Design</td>
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<td>18.</td>
<td>Applied Geography</td>
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<td>19.</td>
<td>English-III (Communication Skills and Report Writing)</td>
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<tr>
<td>20. Housing and Urban Development</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<tr>
<td>21. Planning Surveys and Studies Report</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>22. Environmental Planning and Management</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<tr>
<td>23. Information Technology and Database Management</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>24. Introduction to GIS</td>
<td>2</td>
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<td>3</td>
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<tr>
<td>25. Islamic Studies/Pakistan Studies/Ethics</td>
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<td>26. Site Planning and Landscape Design</td>
<td>2</td>
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<td>3</td>
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<tr>
<td>27. Urban Renewal and Conservation</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<tr>
<td>28. Infrastructure Planning and Management</td>
<td>1</td>
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<td>2</td>
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<tr>
<td>29. GIS Analysis and Applications in Planning</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>30. Environmental Engineering</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<tr>
<td>31. Hazards and Disaster Management</td>
<td>2</td>
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<tr>
<td>32. Urban Design</td>
<td>2</td>
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<td>3</td>
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<tr>
<td>33. Planning of New Towns</td>
<td>2</td>
<td>2</td>
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<td>34. Rural Planning</td>
<td>2</td>
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<td>3</td>
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<tr>
<td>35. Sustainable Development and Community Empowerment</td>
<td>1</td>
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<td>2</td>
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<td>36. Construction Technology</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<tr>
<td>37. GIS Development</td>
<td>1</td>
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<tr>
<td>38. Master Planning – I</td>
<td>2</td>
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<td>39. Land Use and Building Control</td>
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<td>40. Project Planning and Management</td>
<td>2</td>
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<td>41. Financial Planning and Budgeting</td>
<td>2</td>
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<td>42. Research Methods</td>
<td>2</td>
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<td>43. Project (Part - I)</td>
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<tr>
<td>44. Master Planning – II</td>
<td>2</td>
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<tr>
<td>45. District and Regional Planning</td>
<td>2</td>
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<tr>
<td>46. Estate Management</td>
<td>1</td>
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<td>2</td>
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<tr>
<td>47. Project (Part- II)</td>
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**Total Credit Hours** | **84** | **50** | **134**
NOTE: Internship of 4-6 weeks with credit hours (0-0) is mandatory in the Second/Third Year during semester breaks/summer vacations to gain practical experience and to provide exposure to the students in the field of City and Regional Planning.

DETAIL OF COURSES FOR BS/B.Sc
CITY AND REGIONAL PLANNING

FIRST SEMESTER

1. INTRODUCTION TO CITY AND REGIONAL PLANNING

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To introduce the basic concepts in city & regional planning

Theory:

Practical:
- Study of characteristics of planned and unplanned areas.
- Visit to local planning institutions / organizations to understand the systems and scope of the planning profession.

Recommended Books:

2. TECHNICAL DRAWING AND COMPUTER AIDED DESIGN

Credit hours: 3 (1+2)
Prerequisites: None

Specific Objectives:
To impart skills in technical drawings with understanding of scale through manual and computer aided designs.

Theory:

Basic concepts of computer use in Town Planning. Concepts of digital drafting and drawing. Introduction to latest software like Auto CAD, Revit, Sketch-up, BIM etc.

Practical:
Units, Scale and Limits; Drawing tools; Drawing different objects accurately; Polylines, fills and hatching; Editing and modifying drawings; Dimensions and text in a drawing; Viewing drawings; 3D Modeling, Shading and Rendering; Printing or plotting a drawing.

Recommended Books:

3. MAPPING AND REMOTE SENSING

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To impart skills and techniques for mapping and use of emerging technologies like remote sensing for planning

Theory:
The field of Cartography and Planning; Essentials of mapping: Co-ordinate system, Plane Spherical; Rectangular, Latitude and Longitude; Scales: Representative Fraction, graphic and area scale; scale of factor determination and change of map scale; Map types with respect to scale and use; content and presentation techniques; Map Symbols; Thematic maps; Photogrammetry: Characteristics of Aerial Photographs Interpretation of Mosaics; Introduction to Remote Sensing: Definition and History, Physical Basis; Spatial, temporal and spectral aspects; Sensor Systems (Space and airborne); Platforms (Types and Orbital Characteristics); Thermal Infrared; Introduction to Microwave (Importance and applications); Digital Image Processing (Over view of computer based image processing).

Practical:
Assignments on graphic scales; Map compilation; Scale enlargement and reduction; Study and interpretation of topographic sheets; Cadastral Maps (Massavies and, Khasra plans etc.); image interpretation, False color
composite, Visual Interpretation of satellite images and aerial photographs; Various sensors data comparison; Thermal Infrared Image interpretation; Introduction to image processing software e.g. ERDAS Imagine (display, Geo-linking, Zooming, Identification of targets etc.).

**Recommended Books:**

4. **SOCILOGY**

Credit hours: 3 (3+0)
Prerequisites: None

**Specific Objectives:**
To abreast with basic concepts and theories of sociology and its relation with planning.

**Theory:**
**Recommended Books:**

5. **MA-101: MATHEMATICS**

Credit hours: 2 (2+0)
Prerequisites: None

**Specific Objectives:**
To abreast with basic concepts of Mathematics to prepare the students for carrying out planning data analysis and mathematical modeling.

**Theory**


**Recommended Books:**
6. HU-101: ENGLISH-I (Functional English)

Credit hours: 3 (3+0)
Prerequisites: None

Specific Objectives:
To enhance language skills and develop critical thinking.

Contents:
- Use of grammar in context
  - Tenses: meaning & use
  - Use of active and passive voice
  - Use of articles and prepositions
  - Different sentence patterns
  - Combining sentences
- Oral Communication Skills (Listening and Speaking)
  - Express ideas/opinions on topics related to students’ lives and experiences
  - Participate in classroom discussions on contemporary issues
- Reading and Writing Skills
  - Skimming
  - Scanning
  - Identifying main idea/topic sentence
  - Inference and prediction
  - Recognizing and interpreting cohesive devices
  - Note taking and note making
  - Generating ideas using a variety of strategies e.g. brainstorming
  - Developing a paragraph outline (topic sentence and supporting details)
  - Vocabulary building skills
- To develop the ability to use a dictionary

Reference Books:
SECOND SEMESTER

7. HISTORY OF URBAN PLANNING

Credit hours: 2 (2+0)
Prerequisites: None

Specific Objectives:
To explore the evolution of cities and urban planning through ages.

Theory:
- History of civilization and growth of communities, Pre-historic towns and their development; Nile Valley, Mesopotamia, Indus Valley and Gandhara Cities. Early Greek and Roman Towns, their location, layout and siting of public buildings. Markets, recreation and religious centres,
- Medieval Planning; the grand palaces, the influence of the church and castle, the walled city, market towns and growth of guild system. Renaissance planning; the grand palaces, the square; Industrial revolution, its effects on urban growth and Town Planning from the 17th to 21st centuries. Impacts of Information and Communication Technologies and urban planning.
- Town planning during Pre-Mughal and Mughal period in India and Pakistan. British Planning practices in India and Pakistan. History of planning in Pakistan 1947 to date.

Recommended Books:

8. TRANSPORTATION ENGINEERING

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To introduce basic concepts in transportation engineering

Theory:
**Roads:** Classification of roads. Road location; Reconnaissance Survey for new roads. Elements of road curves, superelevation, transition curves, cross-falls. Extra width of carriage, sight distances on vertical and horizontal curves. Traffic and road capacities, Gradients, bridge heights and clearances for road and rail crossing. Gradient on bridge approaches and road alignment. Road junctions, Mass Haul diagrams. Design data; Speed and Right of way (ROW), soil and slope stabilization, Pavement design.

**Railways:** Introduction to railroad, Types of rail tracks and gauges, joints and crossings, yards and stations, right of ways; Design of railway track; Grade compensation, design components and foundation; Mono-rails; Mass-transit systems etc.

**Airports:** Principle features; Landing strip, Runways, Taxiways, Apron, Hangers, Over-run strip. Approach zone, Turning Zone, V.F.R. and I.F.R; Type of air traffic, Speed, and Capacity; Design standards and orientation. Site requirements and Operational analysis. Physical aspects and risk assessment;

**Water Ways:** Introduction to water ways and sea-ports; Water ways and their potentials in Pakistan. Existing and potential seaports in Pakistan.

Practical:
Study of engineering design parameters of roads and railways. Designing of intersection (plain, midgrade), Sketch plan of a Railway Station, Airport etc.

Recommended Books:
9. SURVEYING

Credit hours: 3 (1+2)  
Prerequisites: None

Specific Objectives:  
To impart basic skills and techniques for topographic / physical surveys using traditional and latest tools and equipment.

Theory:  
Introduction to small survey instruments, Optical square, Box sextant, Prismatic compass. Abney’s clinometers. Tangent clinometer and planimeter, Leveling, Reduction of levels. Temporary and permanent adjustment of levels. Contouring, Plane table, Chain and tape and Theodolite surveys, Traversing with Theodolites and Prismatic compass. Concept and use of Total Station. Earth work calculations. Computation of areas by D. M. D. method. Simpson’s rule. Trapezoidal rule, Calculation of volumes.

Practical:  
Field surveys, Chain, Plane Table, Compass, Theodolite leveling and contouring assignments. Setting out of a public building and a small housing scheme. Use of total station.

Recommended Books:  
10. **APPLIED STATISTICS**

Credit hours: 2 (2+0)
Prerequisites: None

**Specific Objectives:**
To introduce skills and techniques for analysis and interpretation of statistical data and its application in planning

**Theory:**
The organization of data, data types; statistical tabulations; time series, presentation of data, bar chart; pie chart; plotting the frequency distribution; histogram; plotting time series; scatter diagram, descriptive statistics, arithmetic mean; median; mode; standard deviation; variability in sample data and their application in planning.

Index numbers and their interpretation; using an index to deflate a series; Time series, the components of a time series; calculation of the trends; exponential smoothing; calculation of seasonal variation; series with seasonal variation eliminated; importance of residuals; forecasting from the time series; additive or multiplicative models, probability, measuring probability; three approaches to probability; the laws of probability and their applications; tree diagrams; conditional probability; independence and correlation. Probability distribution; normal distribution; binomial distribution; mean and standard deviation of a binomial distribution; Poisson distribution. Non-parametric statistics, Chi-square and its interpretation, etc.

**Recommended Books:**

11. **ECONOMICS**

Credit hours: 3 (3+0)
Prerequisites: None

**Specific Objectives:**
To introduce basic concepts of economics and their use in development planning.

**Theory:**
Basic concepts of economics, Economic organization: types and functions of economic systems, Islamic economic order, Economic activities (Primary,
Recommended Books:

12. IS/HU-101: ISLAMIC STUDIES (COMPULSORY)
Credit hours: 2 (2+0)
Prerequisites: None

Annexure A & B

13. HU-102: ENGLISH-II (Communication Skills)
Credit hours: 2 (2+0)
Prerequisites: English-I

Specific Objectives:
To enhance language skills and develop critical thinking

Contents:
- Use of grammar in context
  - Phrase, clause and sentence structure
  - Reported speech
  - Modals
- Oral Communication Skills (Listening and Speaking)
Comprehend and use English inside and outside the classroom for social and academic purposes

- Reading and Writing Skills
  - Distinguishing between facts and opinions
  - Recognizing and interpreting the tone and attitude of the author
  - Recognizing and interpreting the rhetorical organization of a text
  - Generating ideas using a variety of strategies e.g. mind map
  - Developing an outline for an essay
  - Writing different kinds of essay (descriptive and narrative)
  - Vocabulary building skills


**Recommended Books:**
1. Collins COBUILD Students’ Grammar. London: Longman
4. Murphy, Raymond. Grammar in Use. C UP
10. Ketteley and Thompson, English for Modern Business

**THIRD SEMESTER**

**14. TRANSPORTATION PLANNING**

Credit hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To impart skills and techniques for transportation planning including public transport.
**Theory:**
Communication through road, railways, water-ways, air and their influence upon national, regional and local development. Urban circulation, Land use and traffic interaction, Travel time, Mass transit systems, and Inter model systems. Development of road system, Design of roads in relation to different types of traffic and buildings, including road width; traffic lanes and means of access; service roads and lay-byes. Segregation of vehicular and pedestrian traffic, planning of roads in relation to existing features such as trees and streams. 
Traffic and parking surveys and their interpretation. Park and ride. Traffic capacity and its regulation. Requirement of different types of traffic, moving and stationary. Transport terminals; Planning of road junctions and intersections to facilitate free flow of traffic with safety and comfort for all users. Appropriate siting and planning of car parks and garages (including mechanical methods) above and below ground; petrol filling stations and service areas.
Airport approach requirements, Factors affecting the location and planning of airports.

**Practical:**
Traffic and parking surveys; Travel time and delay studies. Hot-spot surveys.

**Recommended Books:**

**15. PLANNING LEGISLATION**

Credit hours: 3 (3+0)
Prerequisites: None

**Specific Objectives:**
To familiarize the students with laws, rules and regulations concerning planning.

**Theory:**
Importance of legislation in planning; Outline of planning legislation and its evolution in UK and USA. Understanding of factors behind the enactment of such legislation. The legislative basis for planning and implementation of

Recommended Books:

16. PROFESSIONAL PRACTICE FOR PLANNERS

Credit hours: 2 (2+0)
Prerequisites: None

Specific Objectives:
To inculcate planning ethics and equip with tools for successful practice in planning profession.

Theory:
Concepts and need of professional ethics and norms of good governance including accountability, transparency, rule of law, confidentiality etc. Role and responsibilities of professional bodies in promoting professional ethics, PCATP code of conduct. Entrepreneurship skill and professional ethics. Interaction between planners and stakeholders in the city and region such as
politicians, bureaucrats/administrators, media, judiciary, academia, NGOs and civil society. Resolution of conflicts in the implementation of plans.

Planning contract documents/agreements, fee structure, arbitration. Tenders, contracts etc. procurement of goods and human resources; Social and ethical audit of development plans and their implementation.

**Recommended Books:**
6. Journal of professional practice, Volumes 89-93, American Society of Civil Engineers, Department of Conditions of practice, USA.

**17. ARCHITECTURAL DESIGN**

Credit hours: 3 (1+2)
Prerequisites: None

**Specific Objectives:**
To understand contextual relationships of building to sites and to develop basic understanding of architectural design.

**Theory:**
Introduction to building forms and functions. Building orientation and climatic control. Introduction to design methodologies and theories; Development of design brief and project programmes; design of residential, educational, commercial, recreational and public buildings; design standards and space requirements; siting and contextual analysis of buildings. Introduction to eco-design and green buildings. Principles of Aesthetics in design. Survey of key monuments and architectural icons. Socio-cultural, economic and political aspects in architectural design.

**Practical:**
Exercises in architectural design. Solid void analysis of buildings; Design of houses for various plot sizes and of flats. Design of commercial and institutional buildings.

**Recommended Books:**

18. APPLIED GEOGRAPHY

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To impart geographical skills and techniques for city and regional planning.

Theory:
Basic concepts in physical and human geography and their application in city and regional planning, impacts of physical factors such as topography, hydrology, climate, flora and fauna, and natural hazards on the growth and expansion of cities and their region, physical factors in development of human settlements in Pakistan. Physiographic and climatic regions of Pakistan, location and geographical space in the distribution of cities. Study of spatial distribution of population and economic activities in cities, Population distribution and demographic structure of cities, day and night time population and their significance in city planning, Functional classification of cities, industrial, commercial, mining, tourist and religious towns, Cities as central places, Basic and non-basic and formal and informal functions and their role in growth and development of cities, Morphology, land uses and structure of cities, Concentric zone, sector and multiple nuclei theories, Urban growth and urban sprawl, causes, affects and control of urban sprawl.

Practical:
Field visit for understanding various places and land forms for understanding the concepts of applied geography, and field report writing / term paper, etc.
Recommended Books:

19. HU-201: ENGLISH-III (Communication Skills and Report Writing)
Credit hours: 3 (1+2)
Prerequisites: English I & II

Objectives:
To enhance language skills and develop critical thinking

Course Contents:
Presentation skills
Essay writing
Descriptive, narrative, discursive, argumentative

Academic writing
How to write a proposal for research paper/term paper
How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)

Technical Report writing
Progress report writing
Note: Extensive reading is required for vocabulary building

**Recommended Books:**

**Technical Writing and Presentation Skills**

a) **Essay Writing and Academic Writing**

b) **Presentation Skills**

c) **Reading**
   The Mercury Reader. A Custom Publication. Compiled by northern Illinois University. General Editors: Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton. (A reader which will give students exposure to the best of twentieth century literature, without taxing the taste of engineering students).

**FOURTH SEMESTER**

**20. HOUSING AND URBAN DEVELOPMENT**

Credit hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To familiarize with basic housing issues and their solutions in relation to urban development

**Theory:**
Basic concepts, Housing problems in developed and developing countries with special emphasis on Pakistan. Housing supply and demand, quantitative aspects. Socio-economic aspects. Slums and squatter settlements improvement programmes such as Orangi Pilot Project. Low income housing incremental development schemes, such as Khuda Ki Basti.

Housing standards and residential densities. Evaluation of housing shortage and need for the future. Procedure for planning and design of housing including site and services schemes and vertical housing; layout patterns, housing types and their suitability for various climatic regions. Housing policies and programs run in public and private sector; Housing finance and post development management and maintenance.
Practical:
Housing layout patterns, Design of a housing scheme. Low income housing workshop. Assignments on National Housing Policy of Pakistan; Related case studies.

Recommended Books:
7. UNCHS (Habitat), Physical Improvement of Slums and Squatter Settlement

5. PLANNING SURVEYS & STUDIES REPORTS
Credit hours: 3 (1+2)
Prerequisites: None

Specific Objectives:
To impart skills and techniques for conducting various types of planning surveys.

Theory:
Nature and purpose of planning surveys, Basic concept of variables, traits and indicators. Identification of goals and objectives of planning studies. Nature and contents of Urban and Regional Surveys, Sampling types and methods, Tools for data collection. Questionnaires, Interview schedule, Observation sheet etc. Techniques for conducting various planning surveys such as Land use, socioeconomic and housing, health, education, industry, commerce, public facilities and utility services.
Practical:
To conduct various surveys such as land use, socio-economic and housing, industrial, commercial, education, health and infrastructural services. Preparation of survey reports.

Recommended Books:

22. ENVIRONMENTAL PLANNING AND MANAGEMENT

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To develop understanding of environmental issues and familiarize with environmental planning and management approaches.

Theory:
Basic concepts; Relationship between environment and city & regional planning. Environmental issues and priorities at global, regional and local levels. Environmental problems at home, workplace and city; Concept of planning for Sustainable Development; Environmental Impact Assessment and Social Impact Assessment; Environmental plans and policies. National Conservation Strategy; National Environmental Quality Standards; Ecology;
Introduction to environmental management systems. Industrial and traffic pollution and associated hazards. Environmental risk reduction and management. Cities and climate change, Cities as contributor to climate change, the need for mitigation and development of carbon neutral cities, Impacts of climate change on cities and the need for adaptation.

Practical:
Studies and analysis of environmental degradation in urban and rural communities. Preparation of environmental management programme for commercial, industrial and residential areas of the city or for the whole city.

Recommended Books:
23. INFORMATION TECHNOLOGY AND DATABASE MANAGEMENT

Credit hours: 3 (1+2)
Prerequisites: None

Specific Objectives:
To impart basic skills and techniques in information technology and its use in database development and management

Theory:
Basic computing; Use of MS Office Package (MS Word, Excel, Access, Power Point etc.); Visio; Basic concepts in database development and management; Entity Relationship modeling, Relational data model and algebra, Structured Query language; Database design, functional dependencies and normal forms; Transaction processing and optimization concepts; concurrency control and recovery techniques; Database recovery techniques; Database security and authorization.

Introduction to Statistical Package for Social Sciences (SPSS). Questionnaire coding and data preparation for analysis on computer Data entry into SPSS. Editing data values and controlling the display of data. Defining variables and selection of a procedure from the menus to calculate statistics. Re-coding of existing variables and computing of new variables. Assigning variable labels and value labels. Constructing simple frequency tables and cross-tables. Elementary Graphics; Creating statistical diagrams and charts; Editing the results display in the output navigator.

Practical:
Hands-on practice in using a database system to create files, tables, forms and queries; enter and manipulate data; and generate reports. Statistical analysis survey data using SPSS and preparation of tables and cross tables and charts. Small Group Project implementing a database.

Recommended Books:

24. INTRODUCTION TO GEOGRAPHICAL INFORMATION SYSTEMS

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To introduce basic concepts, tools and techniques in GIS.

Theory:

Practical:
Introduction to GIS Lab (hardware/software), Raster/Vector/Attribute Data Display, Scanning, Digitization, Coordinate based point mapping, Raster/Vector Conversion, Data layer integration and display of different projections, Map layout, Data Classification and Thematic mapping, Handling with Topological Errors, Overlay and network analysis.

Recommended Books:

25. IS/HU-201: ISLAMIC STUDIES/PAKISTAN STUDIES/ETHICS

Credit hours: 2 (2+0)
Prerequisites: None

Annexure A & B

FIFTH SEMESTER

26. SITE PLANNING AND LANDSCAPE DESIGN

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To impart knowledge and skills for site analysis and designing of landscape

Theory:
Site planning overview, definitions, professional roles, resources, process, techniques and technology. Site Analysis. Physical, environmental, social, and external influences. Regional setting, context, character. Site search vs. site given. Review observations from the site visits. Zoning regulations & performance standards. Development program elements: User/client input. Functions, uses, clients, visitors, access, circulation, scale, context, grading, drainage, views, orientation, sequence of arrival, hierarchy and definition of spaces, parking, landscaping, lighting, safety, defensible space/deliveries, utilities, storm water and drainage, snow storage, architecture, building orientation, trash, budget, sustainability, politics and neighbors. Synthesis & Concept Planning. Relationship diagrams, overlay techniques, design process. Public input. Redevelopment vs. greenfield sites. Trends and
influences. Review & Techniques. Zoning, subdivision, and development review process, site plan review process and redlining, stakeholder roles, public input. Site plan examples, use of technology. Style & character, themes, integration with architecture and civil engineering. Concept Plan Selection, Site Plan. Town park; design elements for landscape planning of open spaces and parks.

**Practical:**
Site Analysis (research, diagram and report). Site plan review checklist, Concept Plan Alternatives and their presentations, review and selection of a site for a new town and is civic components.

**Recommended Books:**

27. **URBAN RENEWAL AND CONSERVATION**

Credit hours: 3 (2+1)  
Prerequisites: None

**Specific Objectives:**
To familiarize the students with the concepts and techniques of urban renewal as well as conservation of areas of historical significance

**Theory:**
Urban growth, slums and squatter settlements; definitions; identification, causes and potentials for improvement. Urban renewal; concepts, approach and processes. Urban Renewal goals, objectives and targets for renewal of residential, commercial, industrial and other urban areas. Impediments to renewal efforts and their implications, tools, programmes and overall policies for urban renewal and urban regeneration.
Treatment mechanism; clearance and redevelopment, conservation and rehabilitation, environmental improvement and maintenance; policy and strategies. Introduction to application of quantitative models in renewal planning. Conservation and preservation of culturally and historically valuable buildings, spaces and objects; Conservation Charters and Conventions; Peoples participation in urban renewal and conservation programmes. Institutional framework and mechanism for urban renewal and urban regeneration projects and programmes.

**Practical:**
Urban Renewal workshop with an objective to prepare an urban renewal and conservation project for a part of a city or a slum area

**Recommended Books:**
28. INFRASTRUCTURE PLANNING AND MANAGEMENT

Credit hours: 2 (1+1)
Prerequisites: None

Specific Objectives:
To introduce knowledge and skills related to physical infrastructure planning and management issues.

Theory:
Concepts and types of infrastructure, Principles and practices of infrastructure planning at local, regional and national level (transportation, utilities, services, communications, etc.). The role of state and local governments and private interest groups in the infrastructure planning process. The use of demand modeling. Political, financial, public relations, legal, and environmental concerns. Public private partnership in infrastructure development.

Practical:
Detailed planning and designing of housing infrastructure such as water supply, sanitation and sewerage, roads and other social, economic and community infrastructures

Recommended Books:
2. Namavati Roshan, Professional Practice (Estimating and Evolutions), Union Book Stall, Karachi
3. Khanna, Practice Civil Engineers Hand Book, Union Book Stall, Karachi
4. Govt. of Pakistan, Provincial Local Government Ordinances 2001
5. Namavati Roshan, Professional Practice (Estimation and Evaluation), Union Book Stall.
6. Khanna, Practice Civil Engineers Hand Book, Union Book Stall, Karachi.

29. GIS ANALYSIS AND APPLICATIONS IN PLANNING

Credit hours: 3 (1+2)
Prerequisites: Introduction to GIS

Specific Objectives:
To introduce advanced tools, techniques and applications of GIS in City and Regional Planning

Theory:
GIS and related applications with particular focus on advance spatial analysis and their use in solving planning problems. Review of existing GIS
applications in planning, such as master plan monitoring and implementation, housing and socioeconomic analysis, utilities, facilities and infrastructure management, transportation and traffic management etc. Spatial decision support systems (SDSS).

**Practical:**
GIS applications for projects in Urban and Regional Planning. Analysis of Case Studies of master planning, housing projects and site development schemes etc through GIS

**Recommended Books:**

### 30. ENVIRONMENTAL ENGINEERING

Credit hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To impart engineering skills and techniques in environmental infrastructure design and management

**Theory:**
Basic concepts and terminologies in environmental engineering; Development of basic environmental infrastructure; Design and development of water supply schemes sources; transmission network; fire hydrants; treatment and distribution; water consumption, conservation and management; water demand, water quality and water filtration plants.

Sanitation and Sewerage Systems: collection, treatment, re-cycling and disposal; Design criteria, quantity of sewage, average daily sanitary flow, investigation and system design, elementary hydraulics of sewers, treatment plants, location and site requirements, sewer construction, storm drainage, maximum and standard level interceptors and collectors, maximum drainage zones. Estimation of run off of streets and urban areas. Introduction to watershed areas and flood control. Basic infrastructure in relation to rural settlements, environmental quality assessment.

Air pollution control modeling.

**Practical:**
Design of services such as water supply, sewerage, drainage and for solid waste disposal in a development scheme.

**Recommended Books:**

31. **HAZARDS AND DISASTER MANAGEMENT**

Credit hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To familiarize with the basic concepts and skills about natural and human induced hazards and disaster management

**Theory:**
Introduction to Hazards and Disasters (concepts, definitions and types), Hazard Dimensions, Distributions, Patterns, Associated Processes & History of Hazards Research, Social & Economic Aspects of Natural and human induced hazards, Individual and Community Adjustments: Perceptions, Attitudes and Behavior, Hazard and Disaster Investigation Hazard Vulnerability Assessment & Risk Mapping and Management, Disaster Risk Management (DRM) and Disaster Risk Reduction (DRR) in development planning, Disaster Management Cycle, Pre-Disaster Phase (Prevention, Mitigation & Preparedness), Disaster Phase (Response, relief and recovery), Post-Disaster Phase (Rehabilitation, Development), Damage assessment, loss analysis, Disaster management policies and institutional infrastructure from national to local level; Case Studies.

**Practical:**
Hazards identification and mapping, risk / vulnerability assessment and mapping, disaster mitigation strategies development. Analysis of any natural
or human induced disaster with field investigation using GIS / Remote Sensing techniques.

**Recommended Books:**

SIXTH SEMESTER

32. URBAN DESIGN

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To inculcate neighborhood and public building planning and designing skills to planners and their harmonization into urban fabric

Theory:
Introduction to urban design. Three dimensional aspects physical design which includes visual and un-visual aspects of built environment. Role of peoples, participation, culture and traditions in urban design. Definition, relationship with allied subjects. Urban design process, outstanding features of urban design from the old and modern concept; typical examples of planning and design of Islamic cities, urban form. Urban design in the context of town planning. The key parameters which effect the physical design. Studies for urban design. Visual surveys, basic elements and other facts of form such Land forms, climate, shape, size and density, pattern, grain and texture, vistas, skylines and social aspects. Principles of urban designs; scale, urban mass, activity and circulation. Urban design techniques. Urban aesthetics, space, street furniture and landscape design. Responsive environments.

Practical:
A typical site planning and design project (involving site observation, analysis and graphic presentation of data, site preparation, site structure diagram, Landscaping and development).

Recommended Books:
33. PLANNING OF NEW TOWNS

Credit hours: 4 (2+2)
Prerequisites: None

Specific Objectives:
To impart skills and techniques for planning and designing of new towns

Theory:
Understanding the requirements of a modern city as a dynamic organism. The need for integrated approach towards planning of various components of a city. Examples of modern cities: Brazilia, Canberra, Islamabad, Chandigarh and New Delhi. Process of planning and designing a new town. Space standards and requirements for various land uses and residential and non-residential densities etc. Projection and growth models. Application of space standards and locational criteria for various land uses; Zoning plan planning and design for land use, layout of roads and streets; Neighborhood planning, layout plan of housing blocks and public facilities and services; Town centre plan, planning of civic, administrative and commercial areas; Industrial estate plan, layout and placement of various types of industries and related services and facilities; Town park, elements of design of a town park.

Practical:

Recommended Books:
34. **RURAL PLANNING**

Credit hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To impart skill and concepts about rural planning and rural and urban linkages.

**Theory:**
Concepts of rural development and planning. Rural settlement patterns in various countries. Rural planning in indo Pakistan sub-continent. Characteristics of Bar and Bet lands in rural areas of Pakistan. Various approaches to rural development, role of rural centers, planning and criticisms on concepts of rural planning. Village as a focal point of rural planning and development. Elements of the conceptual framework for modern rural planning. Basic needs and sustainable development approaches. Rural urban linkages. Farm to market roads. Structural transformation of rural areas as sustainable human settlements.

**Practical:**
Rural planning workshop involving identification of problems of rural area and basic needs, preparation of rural development projects. Evaluation of existing rural development plans. NRSP, AKRSP, Provincial RSP, Matching Grant Schemes etc.

**Recommended Books:**
35. SUSTAINABLE DEVELOPMENT AND COMMUNITY EMPOWERMENT

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To familiarize with the concepts of sustainable development and role of community in planning and development

Theory:

Practical:
Preparation of improvement plans and implementation frameworks for the provision of education. Health and recreational or infrastructure facilities in low income communities/slums or villages on self-help basis. Organization of forums in urban/rural communities for community meeting / mobilization to achieve sustainable development.

Recommended Books:

36. CONSTRUCTION TECHNOLOGY

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To impart skill and techniques of construction technology as well as use of various construction materials

Theory:
Introduction to construction technologies and methodologies with emphasis on appropriate use of various building materials such as RCC, mud, lime, Cement, Bricks, Sand, Concrete, Building Blocks, Pre-stressed and pre-cast members, Timber, Mild Steel, Cast iron, Brass and Aluminum etc. Strength of building materials.

Construction technologies for engineered and non-engineered buildings. Introduction to site preparation, super and sub structures, finishing, stages and elements; doors and windows, floor, lintels, brick work and bonding, insitu precast and prefabricated construction systems. Infrastructure design; plumbing, electricity and gas points, insulation and fire protection. Conservation and retrofitting techniques for existing buildings.

Health safety and environmental consideration; Design of earthquake resistant buildings; Disaster risk reduction measures.

Practical:

Recommended Books:
37. GIS DEVELOPMENT

Credit hours: 2 (1+1)
Prerequisites: None

Specific Objectives:
To impart skill and techniques of GIS customization and programming for planning projects and applications.

Theory:
This course is designed to introduce the student to a variety of emerging technical topics in GIS. It is expected the student will be prepared to continue with self-studies in the area to develop specific expertise.

Practical:
Enterprise / Corporate GIS development for any local government unit or for a development authority

Recommended Books:

SEVENTH SEMESTER

38. MASTER PLANNING-I

Credit Hours: 4 (2+2)
Prerequisites: None

Specific Objectives:
Knowledge and skill development to prepare development plans for human settlements.

Theory:
A comparative overview of process and methodology involved for the development of master plan, structure plan and strategic plans. Development planning process: goals and objective of comprehensive planning, planning parameters and various approaches. The new paradigm for comprehensive development planning of urban and rural areas in Pakistan. Study of National spatial and environmental policies and regional strategies for master planning in Pakistan. Interaction with stakeholders; Planning surveys and studies of component subjects as a basis for development of plans. Data analysis to formulate master plans. Identification of problems and issues in formulation and implementation of master plan.

Practical:
Planning surveys and studies of the selected city as a class / group project with special emphasis on team work capabilities development among the students.

Recommended Books:

### 39. LAND USE AND BUILDING CONTROL

**Credit Hours:** 3 (2+1)
**Prerequisites:** None

**Specific Objectives:**
To familiarize with the methods and techniques for land use development control and building control.

**Theory:**
Concepts and needs of Land Use and Building control as a tool for implementation of Master plan and other Local plans. Zoning and development control. Processes and Procedures for implementation of building control. Procedural checks such as ownership verification, planning application forms, drawings, fees, No Objection Certification, advertisements etc. Issue and problems regarding land use and development control. Conformity with the development, lands use zoning, planning criteria, building bye laws, design guidelines, building line/parking requirement, chamfer requirement, construction over culverts etc. Demarcation and removal of encroachments. Dangerous buildings identification, management and/or demolition. Action against illegal buildings, Litigation involved in building control. Commercialization policy and its effectiveness. Private development schemes.

**Practical:**
Survey of various buildings, markets and plazas regarding the provision of parking space, building lines / setbacks etc. Identification of violation of
planning standards and regulations. Evaluation of building and development control practices in the development authorities and municipal corporations.

**Recommended Books:**

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**40. PROJECT PLANNING AND MANAGEMENT**

Credit Hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To familiarize with the methods and techniques for project planning and management

**Theory:**
Process of project planning and implementation in Pakistan. Relationship between policy plans and projects in urban and regional development; Project identification and formulation. The PC-1 and PC-II forms. Financial and economic appraisal and selection of projects. Legal backing for the plans and projects. Social acceptability of projects. Sanctioning authority and institutions for approval of projects. The role of project execution authority. Scheduling of projects component, the critical path method (CPM). Monitoring and evaluation of projects, planning evaluation and review technique (PERT). Community participation for effective implementation and monitoring of projects.

**Practical:**
Preparation of a PC-I and PC-II form for a development project. Evaluation of an existing project. Use of Prima Vera, and MS Project Software. Management information systems in project management

**Recommended Books:**

41. **FINANCIAL PLANNING AND BUDGETING**

Credit hours: 3 (2+1)
Prerequisites: None

**Specific Objectives:**
To impart knowledge about skills and techniques for financial planning and budgeting in development planning.

**Theory:**
Methods of estimating the cost of development plans and individual projects and means of financing. Effect of affordability on the densities and space standards. Capital improvement programming. Internal rate of return (IRR) and Cost Benefit Analysis. Time value of money, compounding and discounting measures for development projects. Preparation of development budgets and planning, project appraisal.

**Practical:**
Assignments on costing and financing of schemes, using affordability models and cost benefit analysis of a project

**Recommended Books:**

42. RESEARCH METHODS

Credit Hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
Skill development for design and conducting research

Theory:
Introduction to research and its significance in planning. Types of research. Procedure for scientific research. Literature review. data collection and analysis techniques. Theoretical framework and testing of hypothesis. Research design and its components: measurements: definition, nature and levels of measurements, research methodology: collection and analysis of data, types of observation, laboratory and field experimentation, personal interviews: questionnaire construction: content of questions, types of questions, question format, sequence of questions, index construction and scaling methods, sampling techniques and sample design, evaluation; generalization: theoretical framework and testing of hypotheses, organization and format of planning report: reference, quotations, bibliography, paging, etc., Compilation of research proposals and presentation.

Practical:
Review of a thesis and preparation of a research proposal for the project

Recommended Books:

43. PROJECT (Part-I)
Credit Hours: 0 (0+0)
Prerequisites: Planning core courses

Specific Objectives:
To prepare a project proposal/synopsis in the backdrop of planning skills and research method techniques to be assessed and approved under research method practical.

EIGHTH SEMESTER

44. MASTER PLANNING-II
Credit hours: 4 (2+2)
Prerequisites: Master Planning - I

Specific Objectives:
Skill development and advanced techniques to prepare development plans for human settlements.

Theory:
Policy planning in the light of existing studies and development strategies. Detailed contents of master plan. Local development plans such as subject plans, local district plans and action area plans. Phasing and programming. Master plan implementation: financing and legislating the plan provisions. Administering the master plan. Coordination between various line
departments and the local planning agencies. Public participation as a tool for effective formulation and implementation of the plans and component projects. Evaluation and periodic feedback.

Practical:
Evaluation of an existing master plans. Preparation of a Master Plan, Subject Plans, Local District Plans, and Action area plans for a town.

Recommended Books:

45. DISTRICT AND REGIONAL PLANNING

Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives:
To impart knowledge, skills and methodologies for district and regional planning.

Theory:
Introduction to Regional Planning; concept, need and objectives, planning regions, delineation of regions, districts as planning region. Overlapping
administrative boundaries and management issues at local and regional level. Relationship between regional and national planning, importance of institutional coordination. Guidelines for the district and local level planning in Pakistan in relation to potential resources. District level Master Plan and local plans for rural sanitation, development of health and educational institutions, and service centers, Spatial distribution of central places - hierarchy of settlements and their utility in location of health, education and other services, Inter and intra-regional inequalities and regional development theories, spatial flows, rural-urban linkages, growth poles and regional growth. Preparation and presentation of regional plans and their implementation. Review of public sector programmes with particular reference to Pakistan.

**Practical:**
Critical evaluation of a Regional Plan, Identification of inter-regional and Intra-regional disparities. Preparation of regional / district plan

**Recommended Books:**
6. Govt. of Pakistan, Housing and Physical Planning Department, Regional Development Plan for Thal.

**46. ESTATE MANAGEMENT**
Credit hours: 2 (1+1)
Prerequisites: None

**Specific Objectives:**
To familiarize with the skills and methodologies for estate management.

**Theory:**
Introduction to land planning and management for urban expansion, operation of urban land prices: and development in formal and informal sector, public and private land development and management approaches viz: land pooling and readjustment, land banking, leasehold system, sites and services scheme, public-private joint ventures, plot allotment criteria, land management process for the modern city and master planning
Land titling and registration process, property transfer and disputes, property sale and values. Understanding of land valuation table and its significance in estate management. Plot allotment criteria, demarcation of land and plots, land management system.

Practical:
Preparation of a land management project for urban expansion. Development of Valuation tables

Recommended Books:

47. PROJECT (Part-II)
Credit hours: 6 (0+6)
Prerequisites: Project (Part - I)

Specific Objectives:
To implement an independent project on the topic / area / dimension of student’s interest related to city and regional planning. The project will be a reflection of use of planning skills and previous learning. The project should promote skills and methodologies to undertake research related to city and regional planning. The project shall be a contribution to the existing body of knowledge in the profession.

The concerned university/institution is encouraged to place the final project in PDF format in its digital library and on its website for wider publication and dissemination of knowledge.
Part-II

MS PROGRAMME (2-YEAR) IN “CITY AND REGIONAL PLANNING”

OBJECTIVES:

Following are the main objectives of the MS-CRP programme:

1. To inculcate advanced knowledge and skills in the field of City and Regional Planning to meet the challenges of the contemporary and future epochs within our context.

2. To conduct research in order to contribute to the existing body of knowledge, skills and techniques in City and Regional Planning profession.

3. To augment professionals in various stream of specializations in City and Regional Planning.

4. To equip the CRP professionals with Climate Change adaptability and Disaster Risk Management concepts and techniques enhancing their role in achieving sustainable development in the country.

5. To develop entrepreneurial skills and advanced knowledge to the CRP graduates so that they can pursue career in development sectors at national and international levels.

6. To elevate the City and Regional Planning professionals to international standards.

SCHEME OF STUDIES FOR MS-CRP

SPECIALIZATIONS

1. Community Empowerment (CE)
2. Housing (HS)
3. Urban Development Planning (UD)
4. District and Regional Development Planning (RP)
5. Transportation Planning (TP)
6. Disaster Management (DM)
7. Environmental Planning (EP)
8. Land Use and Land Management (LU)
9. Infrastructure, Utilities and Services (IS)
10. Sustainable Development and Planning (SD)
11. Urban Conservation (UC)

Note: University/Institution may introduce new or exclude existing specialization as per the needs.
GROUP-A: Compulsory Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Theory</th>
<th>Practical</th>
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<tr>
<td>CRP-598</td>
<td>Advanced Research Methods</td>
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<tr>
<td>CRP-599</td>
<td>Research Thesis</td>
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GROUP-B: Elective Courses (Three Courses to be selected from the following)

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<thead>
<tr>
<th>Ref. No.</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<td></td>
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<tr>
<td>CRP-501</td>
<td>Advance Planning Techniques</td>
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<td>CRP-502</td>
<td>Comparative Urban Planning</td>
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<tr>
<td>CRP-503</td>
<td>Planning Legislation</td>
<td>2</td>
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<tr>
<td>CRP-504</td>
<td>Regional Development Planning</td>
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<td>3</td>
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<tr>
<td>CRP-505</td>
<td>Advanced Planning Theory</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>CRP-506</td>
<td>Housing Policy and Practice</td>
<td>2</td>
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<tr>
<td>CRP-507</td>
<td>Social Engineering</td>
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<td>CRP-508</td>
<td>Environmental Planning</td>
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<tr>
<td>CRP-509</td>
<td>Transportation Planning</td>
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GROUP-C: Elective Courses (Four Courses to be taken from the following)

<table>
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<tr>
<td></td>
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<tr>
<td>1. Public Transport Planning</td>
<td>2</td>
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<tr>
<td>2. Disaster Management</td>
<td>2</td>
<td>1</td>
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<tr>
<td>3. Development Planning in Pakistan</td>
<td>2</td>
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<tr>
<td>4. Disaster Resilience Recovery and Rehabilitation</td>
<td>2</td>
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<tr>
<td>5. Local Planning Practice</td>
<td>2</td>
<td>1</td>
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<tr>
<td>6. Environment, Resources and Development</td>
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<td>7. Legal and Regulatory Aspects in Planning</td>
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<tr>
<td>8. Urban Finance Management</td>
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<tr>
<td>9. Advanced Statistics</td>
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<tr>
<td>10. Advanced Remote Sensing</td>
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<td>11. Rural Planning</td>
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<td>12. Advanced Geographical Information</td>
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<td>Mathematical Models in Planning</td>
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<td>Urban Sociology</td>
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<td>Informal Housing</td>
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<td>Environmental Impact Assessment (EIA)</td>
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<td>Community Organization and Development</td>
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<td>18</td>
<td>Housing and Urban Development</td>
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<tr>
<td>19</td>
<td>Urban Design</td>
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<td>Urbanism</td>
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<tr>
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<td>Urban Land Management</td>
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<tr>
<td>22</td>
<td>Project Appraisal</td>
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<td>Infrastructure Planning and Management</td>
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<tr>
<td>24</td>
<td>Climate Consideration in Urban Design</td>
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<tr>
<td>25</td>
<td>Land Use Planning and Zoning</td>
<td>2</td>
</tr>
<tr>
<td>26</td>
<td>Urban Governance</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>Urban Conservation</td>
<td>2</td>
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<tr>
<td>28</td>
<td>Development Policies</td>
<td>2</td>
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<tr>
<td>29</td>
<td>Negotiation and Conflict Resolution</td>
<td>2</td>
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<tr>
<td>30</td>
<td>Energy Planning and Management</td>
<td>2</td>
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<tr>
<td>31</td>
<td>Gender and Development</td>
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<tr>
<td>32</td>
<td>Disaster and Development</td>
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<td>33</td>
<td>Monitoring and Auditing Urban Development</td>
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<tr>
<td>34</td>
<td>Techniques for Damage and Need Assessment</td>
<td>2</td>
</tr>
<tr>
<td>35</td>
<td>Special Topics (to be selected by the university)</td>
<td>3</td>
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</tbody>
</table>

Total Credit Hours for the MS-CRP Degree = 30
SPECIAL TOPICS
Students may study the topics of interest related to their research individually. However, the topics must be approved by the faculty supervisor / board of study prior to registration for this course.

RESEARCH THESIS
The thesis proposal shall be prepared by the students during the First Semester as a part of sessional work in the compulsory subject of Research Methods. The proposal shall be considered by the Post Graduate Board of Studies during the first month of the Second Semester. The students are expected to work on data collection and literature review during the second Semester in their spare time. However, in the Final Semester, the students shall be required to concentrate wholly on their research thesis. A time table (weekly schedule) for the thesis may be prepared which will show two meeting days per week with the concerned supervisor. Other meetings may be arranged according to mutually agreed time between the supervisor and the supervisee. Full time students are strongly advised to submit their thesis at the end of the final semester.
The meeting made the following recommendations:

1. City and Regional Planning should be included in the list of subjects/branches for all foreign and local MS/PhD scholarships awarded through HEC.

2. Special attention may be given to higher education in City and Regional Planning under HEC faculty development programme.

3. In view of urban sprawl in the country, it has become imperative to establish a top level Land Use Planning Authority at Federal Level along with parallel Provincial and District Level Authorities for land use planning and strategic development planning in the country.

4. In order to promote systematic city and regional planning in the country, it is recommended to develop planning legislation at federal and provincial levels to back up appropriate physical planning system in Pakistan.

5. The profession of City and Regional Planning should be recognized at all levels so that a new cadre of technocrats be established at par with others professions.

6. Diploma and certificate courses in CRP may be introduced in polytechnic institutes in the country. This qualification must be made mandatory for building inspectors in local governments, development authorities and other relevant institutions.

7. Appropriate number of special HEC scholarships (covering full cost) may be awarded to the candidates from Balochistan, Gilgit-Baltistan and AJ&K as no CRP education opportunity is available in these provinces/regions. To boost the development in Balochistan and particularly in Gawader, CRP degree course may be initiated in Quetta.

8. The meeting noted that following the recommendation of the preliminary meeting, The University of Peshawar, Khyber Pakhtunkhwa has already initiated BS-Urban and Regional Planning.

9. The meeting also noted that upon recommendation in the preliminary meeting, BS and MS degree programs in City and Regional Planning (CRP) are being initiated in Lahore College for Women University (LCWU), and other public and private universities are encouraged to take such initiatives.
10. BS-CRP degree may be initiated in all the provincial capitals and federal capital, particularly in Karachi, Quetta, Muzaffarabad, Gilgit and Islamabad to meet the dire need of this profession in the country.

11. BS and MS degree programme in City and Regional Planning (CRP) may be made disaster risk management (DRM) sensitive. National Disaster Management Authority (NDMA) and Earthquake Reconstruction & Rehabilitation Authority (ERRA) may be requested for assistance to conduct courses and research related to disaster management.

12. Centres of Excellence in City and Regional Planning may be established in Islamabad and all provinces.

13. Well-equipped GIS labs at CRP degree awarding institutions may be established.

14. Departmental Libraries in existing CRP Departments may be strengthened. One national level library containing all the books and journals relating to CRP profession may be established in Islamabad.

15. To enhance the job market, non-planners working in the Government/Semi government organizations, development authorities, TMAs (Tehsil/Town Municipal Administrations), Cantonment Boards etc. may be replaced by the qualified City and Regional Planners. Moreover, the capacity building of Local Government institutions should be done by provision of sufficient number of qualified City and Regional Planners in every TMA and District Governments throughout the country.

16. Current system of admission results in sub-standard intake because the candidates who pass the general entry test give lowest priority to CRP. Therefore, committee recommends that a separate entry test may be introduced for CRP laying extra emphasis on English proficiency and drawing aptitude in CRP degree awarding institutions.

17. The committee recommends that HEC should hold refresher training courses of short duration (2-8 weeks duration) for CRP teachers at Islamabad or any other suitable place every year to update their knowledge. Town planners working in the field may also be invited to join these refresher courses to update their knowledge and keep themselves abreast with new technology. Senior professors in the field of Town Planning available in the country or from abroad may be invited to teach in these training courses.

18. The NCRC recommends that all new programmes may be regularized following the accrediting authority's requirements.
ISLAMIC STUDIES
COMPULSORY

Objectives:

This course is aimed at:
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.

DETAIL OF COURSES:

INTRODUCTION TO QURANIC STUDIES
1) Basic Concepts of Quran
2) History of Quran
3) Uloom-ul-Quran

STUDY OF SELECTED TEXT OF HOLLY QURAN

1) Verses of Surah Al-Baqra 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 HOLLY 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 (SAW) I

1) Life of Muhammad Bin Abdullah (Before Prophet Hood)
2) Life of Holy Prophet (SAW) in Makkah
3) Important Lessons Derived from the life of Holy Prophet in Makkah

SEERAT OF HOLY PROPHET (SAW) II

1) Life of Holy Prophet (SAW) 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
Elements of Family
3) Ethical values of Islam

REFERENCE BOOKS:
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, ”
6) Ahmad Hasan, “Principles of Islamic Jurisprudence” Islamic Research Institute, International Islamic University, Islamabad (1993)

PAKISTAN STUDIES
(COMPULSORY)

(As Compulsory Subject for Degree Students)

Introduction/Objectives:

Objectives:
- To develop vision of Historical Perspective, Government, Politics, Contemporary Pakistan, ideological background of Pakistan.
- To study the process of governance, national development, issues arising in the modern age and posing challenges to Pakistan.

Course Outline:
1. Historical Perspective
   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

**Recommended Books:**