

CURRICULUM

OF

CITY & REGIONAL

PLANNING

BS & MS

(Revised 2012)



HIGHER EDUCATION COMMISSION

ISLAMABAD

CURRICULUM DIVISION, HEC

Prof. Dr. Syed Sohail H. Naqvi	Executive Director
Mr. Muhammad Javed Khan	Adviser (Academic)
Malik Arshad Mahmood	Director (Curri)
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

CONTENTS

1.	Introduction	6
2.	Part-I BS Programme (4-Year) in City & Regional Planning.	9
3.	Scheme of Studies for BS City & Regional Planning	10
4.	Detail of Courses BS (4-Year) in City & Regional Planning Programme	12
5.	Part-II MS Programme (2-Year) in City & Regional Planning.	57
6.	Scheme of Studies for MS (2-Year)	57
7.	Recommendations	61
8.	Annexures A & B	63

PREFACE

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 of 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).

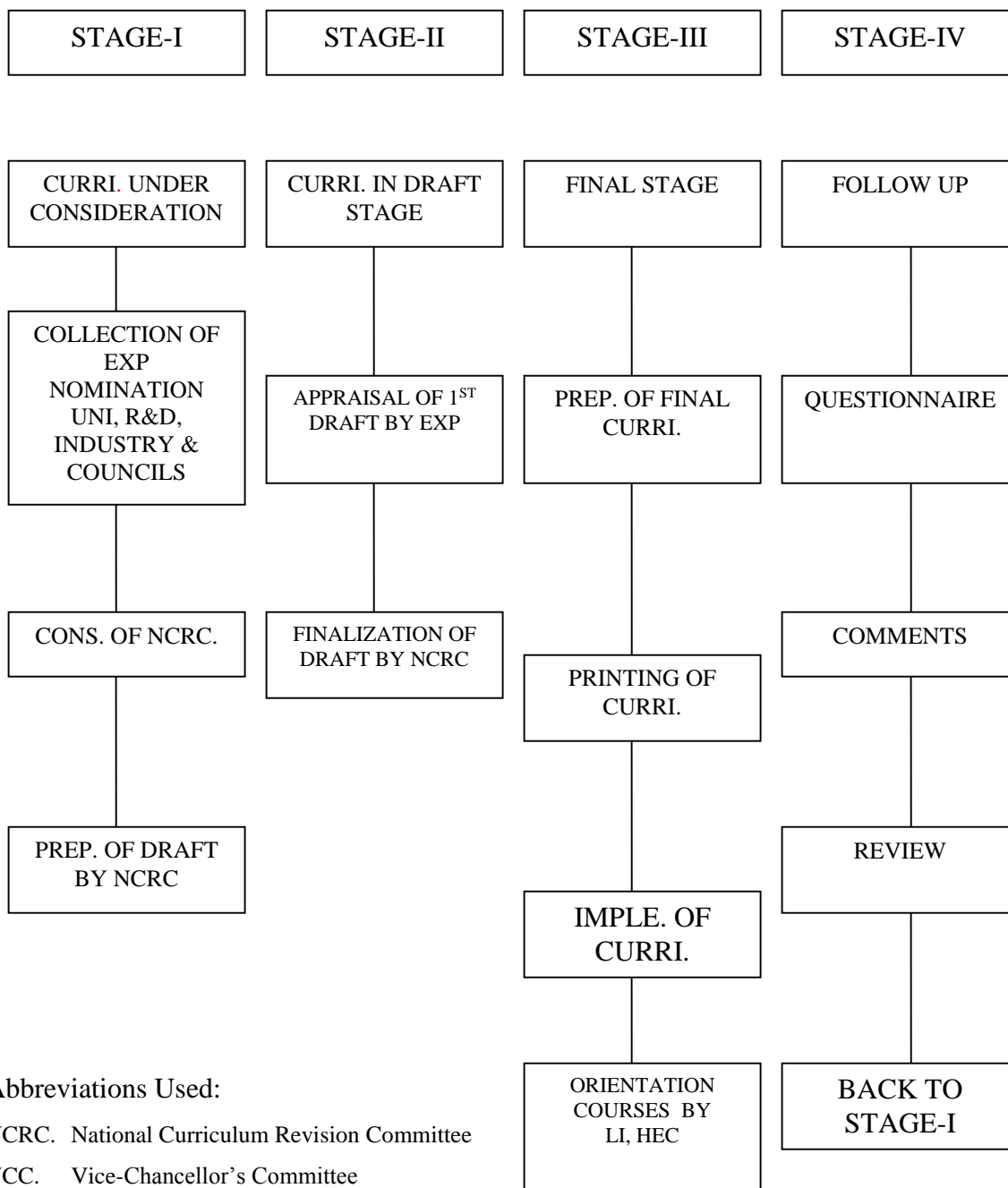
To bring international compatibility to qualifications held from Pakistani universities/DAIs for promotion of student’s mobility and job seekers around the globe, a Committee comprising of Conveners of the National Curriculum Revision Committee of HEC met in 2009 and developed a unified template for 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

CURRICULUM DEVELOPMENT



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

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
Associate Professor (Environment Science)
Department of City & Regional Planning,
Lahore College for Women University (LCWU),
Jail Road, Lahore | Member |
| 7. | Dr. Rizwan Hameed
Professor,
Department of City & Regional Planning
University of Engineering and Technology,
Lahore | Member |
| 8. | Ms. Fariha Amjad Ubaid
Associate Professor
Department of Architecture & Planning
NED University of Engineering and Technology
City Campus, Maulana Din Muhammad Wafai Road,
Karachi | Member |
| 9. | Ms. Naushaba Azhar
Associate Professor and Head of Department
Department of Architecture, The Superior College,
17 K M Raiwind Road, Lahore | Member |
| 10. | Mr. Zainul Abedin
Professor,
Centre for Regional and Urban Studies (CRUST),
COMSATS Institute of Information Technology,
Chak Shahzad, Islamabad. | Member |
| 11. | Brig (R) Zafar Jamil
Advisor, Knowledge Management, Earthquake
Reconstruction and Rehabilitation Authority,
Islamabad | Member |
| 12. | Mr. Jahangir K. Sherpao
CITE-Architecture Planning & Design
Group, Plot No. 79, I & T Centre, G-8/ I,
Islamabad. | Member |
| 13. | Plnr. Masood ul Hassan Jafri
Director/Head Urban Planning,
E.A Consulting Pvt. Ltd, AL-9, 15th
Lane, Khayaban-e-Hilal, Phase-VII,
DHA, Karachi. | Member |
- (Representative, Pakistan Council of Architects and
Town Planners)

14. Syed Ayaz Haider Member
Assistant Professor,
Department of Architecture,
CECOS University of IT & Emerging
Sciences, Phase-IV, Hayatabad,
Peshawar

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)

S. No.	Course Title	Credit Hours		Total Credit Hours
		Theory	Practical	
	FIRST SEMESTER			
1.	Introduction to City and Regional Planning	2	1	3
2.	Technical Drawing and Computer Aided Design	1	2	3
3.	Mapping and Remote Sensing	2	1	3
4.	Sociology	3	0	3
5.	Mathematics	2	0	2
6.	English-I (Functional English)	3	0	3
		13	4	17
	SECOND SEMESTER			
7.	History of Urban Planning	2	0	2
8.	Transportation Engineering	2	1	3
9.	Surveying	1	2	3
10.	Applied Statistics	2	0	2
11.	Economics	3	0	3
12.	Islamic Studies/Pakistan Studies/Ethics	2	0	2
13.	English-II (Communication Skills)	3	0	3
		15	3	18
	THIRD SEMESTER			
14.	Transportation Planning	2	1	3
15.	Planning Legislation	3	0	3
16.	Professional Practice for Planners	2	0	2
17.	Architectural Design	1	2	3
18.	Applied Geography	2	1	3
19.	English-III (Communication Skills and Report Writing)	1	2	3
		11	6	17

	FOURTH SEMESTER			
20.	Housing and Urban Development	2	1	3
21.	Planning Surveys and Studies Report	1	2	3
22.	Environmental Planning and Management	2	1	3
23.	Information Technology and Database Management	1	2	3
24.	Introduction to GIS	2	1	3
25.	Islamic Studies/Pakistan Studies/Ethics	2	0	2
		10	7	17
	FIFTH SEMESTER			
26.	Site Planning and Landscape Design	2	1	3
27.	Urban Renewal and Conservation	2	1	3
28.	Infrastructure Planning and Management	1	1	2
29.	GIS Analysis and Applications in Planning	1	2	3
30.	Environmental Engineering	2	1	3
31.	Hazards and Disaster Management	2	1	3
		10	7	17
	SIXTH SEMESTER			
32.	Urban Design	2	1	3
33.	Planning of New Towns	2	2	4
34.	Rural Planning	2	1	3
35.	Sustainable Development and Community Empowerment	1	1	2
36.	Construction Technology	2	1	3
37.	GIS Development	1	1	2
		10	7	17
	SEVENTH SEMESTER			
38.	Master Planning – I	2	2	4
39.	Land Use and Building Control	2	1	3
40.	Project Planning and Management	2	1	3
41.	Financial Planning and Budgeting	2	1	3
42.	Research Methods	2	1	3
43.	Project (Part - I)	0	0	0
		10	6	16
	EIGHTH SEMESTER			
44.	Master Planning – II	2	2	4
45.	District and Regional Planning	2	1	3
46.	Estate Management	1	1	2
47.	Project (Part- II)	0	6	6
		5	10	15
	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:

Introduction to City and Regional Planning, Definitions and terms. Justification and aims of planning. Principles in planning. Levels of planning. Types of Plans and planning. Planning Elements. Planning and its relationship with other professions. New trends in planning. Functions of professional planners. The planning process. Introduction to planning system in Pakistan. Scope, nature and purpose of physical planning. Land use planning theories. Planning theories of Soria-Y-Mata, Patrick Geddes, Ebenezer Howard, Le Corbusier, Frank Lloyd Wright, Lewis Mumford, Doxiadis etc.

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:

1. Hall, P., and Tewdwr-Jones, M. (2011), Urban and Regional Planning, Routledge.
2. Allmendinger, P., Prior, A., and Raemaekers, J. (eds.) (2000), Introduction to Planning Practice, John Wiley.
3. Ur Rahman, A. (2011), The Imperatives of Urban and Regional Planning: Concepts and Case Studies from the Developing World, Xlibris Corporation.
4. Le Gates, R.T., and Stout, F. (eds.) (2011), The City Reader, Routledge.
5. Levy, J. M. (2009) Contemporary Urban Planning, Pearson Prentice Hall.
6. Greed, C. (2004), Introducing Planning, Amazon.

7. Hall, P. (2002) Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century, Blackwell Publishing.
8. Greed, C. (ed.) (1999), Social Town Planning, Routledge.
9. Blowers, A., and Evans B. (eds.) (1997), Town Planning into the 21st Century, Routledge.
10. Greed, C. (1993) Introducing Town Planning, Longman Group, UK.
11. Bhatti, A. K. (1994) Town Planning for the Third World, Feroze Sons Ltd. Lahore.
12. Ratcliff, John (1981) Introduction to Town and Country Planning, London, Hutchinson.
13. Hall, Petter (1980) Urban & Regional Planning, England, Penguin.
14. Government of Pakistan (1986) National Reference Manual on Planning and Infrastructure Standards, E&UA Div. Ministry of Housing and Works, Islamabad.

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:

Introduction to drawing instruments and scales. Drafting techniques. Measured drawings. Plan, Elevation and Section of buildings. Solid geometry. Introduction to Perspective of a building and group of buildings. Rendering Techniques: primary and secondary colours. Preparation of land use, density and sub-division maps. Orthographic projection and orthogonal projections of simple solid in simple position. Oblique and auxiliary planes. Isometric and pictorial projections of solid figures, making of free hand sketches from solid objects and from orthographic projections. Intersection of surfaces. Development of surfaces.

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:

1. Ching, Francis D K (2007) Form, Space and Order, John Wiley & Sons Inc., New Jersey

2. Calendar, John Hancock et. al (1997) Time Saver Standards for Architectural Design Data, McGraw-Hill Professional.
3. Dechiara, Joseph de and Michael J. Crosbie (2001) Time Saver Standards for Building Types, McGraw-Hill Professional.
4. Rasmussen, Steen Eiler (1964) Experiencing Architecture, MIT Press, Massachusetts.
5. Ching, Francis D K (2011) A Visual Dictionary of Architecture, John Wiley & Sons Inc. New Jersey
6. Unwin, Simon (2009) Analyzing Architecture, Routledge.
7. Davies, Nikolas and Erkil, Jokiniemi (2008) Dictionary of Architecture and Building Construction, Architectural Press, Oxford.
8. Jefferies, Alan (2010) Architectural Drafting and Design, Dalman Cengage Learning
9. Alexander, Christopher (et. al.) A Pattern Language; Towns, Buildings, Construction, 1977, Oxford University Press, New York.
10. Giesecke, Frederick E. (1991) Technical Drawing, 9th Ed. New York Macmillan Publishing.
11. David Fery (2000) Auto CAD 2000 No Experience Required, SYBEX Computer Books Inc. USA, Latest Edition
12. Ron House, Paul W. Richardson, John Brooks, Dylan Vane (2000) Using Auto CAD 2000, A Division of Macmillan, USA, (Latest Edition).

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:

1. Robinson, H., *Elements of Cartography*, John Wiley & Sons, New York, (Latest Edition)
2. Singh, R. L., *Elements of Practical Geography*, (Latest Edition)
3. Lillesand, T. M. and Kiefer, R. W. (2004). *Remote Sensing and Image Interpretation*, 5th Edition. (John Wiley and Sons), ISBN 0-471-15227-7
4. Mather, P. M. (2004). *Computer Processing of Remotely Sensed Images*, 3rd Ed. (John Wiley and Sons), ISBN 0-470-84919-3
5. Campbell, James B. (2002). *Introduction to Remote Sensing*, 3rd Ed., (The Guilford Press) ISBN # 0-7484-0663-8 (pbk).
6. Gibson, P. J. (2000). *Introductory Remote Sensing: Principles and Concepts* (Routledge), ISBN 0-415-19646-9
7. Jensen, J. (2000) *Remote Sensing of the Environment: An Earth Resources Perspective*, Amazon Publishers, ISBN #
8. Sabins, F. F. (1996). *Remote Sensing: Principles and Interpretation*, 3rd ed, (W H Freeman & Co), ISBN # 0-7167-2442-1

4. SOCIOLOGY

Credit hours: 3 (3+0)

Prerequisites: None

Specific Objectives:

To abreast with basic concepts and theories of sociology and its relation with planning.

Theory:

Social groups, Typology, Nature, Patterns of interaction, social and cultural values. Social control, Attitude, perception and Behavior symbols. Prejudices and taboos, Collective behavior, Group expectations, Social structures, Status, Class, Role, Social stratification. Age, Sex, Marital Composition, Fertility, Mortality, components of demographic change, Urban society, Behavior and personality, Formal and informal association, Bureaucratic organization. Kinship relations, Institution, Social processes and values and norms. Rural culture. Social processes and social change in population. viz: transformation and natural increase, characteristics and effect of growth trend on housing, utilities and community facilities. Significance of family; Household and social institutions in Urban planning. Household, Income, Dependency ratio and Employment pattern.

Recommended Books:

1. Introduction to Sociology, Seventh Edition (2009) ISBN-10: 039393232X
2. Garth Massey (2011) Readings for Sociology Seventh Edition | ISBN-10: 0393912701 |
3. Anthony G., Mitchell D., Richard P. A., Deborah C. Essentials of Sociology (Third Edition) (2010) | ISBN-10: 0393932370 |
4. Worsley, Petet ed., Introducing Sociology 2nd ed., England, Penguin
5. Lewis, J. Parry, (1980) Urban Economics, a Set Approach, London, Edward Arnold.
6. McCormick, B. J, Introducing Economics , England, Penguin (Latest Edition)
7. Willis, K.G. (1980) Economics of Town and Country Planning, London, Grenada Press.

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

Matrices and Determinants. Cramer rule. Hyperbolic functions. Curvature. Integration: Method of Integration. Applications of definite integrals: Length of an arc, Area between two curves, Volume of a solid of revolution. Surface area, centroid, Moment of plane area (about the coordinate axis), Differential Equations: first and second order.

Recommended Books:

1. Wilson, A. G, *Mathematics for Geographers and Planners*, Oxford, Clarendon, (Latest Edition)
2. Washington, J. Allyn, *Basic Technical Mathematics*, London; Benjamin, (Latest Edition).

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:

1. Collins, Cobuild, Students' Grammar. London: Longman (Latest Edition)
2. Eastwood, J. (2004) Oxford Practice Grammar. New Ed., with tests and answers. O UP
3. Fisher, A. (2001) Critical Thinking. C UP
4. Goatly, A. (2000) Critical Reading and Writing: An Introductory Course. London: Taylor & Francis
5. Hacker, D. (1992) A Writer's Reference. 2nd Ed. Boston: St. Martin's
6. Hewing, M. Advanced Grammar in Use. New Ed. C UP
7. Murphy, Raymond. Grammar in Use. C UP (Latest Edition)
8. Swan, M. and Walter C. How English Works. Oxford: O UP (Latest Edition)
9. Thomson & Martinet. Practical English Grammar. O UP (Latest Edition)
10. Wallace, M. (1992) Study Skills. C UP.

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:

1. Peter Hall, *Cities of Tomorrow*, 3rd Edition, Blackwell Publishing Ltd. 2002
2. Donald Chiaralla, *The History of Urban Planning and Cities*, Lulu.com, 2005
3. Finn Kjærdsdam, *Urban planning in History*, Aalborg University Press, 1995, Amazon Com. 2007.
4. Edmund Burke, Kenneth Pomeranz, *The environment and world history*, University of California Press, 2009.
5. Gordon Emanuel Cherry, *The evolution of British town planning: a history of town planning in the United Kingdom during the 20th Century and of the Royal Town Planning Institute, 1914-74*, L. Hill, 1974.
6. Dyos, H. J. ed, *The Study of Urban History*, London, Edward 1968.
7. Hall, Peter, *The World Cities*, 2nd Ed., London, Weinder field, 1977.
8. Sutcliffe, Anthony, *History of Urban and Regional planning*, London, Mansell, 1981.
9. Sadiq Ali Gill (2000), *Bargazasht-e-Tarekh*, Imporium, Lahore.
10. Bruke, Gerald, *Towns in the Making*, London, Edward Arnald, 1971.
11. Manford, Lewis, *City History*, England, Penguin, 1961

12. Ostcowski, Richard, *Echos of Time; A World History*, New York, McGraw-Hill
13. S. Ahmed Ali, *History of Town Planning in India and Pakistan*, 1970
14. Gallion, Arthur, B., *The Urban Pattern*, D. Van Nostrand Company, Inc. London (Latest Edition)
15. Cherry, Gorden, E., *Cities and Plans*, London, Edward Arnold, 1986.

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:

1. Bowerson, D. J., Introduction to Transportation (Latest Edition).
2. Department of Environment, Roads in Urban Areas, HMSO, UK (Latest Edition)
3. Normanken, Fundamentals of Traffic Engineering, I. T. T. E (Latest Edition)

4. O'Flaaherty, C. A., Highways, Vol.1, Highways & Traffic, London, Edward, 1975
5. Jason C. Y. U., Transportation Engineering, Introduction to Planning, Design and Operations, Elsevier North Holland Inc. N.Y. (Latest Edition).
6. Vuchic, Vukan, R., Urban Public Transportation System and Technology, Prentice Inc. Englewood Cliffs, New Jersey, (Latest Edition).

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:

1. Charles D. Ghilani, Paul R. Wolf (2010) Elementary Surveying: An Introduction to Geomatics; Pearson Education, Limited, 2010.
2. Barry F. Kavanagh (2003) Surveying: principles and applications; Prentice Hall.
3. Julia J. Quinlan (2012) How to Use Maps; Rosen Pub Group.
4. Anderson, James, M. and Mikhail, M. Edward, *Introduction to Surveying*, McGraw Hill Co. New York, (Latest Edition)
5. Nathornson, Jerry, A. and Kissam, Philips, *Surveying Practice*, McGraw Hill Co. New York, (Latest Edition)
6. Kanetkar, T.P. and Kulkarni, S.V., *Surveying and Leveling-1*, Pune Vidyarthi Gridha Prakashana, Poona, (Latest Edition).
7. Agor, R., *Surveying*, Khana Publishers Delhi, (Latest Edition).

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:

1. Stanislav Kolenikov (et al) (2010) Statistics in the social sciences: current methodological developments; John Wiley and Sons.
2. Jay A. Weinstein (2010) Applying Social Statistics: An Introduction to Quantitative Reasoning in Sociology; Rowman and Littlefield.
3. Joseph F. Healey (2012) Statistics: A Tool for Social Research; Cengage Learning.
4. J. P. Marques de Sá (2003) Applied statistics: using SPSS, STATISTICA, and MATLAB, Volume 1; Springer.

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,

Secondary and Tertiary), Demand and Supply, Price, Market Elasticity, Marginal Utility, Monopoly, Marginality, Income distribution, Equality and equity, Gross and net national product and income. Per Capita Income; Basic factors of production and their reward; land, labor, capital and organization. Rent, Wages, Interests and Profits; Laws of Economics; Economic development theories. Role of economics in planning and development. Micro credit and income generation and livelihood programmes. Economic planning in Pakistan; Perspective Plan, Five Year Development Plans, Annual development programmes.

Recommended Books:

1. Sloman, John. (2003) Economics, 5th Edition. Prentice Hall. ISBN 0-273-65574-4
2. Sloman, John. (2004) Essentials of Economics 3rd Edition. Prentice Hall. ISBN 0-273-68382-9
3. Lewis, J. Parry, *Urban Economics, a Set Approach*, London, Edward Arnold, 1980
4. McCormick, B. J, *Introducing Economics 3rd Ed.*, England, Penguin, 1973
5. Willis, K. G., *Economics of Town and Country Planning*, London, Grenada Press, 1980 (latest edition)
6. Stiglitz, JE. & Driffill, (2000) Economics WW Norton & Co. ISBN. 0-393-97584-3
7. Case, K., Fair, RC, Gartner, M. & Heather, K. (1999) Economics 4th Edition.
8. Parkin, M., Powell, M. & Matthews, K. (2003) Economics 5th Edition.

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

Importance of written and spoken words. Construction of sentences and paragraphs and the use of effective English composition. Preparation of short essays and speeches. Precis writing and letter writing. Building up of vocabulary. Grammar and logic of arguments. Qualities of a good report on a Town- Planning topic. Organization and format of a planning report: main parts, quotations, footnotes, use of headings, Bibliography etc.

Recommended Books:

1. Collins COBUILD Students' Grammar. London: Longman
2. Eastwood, J. 2004. Oxford Practice Grammar. New Ed., with tests and answers. O UP
3. Goatly, A. 2000. Critical Reading and Writing: An Introductory Course. London: Taylor & Francis
4. Murphy, Raymond. Grammar in Use. C UP
5. Thomson & Martinet. Practical English Grammar. O UP
6. Wallace, M. 1992. Study Skills. C UP
7. Yorke, R. Study Skills.
8. Debska-Ainta, *Upgrade your English*, Oxford University Press, (Latest Edition)
9. Cosmo, F. Ferrara, *Writing on the Job*, (Latest Edition)
10. Kettleby and Thompson, *English for Modern Business*
11. Readers Digest, *Write Better, Speak Better* (Latest Edition).

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:

1. White, Peter. R. (1976) *Planning for Public Transport*, London, Hutchinson.
2. Walles, G. R. (1975) *Comprehensive Transport Planning*, London, Charles Griffen.
3. Truelove, P. (1986) *Decision Making in Transport Planning*, UK Limited.
4. Bruton, J. Micheal (1985) *Introduction to Transport Planning*, London, UCL Press.
5. Dickey John, W. *Metropolitan Transportation Planning*, Scripta Books Co. Washington D. C. (Latest Edition)
6. Vuchic, Vukan, R. *Urban Public Transportation System and Technology*, Prentice, Inc. Englewood Cliffs, New Jersey, (Latest Edition)

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

plans. The relationship of central and local government. Concepts, definitions and objective of zoning and land subdivision regulations. Legislation relating to city and regional planning in Pakistan including various acts, orders, ordinances and bylaws concerning Master Planning, Area Development Schemes, Land Acquisition, Housing, Building Control, Transport, Public Health and environmental protection. Process of en-acting legislation.

Recommended Books:

1. Garner, J.F. ed. (1975) Planning Law in Western Europe, New York, Elsevier.
2. Pardue, Michael (1977) Cases and Materials on Planning Law, London, Maxwell.
3. Telling, A.E (1982) Planning Law and Procedure, London, Butter Worths.
4. Heap, Desmond (1982) An Outline of Planning Law, London, Maxwell.
5. Mcauslan, Patrick (1975) Land, Law and Planning, London, Weidenfield.
6. Government of Pakistan (2001) Provincial Local Government Ordinances, 2001
7. Government of Punjab (2010) Punjab Land Sub-division and Private Housing Schemes Regulations, 2010.
8. Government of Sind (2010) Sind Building and Planning Control Ordinance, 2010.
9. LG&CDD (2009), Punjab Land Use Classification, Reclassification and Redevelopment Rules, 2009: under PLGO 2001. LG&CDD.
10. Cullingworth, J.B., and Caves, R.W. (2008), Planning in the USA: Policies, issues and Processes, Routledge.
11. Cullingworth, B., and Nadin, V. (2002), Town and Country Planning in the UK, Routledge.
12. Blackhall, J.C. (2005), Planning Law and Practice, Amazon.
13. Mujahid, R.A. (2005) Amendments in the Punjab Local Government Ordinance 2001, Aurat Publication and Information Service Foundation.
14. Kambo, N.A. (2004), Manual of Lahore Development Authority Laws: Amendments and Case law up to date, Mansoor Law Book House.

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:

1. Hedley Smyth (2011) Managing the Professional Practice in the Built Environment, John Wiley Ltd. Sons, Wiley-Blackwell, USA.
2. Stephen Pattison, Roisin Pill (2004) Values in professional practice: lessons for health, social care, and other professionals, Radcliffe Publishing Ltd. UK.
3. Namavati Roshan, Professional Practice (Estimating and Evolutions), Union Book Stall, Karachi (Latest Edition)
4. PCATP, Handbook (Latest Edition)
5. John Forester (1989) Planning in the face of power, University of California Press, USA.
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:

1. Ching, Francis D K (2007) Form, Space and Order, John Wiley & Sons Inc., New Jersey

2. Ching, Francis D K (2011) A Visual Dictionary of Architecture, John Wiley & Sons Inc. New Jersey
3. Unwin, Simon (2009) Analyzing Architecture, Routledge.
4. Davies, Nikolas and Erkil, Jokiniemi (2008) Dictionary of Architecture and Building Construction, Architectural Press, Oxford.
5. Calendar, John Hancock et. al. (1997) Time Saver Standards for Architectural Design Data, McGraw-Hill Professional
6. Dechiara, Joseph de and Michael J. Crosbie (2001) Time Saver Standards for Building Types, McGraw-Hill Professional.
7. Rasmussen, Steen Eiler (1964) Experiencing Architecture, MIT Press, Massachusetts.
8. Jefferies, Alan (2010) Architectural Drafting and Design, Dalman Cengage Learning
9. Mumtaz, Kamil Khan (1986) Architecture in Pakistan, Butterworth-Heinemann, Singapore
10. Alexander, Christopher et. al. (1977) A Pattern Language; Towns, Buildings, Construction, Oxford University Press, New York.

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:

1. Waston, D. (2003): Time-Saver Standards for Urban Design McGraw-Hill Professional
2. Levy, J. M. (2002): Contemporary Urban Planning. Prentice Hall, 6th Edition.
3. Marsh, W. M. & Grossa, J. (2005): Environmental Geography; Science, Land use Earth system, John Wiley & sons, Hoboken
4. Strahler, A. N. (2004): Modern Physical Geography, New York, John Wiley.
5. Strahler, A. N. Strahlar, A. H. (2004): Physical Environment, New York, John Wiley.
6. Strahler, A. N. Strahlar, A. H. (2004): Physical Environment, New York, John Wiley.
7. Christopher son, R. W. (2000): Geo-systems, USA Prentice Hall Inc.
8. Monk house, F. J. (1991): Principles of Physical Geography, London Hodder & Stoughton.
9. Miller, G.T. (1996): Living in the Environment Principles, connections and solutions, 9th Edition wads worth, ISBNo. 53423898X
10. Mcuveen (1992): Fundamentals of weather and climate, Prentice Hall, New Jersey.
11. Well & well and N. (1998): Atmosphere and oceans, Longman, London
12. Hugget, R. J. (2002): Fundamentals of Geomorphology, Rutledge, (Rutledge Fundamentals of Physical Geography).
13. Miller, A. (2001): Climatology, Methuen, New York.
14. Lamb, H. (1992): Climate History and the Modern World, Methuen & Co. Ltd. London.

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
 1. Writing. Advanced by Ron White. Oxford Supplementary Skills. Third Impression 1992. ISBN 0 19 435407 3 (particularly suitable for discursive, descriptive, argumentative and report writing).
 2. College Writing Skills by John Langan. McGraw-Hill Higher Education. 2004.
 3. Patterns of College Writing (4th Edition) by Laurie G. Kirszner and Stephen R. Mandell. St. Martin's Press.
- 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:

1. Donison, David (1981) Housing Policy, England, Penguin.
2. Government of Pakistan, (2001) National Housing Policy-2001.
3. Balchin, Paul. N (1982) Housing Policy and Housing Needs, London.
4. Smith, David Drakakies, (1981) Urbanization, Housing and the Development Process, London, Croom Helm.
5. Swan, Peter, J. (1983) Management of Sites and Service Housing Schemes, Chichester, Wiley.
6. Payne, Geoffrey (1982) K, Low income Housing in the Developing World, London Methews.
7. UNCHS (Habitat), Physical Improvement of Slums and Squatter Settlement
8. Aldrich, Brian C, and Sandhu Ravinder, S., Housing the Urban Poor, Policy and Practice in Developing Countries, Zed Books Ltd. London (Latest Edition)
9. Data, Kavita and Gareth, A. Jones, Housing and Finance in Developing Countries, Routledge, London (Latest Edition)
10. De Chaira, Joseph and Panero, Julius and Zlnik, Martin, Housing and Residential Development, McGraw Hill Inc. New York, (Latest Edition)
11. James White, Elizabeth S. Holst (1970) Housing and urban development: A selected, annotated bibliography, American Bar Foundation.

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:

1. Mutz, D. C. (2011) Population-Based Survey Experiments, Princeton University Press.
2. Bethlehem, J., Cobben, F., and Schouten, B. (2011) Handbook of Nonresponse in Household Surveys, John Willey and Sons.
3. Bulmer, M. (ed.) (2010), Social Measurement through Social Surveys, Ashgate.
4. Pauline, V. Y. (2009) Scientific Social Surveys and Research, 4th Edition, Phi Learning.
5. Deaton, A. (2000), The Analysis of Household Surveys: A Micro econometric Approach to Development Policy, World Bank.
6. Groves, R.M. (1989) Survey Errors and Survey Costs, New York: John Willey and Sons.
7. Heinville, Gerald, Survey Research Practice, London (Latest Edition).
8. Loethet, Herman (1980) Descriptive and Inferential Statistics, London, Allyn Baccs.
9. Gohagass, John, K. (1980) Quantitative Analysis for public Policy, New York, McGraw Hill.
10. Sarof, Jerome, R. (1969) Survey Manual for Comprehensive Urban Planning, Alaska, Institute of Social Sciences.
11. Yeomans, K.A., Statistics for the Social Scientist, Applied Statistics, Vol. I, II England, Penguin, (Latest Edition)
12. Bateman, Michael (1977) Techniques Manual, Walton Hall.
13. Moser Sirclaus (1971) Survey Methods in Social Investigation, USA, Gower,
14. Simpson, Barry J. (1985) Quantitative Methods for Planning, England.

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:

1. Miller, G. T. and Spoolman, S. (2012) Living in the Environment: Principles, Connections, and Solutions, Brooks/Cole, CENGAGE Learning.
2. UN-HABITAT (2011), Cities and Climate Change: Global Report on Human Settlements 2011 (ISBN: 9781849713702).
3. Lehmann, S. (2010), The Principles of Green Urbanism: Transforming the City for Sustainability, Earthscan (ISBN: 9781844078172).
4. Imran, Muhammad (2010), Institutional Barriers to Sustainable Urban Transport in Pakistan, Oxford University Press Pakistan, (ISBN: 9780195476668).
5. Randolph, J. (2004). Environmental land use planning and management, Covelo, CA. Island Press.
6. Blowers, A. (ed) (1993) Planning for a sustainable environment: A Report by the Town and Country Planning Association, Amazon.
7. Arvill, Robert, Man and Environment, 4th ed., England, Penguin
8. Cullingworth, J. B (1980) Environmental Planning 1939-1969, Vol.4, London, Mayestyes.
9. Bigham, D. Plastair, The Law and Administration relating to protection of the Environment, London, Oyez. (Latest Edition)
10. Canter, Environmental Impact Assessment, McGraw Hill, (Latest Edition)
11. Lottnan, R. Herbert, How Cities are Saved, New York, Universal Press. (Latest Edition)
12. Skinner J. Brian (1981) Use and Misuse of Earth Surface, California, WK Inc.,
13. Asit K. Biswas Ed., Environmental Impact Assessment for Developing Countries. (Latest Edition)
14. Alroffo, S. B. (1989) Pollution Control in a Developing Economy, Accra, Ghana University Press.
15. Selman, Paul (1993) Environmental Planning, London, Paul.
16. Blowers Andrews, Planning for Sustainable Environment (Latest Edition)
17. Mukherjee, Biswarup, Environmental Management: Basic and Applied Aspects of Management of Ecology and Environments System, Vikas Publishing House Pvt. Ltd., New Delhi, (Latest Edition).

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:

1. Jeffrey A. H., Ramesh V., Heikki T. (2010) Modern Database Management (10th Edition) | ISBN-10: 0136088392 |
2. Tony F., Robert S. (1992) Practical Database Management (Management Information Systems) Publisher: Pws Pub Co ISBN-10: 0534925928
3. Carlos C., Steven M., Peter R. (2009) Database Systems: Design, Implementation and Management. | ISBN-10: 0538748842 |
4. Sikander, P.K.etal, Computer Use In Planning and Urban Management, Naosa Publishing House, New Delhi, (Latest Edition)
5. C.J. Date (2004) Database Systems, Addison Wesley Pub. Co. ISBN - 0201385902
6. R.Connolly and P. Begg (2003) Database Systems: A Practical Approach to Design, Implementation and Management, Addison-Wesley Pub. Co. ISBN – 0321210255

7. Elmasri, R. and Navathe, S.B (2004) "Fundamentals of Database Systems" Addison-Wesley Pub. Co ISBN – 0-201760355
8. Mark L. Gillenson (2005) Fundamentals of Database Management Systems John Wiley & Sons
9. Les Kirkup (2002) Data Analysis with Excel®: An Introduction for Physical Scientists Cambridge University Press.
10. Terry Halpin (2001) Information Modeling and Relational Databases: From Conceptual Analysis to Logical Design (Morgan Kaufmann Series in Data Management Systems) Morgan Kaufmann; 1st edition ISBN: 1558606726
11. Robert R. Korfhage (1997) Information Storage and Retrieval Wiley; 1st edition ISBN: 0471143383.

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:

Introduction, Definitions, Key components, Functional Subsystem, Raster Data Model, Vector Data Model, Attribute Data Model, Data Acquisition Techniques, Data sources, Data capturing techniques and procedures, Data Transformation, Visualization of spatial data, Layers and Projections, Map Design: Symbols to Portray Points, Lines and Volumes, Graphic Variables, Visual Hierarchy, Data Classification Graphic Approach, Mathematical Approach, Spatial Analysis: Overlay Analysis, Spatial analysis, Neighborhood functions, Network and overlay analysis, buffering, Spatial data Quality: Components of Data Quality, Micro Level Components, Macro Level Components, Errors, and data accuracy.

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:

1. Heywood, I., Cornelius, S. and Carver, S. (2006) "An introduction to Geographic Information System", Addison Wesley Longman, New York, Third Edition.
2. Aronoff, S. (2004) "Geographic Information Systems: A Management Perspective", WDL Publications, Ottawa, Fifth Edition. ISBN - 0912804008

3. Clarke, K. (2004) "Getting started with Geographic Information System", Prentice Hall, New York, Second Edition. ISBN - 1879102897
4. Burrough, P., (2002) "Principles of Geographic Information Systems for Land Resources Management", Oxford University Press, Oxford, Second Edition. ISBN – 0198233655
5. McDonald, R. and Burrough, P. (2001) "Principles of Geographic Information Systems", Oxford University Press, Oxford, Second Edition ISBN - 0198233855
6. Foresman, T. (1997) "The history of Geographic Information System", Prentice Hall, New York. ISBN – 0138621454
7. Bernhardsen, Tor, (1999) Geographic Information Systems – An Introduction, John Wiley and Sons Inc., New York.
8. Lo, C. P. and Yeung, A. K. W. (2002) Concepts and Techniques of Geographic Information Systems. Upper Saddle River, NJ: Prentice Hall.
9. Jeffrey Star and John Estes, (1990) Geographic Information Systems: an Introduction, Prentice Hall, Toronto.

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 its civic components.

Recommended Books:

1. Duany, A. E., Plater-Zyberk & R. Alminana (2003), *New Civic Art: Elements of Town Planning*. Rizzoli.
2. Rhind, David, (1982) *Land Use*, London.
3. Taylor, L. John (1981) *Urban Planning Practice in Developing Countries*. Oxford, Pergamon.
4. Osborn, Frederic, J. *New Towns; Their Organs, Achievements and Progress*, London, Leonard Hill, 1977
5. Chapin, F. Stuart (1978) *Urban Land use Planning*, University of Illinois Press Chicago.
6. Harris, Nigel (1992) *Cities in the 1990s*, London.
7. Bacon Edward N. (1975) *Design of Cities*, London, Thames and Hudson.
8. Watson, D. (2003), *Time-Saver Standards for Urban Design*, McGraw Hill Professional.
9. Kaiser, E. J., D. R. Godschalk, F. Stuart & Jr. Chapin (1995) *Urban Land use Planning*. University of Illinois Press (4th edition).
10. Lewis Keeble (1969), *Principles and Practice of Town & Country Planning*, The Estate Gazette, London.

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:

1. Ravetz, Alison (1981) *Remaking Cities*, London, George Allen.
2. Gibson, Michael (1981) *Introduction to Urban Renewal*, London, Hutchinson.
3. UN-HABITAT (1984) *Upgrading of Inner-City Slums*, Nairobi.
4. Couch, Chris (1990) *Urban Renewal Theory and Practice*, London, Macmillan.
5. Palen, J. John (1987) *The Urban World*, McGraw-Hill Ltd., N. Y. (Latest Edition).
6. Devas, Nick and Carole Rakodi, *Managing Fast Growing Cities*, John Wiley and Sons, Inc. New York, (Latest Edition).
7. Gilbert and Gugler Josef, *Cities, Poverty and Development, Urbanization in the Third World*, Oxford University Press, U.K (Latest Edition).
8. Sivaramakrishnan, K. C. (2011) *Re-visioning Indian Cities: The Urban Renewal Mission*, Amazon.
9. Lichfield, N. (2010), *Economics in Urban Conservation*, Cambridge Books.
10. Lupton, R. D. and Bakke, R. J. (2005) *Renewing the City: Reflections on Community Development and Urban Renewal*, Amazon.
11. Jones, E.M. (2004) *The Slaughter of Cities: Urban Renewal as Ethnic Cleansing*, Amazon.
12. Hobson, E. (2004), *Conservation and Planning: Changing Values in Policy and Practice*, Amazon
13. Grogan, P. and Proscio, T. (2000) *Comeback Cities: A Blueprint for Urban Neighborhood Revival*, Amazon.
14. Ross, M. (1995), *Planning and the Heritage*, Amazon.

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:

1. Rainer, George (1990), "*Understanding Infrastructure: Guide for Architects and Planners*" 304 pages , Publisher: Wiley-Interscience; 1 edition, ISBN: 0471505463
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.
7. *Govt. of Pakistan, Provincial Local Government Ordinances 2001*, Mansoor Books House, Lahore

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:

1. Rainer, George (1990), "*Understanding Infrastructure: Guide for Architects and Planners*" 304 pages , Publisher: Wiley-Interscience; 1 edition, ISBN: 0471505463
2. Namavati Roshan, *Professional Practice (Estimating and Evolutions)*, Union Book Stall, Karachi (Latest Edition).
3. Khanna, *Practice Civil Engineers Hand Book*, Union Book Stall, Karachi (Latest Edition).
4. Govt. of Pakistan (2001) *Provincial Local Government Ordinances 2001*, Mansoor Books House, Lahore.

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.

Solid waste management: generation, quantity, composition, collection. Transportation, recycling and disposal of solid waste. Sanitary Landfill sites.

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:

1. PEPA, (1997) *Environmental Guidelines by PEPA*, Ministry of Education, Govt. of Pakistan.
2. Salvata, (1992) *Environmental Engineering & Sanitation*, Wiley Inter-Services.
3. Kumar, Santosh, *Water Supply Engineering*, Khanna Publishing, (Latest Edition)
4. Kumar, Santosh, *Waste Water Engineering*, Khanna Publishing, (Latest Edition)
5. Marsh, W. M. & Gross, A. J. (2005), *Environmental Geography: Science, Landuse & Earth System*, John Wiley & Sons, Hoboken.
6. Brimicombe, A. (2003), *GIS, Environmental Modeling & Engineering*, Taylor & Francis, London.
7. David, D. (1983), *Environmental Process*. George Allen & Unwin London.

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:

1. Timothy Beatley, Philip Berke, David J. Brower (1999) Natural Hazard Mitigation: Recasting Disaster Policy and Planning Island Press ISBN: 1559636025
2. Charlotte Benson, Edward J. Clay (2004) Understanding the Economic and Financial Impacts of Natural Disasters World Bank Publications ISBN: 0821356852
3. CRC (2000) Disaster Management and preparedness by Thomas D. Schneid Publisher CRC November, 22, 2000.
4. David Alexander (1998) Principals of Emergency planning and Management Published in the United State of America by Oxford University Press Inc. Madison Avenue, New York 10016
5. Aloysius J. Rego (2003) The primer on Disaster Risk management in Asia, Asian Disaster preparedness Center (ADPC).
6. ERRA (2009) Annual Report of Earthquake Reconstruction and Rehabilitation Authority of Pakistan (All Editions) available at <http://www.erra.pk/Reports/Publications/Annual%20Review%202009%20-%202010.PDF>
7. ERRA (2010) Urban development Strategy available at http://www.erra.pk/reports/Housing/UrbanHousing/270509Urban_Housing_Developemnt_Strategy%20.pdf
9. ERRA (2009) Housing, available at <http://www.erra.pk/sectors/housing.asp>
10. Theo Kötter, Disaster Risk Reduction and Mitigation by Strategies of Regional and Town Planning, Institute of Urban Planning and Land Management University of Bonn, Germany available at http://www.fig.net/pub/cairo/ppt/ts_32/ts32_01_koetter_ppt.pdf
11. Land use and Physical Planning available at <http://www.housingreconstruction.org/housing/sites/housingreconstruction.org/files/Chapter%207%20Land%20Use%20and%20Physical%20Planning.pdf>
13. Town Planning Instruments as a Strategy for Disaster Risk Reduction available at https://www.fig.net/pub/accra/papers/ts07/ts07_01_adeleye_olayiwola.pdf
14. Toshiaki Udono, (2002) Hazard Mapping and Vulnerability Assessment Regional Workshop on Total Disaster Risk Management 7-9 August 2002 available at <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN009857.pdf>
18. Pakistan Metrological Department, Seismic Report available at www.pakmet.com.pk/SeismicReport_PMD.pdf

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:

1. Whyte H. William, (1980) *Social Life of Small Urban Space*, Washington, Conservation Press.
2. Goethest Richard, (1988) *Making Micro Plans*, G. Britman.
3. Bacon Edward N., (1975) *Design of Cities*, London.
4. Lynch Kevin, (1960) *The Image of the City*, Cambridge. (Latest Edition)
5. Lynch Kevin Gray Hacks, (1984) *Site Planning 3rd ed.*, Cambridge.
6. Richard Unterman and Robbers Small, *Site Planning for Cluster Housing*, Van Nostrend Reinhold Co. New York (Latest Edition).
7. Donald Watson et.al, (2001) *Time Sever Standards for Urban Design*, McGraw Hill.

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:

Selection of a site for a new town. Preparation of a zoning plan and neighborhood plan. Planning of a town centre, industrial estate and town park. Model making for various designs.

Recommended Books:

1. Bor, Walter, (1972) *The Making of Cities*, London, Learnard.
2. Rhind, David, (1982) *Land Use*, London.
3. Osborn, Frederic, J. (1977) *New Towns; Their Organs, Achievements and Progress*, London, Learnard Hall.
4. Burke, Gerald, (1971) *Towns in the Making*, London, Edward Arnald.
5. Taylor, L. John, (1981) *Urban Planning Practice in Developing Countries*. Oxford, Fergman.
6. Chapir, F. Stuart. (1978) *Urban Land use Planning, University of Illinois Press Chicago*.
7. Harris, Nigel, (1992) *Cities in the 1990s*, London.
8. Bacon Edward N., (1975) *Design of Cities*, London, Thames and Hudson.

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:

1. Dias, Hiran, D., (1983) *Manual for Training in Rural Development planning*, Bangkok, A. I. T.
2. Ford, William, C., *A Theoretical Approach to Rural Land-use Planning*, Briton, Arrousmith, (Latest Edition)
3. Chambers, Robert, (1983) *Rural Development; putting the last first*, London, Longman.
4. Whitby, M.C, *Rural Resource Development 2nd Ed.*, London, Mathews, (Latest Edition)
5. Cherry, Gordon, E, *Rural Planning Problems*, London, Learnard, (Latest Edition)
6. Masley Malcolm, J., *Accessibility; The Rural Challenge*, London, Mathew, (Latest Edition)
7. UN-Habitat, (1985) *Guidelines for the Planning of Rural Settlements and Infrastructure*, Nairobi.
8. Weber, Karl E., "*Rural Development Planning in Pakistan*". Asian Institute of Tech Bangkok, (Latest Edition)

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:

The concept of sustainable development. and citizens involvement in planning process for sustainable development. Community Mobilization. Community Empowerment and Development approaches. National and international examples of community empowerment and sustainable development. Social work and welfare organizations as planning aid. Role of NGOs. Livelihood option and diversification. Community credit mechanism. Poverty Alleviation Strategies for Pakistan. Community participation for effective implementation and monitoring of projects. Scope of community participation in the provision of health, Education and other civic amenities in Rural and Urban areas. Gender Issues, Role of women in community development activities.

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:

1. Bell, Colin, Community Studies, London, George Allen (Latest Edition)
2. Marris, Peter, (1982) Community Planning and Conceptions of Change, London, Kagan Paul.
3. Richards, P. J., Basic Needs and the Urban Poor, London, Croom Helm, 1984
4. Blitzer Donna, (1980) Solving Life Problem in Community Resources, London, McGraw-Hill.
5. Thorns, David C., The Quest for Community, London, George, (Latest Edition)
6. UNCHS Habitat, (1986) Supporting the Informal Sector in Low Income, Nairobi.
7. Reinhard, J. Skimer, (1984) Shelter Upgradation for the Urban Poor.
8. UNCHS, Habitat, (1989) Community Credit Mechanisms, Nairobi.
9. Boreru Ester, (1989) Women's Role in Economic Development, England, Earthcon.

10. Sodhi, J. S, "Poverty Alleviation and Rural Development", Criterion Publishers, New Delhi, (Latest Edition).
11. Barton Hugh, "Sustainable Communities", Earthscans Publishers Ltd, London, (Latest Edition).

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:

Drawing of various building components, Chart of characteristics of building materials. Small exercise in project planning, Site selection orientation and setting out for construction. Market analysis of ongoing construction technologies. Risk assessment of existing structures.

Recommended Books:

1. Surendra Singh, "*Engineering Materials*", Prince Book Depot, Lahore, (Latest Edition).
2. Arora, N. L and Gupta B. R, "*Building Construction*", Malik Book Depot, Lahore, (Latest Edition)
3. Barritt, C. M. H., *Advance Building Construction* Vi. I & II, Longman, Essex, (Latest Edition).

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:

TOR Development for GIS Projects, GIS Project Proposal Development: Contents, stages, methodology, implementation plan, financial aspects etc. Enterprise / Corporate GIS, GIS for Local Government and Development Authorities.

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:

1. Board on Earth Sciences and Resources (2003), "GIS for Housing and Urban Development", National Research Council Of The National Academies, The National Academies Press, Washington, D.C. www.nap.edu
2. University of Hong Kong, (1991) Geographic Information System (GIS). Training Workshop on (GIS), in Local/Regional Planning, Centre of Urban Planning and Environmental Management, University of Hong Kong, 1991.
3. A. E. Turban and J. Aronson (1998), Decision Support Systems and Intelligent Systems, 5th edition, Prentice Hall. ISBN: 0-13-781674-8
4. B. Sauter, V. (1997) "Decision Support Systems ", John Wiley & sons, Inc. ISBN: 0-471-31134-0
5. Lo, C. P. and Yeung, A. K. W. (2002) Concepts and Techniques of Geographic Information Systems. Upper Saddle River, NJ: Prentice Hall.
6. Stan Arnoff, (1995) Geographic Information Systems: A Management Perspective. Ottawa, WDL Publications.
7. P. A. Burrough, (1986) Principles of Geographical Information Systems for Land Resources Assessment, Oxford University, Press, New York.
8. UNCHS Habitat (1989) Remote Sensing for Human Settlements, Nairobi.
9. Sullivan & Unwin, (2003) Geographic Information Analysis.
10. John Stillwell & Graham Clarke, (2004) Applied GIS and Spatial Analysis, John Wiley & Sons, UK.

11. Peter M. Atkinson and Nicholas J. Tate, (1999) *Advances in Remote Sensing and GIS Analysis*, John Wiley & Sons, UK.
12. Paul, L., Michael, G., David, M. & David, R. (1999) "Geographic Information Systems: Principles, Techniques, Applications and Management". John Wiley & sons.
13. Ian Masser (1999) *Managing Our Urban Future*, A Lecture by Prof., Division of Urban Planning and Management, ITC, Netherlands, (Printed booklet).
14. Colten, Craig E. (2005) *An Unnatural Metropolis: Wrestling New Orleans from Nature*. LSU Press.
15. Michael Worboys, Matt Duckham (2004) *GIS: A Computing Perspective*, 2nd Edition CRC Press; 2nd edition ISBN: 0415283752

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:

1. Roberts, Margaret, *An Introduction to Town Planning*, London, Hutchinson, (Latest Edition)
2. Sarof, Jerome, R, (1982) *Survey Manual for Comprehensive Urban Planning*, Alaska, Institute of Social Sciences,

3. H & P. P., Govt. of Punjab, *Master Plan for Greater Lahore*, H & PP Department Lahore, (Latest Edition)
4. Govt. of Pakistan, (1986) *National Reference Manual*, Ministry of Housing & Works.
5. Mercury, L. H., (1980) *Development Plans*, London, HMSO.
6. Stan Geertman, John Stillwell, (2009) *Planning Support Systems Best Practice and New Methods*, Springer.
7. Michael Bayer, Nancy Frank, Jason Valerius, (2010) *Becoming an Urban Planner: A Guide to Careers in Planning and Urban Design*, John Wiley and Sons, New Jersey, USA.
8. Anthony James Catanese, James C. Snyder, (1988) *Urban planning*, McGraw-Hill, 1988.
9. [J. B. Cullingworth](#), (1974) *Town and country planning in Britain*, Allen and Unwin (Latest Edition).
10. [J. B. Cullingworth](#), [Vincent Nadin](#), (2002) *Town and country planning in the UK*, Routledge
11. [J. B. Cullingworth](#), (1999) *British planning:50 years of urban and regional policy*, Continuum International Publishing Group.

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:

1. LDA, Lahore, (1984) Building Control Regulations 1984, Lahore, LDA (Latest Edition).
2. Joyce, Frank, (1981) *Local Govt. and Environmental Planning and Control*, England, Gower.
3. Stephenson, John, *Planning Procedures*, London, North Wood, (Latest Edition).
4. KBCA, *Karachi Building & Town Planning Regulations 2002*, (Latest Edition)
5. CDA, DHA, *Byelaws for Building Control* (Latest Edition)
6. Telling, A. E., *Planning Law and Procedure*, Butter North & Co., London (Latest Edition).

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:

1. Riodan, Timthy, (1981) *Project Approach and Policy Review*, New York, John Wiley.

2. Merret, A. J., *Finance and Analysis of Capital Process*, London, Longman, (Latest Edition)
3. Sivaramakishnan K. C., (1986) *Metropolitan Management*, USA,
4. Rouguie Alaxandar, *Project Evaluation and Development*, London, Oxford, (Latest Edition)
5. Cleland, David I, “*Systems Analysis & Project Management*”, McGraw-Hill Company, Singapore, (Latest Edition).
6. Kerzner, Harold, “*Project Management & Systems Approach Planning, Scheme Controlling*”, Van Nortrand Reinhold, New York, (Latest Edition).

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:

1. James R. Morris & John P. Daley, (2009) *Introduction to Financial Models for Management and Planning* (Chapman & Hall/CRC Finance) by
2. Kurowski, Lech & Sussman, David - *Investment Project Design: A Guide to Financial and Economic Analysis with Constraints* (Wiley Finance) (Latest Edition).
3. Anthony E. Boardman, David H. Greenberg, Aidan R. Vining, David L. Weimer - *Cost-Benefit Analysis: Concepts and Practice* (Latest Edition).
4. [Anthony Boardman](#), [David Greenberg](#), [Aidan Vining](#), [David Weimer](#) - *Cost-Benefit Analysis: Concepts and Practice*. Prentice Hill. (Latest Edition)
5. [Kim Hawtrey](#), [Philip Molyneux \(Editor\)](#) , (2009) *Affordable Housing Finance*. ISBN-13: 9780230555181 . Publisher: Palgrave Macmillan.
6. [Peter King](#) (2009) *Understanding Housing Finance*, Taylor & Francis.

7. [Doris Kohn, J. D. von Pischke \(Editor\)](#) (2011) Housing Finance in Emerging Markets: Connecting Low-Income Groups to Markets - ISBN-13: 9783540778561, Springer-Verlag New York, LLC. Publication.
8. Cottred, Alan, Environmental Economics, London, Edward, (Latest Edition)
9. Merret, A. J., The Finance and Analysis of Capital Process 2nd ed., London, Longman, (Latest Edition)
10. Mishan, E. J., (1982) Cost-Benefit Analysis 3rd Ed., London, George
11. Sugder, Robert, Principles of Practical Cost Benefit, Oxford, Oxford University Press, (Latest Edition)
12. Merret, A. J., Finance and Analysis of Capital Process, London, Longman, (Latest Edition).
13. Nathaniel Litchfield, Economics of Planned Development (Latest Edition).

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:

1. Oppentein, A. N., *Questionnaire Design and Attitude Measurement*, London, Heimann, (Latest Edition)
2. M. Iqbal Chaudary, "*Social Theory, Research Problems*," Aziz Book Depot, Lahore Pakistan, (Latest Edition).

3. Karl. E. Weber, Indra. P. Tiwari, "An Introduction: Research and Survey Format Design", *Division of Human Settlements Development*, Asian Institute of Technology Bangkok, Thailand, (Latest Edition)
4. Chava Nachmias, David Nachmias, "Research Methods in the Social Sciences", St. Martin's Press Inc, (Latest Edition)
5. Colin Clifford, (1983) *Urban Projects Manual*, Gerald, Liverpool.
6. Wang, X., Hofe, R. (2007), *Research Methods in Urban and Regional Planning*, Springer.
7. Patten, M. L. (2005), *Understanding Research Methods: An Overview of the Essentials*, 5th edition, Pyczak Pub.
8. Bouma, G. D. (2004), *The Research Process*, 4th edition, Oxford University Press.
9. Berg, B. L. (2003), *Qualitative Research Methods for the Social Sciences*, 5th edition, Allyn & Bacon.
10. Creswell, J.W. (2003), *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 2nd edition, SAGE Publication.
11. Nardi, P. M. (2002), *Doing Survey Research: A Guide to Quantitative Research Methods*, Allyn & Bacon.
12. Neuman, W. C. (2002), *Social Research Methods: Qualitative and Quantitative Approaches*, 5th edition, Allyn and Bacon.

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:

1. Department of Environment, Development Plans Manuals, HMSO, UK (Latest Edition)
2. Bracken, Ian, (1981) Urban Planning Methods; Research and Policy Analysis, London, Methews.
3. Taylor, L. John, Urban Planning Practice in Developing Countries, Oxford, Pergamen. (Latest Edition)
4. Hoyle, S. B., Spatial Aspects of Development, Oxford, John Wiley, (Latest Edition)
5. Batty Michael, Urban Modeling, London, Cambridge University Press, (Latest Edition)
6. [Paul Martinus Jozef Giesberts](#), (1993) Master planning: dealing with flexibility, Eindhoven University of Technology.
7. Robert Cowan, (2008) Master Planning, Scotland. Scottish Government, Architecture and Design Scotland, Scottish Executive, UK.
11. Felix Aromo Ilesanmi, (1998) Master planning approach to physical development: the Nigerian experience, Paraclete Publishers.
12. Raymond Unwin, (1994) Town Planning in Practice, Princeton Architectural Press, New York.
13. Stan Geertman, John Stillwell, (2009) Planning Support Systems Best Practice and New Methods, Springer.
14. Michael Bayer, Nancy Frank, Jason Valerius, (2010) Becoming an Urban Planner: A Guide to Careers in Planning and Urban Design, John Wiley and Sons, New Jersey, USA.
15. Anthony James Catanese, James C. Snyder, (1988) Urban planning, McGraw-Hill.

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:

1. Dickinson, E. Robert, The City Region in Western Europe, London, Routledge, (Latest Edition)
2. Hall, Peter, Urban and Regional Planning, England, Penguin, (Latest Edition)
3. Masely, Mald, J., Growth Centre in Spatial Planning, Oxford, Paragon, (Latest Edition)
4. Richardson, H. W., Elements of Regional Economics, England, Penguin, (Latest Edition)
5. Glasson, John, An Introduction to Regional Planning, 2nd Ed., London, Hutchison, (Latest Edition)
6. Govt. of Pakistan, Housing and Physical Planning Department, Regional Development Plan for Thal.
7. J. Friedmann, Regional Policy Readings; Theory and Applications, London, IT, (Latest Edition).

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:

1. McAuslan, Patrick, (1975) Land, law and Planning, London, Weiderfels.
2. Lichfield, Nathaniel, (1980) Land Policy in Planning, London, George Allen.
3. Broslorman, Robert, (1969) Complete Estate Planning Guide, London, McGraw-Hill.
4. Berger J. Curtis, (1967) Land Ownership and use, Boston, Little Brown.
5. Barros Paul, (1990) The Transformation of Land Supply System, USA Avabury.
6. Harvey Tach, (2009) Urban Land Economics 3rd Vol., Houndmills, Macmillan.
7. Richard Card, (2011) Real Estate Management Law Publisher OUP Oxford (7th edition).
8. Berger J Curtis, (1997) Land ownership and use, 4th edition, Aspen Publisher.
9. M. S Auslan, Patrich, (1975) Land, Law and Planning, London, Weiderfels.
10. Lichfield, Nathaniel, (1980) Land Policy in planning, London, George Allen.

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

Compulsory for all				
CRP-598	Advanced Research Methods	2	1	3
CRP-599	Research Thesis	0	6	6

GROUP-B: Elective Courses (Three Courses to be selected from the following)

Ref. No.	Course Title	Credit Hours		Total
		Theory	Practical	
CRP-501	Advance Planning Techniques	2	1	3
CRP-502	Comparative Urban Planning	2	1	3
CRP-503	Planning Legislation	2	1	3
CRP-504	Regional Development Planning	2	1	3
CRP-505	Advanced Planning Theory	2	1	3
CRP-506	Housing Policy and Practice	2	1	3
CRP-507	Social Engineering	2	1	3
CRP-508	Environmental Planning	2	1	3
CRP-509	Transportation Planning	2	1	3

GROUP-C: Elective Courses (Four Courses to be taken from the following)

	Course Title	Credit Hours	
		Theory	Practical
1.	Public Transport Planning	2	1
2.	Disaster Management	2	1
3.	Development Planning in Pakistan	2	1
4.	Disaster Resilience Recovery and Rehabilitation	2	1
5.	Local Planning Practice	2	1
6.	Environment, Resources and Development	2	1
7.	Legal and Regulatory Aspects in Planning	2	1
8.	Urban Finance Management	2	1
9.	Advanced Statistics	2	1
10.	Advanced Remote Sensing	2	1
11.	Rural Planning	2	1
12.	Advanced Geographical Information	2	1

	Systems		
13.	Mathematical Models in Planning	2	1
14.	Urban Sociology	2	1
15.	Informal Housing	2	1
16.	Environmental Impact Assessment (EIA)	2	1
17.	Community Organization and Development	2	1
18.	Housing and Urban Development	2	1
19.	Urban Design	2	1
20.	Urbanism	2	1
21.	Urban Land Management	2	1
22.	Project Appraisal	2	1
23.	Infrastructure Planning and Management	2	1
24.	Climate Consideration in Urban Design	2	1
25.	Land Use Planning and Zoning	2	1
26.	Urban Governance	2	1
27.	Urban Conservation	2	1
28.	Development Policies	2	1
29.	Negotiation and Conflict Resolution	2	1
30.	Energy Planning and Management	2	1
31.	Gender and Development	2	1
32.	Disaster and Development	2	1
33.	Monitoring and Auditing Urban Development	2	1
34.	Techniques for Damage and Need Assessment	2	1
35.	Special Topics (to be selected by the university)		3

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.

RECOMMENDATIONS/SUGGESTION

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 SELLECTED 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 SELLECTED 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

SELLECTED 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

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,"
- 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).

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

- 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

Recommended Books:

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 Pakistan*, Islamabad: Institute of Policy Studies, Islamabad.
8. Ziring, Lawrence. *Enigma of Political Development*. Kent England: WmDawson & 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. Sayeed, 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.