

CURRICULUM
OF
CITY AND REGIONAL PLANNING
BS (HONS)
MS (HONS)

(Revised 2006)



HIGHER EDUCATION COMMISSION
ISLAMABAD

CURRICULUM DIVISION, HEC

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Composed by Mr. Zulfiqar Ali, HEC Islamabad

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PREFACE

Curriculum of a subject is said to be the throbbing pulse of a nation. By looking at the curriculum one can judge the state of intellectual development and the state of progress of the nation. The world has turned into a global village; new ideas and information are pouring in like a stream. It is, therefore, imperative to update our curricula regularly by introducing the recent developments in the relevant fields of knowledge.

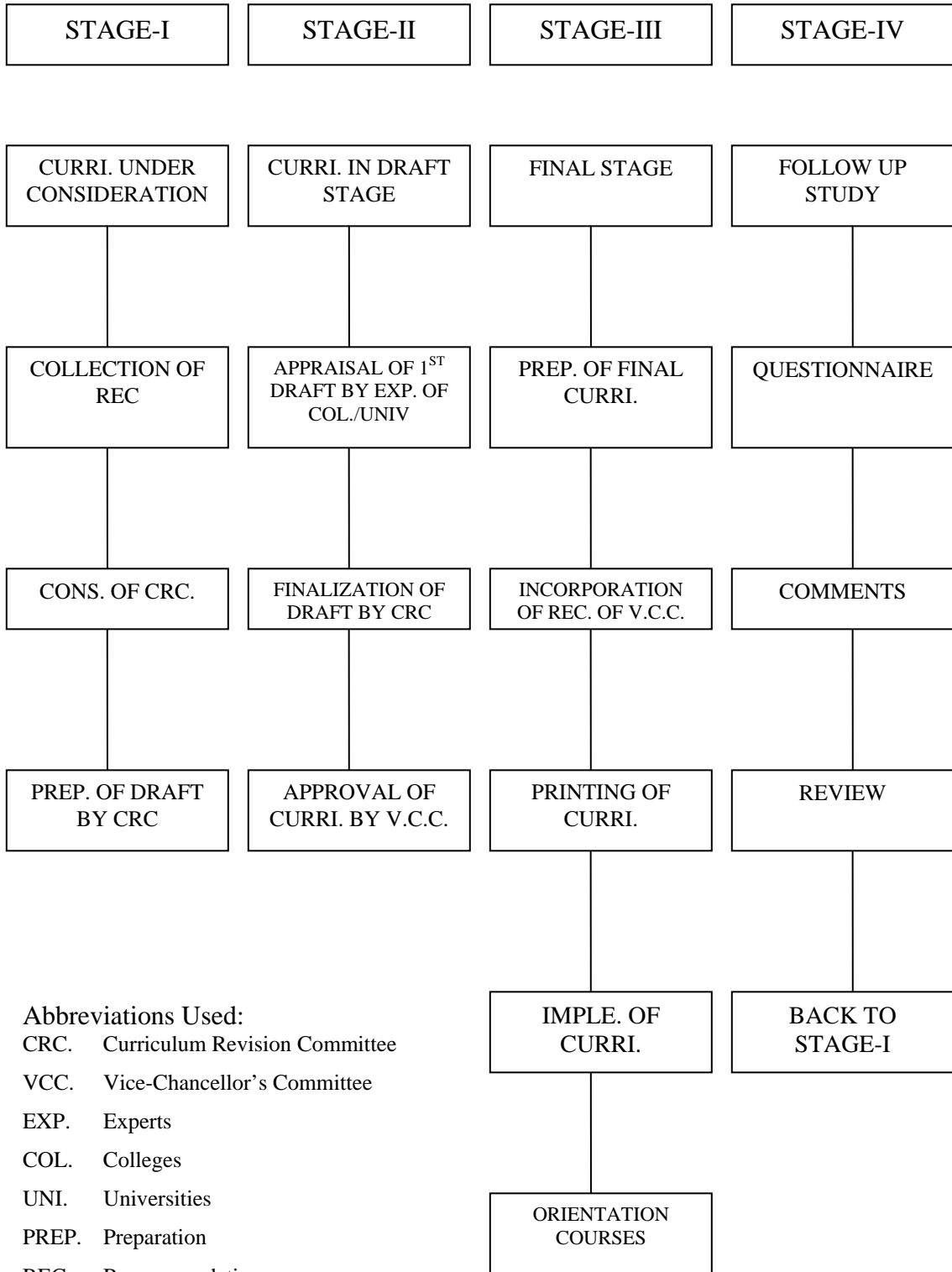
In exercise of the powers conferred by sub-section (1) of section 3 of the Federal Supervision of Curricula Textbooks and Maintenance of Standards of Education Act 1976, the Federal Government vide notification no. D773/76-JEA (Cur.), dated December 4, 1976, appointed University Grants Commission as the competent authority to look after the curriculum revision work beyond class XII at bachelor level and onwards to all degrees, certificates and diplomas awarded by degree colleges, universities and other institutions of higher education.

In pursuance of the above decisions and directives, the Higher Education Commission (HEC) is continually performing curriculum revision in collaboration with universities. According to the decision of the special meeting of Vice-Chancellors' Committee, curriculum of a subject must be reviewed after every 3 years. For the purpose, various committees are constituted at the national level comprising senior teachers nominated by universities. Teachers from local degree colleges and experts from user organizations, where required, are also included in these committees. The National Curriculum Revision Committee for City and Regional Planning Science in its meeting held in July 10-12, 2006 at the HEC Regional Centre, Karachi revised the curriculum after due consideration of the comments and suggestions received from universities and colleges where the subject under consideration is taught. The final draft prepared by the National Curriculum Revision Committee duly approved by the Competent Authority is being circulated for implementation by the institutions.

Prof. Dr. Altaf Ali G. Shaikh
Adviser (Acad/R&D)

August 2006

CURRICULUM DEVELOPMENT



INTRODUCTION

The final meeting of the National Curriculum Revision Committee in the discipline of City and Regional Planning was held from 10th to 12th of July, 2006 at the HEC Regional Centre, Karachi.

The following members attended the meeting:

1. Prof. Dr. S. Shabih-ul-Hassan Zaidi, Convener
Dean, Faculty of Architecture and Planning,
University of Engg. & Technology, Lahore
2. Plnr. Noor Muhammad Memon, Member
Consultant,
Apt. 606, Salalah Luxury Apartments,
Dr. Daudpota Road, Cantt Station, Karachi
3. Mr. Afzal Ahmed Khan, Member
Town Planner,
Engineering Consultants, Karachi
4. Dr. Abdul Rehman, Member
Professor,
Department of Architecture,
University of Engg. & Technology, Lahore
5. Engr/Plnr T. A. Jafri, Member
Chief Town Planner,
Karachi Master Plan Project 2020, Karachi
6. Mr. Imran Hameed Durrani, Member
Director Planning Projects,
Balochistan University of Information Technology
& Management Sciences (BUI-TMS), Quetta
7. Mr. Ravindar Kumar, Member
Assistant Professor,
Department of Architecture and Planning,
NED University of Engg. & Technology, Karachi
8. Arch. Sultan Muhammad Zuberi, Member
Town Building Control Officer,
Karachi Building Control Authority,
Civic Centre, Gulshan-e-Iqbal, Karachi

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|-----|---|--------------------|
| 9. | Mr. Muhammad Asif Nawaz,
Assistant Professor,
Department of Architecture & Planning,
Dawood College of Engg. & Technology,
Karachi | Member |
| 10. | Ar/Plnr. T. Sadia Fazli,
Registrar,
Pakistan Council of Architects & Town Planners,
111 RSM Square, Shaheed-e-Millat Road,
Karachi | Member |
| 11. | Mr. Sajjad Hussain Sajjad,
Lecturer in Physical Geography,
Department of Earth Sciences,
University of Sargodha, Sargodha | Member |
| 12. | Mr. Mubushar Hussain,
Assistant Professor,
Institute of Geographical Information Systems,
National University of Sciences & Technology,
Islamabad | Member / Secretary |

The following members participated in the Preliminary Meeting held on 23-25 January 2006, could not attend the final meeting:-

1. Prof. Dr. Dost Ali Khowaja,
Dean, Faculty of Architecture and Planning,
Mehran University of Engg. & Technology,
Jamshoro
2. Dr. M. Umar Khattak,
Head of Department,
Institute of Geographical Information Systems,
National University of Sciences & Technology,
Islamabad
3. Mr. Waqar Akber Rizvi,
Architect,
Department of Architecture & Planning,
Dawood College of Engg. & Technology,
Karachi
4. Plnr. Aftab Muhammad Khan,
Town Planner & Architect,
President, Aftab & Associates,
A.I.LCHS, Gulistan-e-Jauhar, Karachi

5. Mr. Masood ul Hasan Jafri,
Planner, Pakistan Council of Architects & Town Planners,
Director, Consultants Group, Karachi
6. Ms. Maryam Fayyaz,
Lecturer,
Department of Architecture,
University of Engg. & Technology, Lahore

The meeting was inaugurated by Prof. Dr. Syed Altaf Hussain, Member (Acad/R&D), Higher Education Commission. In his opening address Prof. Dr. Altaf warmly welcomed the participants on behalf of the Chairman, Higher Education Commission. He described the role and objectives of HEC in the curriculum development to improve the standard of education and to revise and update the existing curriculum to bring it in line with national and international requirements and introduce innovation to ensure quality of education and uniformity of curricula in the universities and affiliated colleges. He also recommended that Social Sciences contents should be enhanced in the curriculum and the credit hours should be between 124 and 136. Moreover, the research thesis should be compulsory particularly at the master level. It is clarified that these are baseline curriculum to be followed by universities.

Due to the absence of Prof. Dr. Dost Ali Khawaja (Convener of the preliminary meeting) Dr. S. Altaf Hussain requested Prof. Dr. S. Shabih-ul-Hassan Zaidi to become the Convener of this final meeting. The Convener proposed the name Mr. Mubushar Hussain (Town Planner) to serve as Secretary of this meeting. Members accepted unanimously the proposal of the Convener.

The National Curriculum Revision Committee discussed and reviewed the existing curriculum of B.Sc. and M.S City and Regional Planning in its first meeting held on January 23-25, 2006 at HEC Regional Centre, Karachi. In the meeting the NCRC re-considered the curriculum and suggested new courses in the selected areas of study and set it at par with international standards to meet the challenges of the world and job oriented as per policy criteria of HEC. Some new reading materials were also suggested by the experts participating in the meeting and included in the revised curriculum. After a detailed discussion and deliberation the committee finalized the curriculum of BS and MS City and Regional Planning courses. The meeting finished with a vote of thanks by the members for Prof. S. M. Iqbal, Director, HEC, Regional Centre, Karachi, Prof. Dr. S. Altaf Hussain, Member (Acad/R&D) HEC Islamabad and Malik Ghulam Abbas, Deputy. Director (Curriculum), HEC Islamabad for facilitating the meeting and providing guidelines for revision of the courses.

Part-I

BS PROGRAMME (4 -YEARS) IN “CITY AND REGIONAL PLANNING”

OBJECTIVES

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

1. To bring the city and regional planning professionals to the level of the international standards
2. To incorporate modern philosophies, techniques and technologies in the curricula.
3. To introduce a new visionary insight among the students in the profession of city and regional planning to meet the challenges of the modern age.
4. To impart skills and knowledge to deal with the increasing number of problems and issues at urban and regional scales with futuristic approach and ground realities.
5. To equip the students with practical knowledge and experience of dealing with real life issues relating to the built environment.

SCHEME OF STUDIES FOR BS (HONS)

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
	FIRST SEMESTER				
CRP-101	Introduction to Planning	2 (2)	3 (1)	100	50
CRP-102	Technical Drawing	0	6 (2)	0	100
HU-101	English – I (Compulsory)	3 (3)	0	100	0
CRP-103	Computer Aided Design	2 (2)	3 (1)	100	50
CRP-104	Transportation Engineering	3 (3)	3 (1)	150	50
CRP-105	Applied Statistics	3 (3)	0	150	0
		13 (13)	15 (5)	600	250
		28	(18)	850	
	SECOND SEMESTER				
CRP-106	Mapping & Remote Sensing	2 (2)	3 (1)	100	50
CRP-107	History of Urban Planning	3 (3)	0	150	0
CE-101	Surveying	2 (2)	3 (1)	100	50
IS/HU-101	Islamic Studies/Pakistan Studies/Ethics	2 (2)	0	100	0
MA-101	Mathematics	2 (2)	0	100	0
HU-102	English – II (Compulsory)	3 (3)	0	150	0
CRP-108	Economics	3 (3)	0	150	0
		17 (17)	6 (2)	850	100
		23	(19)	950	

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
	THIRD SEMESTER				
CRP-201	Transportation Planning	1 (1)	6 (2)	50	100
CRP-202	Architectural Design	1 (1)	6 (2)	50	100
CRP-203	Planning Law	3 (3)	0	150	0
CRP-204	Quantitative Planning Techniques	2 (2)	3 (1)	100	50
HU-201	English-III (Communication Skills and Report Writing)	0	6 (2)	0	100
CRP-205	Physical Geography	2 (2)	3 (1)	100	50
		9 (9)	24 (8)	450	400
		33	(17)	850	

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
	FOURTH SEMESTER				
CRP-206	Information and Database Management	1 (1)	6 (2)	50	100
CRP-207	Housing	2 (2)	3 (1)	100	50
CRP-208	Environmental Planning & Management	2 (2)	3 (1)	100	100
CRP-209	Sociology	3 (3)	0	150	0
IS/HU-201	Islamic Studies / Pakistan Studies/Ethics	2 (2)	0	100	0
HU-202	English – IV (Oral Communication)	3 (3)	0	150	0
CRP-210	Introduction to GIS	2 (2)	3 (1)	100	50
		14 (15)	18 (5)	750	250
		32 (20)		1000	

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
	FIFTH SEMESTER				
CRP-301	Environmental Engineering	3 (2)	3 (1)	100	50
CRP-302	Site Planning & Landscape Design	2 (2)	3 (1)	100	100
CRP-303	Urban Renewal and Conservation	2 (1)	3 (2)	50	100
CRP-304	Infrastructure Planning	3 (3)	0	150	0
CRP-305	GIS Applications in Planning	2 (2)	3 (1)	100	50
CRP-306	Hazards and Disaster Management	2 (2)	3 (1)		
		12 (12)	21 (7)	600	350
		33 (19)		950	

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
	SIXTH SEMESTER				
CRP-307	Planning of New Towns	2 (2)	6 (2)	100	100
CRP-308	Rural Planning	2 (2)	3 (1)	100	50
CRP-309	GIS Development	1 (1)	6 (2)	100	50
CRP-310	Construction Technology	2 (2)	3 (1)	100	50
CRP-311	Public Administration	3 (3)	0	150	
CRP-312	Community Empowerment	2 (2)	3 (1)	100	50
		13 (13)	18 (6)	650	300
		31 (19)		950	

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
SEVENTH SEMESTER					
CRP-401	Master Planning – I	2 (2)	6 (2)	100	100
CRP-402	Finance Planning and Management	2 (2)	3 (1)	100	50
CRP-403	Land Use & Building Control	2 (2)	3 (1)	100	50
CRP-404	Project Planning and Management	2 (2)	3 (1)	100	50
CRP-405	Research Methods	2 (2)	3 (1)	100	50
CRP-406	Development Journalism	2 (2)	3 (1)	50	100
		11 (11)	24 (8)	550	400
			35 (19)	950	

Ref. No.	Course Title	Contact Hours (Credit Hours)		Marks	
		Theory	Practical	Theory	Practical
EIGHTH SEMESTER					
CRP-407	Master Planning – II	2 (2)	6 (2)	100	100
CRP-408	Estate Management	2 (2)	3 (1)	100	50
CRP-409	District and Regional Planning	2 (2)	3 (1)	100	50
CRP-410	Site Development Schemes and Urban Design	2 (2)	3 (1)	100	50
CRP-499	Project	0	18 (6)	0	300
		8 (8)	33 (11)	400	550
			41 (19)	950	

Total Credit Hours = (150)

NOTE: Internship of 4-6 weeks with credit hours (0-0) is recommended in the Third Year (5th or 6th Semester) to gain practical experience and to provide exposure to the students in the field of City and Regional Planning.

DETAIL OF COURSES FOR B.Sc. **CITY AND REGIONAL PLANNING**

FIRST SEMESTER

CRP-101 INTRODUCTION TO PLANNING

Theory:

Introduction to City and Regional Planning. Definitions and Semesters. Justification for planning. Aims of planning. Principles of planning. Levels of planning. Types of Plans. Elements of planning. 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. Geographical, Geomorphological and climatic conditions in relation to planning. Climate and climatic regions of Pakistan. Land use planning theories. Planning theories of Soria-Y-Mata, Geddis, Ebenezer Howard, Buckingham, Le Corbusier, Frank Lloyd Wright, Lewis Mumford, Doxiadis etc.

Practical

Study of planned and unplanned areas in a city.

Books Recommended

1. Greed H. Clara, *Introducing Town Planning*, Longman Group, UK, 1993
2. Bhatti, A. K., *Town Planning for the Third World*, Feroze Sons Ltd. Lahore, 1994
3. Rateliff, John, *Introduction to Town and Country Planning*, London, Hutchinson, 1981
4. Meconnal Shean, *Theories for Planning*, London, Hutchinson
5. Hall, Peter, *Urban & Regional Planning*, England, Penguin, 1980
6. Government of Pakistan, National Reference Manual on Planning and Infrastructure Standards, E&UA Div. Ministry of Housing and Works, Islamabad, 1986.
7. Chapin Jr., F. Stuart, *Urban Land Use Planning*, London University of Illinois Press, 1972
8. Kaiser et.al, *Urban Land Use Planning*, 1995

CRP-102 TECHNICAL DRAWING

Practical

Introduction to drawing instruments and scales. Drafting techniques. Measured drawings. Plan. Elevation and Section of buildings. Solid geometry. Introduction to Perspective. 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.

Books Recommended

1. Dum-Rankin Peter, *Scaling Method*, London, L.E.A, 1983
2. Francis D.K., Ching & Steven P. Juroszek, *Design Drawing*, Van Nostrand Reinhold, New York, 1997
3. Ilan Jefferies and David A. Madsan, *Basic Drafting Skills; Work Book*, Delmar Publishers Inc. New York, 1991,
4. Giesecke, Frederick E., *Technical Drawing*, 9th ed. New York Macmillan Publishing, 1991

HU-101 ENGLISH-I (Compulsory)

Aim/s: 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
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
8. Swan, M. and Walter C. How English Works. Oxford: O UP
9. Thomson & Martinet. Practical English Grammar. O UP
10. Wallace, M. 1992. Study Skills. C UP
11. Yorky, R. Study Skills.

CRP-103 COMPUTER AIDED DESIGN

Theory

Introduction to Computer Aided Design (CAD) for Planners. Basic concepts of computer use in Town Planning. Computer configuration. Introduction to DOS and Windows. Concepts of electronic drafting. Using the Auto CAD interface. Accessing AutoCAD commands. 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 drawing. 3D Modeling, Shading and Rendering. Printing or plotting a drawing.

Practical

Drawing various types of objects and geometric shapes. Drawing of a house design and a small housing layout. Drawing of three-dimensional objects.

Books Recommended

1. Mastering Auto CAD
2. CAD Manual by Auto Desk
3. David FERY, Auto CAD 2000 No Experience Required, SYBEX Computer Books Inc. USA, Latest Edition
4. Ron House, Paul W. Richardson, John Brooks, Dylan Vane, Using Auto CAD 2000, A Division of Macmillan, USA, (Latest Edition).
5. Favro, Stolins, Caldwell, Mardar, Marotti & Murphy, Essentials of Computer Designs, Labyrinth Publication, ISBN:1-59136-027-7

CRP-104 TRANSPORTATION ENGINEERING

Theory

A. Roads

Classification of roads. Road location; Reconnaissance Survey for new roads. Elements of road curves, super elevation, 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, Width, Soil stabilization. An introduction to Pavement design.

B. RAILWAYS:

Introduction to railroad, Types of rail tracks and gauges, joints and crossings, yards and stations, right of ways. Introduction to design of railway track; Grade compensation, design components and foundation.

C. AIRPORTS:

Principal 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 Operational. Meteorological. Physical and others.

D. WATER WAYS:

Introduction to water ways, definitions. Types of ships and vessels. Water ways in Pakistan.

Practical

Traffic volume and turning tendencies surveys. Traffic Flow diagrams for Intersections. Sketch plan of a Railway Station and an Airport.

Books Recommended

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'Flaherty, 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).

CRP-105 APPLIED STATISTICS

Theory

The organization of data, data types; statistical tabulations; the grouped frequency distribution; the time series, the presentation of data, the bar chart; the pie chart; plotting the frequency distribution; the histogram; plotting the time series; the scatter diagram, descriptive statistics, the arithmetic mean; the arithmetic mean of a frequency distribution; the median; the mode; standard deviation; variability in sample data.

Index numbers, the interpretation of an index number; an expenditure index; a price index; a volume index; selecting a suitable base period; Fisher's index; using an index to deflate a series, time series, the components of a time series; the calculation of the trend; the trend of a quarterly series; exponential smoothing; the calculation of seasonal variation; series with seasonal

variation eliminated; the importance of residuals; forecasting from the time series; additive or multiplicative models?, probability, some definitions; how we measure probability; three approaches to probability; the laws of probability; applications of the laws of probability; tree diagrams; conditional probability; independence and correlation. Probability distributions, what is a probability distribution?; the normal distribution (the standard normal distribution, applications); the binomial distribution; the mean and standard deviation of a binomial distribution; the poisson distribution; conditions necessary for using the poisson distribution.

Books Recommended

1. Yeomanz, K.A., *Statistics for the Social Scientist, Applied Statistics*, Vol.I, II England, Penguin, (Latest Edition)
2. Owen, Frank & Ron Jones (1994), *Statistics*. Fourth edition, Pitman Publishing

SECOND SEMESTER

CRP-106 MAPPING AND REMOTE SENSING

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, content and presentation techniques. Map Symbols: Specific maps, Graphic design and map photogrametry. Interpretation of Mosaics, Characteristics of Aerial Photographs. Introduction to Remote Sensing: Definition and History, Physical Basis (EM Spectrum, Energy Interaction, Spectral Reflectance Curves, Image Characteristics) Introduction to Aerial Photograph, Sensor Systems (Space and airborne, MSS, TM, ETM, HRV, LISS, IKONOS-2, Quick bird-2, AVHRR and others), Platforms (Types and Orbital Characteristics), Thermal Infrared (Characteristics, TIR Band Properties, TIR Image Interpretation, Intro 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, Massavies, Khasra plans etc.

Introduction to labs, Single band image interpretation, False color predictions, False color composite Images Interpretation Visual Interpretation of aerial photographs, Various sensors data comparison, Thermal Infrared Image interpretation, Intro to ERDAS Imagine, display, Geo-linking, Zooming, Identification of targets

Books Recommended

1. Dum-Rankin Peter, *Scaling Method*, London, L.E.A, 1983
2. Philis Dink, *Map Work*, London, 1980
3. Robinson, H., *Elements of Cartography*, John Wiley & Sons, New York, Latest Edition
4. Singh, R. L., *Elements of Practical Geography*, (Latest Edition)
5. Lillesand, T. M. and Kiefer, R. W. (2004). *Remote Sensing and Image Interpretation*, 5th edition. (John Wiley and Sons), ISBN 0-471-15227-7
6. Mather, P M (2004). *Computer Processing of Remotely Sensed Images*, 3rd Ed. (John Wiley and Sons), ISBN 0-470-84919-3
7. Campbell, James B. (2002). *Introduction to Remote Sensing*, 3rd Ed., (The Guilford Press) ISBN # 0-7484-0663-8 (pbk).
8. Gibson, P.J (2000). *Introductory Remote Sensing: Principles and Concepts* (Routledge), ISBN 0-415-19646-9
9. Jensen, J. (2000) *Remote Sensing of the Environment: An Earth Resources Perspective*, Amazon Publishers, ISBN #
10. Sabins, F.F (1996). *Remote Sensing: Principles and Interpretation*, 3rd ed, (W H Freeman & Co), ISBN # 0-7167-2442-1

CRP-107 HISTORY OF URBAN PLANNING

Theory

History of civilization and growth of communities, Pre-historic towns and their development; Egypt, Mesopotamia and Indus Valley, Early Greek and Roman. Towns, their location, layout setting of public buildings; Markets, recreation and religious centres, Medieval Planning; the grand palaces, the influence of the church and castle, the walled city, bastides, market towns and growth of guild system. Renaissance planning; the grand palaces, the square, the industrial revolution, its effects on growth of Town Planning from the 17th to 20th centuries. 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.

Books Recommended

1. Dyos, H.J. ed, *The Study of Urban History*, London, Edward 1968
2. Hall, Petter, *The World Cities*, 2nd ed., London, Weinder field, 1977
3. Sutcliffe, Anthony, *History of Urban and Regional planning*, London, Mansell, 1981
4. Sadiq Ali Gill (2000), *Bargazasht-e-Tarekh*, Imporium, Lahore.
5. Bruke, Gerald, *Towns in the Making*, London, Edward Arnald, 1971
6. Manford, Lewis, *City History*, England, Penguin, 1961
7. Ostcowski, Richard, *Echos of Time; A World History*, New York, McGraw Hill
8. S. Ahmed Ali, *History of Town Planning in India and Pakistan*, 1970
9. Gallion, Arthur, B., *The Urban Pattern*, D. Van Nostrand Company, Inc. London (Latest Edition)
10. Cherry, Gorden, E., *Cities and Plans*, London, Edward Arnold, 1986.

11. Sadiq Ali Gill (2000), *The Origin & Development of History*, Imrorium, Lahore.

CE-101 SURVEYING

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 surveying and Chain surveying. Construction and use of Theodolites, Traversing with Theodolites and Prismatic compass. Use of Total Station. Earth work calculations. Computation of areas by D.M.D. method. Simpson's rule. Trapezoidal rule, Calculation of volumes. Concept of Total Station

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

Books Recommended

1. Anderson, James, M. and Mikhail, M. Edward, *Introduction to Surveying*, McGraw Hill Co. New York, (Latest Edition)
2. Nathornson, Jerry, A. and Kissam, Philips, *Surveying Practice*, McGraw Hill Co. New York, (Latest Edition)
3. Kanetkar, T.P. and Kulkarni, S.V., *Surveying and Leveling-1*, Pune Vidyarthi Gridha Prakashana, Poona, (Latest Edition).
4. Agor, R. , *Surveying*, Khana Publishers Delhi, (Latest Edition).
5. Carey, H. Helm (1983), *How to use Maps and Globes*. Franklin Watts, London & New York.

IS/HU-101 ISLAMIC STUDIES / PAKISTAN STUDIES / ETHICS

Course to be prescribed by the Islamic Studies Department

MA-101 MATHEMATICS

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, centriod, Moment of plane area (about the coordinate axis), Differential Equations: first and second order.

Books Recommended

1. Wilson, A.G, *Mathematics for Geographers and Planners*, Oxford, Claredon, (Latest Edition)

2. Washington, J. Allyn, *Basic Technical Mathematics*, London; Benjamin, (Latest Edition)

HU-102 ENGLISH-II (Compulsory)

Aim/s: 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.

Books Recommended

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. Yorkey, 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. English for Modern Business By Ketteley and Thompson
11. Write Better, Speak Better, By Readers Digest

CRP-108 ECONOMICS

Theory

Basic concepts of Economics, Economic organization: types and functions of economic systems, Islamic economic order, 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 Economic development resources of Pakistan, Economic development theories. Role of economics in planning & development. Micro credit and income generation programmes. Economic planning in Pakistan, Five Years Plans. Socio – Economic policies in Pakistan.

Books Recommended

1. Sloman, John. (2003) Economics 5th Edition. Prentice Hall. ISBN 0-273-65574-4
2. Sloman, John. (2004) Essentials of Economics Third 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
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

THIRD SEMESTER

CRP-201 TRANSPORTATION PLANNING

Theory

Communication through road, railways water, air and their influence upon national, regional and local development. Urban circulation, Land use and traffic interaction, Travel time, Mass transit system, and Inter model system. 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 Engineering: Traffic and parking surveys and their interpretation. Traffic capacity and regulation. Requirement of different types of traffic, moving and stationary. 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. Introduction to Trip Generation, Trip Distribution. Model Split and Traffic Assignment Models.

Practical

Assignments on improvement of roads and design of intersection in an urban area. Traffic and parking surveys, Travel time and delay studies.

Books Recommended

1. White, Peter. R., *Planning for Public Transport*, London, Hutchinson, 1976
2. Walles, G.R., *Comprehensive Transport Planning*, London, Charles Griffen, 1975
3. Truelove, P., *Decision Making in Transport Planning*, UK Limited, 1986
4. Bruton, J. Micheal, *Introduction to Transport Planning*, London, UCL Press, 1985
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)

CRP-202 ARCHITECTURAL DESIGN

Theory

Design parameters, Aesthetics in design, Theories of design. Building form and function. Building orientation and climatic. Control Design process. Data collection and formulation of requirements and preparation of design brief; design of houses, mosques and public buildings, design standards and space requirements and environmental space and time/context in building design. Energy conservation through site planning and building design.

Practical

Design of houses for various plot sizes and of flats. Design of commercial and institutional buildings.

Books Recommended

1. Alexendar, Christopher, *Timeless Way of Buildings*, New York, Oxford University Press, 1979
2. Giedon, Sigfield, *Space, Time and Architecture*, Harvard University Press, 1967
3. Kamil Khan, *Architecture in Pakistan*, Singapore, 1986
4. Francis, D.K.Ching, *Architecture, Space, Order*, (Latest Edition)
5. Kicklighter, Collis, E., *KIC Architecture: Residential Drawing & Design*, Goodheart, Illinois (Latest Edition)

CRP-203 PLANNING LAW

Theory

Outline of planning legislation and its evaluation in UK and USA. Factors, which have promoted 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.

Books Recommended

1. Garner, J.F. ed, *Planning Law in Western Europe*, New York, Elsevier, 1975
2. Pardue, Micheal, *Cases and Materials on Planning Law*, London, Maxwell, 1977
3. Telling, A.E, *Planning Law and Procedure*, London, Butter Worths,1982
4. Heap, Desmond, *An Outline of Planning Law*, London, Maxwell, 1982
5. Mcauslan, Patrick, *Land, Law and Planning*, London, Weidenfield, 1975
6. *Provincial Local Government Ordinances, 2001*

CRP-204 QUANTITATIVE PLANNING TECHNIQUES

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. Statistics as a tool for understanding planning problems, their utility and limitations. Significance of statistics in planning. Systematization of data, Measures of central tendency dispersion and symmetry; means, medians and modes, standard deviation, coefficient of skewness. Sampling errors and probability. Statistical diagrams. Measures of Correlation and Association.

Practical

Typical studies: Land use, socio-economic and housing, industrial, commercial, education, health and infrastructural services. Tabulation of data and preparation of analytical reports.

Books Recommended

3. Heinville, Gerald, *Survey Research Practice*, London,

4. Loethet, Herman, *Descriptive and Inferential Statistics*, London, Allyn Baccs, 1980
5. Gohagass, John, K., *Quantitative Analysis for public Policy*, New York, McGraw Hill, 1980
6. Sarof, Jerome, R., *Survey Manual for Comprehensive Urban Planning*, Alaska, Institute of Social Sciences, 1969
7. Yeomanz, K.A., *Statistics for the Social Scientist, Applied Statistics*, Vol.I, II England, Penguin, (Latest Edition)
8. Bateman, Michael, *Techniques Manual*, Walton Hall, 1977
9. Moser Sirclaus, *Survey Methods in Social Investigation*, USA, Gower, 1971
10. Simpson, Barry J., *Quantitative Methods for Planning*, England, 1985

HU-201 ENGLISH-III (Communication Skills and Report Writing)

Course to be prescribed by the Humanities Department.

CRP-205 PHYSICAL GEOGRAPHY Theory

Major parts of Physical Geography: Hydrosphere, Atmosphere, Lithosphere & Bio-sphere, Important of Physical Geography for Urban Planning and Management Earth Origin, Shape and Size, composition and structure, of the Earth, Plate Tectonics Theory, Fault lines, their risks for city development, Major fault lives in Pakistan, Earthquake, Volcanic activity, Cyclones, Floods, Droughts Desertification, Land sliding, Degradation of Soil and ground water, water scarcity, their reasons & effects on cities planning & development. Weather & Climate, Importance of weather and climate study for urban planning and management, Major elements of climate, factor affecting the climate to change, Global warming issue, Green house effect, Depletion of ozone layer its effects on climate change with reference to some case studies of Pakistan. Climate friendly urban planning.

Books Recommended

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. Christopher son, R.W. (2000): *Geo-systems*, USA Prentice Hall Inc.
7. Monk house, F.J. (1991): *Principles of Physical Geography*, London Hodder & Stoughton.

8. Miller, G.T. (1996): *Living in the Environment Principles, connections and solutions*, 9th Edition wads worth, ISBNo. 53423898X
9. Mcuveen (1992): *Fundamentals of weather and climate*, Prentice Hall, New Jersey.
10. Well & well and N. (1998): *Atmosphere and oceans*, Longman, London
11. Hugget, R. J. (2002): *Fundamentals of Geomorphology*, Rutledge, (Rutledge Fundamentals of Physical Geography).
12. Miller, A. (2001): *Climatology*, Methuen, New York.
13. Lamb, H. (1992): *Climate History and the Modern World*, Methuen & Co. Ltd. London.

FOURTH SEMESTER

CRP-206 INFORMATION AND DATABASE MANAGEMENT

Theory

Computer as a tool for planning data analysis. Use of Word processing package programs such as Microsoft Word for report writing, Use of Spread sheet package programs such as MS Excel for storage, analysis and graphic presentation of planning data.

Basic database concepts; Entity Relationship modeling, Relational data model and algebra, Structured Query language; RDBMS; 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, Coding manual and coding sheets. 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. 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, crosstables and charts. Small Group Project implementing a database

Books Recommended

1. *MS Office Manual* (Latest Edition)
2. Sikander, P.K.etal, *Computer Use In Planning and Urban Management*, Naosa Publishing House, New Delhi, (Latest Edition)
3. *Statistical Package for Social Sciences (SPSS) Manual*. (Latest Edition)

4. C.J. Date, *Database Systems*, Addison Wesley Pub. Co. (2004) ISBN - 0201385902
5. R.Connolly and P.Begg *Database Systems: A Practical Approach to Design, Implementation and Management*, , Addison-Wesley Pub. Co (2003) ISBN – 0321210255
6. Elmasri, R. and Navathe, S.B (2004) “*Fundamentals of Database Systems*” Addison-Wesley Pub. Co ISBN – 0-201760355
7. Mark L. Gillenson (2005) *Fundamentals of Database Management Systems* John Wiley & Sons
8. Les Kirkup (2002) *Data Analysis with Excel®: An Introduction for Physical Scientists* Cambridge University Press.
9. 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
10. Robert R. Korfhage (1997) *Information Storage and Retrieval* Wiley; 1 edition ISBN: 0471143383

CRP-207 HOUSING

Theory

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 densities. Evaluation of housing shortage and need for the future. Procedure for planning and design of housing schemes; layout patterns, housing types and their suitability for various climatic regions. Housing policies and programs run in public and private sector. Housing finance and administration.

Practical

Housing types and sizes, Housing layout patterns, Design of a housing scheme. Low income housing workshop.

Books Recommended

1. Donison, David, *Housing Policy*, England, Penguin, 1981
2. Government of Pakistan, National Housing Policy, 2001
3. Balchin, Paul. N, *Housing Policy and Housing Needs*, London, 1982
4. Smith, David Drakakies, *Urbanization Housing and the Development Process*, London, Croom Helm, 1981
5. Swan, Peter, J., *Management of Sites and Service Housing Schemes*, Chichester, Wiley, 1983
6. Payne, Geoffrey. K, *Low income Housing in the Developing World*, London Methews

7. UNCHS (Habitat), *Physical Improvement of Slums and Squatter Settlement*
8. Gurail Sumer, et.al. *Housing Parameters: A Monograph*, Dawood College of Engg. & Technology, Karachi
9. Aldrich, Brian C, and Sandhu Ravinder, S., *Housing the Urban Poor, Policy and Practice in Developing Countries*, Zed Books Ltd. London (Latest Edition)
10. Data, Kavita and Gareth, A. Jones, *Housing and Finance in Developing Countries*, Routledge, London (Latest Edition)
11. De Chaira, Joseph and Panero, Julius and Zlnik, Martin, *Housing and Residential Development*, McGraw Hill Inc. New York, (Latest Edition)

CRP-208 ENVIRONMENTAL PLANNING AND MANAGEMENT Theory

Introduction: Scope, relationship with city and regional planning. Definition and Semesters. Basic concepts of environmental issues and priorities at global and local level. Environmental problems at home, workplace and city centres. Sustainable Development: Conceptual issues. Environmental Impact Assessment and Social Impact Assessment Environmental plans and policies. National consevation strategy. Ecology, pollution and hazards. Introduction to environmental management systems. Use of SRS and GIS in natural resource management and environmental planning.

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.

Books Recommended

1. Arvill, Robert, *Man and Environment*, 4th ed., England, Penguin
2. Cullingworth, J.B, *Environmental Planning 1939-1969*, Vol.4, London, Mayestyas, 1980
3. Bigham, D. Plastair, *The Law and Administration relating to protection of the Environment*, London, Oyez
4. Canter, *Environmental Impact Assessment*, McGraw Hill, (Latest Edition)
5. Lottnan, R. Herbert, *How Cities are Saved*, New York, Universal Press
6. Skinner J. Brian, *Use and Misuse of Earth Surface*, California, WK Inc, 1981
7. Asit K. Biswas Ed., *Environmental Impact Assessment for Developing Countries*
8. Alrroffo, S.B., *Pollution Control in a Developing Economy*, Accra, Ghana University Press, 1989
9. Selman Paul, *Environmental Planning*, London, Paul, 1993.
10. Blowers Andrews, *Planning for Sustainable Environment*

11. Mukherjee, Biswarup, *Environmental Management: Basic and Applied Aspects of Management of Ecology and Environments System*, Vikas Publishing House Pvt. Ltd., New Delhi, (Latest Edition)

CRP-209 SOCIOLOGY

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.

Books Recommended

1. Worsley, Petet ed., *Introducing Sociology* 2nd ed., England, Penguin
2. Pahin, R.A, *Readings in Urban Sociology*, New York, Paragon
3. Lewis, J. Parry, *Urban Economics, a Set Approach*, London, Edward Arnold, 1980
4. McCormick, B. J, *Introducing Economics* 3rd ed., England, Penguin
5. Willis, K.G., *Economics of Town and Country Planning*, London, Grenada Press, 1980

IS/HU-201 ISLAMIC STUDIES / PAKISTAN STUDIES / ETHICS

Courses to be prescribed by the Islamic Studies Department

HU-202 ENGLISH-IV (Oral Communication)

Courses to be prescribed by the Humanities Department

CRP-210 INTRODUCTION TO GIS (Geographical Information System)

Theory

Objectives: The course aims at providing an understanding of GIS, its evolution, applications, spatial data models and data structures, design aspects of GIS; spatial data acquisition, sources and standards; spatial data manipulation, spatial analysis and visualization of data. This course also covers the understanding of GIS software environment. This subject provides basic training in understanding GIS data capture, storage, retrieval, analysis and display. It also helps to learn functionality of GIS software and to gain basic skills.

Course Outline: 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 , Usage Components Sources Of Error , Accuracy, Project work.

Practical

Lab Outline: 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.

Books Recommended

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
9. River, NJ: Prentice Hall.
10. Jeffrey Star and John Estes, 1990, Geographic Information Systems: an Introduction, Prentice Hall, Toronto.

FIFTH SEMESTER

CRP – 301 ENVIRONMENTAL ENGINEERING

Theory

General introduction to environmental engineering. Objectives of basic infrastructure. Water supply, components, viz. Collection from sources, transmission. Treatment and distribution, water consumption. Planning guide for water consumption; water demand, water quality, fire hydrants. Design of water supply lines and system. Sewerage disposal; the components of sewerage system collection, treatment and disposal. Design criteria, design investigation, quantity of sewage, average daily sanitary flow, general investigation, design flow, elementary hydraulics of sewers, treatment plants, location and site requirements, sewer construction, storm drainage, basic data, design criteria, maximum and standard level interceptors and collectors, maximum drainage zones. Run off of streets and urban areas. Introduction to water shed areas and flood control. Basic infrastructure in relation to rural settlements, environmental quality. Refuse disposal; refuse generation, quantity, composition, collection. Transportation and disposal site. Land fill areas, air pollution and acoustic problems in urban areas. Introduction to the design and layout of vital utility services like gas, electricity and telephones in urban areas.

Practical

Design of services such as water supply, sewerage, drainage etc. In a typical development scheme.

Books Recommended

1. PEPA, *Environmental Guidelines by PEPA*, Ministry of Education, Govt. of Pakistan, 1997.
2. Salvata, *Environmental Engineering & Sanitation*, Wiley Inter-Services, 1992
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.

CRP – 302 SITE PLANNING AND LANDSCAPE DESIGN

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. Regulations & Program. 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 Presentations and Next Steps.

Neighbourhood 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, related services and facilities. Town park; elements of design of a town park and landscape planning of a system of open spaces and parks.

Practical

Site Analysis (research, diagram and report). Site plan review checklist, Concept Plan Alternatives, Concept plan presentation, review and selection. Selection of a site for a new town. Planning of a town centre, industrial estate and town park. Model making for various designs.

Books Recommended

1. Duany, A.E., Plater-Zyberk & R. Alminana (2003), *New Civic Art: Elements of Town Planning*. Rozzol.
2. Rhind, David, *Land Use*, London, 1982
3. Taylor, L. John, *Urban Planning Practice in Developing Countries*. Oxford, Fergman, 1981
4. Osborn, Frederic, J. *New Towns; Their Organs, Achievements and Progress*, London, Learnard Hall, 1977
5. Chapir, F. Stuart. *Urban Land use Planning, University of Illinois Press Chicago, 1978*.
6. Harris, Nigel, *Cities in the 1990s*, London, 1992
7. Bacon Edward N., *Design of Cities*, London, Thames and Hudson, 1975

8. Watson, D. (2003), *Time-Saver Standards for Urban Design*, McGraw Hill Professional.
9. Kaiser, E.J., D.R.Godschalk, F. Saluart & Jr. Chapin (1995): *Urban Land use Planning*. University of Illinois Press (4th edition).
10. Lewis Keeble (1969), *Principles and Practices of Town & Country Planning*, The Estate Gazette, London.

CRP-303 URBAN RENEWAL AND CONSERVATION

Theory

Consequences of urbanization; urban growth, Slums and squatter settlements; definitions; identification, causes and potentials for improvement. Urban renewal; Concepts, approach and process. Strategy for information and analysis. Renewal goals, objectives and targets for residential, commercial, industrial and other urban categories. Impediments to renewal efforts and their implications, tools, programmes and overall policies for urban renewal.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. Peoples participation in urban renewal and conservation programmes. Institutional framework and mechanism for urban reneweal projects, programmes and policies for implementation.

Practical

Urban Renewal workshop with an objective to prepare an urban renewal programme for part of a city or a slum area.

Books Recommended

1. Ravetz, Alison, *Remaking Cities*, London, George Allen, 1981
2. Gibson, Michael, *Introduction to Urban Renewal*, London, Hutchinson, 1981
3. *Upgrading of Inner-City Slums*, Nairobi, 1984
4. Couch, Chris, *Urban Renewal Theory and Practice*, London, Macmillan, 1990
5. Palen, J. John, *The Urban World*, McGraw Hill Ltd. 1987, 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, Urbanzation in the Third World*, Oxford University Press, U.K (Latest Edition).

CRP-304 INFRASTRUCTURE PLANNING

Theory

Principles and practices of infrastructure planning. The structure for regional and statewide planning. Recent changes in federal transportation planning requirements including the Intermodal Surface Transportation Efficiency Act of 1991, the Clean Air Act Amendments of 1990, wastewater treatment, solid waste, and others. Development of a regional transportation system plan, air quality management plan, regional sewerage system plan, regional solid waste disposal plan, and other regional plans, and their relationship to regional land use plans. The role of state and local governments and private interest groups in the regional planning process. The use of demand modeling in regional planning. Development of state and local infrastructure plans in the context of regional plans. Development of long-range public works facilities plans. Political, financial, public relations, legal, and environmental concerns.

General definitions: Land Acquisition, Arbitration, Litigation, Inflation, Depreciation, valuation, Easements and Dilapidation. Management of Municipal services, project planning, estimation and execution. Tenders. Contracts. Site supervision etc. Professional Ethics; procurement of goods and human resources.

Books Recommended

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

CRP-305 GIS APPLICATIONS IN PLANNING

Theory

The primary objective of this course is to introduce GIS and related applications and how they can aid 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. Deep insight of applied Projects in Urban and Regional Geographic Information Systems. Case Studies

Books Recommended

1. A . E. Turban and J. Aronson (1998), Decision Support Systems and Intelligent Systems, 5th edition, Prentice Hall. ISBN: 0-13-781674-8
2. B .Sauter, V. (1997) "Decision Support Systems ", John Wiley & sons, Inc. ISBN: 0-471-31134-0
3. Lo, C.P. and Yeung, A.K.W. 2002. Concepts and Techniques of Geographic Information Systems. Upper Saddle
4. River, NJ: Prentice Hall.
5. Stan Arnoff, 1995, Geographic Information Systems: A Management Perspective. Ottawa, WDL Publications.
6. P. A. Burrough, 1986, Principles of Geographical Information Systems for Land Resources Assessment, Oxford University, Press, New York.
7. Remote Sensing for Human Settlements, Nairobi, 1989
8. Sullivan & Unwin, Geographic Information Analysis. 2003
9. John Stillwell & Graham Clarke, Applied GIS and Spatial Analysis, 2004, John Wiley & Sons, UK, P-406
10. Peter M. Atkinson and Nicholas J. Tate, Advances in Remote Sensing and GIS Analysis, 1999, John Wiley & Sons, UK, P-273
11. Paul, L., Michael, G., David, M. & David, R. "Geographic Information Systems: Principles, Techniques, Applications and Management". John Wiley & sons, 1999.
12. Managing Our Urban Future, A Lecture by Prof. Ian Masser, Division of Urban Planning and Management, ITC, Netherlands, 1999 (Printedbooklet)
13. Colten, Craig E. 2005. An Unnatural Metropolis: Wrestling New Orleans from Nature. LSU Press.
14. Michael Worboys, Matt Duckham (2004) GIS: A Computing Perspective, 2nd Edition CRC Press; 2nd edition ISBN: 0415283752

CRP-306 HAZARDS AND DISASTER MANAGEMENT

Theory

Introduction to Hazards and Disasters (Concepts & Definitions), Hazard Dimensions, Distributions, Patterns, Associated Processes & History of Hazards Research, Social & Economic Aspects of Natural and man-made Hazards, Individual and Community Adjustments: Perceptions, Attitudes and Behavior, Hazard and Disaster Investigation Hazard Vulnerability Assessment & Mapping, Element at risk mapping Risk Management, Disaster Management Cycle, Pre-Disaster Phase (Prevention, Mitigation & Preparedness), Disaster Phase (Response), Post-Disaster Phase (Rehabilitation, Development), Damage assessment, loss analysis, Risk management in development planning. Disaster management policies and infrastructure at local and national level. Case Studies

Practical

Hazards identification and mapping, risk / vulnerability assessment and mapping, disaster mitigation strategies development. Analysis of any natural

or man-made disaster with field investigation and using GIS / Remote Sensing techniques. Study of existing disaster management infrastructure at local level.

Books Recommended

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. Disaster Management and preparedness by Thomas D. Schneid Publisher CRC November, 22, 2000.
4. Principals of Emergency planning and Management David Alexander
5. Published in the United State of America by Oxford University Press Inc. 1998 Madison Avenue, New York 10016
6. The primer on Disaster Risk management in Asia
7. Mr. Aloysius J. Rego Director of Knowledge Sharing and partnerships and Co-Team Leader of Disaster management System team Asian Disaster preparedness Center (ADPC) 2003

SIXTH SEMESTER

CRP – 307 PLANNING OF NEW TOWNS

Theory

Understanding the requirements of a modern city as a dynamic organism. The need for integrated approach towards planning of various component parts of a city. Examples of modern cities: Brasilia, Canberra, Islamabad, Chandigarh and New Delhi. Process of planning and designing a new town, various approaches. Space standards and requirements for various land use activities, densities etc. Projection and growth models. Application of space standards and locational criteria for various landuses. Zoning plan; Planning and design for landuse, layout of roads and streets. Neighbourhood 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, related services and facilities. Town park; elements of design of a town park and landscape planning of a system of open spaces and parks.

Practical

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

Books Recommended

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

CRP 308 RURAL PLANNING

Theory

Theory 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 and rural center, planning and criticisms on them. Village as a focal point of planning and development. Elements of the conceptual framework for modern rural planning. Basic needs approach. Rural urban linkages. Farm to market roads. Structural transformation of rural areas.

Practical

Rural planning workshop involving identification of rural area problems and basic needs and preparation of district level projects. Evaluation of existing rural and district level projects.

Books Recommended

1. Dias, Hiran, D., *Manual for Training in Rural Development planning*, Bangkok, A.I.T, 1983
2. Ford, William, C., *A Theoretical Approach to Rural Land-use Planning*, Briton, Arrousmith, (Latest Edition)
3. Chambers, Robert, *Rural Development; putting the last first*, London, Longman, 1983
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. Whitby, M.C, *Rural Resource Development 2nd ed.*, London, Mathews, (Latest Edition)
7. Masley Malcolm, J., *Accessibility; The Rural Challenge*, London, Mathew, (Latest Edition)

8. Whitby M.C.Willis, *Rural Resource Development 2nd ed*, London, Methew, (Latest Edition)
9. *Guidelines for the Planning of Rural Settlements and Infrastructure*, Nairobi, 1985 (Latest Edition)
10. Weber, Karl E. "*Rural Development Planning in Pakistan*". Asian Institute of Tech Bangkok, (Latest Edition)
11. Shoiab Sultan Khan, *Rural Development in Pakistan*, Delhi, (Latest Edition).

CRP-309 GIS DEVELOPMENT

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.

Books Recommended

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. 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.
7. Stan Arnoff, 1995, Geographic Information Systems: A Management Perspective. Ottawa, WDL Publications.
8. P. A. Burrough, 1986, Principles of Geographical Information Systems for Land Resources Assessment, Oxford University, Press, New York.
9. Remote Sensing for Human Settlements, Nairobi, 1989
10. Sullivan & Unwin, Geographic Information Analysis. 2003
11. John Stillwell & Graham Clarke, Applied GIS and Spatial Analysis, 2004, John Wiley & Sons, UK, P-406

12. Peter M. Atkinson and Nicholas J. Tate, *Advances in Remote Sensing and GIS Analysis*, 1999, John Wiley & Sons, UK, P-273
13. Paul, L., Michael, G., David, M. & David, R. "Geographic Information Systems: Principles, Techniques, Applications and Management". John Wiley & sons, 1999.
14. *Managing Our Urban Future*, A Lecture by Prof. Ian Masser, Division of Urban Planning and Management, ITC, Netherlands, 1999 (Printedbooklet)
15. Colten, Craig E. 2005. *An Unnatural Metropolis: Wrestling New Orleans from Nature*. LSU Press.
16. Michael Worboys, Matt Duckham (2004) *GIS: A Computing Perspective*, 2nd Edition CRC Press; 2nd edition ISBN: 0415283752

CRP-310 CONSTRUCTION TECHNOLOGY

Theory

Introduction to Building Materials and construction technologies, Lime, Cement, Bricks, Sand, Concrete, Building Blocks, Pre-stressed and pre-cast members, Timber, Mild Steel, Cast iron, Brass, Aluminum. Doors and Windows, Floor, Lintels. Introduction to site preparation, Bricks work and bonding, Insitu precaste and prefabricated construction systems. Plumbing, Electricity and Gas points, Insulation and Fire Protection. Different construction system. Introduction to RCC and foundation. Finishing materials such as paints, papers and plasters. Environmental and safety consideration and choice of materials. Design of earthquake resistant buildings; Disaster management 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.

Books Recommended

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)

CRP 311 PUBLIC ADMINISTRATION

Theory

What is Public Administration?, How Government organization originates?, Human Behavior & organization, Building blocks of organization: Formation of Groups, Building Blocks of organization: Group values, Dividing the Work: Assigning jobs to individuals, Dividing the work: Specialization among organization units, Securing Teamwork: Authority, Security Teamwork: The Structure of Authority and status, Security Teamwork: The communication process, Security Teamwork: The organization of communication, Large-Scale organization: The trend towards centralization, Large-Scale organizations: The Consequence of centralization, Large-Scale Organization The Inter-group relation, Selection of Team: Civil series and recruitment, Selection of team: Career in Government, Selection the team: personal process, The Struggle for existence: organization equilibrium, The struggle for existence: The Tactics of survival, The Strategy of planning, The Tactics of Execution: Reducing the costs of charge, The Tactics of Execution: Securing Compliance, Evaluation Administration Efficiency, Administrative Responsibility: information controls

Books Recommended

1. David W. Smithburg, victor A. Thompson Herbert A. Simon, (1991), Public Administration, ISBN. 0887388757, Transaction Publisher. (Albert A. Simon is Richards Ring Melton University professor of computer sciences & psychology at Carnegies Olellon University in Pill & Burgh. His books in hands scientific Discovery.)

CRP-312 COMMUNITY EMPOWERMENT

Theory

Introduction: Community Mobilization, Objectives and Principles. Community Empowerment and Development approaches. National and international examples of community empowerment and development. Social work and welfare organizations as planning aid. Role of NGOs. Managerial skills of the poor. Community credit mechanism. Poverty Alleviaion 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 on self-help basis. 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 etc.

Books Recommended

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

SEVENTH SEMESTER

CRP-401 MASTER PLANNING - I

Theory

Development planning process: goals and objective of comprehensive planning, planning parameters and various approaches. Structure planning versus Master Planning approach. 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. Interaction with stake-holders. Planning surveys and studies of component subjects as a basis for development of plans. Analysis of Data collected to form information base for future planning proposals.

Practical

Planning surveys and studies of the selected city as a class / group project. Special emphasis will be laid on team work capabilities development among the students.

Books Recommended

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

3. H & PP., Govt. Of Punjab, *Master Plan for Greater Lahore*, H & PP Department Lahore, (Latest Edition)
4. KDA, *Karachi Master Plan* (Latest Edition).
5. Ministry of Housing & Works, Govt. Of Pakistan, *National Reference Manual*, 1986
6. Mercury, L.H., *Development Plans*, London, HMSO, 1980
7. L.D.A. *Integrated Master Plan for Lahore*, 2004

CRP-402 FINANCE PLANNING AND MANAGEMENT

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 and cost Benefit Analysis. Time value of money, compounding and discounting measures of project worth. Preparation of development budgets and planning project evaluation.

Practical

Assignments on costing and financing of schemes, using affordability models. Cost benefit analysis of a project.

Books Recommended

1. Cottred, Alan, *Environmental Economics*, London, Edward, (Latest Edition)
2. Merret, A.J., *The Finance and Analysis of Capital Process 2nd ed.*, London, Longman, (Latest Edition)
3. Mishan, E.J., *Cost-Benefit Analysis 3rd ed.*, London, George, 1982
4. Sugder, Robert, *Principles of Practical Cost Benefit*, Oxford, Oxford University press, (Latest Edition)
5. Merret, A.J., *Finance and Analysis of Capital Process*, London, Longman, (Latest Edition)
6. Nathaniel Litchfield, *Economics of Planned Development* (Latest Edition)
7. Struyls, J. Raymond, *Housing Finance in LDCs*, Washington D.C., 1992

CRP-403 LAND USE AND BUILDING CONTROL

Theory

Land Use and Building control as a tool for implementation of Master plan and other Local plans, zoning as tool for development control. Environmental conservation through building and development control. Procedure for approval of building plans / planning permission applications: Submission of building application. Procedural checks, ownership verification, planning application forms, drawings, fees, No Objection Certification, advertisements etc. Site visit, surveying of notices, Fines and compounding of violation.

Analysis of building proposal. Conformity with the development, lands use zoning, planning criteria, building by laws, design guidelines, building line/parking requirement, chamfer requirement, construction over culverts etc. Consultation with the neighbor, roads authority and line departments and allied agencies. Decision about approval of planning proposal. Completion certificates. Demarcation and removal of encroachments. Declaration and demolition of dangerous building. Action against illegal buildings, Litigation involved in building control. Commercialization policy and its effectiveness. Grant of No Objection Certification for private development scheme. Approval of layout plans. Technical approval and final approval of development schemes. Registration of professionals. Dangerous building identification and management.

Practical

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

Books Recommended

1. LDA, Lahore, Building Control Regulations 1984, Lahore, LDA, 1984
2. Joyce, Frank, *Local Govt. and Environmental Planning and Control*, England, Gower, 1981
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)

CRP-404 PROJECT PLANNING AND MANAGEMENT

Theory

Process of project planning and implication in Pakistan. Relation ship 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 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.

Books Recommended

1. Riordan, Timothy, *Project Approach and Policy Review*, New York, John Wiley, 1981
2. Merret, A.J., *Finance and Analysis of Capital Process*, London, Longman, (Latest Edition)
3. Sivaramakishnan K.C., *Metropolitan Management*, USA, 1986
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)

CRP-405 RESEARCH METHODS

Theory

Definition of research and its significance in planning. Introduction to research design. Research procedure. Characteristics of Scientific research. Literature review. Data collection and analysis techniques. Theoretical framework and testing of hypo thesis. Research design: components of research design, types of research design: measurement: definition, nature and levels of measurement, research mythology: collection and analysis of data, types of observation, laboratory experimentation, and field experimentation, mail questionnaire, personal interview: questionnaire construction: content of question, types of question, question format, sequence of question, index construction and scaling methods, sampling and sample design, evaluation; generalization: theoretical framework and testing hypotheses, organization and format of planning report: reference, quotations, bibliography, paging, etc., Compilation of research proposals and presentation.

Practical

Review of a thesis. Preparation of a research proposal for project in the last term under ref. number CRP-499.

Books Recommended

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, *Urban Projects Manual*, Gerald, Liverpool, 1983

CRP-406 DEVELOPMENT JOURNALISM

Theory

Introduction to Media and/in Development, Theoretical perspectives on development and impact on policy and performance. Terms like "developing or less developed countries" or "Third World" and politics around these definitions. Responsibility of governments to rural and marginal people's media needs. The role of media in national development, health promotion, education. Historical examples of media involvement in national liberation, repression, unity and conflict. Development vs Progress-from whose point of view? Journalist as observer or participant in development.

Books / Journals Recommended

1. Berger, G. 1992. *Social Structure and Rural Development in the Third World*. Cambridge: Cambridge University Press.
2. Bourgault, L. 1994. The Liberian Rural Communications Network: a study in the Contradictions of Development Communication. *Journal of Development Communication*, 5,2. June: 57-71.
3. Bourgault, L. 1995. P251-256. *Electronic Newsletter of African Studies*. 1997. *Africa and Global Knowledge for Development*.
4. Hachten, W. 1993. *The growth of Media in the Third World: African failures, Asian successes*. Ames: Iowa State University Press.
5. Haule, J. 1984. Ol paradigm and new order in the African context: toward an appropriate model of communication and national development. *Gazette*. 333:3-15.
6. Kariithi, N. 1994. The crisis facing development journalism in Africa. *Media Development*, No. 4.
7. McAnany, EG. 1980. The role of information in communicating with the rural poor: some reflections. in McAnany ed. *Communications in the Rural Third World*. New York: Praeger, 3-18.
8. Pratt, CB and Manheim, JB. 1988. Communication research and development policy: agenda dynamics in an African setting. *Journal of Communication*. 38(3) 75-95.
9. West, Harry G.; Fair, Jo Ellen. 1993. Development communication and popular resistance in Africa: an examination of the struggle over tradition and modernity through media. *African Studies Review* (v36 p91-114 April)

EIGHT SEMESTER

CRP-407 MASTER PLANNING –II

Theory

Policy planning in the light of existing studies and strategies. Cotangents and purpose of master plan. Local development plans such as subject plans, local district plans and action area plans. Phasing and programming. 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 implementation of the plans and component projects.

Practical

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

Books Recommended

1. Department of Environment, Development Plans Manuals, HMSO, UK (Latest Edition)
2. Bracken, Ian, Urban Planning Methods; Research and Policy Analysis, London, Methew, 1981
3. LDA, World Bank/LDA, Lahore Urban Development and Traffic Study Final Report , LDA, 1980
4. Taylor, L. John, Urban Planning Practice in Developing Countries, Oxford, Pergamen.
5. Ministry of Housing & Works, Govt. Of Pakistan, National Reference Manual, 1986
6. Hoyle, S.B., Spatial Aspects of Development, Oxford, John Wiley, (Latest Edition)
7. Batty Michael, Urban Modeling, London, Cambridge University Press, (Latest Edition)
8. LDA, Integrated Master Plan for Lahore, 2004

CRP-408 ESTATE MANAGEMENT

Theory

Process and problems of urban growth in developing countries with particular reference to Pakistan, land planning and management for urban expansion, operation of urban land prices: and development in Governmental and informal sector, public and private land development and management approaches viz: land pooling and readjustment, land baking, leasehold system, sites and services projects public-private joint ventures, plot allotment criteria, land management process for the modern city and master planning incremental development approach for low-income housing, people's involvement for the development and maintenance of infrastructure.

Practical

Preparation of a land management project for urban expansion.

Books Recommended

1. McAuslan, Patrick, Land, law and Planning, London, Weiderfels, 1975
2. Lichfield, Nathaniel, Land Policy in Planning, London, George Allen, 1980
3. Broslorman, Robert, Complete Estate Planning Guide, London, McGraw Hill, 1969
4. Berger J. Curtis, Land Ownership and use, Boston, Little Brown, 1967
5. Barros Paul, The Transformation of Land Supply System, USA Avabury, 1990
6. Harvey Tach, Urban Land Economics 3rd Vol., Houndmills, Macmillan

CRP-409 DISTRICT AND REGIONAL PLANNING

Theory

Introduction to District Planning. Hierarchy of rural and urban settlements in the administrative districts of Pakistan. Urban and rural institutional setup in Pakistan. National and regional planning guidelines for the district and local level planning. The local Government Acts of Pakistan. Role of town Planners at district level. District level Master Plan and local subject plans for rural sanitation, health centre development, educational institutions, service centers, rural water supply schemes and rural transportation. Introduction to Regional Planning; concept, need and objectives, planning regions, delineation of regions, Spatial distribution and hierarchy of settlements, National and regional economy, economic base resources etc. Inter and intra regional inequalities, spatial flows, rural-urban linkages, urbanization and regional growth, regional development theories. Preparation and presentation of regional plans and their implementation. Review of public sector programmes with particular reference to Pakistan.

Practical

Critical evaluation of Regional Plans, Inter regional and Intra regional disparities.

Books Recommended

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)

8. World Bank, World Development Report 1992, Oxford University Press, 1992

CRP-410 SITE DEVELOPMENT SCHEMES AND URBAN DESIGN

Theory

Concept of site development scheme. Components and important issues. 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).

Books Recommended

1. Whyte H. William, *Social Life of Small Urban Space*, Washington, Conservation Press 1980
2. *National Design Hand book Prototype*, Nairobi, 1990
3. Goethest Richard, *Making Micro Plans*, G. Britman, 1988
4. Bacon Edward N., *Design of Cities*, London, 1975
5. Lynch Kevin, *The Image of the City*, Cambridge, 1960
6. Lynch Kevin, Gray Hacks, *Site Planning 3rd ed.*, Cambridge, 1984
7. Richard Unterman and Robbers Small, *Site Planning for Cluster Housing*, Van Nostrend Reinhold Co. New York (Latest Edition).
8. Donald Watson et.al, *Time Sever Standards for Urban Design*, McGraw Hill, 2001.

CRP-499 PROJECTS

Practical

Research projects pertaining on any City and Regional Planning aspect / problems / dimation.

Part-I

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

OBJECTIVES

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

1. To provide advanced knowledge and skills in the field of City and Regional Planning.
2. To develop research in order to contribute to the existing body of knowledge, skills and techniques in City and Regional Planning profession.
3. To provide professionals in various stream of specializations in City and Regional Planning.

SCHEME OF STUDIES FOR MS-CRP

SPECIALIZATIONS

1. Community Empowerment
2. Housing & Urban Development
3. District and Regional Development Planning
4. Transportation Planning

GROUP – A: Compulsory Courses

Ref. No.	Course Title	Credit Hours	
		Theory	Practical
CRP-501	Advanced Planning Techniques	2	1
CRP-502	Comparative Urban Planning	2	1
CRP-503	Planning Research Methods	2	1
CRP-504	Regional Development Planning	2	1
CRP-505	Planning Theory	2	1
CRP-599	Research Thesis	0	6

GROUP – B: Elective Courses (3 Courses To Be Taken From The Following)

Ref. No.	Course Title	Credit Hours	
		Theory	Practical
CRP-551	Public Transport Planning	2	1
CRP-552	Disaster Management and Rehabilitation	2	1
CRP-553	Development Planning in Pakistan	2	1
CRP-554	Local Planning Practice	2	1
CRP-555	Environment, Resources and Development	2	1
CRP-556	Legal and Regulatory Aspects in Planning	2	1
CRP-557	Urban Finance Management	2	1
CRP-558	Advanced Statistics	2	1
CRP-559	Advanced Remote Sensing	2	1
CRP-560	Rural Planning	2	1
CRP-561	Advanced Geographical Information Systems	2	1
CRP-562	Mathematical Models in Planning	2	1
CRP-563	Plan Implementation	2	1
CRP-564	Urban Sociology	2	1
CRP-565	Informal Housing	2	1
CRP-566	Housing Policy and Practice	2	1
CRP-567	Urban Transportation Planning	2	1
CRP-568	Environmental Planning and Management	2	1
CRP-569	Community Organization and Development	2	1
CRP-570	Housing and Urban Development	2	1
CRP-571	Urban Design	2	1
CRP-572	Geographical Information Systems	2	1
CRP-573	Urban Land Management	2	1
CRP-574	Project Appraisal	2	1
CRP-575	Infrastructure Planning	2	1
CRP-576	Climate Consideration in Urban Design	2	1
CRP-577	Sustaining Environment	2	1
CRP-578	Environmental Land Use Planning	2	1
CRP-579	Special Topics	2	1

Total Credit Hours for the MS-CRP Degree = 30

DETAILS OF COURSES

COMPULSORY COURSES

CRP-501 ADVANCED PLANNING TECHNIQUES

Theory

Planning as a cyclic process. Use of techniques at various stages of the planning process. Goals formulation techniques. Techniques of data collection and surveys. Questionnaire construction and empirical studies. Problem identification. Techniques of policy making and strategy planning. Introduction to decision theory as a basis of public policy planning. Policy analysis as a technique of planning. Strategy evaluation through cost-effectiveness and cost-benefit analysis. GIS and other techniques of developing a Master Plan and Local Plans or area development schemes. Plan implementation techniques. Planning balance sheet and Goal-achievement matrix analysis as tools of plan evaluation. Other plan evaluation techniques. Introduction to modeling techniques through the study of population forecasting, gravity and land use models. Social impact analysis as a technique of community planning. Illustration of selected techniques through case studies.

Books Recommended:

1. System Analysis and Design in Engg. Architecture Construction and Planning, (Latest Edition).
2. A.J. Catonese, Scientific Methods of Urban Analysis, (Latest Edition)
3. Text Publication, Leonard Hill Books, University of Illinois Press. (Latest Edition)
4. Oppenheim N., Urban Applied Models in Urban and Regional Analysis, Princeton Hall Inc. N.J. 1980.
5. Lichfield N., P.Kettle, M. Whitebread, Evaluation in the Planning Process, Pergamon Press, Oxford, (Latest Edition).
6. Petter Hall and Ulrich Pfeffer, Urban Future 21 (Latest Edition).
7. David Harvey, Social Justice and The City, (Latest Edition).
8. Campbell Scott and Fainstein Susan, Readings in Planning Theory, (Latest Edition).
9. Fainstein, Reading in Urban Theory, (Latest Edition).
10. Campbell, Reading in Planning Theory, (Latest Edition).
11. Battley, P.W.J editors, Theory and Method in Urban and Regional Analysis, London, Pion Ltd, (Latest Edition)
12. Paris, Chris, Critical Readings in Planning Theory, Pargamon, Oxford, 1982
13. Faludi Andreas, Planning Theory, Pargamon, Oxford, (Latest Edition)
14. Burchell, R.W., Planning Theory in 1980s, N.J. Centre Urban Planning, 1980

CRP-502 COMPARATIVE URBAN PLANNING

Theory

Socio-economic contexts of urban planning in the capitalist, socialist and the developing countries. Introduction to the problems, assumptions, approaches and institutional settings of urban planning in developed countries like the United States, Britain, France, China, Poland etc., and in developing countries like India, Pakistan, and China etc. Concepts and approaches emerging from the United Nations and the World Bank's involvement in urban problems of this world. Students will be expected to appreciate varying national styles of urban planning and encouraged to critically understand the context of each approach for assessing its relevance to the Pakistani conditions.

Books Recommended:

1. I. Masser & R. Williams (eds), 1986, "Learning from other countries: the cross-national dimension in urban policy making", Alden Press, Oxford,
2. Stretton H., 1978, "Urban Planning in Rich and Poor Countries", Oxford University Press, Oxford PP, 3-18 and 78-79 (the rest of the book is worth rereading, thou),
3. Cherry G.E., 1988, "Cities and Plans", Edward Arnold London.
4. Cullingworth J.B., 1988. "Town and Country Planning in Britain" Tenth Edition. Unwin Hymen, London.
5. Hall P., 1988, "Cities of Tomorrow". Blackwell, Oxford. - M.Grant, 1992, "Planning law and the British land use planning system: an overview", Town Planning Review, 63 (1).
6. Robson B., 1988, "Those Inner Cities: Reconciling the social and economic aims of urban policy".
7. Dal Cin A. and D. Lyddon (eds), 1989, International Manual of Planning Practice", International Society of City and Regional Planners, The Hague.
8. Davies HWE, 1991, "Zoning and discretionary control: a Comparison" unpublished paper to 1991. AESOP/ACSP Congress, Oxford.
9. Cherry G.E., 1986, Problems of cross national research: An East European perspective" in I. Masser & Williams, "Learning from other countries".
10. Massey D. and J. Allen, (Editors) 1988, Uneven Re-development: Cities and Regions in Transition", Hodder and Stoughton. The Open University, London.
11. French R. and F. Hamilton, 1979, "The Socialist City: Spatial Structure and Urban Policy, John Willey. - C. Couch, Urban Renewal: Theory and Practice" Macmillan, 1990, especially.
12. Gibson M.S. and M.J. Langstaff, 1982, "An Introduction to Urban Renewal", Hutchinson, London, PP.11-156.
13. Brindley T., Y. Rydin, & G., Stoker, 1989. "Remaking Planning: The Politics of urban change in the Thatcher Years", Unwin Hymen, London.
14. Rodriguez- Bachiller A., 1991, "British Town Planning Education: a comparative perspective" Town Planning Review

16. Hague C., 1991, "A Review of Planning Theory in Britain", *Town Planning Review*, 62(3), PP. 293-310.

CRP-503 PLANNING RESEARCH METHODS

Theory

Why to do research in planning? Expectations from a piece of research. Types of research. Various research methods, their use and limitations; Principles of selecting appropriate research methods for an inquiry. Research design and research process. Critically evaluating published research. Measurement in the social sciences: validity and reliability and how to assess them. The nature of quantitative and qualitative research and their integration. Philosophy of quantitative research. Experiments and experimental design. Survey research: types and aims of surveys. Sampling and generalization. Structured interviews and self-completion questionnaires: differences between them; relationship to measurement issues. Content analysis. Techniques of analyzing quantitative data. Hypothesis testing and identification of relationships among variables through bivariate and multivariate analysis. Tests of significance. Philosophy of qualitative research. Participant observation. Unstructured interviewing. Field observations. Case study strategy. Qualitative data analysis. Conversation analysis. Focus groups. Presentation of findings, writing-up of the thesis, and dissemination of research work. Managing research projects: mobilizing resources, team building, time management, quality control on performance, confidentiality and ethical issues, progressing and expediting, managing costs and estimation, managing conditions of high uncertainty and difficulties in successful completion of research projects.

Books Recommended:

1. Kate L. Turabian: *A Manual for Writers of Term Papers, Theses and Dissertations*. (Latest Edition)
2. Harry Teitelbaum: *How to write Thesis: A Guide to the Research Paper*. (Latest Edition)
3. William J. Goode and Paul K. Hatt; *Methods in Social Research*. (Latest Edition)
4. Jack P. Gibbs; *Urban Research Methods*. (Latest Edition)
5. James A. Black and Dean J. Champion; *Methods and Issues in Social Research*. (Latest Edition)
6. John Goltung, *Theory and Methods of Social Research*. (Latest Edition)
7. Elliott S.M. Gatner and Francisco; *Research and Report Writing*. (Latest Edition)
8. Kumar, Ranjit, *Research Methodology*, Saga Publications, London, 2000

CRP-504 REGIONAL DEVELOPMENT PLANNING

Theory

Regional perspectives in national development. Physical and manpower resources, infra-structural setting, locational context and public policies as determinants of regional development. Sustainable regional development. Theories of Regional Development and explanations of the phenomenon of persistently depressed regions. Balanced versus imbalanced development within a national space. Metropolitan explosion and rural stagnation. Critical evaluation of programmes of controlling metropolitan growth. Theories of overurbanization and approaches to regional development. Theories of growth poles and centres. Strategies of industrial deconcentration and decentralization of services. Rural development as an instrument of regional policy. Notions of community development and integrated rural development programme. Metropolitan Planning as a form of regional planning. Case studies of regional development in the U.S. Canada, Britain, France, Eastern Europe, African countries, Malaysia, Bangladesh, Iran and Pakistan.

Books Recommended:

1. Hunt, Diana, Economic Theories of Development: An Analysis of Competing Asian studies, New York, Harvester Wheatsheaf , (1989)
2. Manners, Gerald, Regional Development in Britain, John Willey, 1980
3. Glasson John, Introduction to Regional Planning, Hutchinson, London, (Latest Edition)
4. Friedman John, Regional Policy, Reading in Theory and Practice, London, MIT, (Latest Edition)

CRP-505 PLANNING THEORY

Theory

Planning as a mode of public decision making process. Planning theories suggested by Eastern and Western Scholars. Elements of the planning process: Identification of social goals; formulation of objectives, criteria and alternative proposals; Choice of an action plan; Implementation, feed back and evaluation. Models of the planning process: Incrementalism, and optimizing strategies and systems approach. Advocacy planning. Planning for efficiency and social justice. Citizen participation in the planning process. Urban and regional planning as expressions of public planning. Evolution of contemporary urban planning from design disciplines to policy sciences. Introduction to special interests within the field of urban planning, policy planning, regional development, urban design, land planning, social planning and environmental planning.

Books Recommended:

1. Petter Hall and Ulrich Pfeffer, Urban Future 21 (Latest Edition).
2. David Harvey, Social Justice and The City, (Latest Edition).

3. Campbell Scott and Fainstein Susan, Readings in Planning Theory, (Latest Edition).
4. Fainstein, Reading in Urban Theory, (Latest Edition).
5. Campbell, Reading in Planning Theory, (Latest Edition).
6. Battley, P.W.J editors, Theory and Method in Urban and Regional Analysis, London, Pion Ltd, (Latest Edition)
7. Paris, Chris, Critical Readings in Planning Theory, Pargamon, Oxford, 1982
8. Faludi Andreas, Planning Theory, Pargamon, Oxford, (Latest Edition)
9. Burchell, R.W., Planning Theory in 1980s, N.J. Centre Urban Planning, 1980

ELECTIVE COURSES

CRP-551 PUBLIC TRANSPORT PLANNING

Theory

Public transport problems in developing countries. Public transport and city structure. Public transport systems and technologies. Passenger transport modes; rail transit, bus transit and para-transit. Comparative Analysis of mass transit options. Transportation system and management, system and service planning, rural public transport. Management of public transport operations, marketing, financing and security and management of terminals. Role of government in regulating public transport. Environmental considerations in public transport planning. Preferential treatment for high occupancy vehicles.

Books Recommended:

1. Sohail, Urban Public Transport and Sustainable Development for the Poor- A Case Study of Karachi, Pakistan
2. David Banister, Transport and Urban Development, (Latest Edition)
3. Black, Urban Mass Transportation of Planning (PB), (Latest Edition)
4. White, Peter, R., Planning for Public Transport, Hutchinson, London , (Latest Edition)
5. Alan Armstrong W., Bus Services, Reducing costs, Raising Standard, W.B. Washington D.C., 1987
6. Richard Barrett, Urban Transport in West Africa, Washington D.C., 1990
7. James Ian, S., Urban Transport Appraisal, Macmillan, London, (Latest Edition)

CRP-552 DISASTER MANAGEMENT

Theory

Preparation, Response, Recovery, Sample IT Solutions, Identifying the risks, Natural risks, Emergency risks, Aims Purpose and scope of emergency planning, Methodology; making and using maps, methodology analytical elements.

The emergency plan and its act valuation. The plan in practice; emerging management specialized planning reconstruction planning. Emergency Management Training coaching thoughts. governmental regulations and universal preparation to ordinary with local assets,

Preplanning for a disaster, eliminating, minimizing to shifting risks, Developing the action plan, developing the written plan, effective communication, selecting the right people, Training for success Media control, Share householder factor, After a disaster minimizing the damage Governmental reactions, legal issue, Disability issues, Disaster preparedness assessments, Personal Disaster--- use of Criminal sanctions, Employees work-place right, Policy, Legal and Institutional Framework, Sustainable Development and Concept of DRM, Risk Assessment, Mitigation Planning and Implementation, Promoting Safer Building Construction, echo-financial Mechanisms for Risk Management, Climate Forecasts Application, Flood Mapping, Early Warning,, Urban Planning, Structural Interventions, Earthquake (EQ) Disaster Risk Management, EQ Risk Assessment, EQ Disaster Reduction, EQ Rehabilitation and Reconstruction, Designing a Road Map, EQ Major Issues.

Books Recemmeded

1. Disaster Management and preparedness by Thomas D. Schneid Publisher CRC November, 22, 2000.
2. Principals of Emergency planning and Management David Alexander
3. Published in the United State of America by Oxford University Press Inc. 1998 Madison Avenue, New York 10016
4. The primer on Disaster Risk management in Asia, ADPC, Bangkok, Thailand, 2006.
5. Mr. Aloysius J. Rego Director of Knowledge Sharing and partnerships and Co-Team Leader of Disaster management System team Asian Disaster preparedness Center (ADPC) 2003.
6. Timothy Beatley, Philip Berke, David J. Brower 1999 Natural Hazard Mitigation: Recasting Disaster Policy and Planning Island Press ISBN: 1559636025
7. Charlotte Benson, Edward J. Clay (2004) Understanding the Economic and Financial Impacts of Natural Disasters World Bank Publications ISBN: 0821356852

CRP-553 DEVELOPMENT PLANNING IN PAKISTAN

Theory

Background of development planning in Pakistan; review of five year plans; sectoral planning; planning institutions institutional process in development planning and its dynamics; analysis of development planning process in Pakistan.

Books Recommended:

1. Approach Paper: Strategic Directions to Achieve Vision 2030 (Feb-2006) by Planning Commission Government of Pakistan.
2. Pakistan Millennium Development Goals Report 2004 Government of Pakistan.

CRP-554 LOCAL PLANNING PRACTICE

Theory

Government and the planning system. Local planning and public policy. Local planning and the politics at local, provincial and national levels. Local planning agencies and the provincial and central governments. The role of local plans within the statutory land use planning system. The legislative and administrative framework for local plans. The type, form and content of local plans. Local plans for urban development, urban renewal, conservation, environmental improvement, transport management, and regeneration of inner city areas. Local plan preparation, adoption, and review procedures. Bringing local planning issues before the public. Non-statutory approaches to local planning. Local planning and implementation. The development control process. Local plans and the determination of planning applications. Conflict of interests and bargaining in development control. Site development schemes: identifying goals, objectives, policies and standards for site development schemes. Local plans and the role of public and private sectors in the development process. Contingency and the management of change. Case studies of local plan preparation and implementation in developed and developing countries. Institutional, political and administrative prerequisites of local plans in different social contexts.

Books Recommended:

1. S.C.Dak, A Hand Book of Town Planning, (Latest Edition)
2. Robert Goodman, After the Planners
3. HMSO, Development Plans: A Manual of Form and Contents, HMSO, London (Latest Edition)
4. Bruton, Michael & Nicholson, David, (1987), Local Planning in Practice, Hutchinson, London, (Latest Edition)
5. Branch, Melville, C., Continuous City Planning, John Willey, New York, 1981
6. Taylor, L. John, Urban Planning Practice in Developing Countries, Pagamon, Oxford, 1981

CRP-555 ENVIRONMENT, RESOURCES AND DEVELOPMENT

Theory

Environmental health hazards; effects on human functioning and means of minimising such effects. Local Agenda 21 as a framework for environmental management. Green ideas for pollution control and waste management. Energy, land, water and air as resources for community life. Techniques of assessing resource potential and optimum use. Energy policies and the environment. Sustainable energy futures. Conservation of natural resources; principles and practices in the use and conservation of natural resources. Perspectives on development. Sustainable development, the city and globalization. City planning and sustainability. Managing environmental issues of the countryside.

Books Recommended:

1. Newson, M., (ed) (1992) "Managing the Human Impact on the Natural Environment: Patterns and Processes", London, Belhaven Press.
2. Blowers, A., (ed) (1993) "Planning for a Sustainable Environment: A Report by the Town and Country Planning Association", London, Earthscan.
3. DoE/DoT (1993), "Reducing Transport Emissions Through Planning", London, HMSO.
4. Barrow, C. J. (1995), "Developing the Environment: Problems and Management", Essex, Longman Group Limited.
5. Jackson, A.R.W., and Jackson, J.M., (1996) "Environmental Science: The natural environment and Human Impact", Essex, Longman Group Limited.
6. Sarre, P. (ed) (1991), "Environment, Population and Development",
7. London, Hodder and Stoughton in association with the Open University, Milton Keynes.
8. Blunden, J., and Reddish A. (eds) (1991), "Energy, Resources and Environment", London, Hodder and Stoughton in association with the Open University, Milton Keynes.
9. Wadhvani, M., and Misra, G.K., (eds) (1997,) "Keeping Cities Clean and Green, New Delhi, Uppal Publishing House.

CRP-556: LEGAL AND REGULATORY ASPECTS IN PLANNING

Theory

Legal and regulatory concepts; legislative, judicial and administrative structure in relation to planning; urban planning process in relation to local, provincial and federal governments; planning and development laws, regulations and byelaws; issues in implementation and enforcement; critical analysis of planning and development laws and regulations and their application.

Recommended Books:

1. Integrated Planning Regulation 1998; Reprinted in 2006 and available at:

<http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/I/IntegPlannR98.pdf>.

2. Initiatives of Government of India On Regulatory Reform In The Context Of The Action Plan For Effective And Responsive Government
<http://www.oecd.org/dataoecd/59/63/1910660.pdf>

CRP-557 URBAN FINANCE MANAGEMENT

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 and cost Benefit Analysis. Time value of money, compounding and discounting measures of project worth. Preparation of development budgets and planning project evaluation.

Practical

Assignments on costing and financing of schemes, using affordability models. Cost benefit analysis of a project.

Books Recommended

1. Cottred, Alan, *Environmental Economics*, London, Edward, (Latest Edition)
2. Merret, A.J., *The Finance and Analysis of Capital Process 2nd ed.*, London, Longman, (Latest Edition)
3. Mishan, E.J., *Cost-Benefit Analysis 3rd ed.*, London, George, 1982
4. Sugder, Robert, *Principles of Practical Cost Benefit*, Oxford, Oxford University press, (Latest Edition)
5. Merret, A.J., *Finance and Analysis of Capital Process*, London, Longman, (Latest Edition)
6. Nathaniel Litchfield, *Economics of Planned Development* (Latest Edition)
7. Struyls, J. Raymond, *Housing Finance in LDCs*, Washington D.C., 1992

CRP-558 ADVANCED STATISTICS

Theory

Data and its types (physical, social and economic attributes); data review and quality evaluation; sampling distribution; sample drawing techniques; estimation of means, variances, differences and proportions in demographic data; design of experiments/data collection, processing and interpretation exercises.

Books Recommended:

1. Manfred Denker and Wojbor A. Woyczynski, Introductory Statistics and Random Phenomena: Uncertainty, Complexity, and Chaotic Behavior in Engineering and Science
2. Phil Gregory, Bayesian Logical Data Analysis for the Physical Sciences: A Comparative Approach with Mathematica Support
3. John J. Kinney, Probability: An Introduction with Statistical Applications
4. Kevin Hastings, Introduction to Probability with Mathematica
5. John J. Kinney, Statistics for Science and Engineering
6. Colin Rose and Murray D. Smith, Mathematical Statistics with Mathematica

CRP-559 ADVANCED REMOTE SENSING

Theory

Remote Sensing System, Optical Radiation Models, Panchromatic, Multispectral, Thermal and Hyperspectral Sensing, Passive Remote Sensing Satellites, Landsat, SPOT, QuickBird and IKONOS, Hyperspectral Satellite Systems, Meteorological Satellites, Ocean Monitoring Satellites, Panchromatic and Multispectral Image Processing, Image Preprocessing, Image Transformations, Correction and Calibration, Registration and Fusion, Multispectral Image Classifications, Indices and Interpretations, Classification Process, Parametric and Nonparametric Classifications, Spatial-Spectral Segmentation, Sub-pixel Classification, Post-classification Analysis, Visual Interpretation of Panchromatic Images and Vectorization

Data Sources and Procurement, Data Formats (BSQ, BIL, BIP, etc.) Image Subsetting & Enhancement, Image Cleaning, Atmosphere Path Correction,, Image Mosaicing and Color Balancing, Image Rectification, Registration and Re-sampling, Band Ratios, Vegetation Indices, Image Filtering, Difference Images, Principal component analysis, Classification Schemes, Types, Algorithms, Field data collection, Qualitative and quantitative techniques, sampling techniques, Error matrices, Ground-Verification (Field Verification).

Practical

Lab Outline: Intro to lab and software, Image Management (Import/Export & Display), Enhancement Techniques, Spectral and spatial digitizing (image masking), Mosaicing and color balancing, Rectification and Registration and Re-sampling, Band Ratio, Vegetation Indices, Difference images, Image filters, Signature selection, Supervised, unsupervised and hybrid classification, ISODATA, MDM, MLC, and Bayesian classification, Error Matrix Generation, Classification validation, field work

Project From third week students will be advised to commence their project work in a teamwork environment. Project work will be based on real life data sets obtained from resource monitoring agencies such as SUPARCO, SOP.

Books Recommended:

1. Thomas M. Lillesand, Ralph W. Kiefer, Jonathan W. Chipman, Remote Sensing and Image Interpretation, John Wiley & Sons Inc 2003
2. Mather, P (1999, 2004). Computer processing of remotely sensed images. Third Edition, J Wiley. ISBN 0-470-849193
3. Gibson, P.J and Power, C.H (2000). Introductory remote sensing: Digital image processing and applications. Routledge. ISBN 0-415-18962-4
4. Sonka, M; Hlavac, V and Boyle, R (1999). Image Processing, Analysis and
5. Machine Vision (2nd Edition) International Thompson Publishing (ITP) Company. ISBN 0-534-95393-X
6. Schowengerdt, R A (1997) Remote Sensing, Models and Methods for Image
7. Processing (Academic Press) ISBN 0-12-628981-6.
8. Jensen, J. R. (2002) , Digital Image Processing: A Remote Sensing Perspective,
9. David A Landgrebe (January 24, 2003) Signal Theory Methods in Multispectral Remote Sensing (Wiley Series in Remote Sensing and Image Processing) Wiley-Interscience; Bk&CD-Rom edition ISBN: 047142028X
10. Roger M. McCoy (November 11, 2004) Field Methods in Remote Sensing The Guilford Press ISBN: 1593850794
11. Walter G. Egan, Walter Egan (September 1, 2003) Optical Remote Sensing: Science and Technology (Optical Engineering) Marcel Dekker ISBN: 0824741315
12. Fawwaz T. Ulaby (1986), Microwave Remote Sensing: Active and Passive, Volume I: Fundamentals and Radiometry (March, Artech House Publishers ISBN: 0890061904
13. Fawwaz Tayssis Ulaby (March, 1986) Microwave Remote Sensing: Active and Passive, Volume II: Radar Remote Sensing and Surface Scattering and Emission Theory Artech House Publishers ISBN: 0890061912

CRP-560 RURAL PLANNING

Theory

Review of social, economic, physical and environmental bases of rural life in developing countries, particularly Pakistan. Objectives and definitions of rural planning and development. The changing concepts of rural planning and development. A critical review of rural development efforts in Pakistan like Dehat Sudhar, Village Aid, Rural works and Integrated Rural Development Programmes, Matching Grant and MNA/MPA Programmes etc. Theories of rural urban migration; growth poles, service centres, and rural hinterlands. Central place theories for an efficient system for short and long range rural planning and development. Rural development as a component of Regional Planning. Rural spatial planning and micropolitan planning as strategies for

rural development. Spatial and organizational approaches for the delivery of public services and facilities in rural areas. Spatial plans and execution of rural development projects. Village and Neighbourhood Councils, Citizen Community Board System etc. Rural economic development through agricultural and industrial growth. Rural environmental and land resources. Preservation of agricultural land and promotion of appropriate technology as objectives of rural planning. Policy framework for comprehensive rural development. Top down and bottom up approaches to rural development. Case studies of Pakistan, India, China, Malaysia, Iran, Britain, Germany, Holland etc.

Books Recommended:

1. G.J. Lewis, Rural Communities: A Social Geography, British Library Cataloguing in Publication Data.
2. Imdad Ali Khan (1988), Participative, Management for Rural Development, Pakistan. Academy for Rural Development, Peshawar-Pakistan.
3. Karl E. Weber (1986), Rural Development Planning in Pakistan, Bangkok-Thailand.
4. Keith Hoggart (1987), Rural Development. A Geographical Perspective, Croom Helm Ltd., Prnivflent House New York. NY 1001.
5. Ravi Sharma (1987), Computer Applications for Rural Development, Vikas Publishing House, Delhi-110007.
6. Thomas Sharp, The Anatomy of the Village
7. Niles M. Hunsen, Rural Poverty and the Urban Crisis

CRP-561 ADVANCED GEOGRAPHICAL INFORMATION SYSTEMS

Theory

Introduction to GIS. Principles of Remote Sensing and GIS. Data acquisition techniques, characteristics and nature of spatial data, projections and objects. Spatial analysis. Data model and data structure. Typical GIS operations like linking multiple varied sources of tabular data to spatial datasets, importing spatial data, adding attribute data, labeling features, working with layers, designing GIS questions, integration of GIS with other software applications like AutoCad etc. Geo-Information Management. Geo-statistics. Global Positioning System and Land Information System and their relevance to City and Regional Planning. Research design and project management in GIS. Using GIS in carrying out urban and regional planning tasks like site selection, land use planning, zoning, land registration and titling, development control, utilities management and community planning. Co-ordinate System and Map Projection, Drawing of Map Projections and Error Estimations, Understanding of Cartographic Errors and Rectification Procedures, Cleaning and Editing Cartographic Data, Visualization of Geospatial Data, Symbolization and Map Layouts Development, 3D Visualization of Spatial Data, Alternate Approaches for Mapping (Geocoding,

Survey Data Integration), Geocoding and Survey Data Integration in GIS, Point Pattern Analysis, Lines and Networks, Performing Network Analysis, Area Objects and Spatial Autocorrelation, Describing and Analyzing Fields, Spatial Interpolations, Geostatistical Analysis, Map Overlay Analysis, Multivariate Data, Multidimensional Space and Spatialization, GIS Modeling and Related Issues

Books Recommended:

1. Lillis and Thomas, Remote Sensing and Image Interpretation, John Willey, New York, 1979
2. UNCHS (Habitat), Remote Sensing for Human Settlement, Nairobi, 1989
3. Pazner Micha, Map Processor; A Geographic Information System, John Willey, New York, 1989.
4. Stewart Fotheringham, Chris Brunson, Martin E Charlton (2000) **Quantitative Geography: Perspectives on Spatial Data Analysis** SAGE Publications ISBN: 0761959483
5. John Stillwell (2004) **Applied GIS and Spatial Analysis** John Wiley & Sons, Ltd. England ISBN: 0470844094
6. Jacek Malczewski (1999) GIS and Multicriteria Decision Analysis John Wiley & Sons, Inc. ISBN: 0471329444
7. Martien Molenaar (1998) **An Introduction to the Theory of Spatial Object Modelling for GIS** Taylor & Francis, Inc. ISBN: 074840774X

CRP-562 MATHEMATICAL MODELS IN PLANNING

Theory

Model as a representation of the real world. Use of models as a tool for better understanding of the planning systems. Model as a means for forecasting. Deterministic models and probabilistic models. Simple models and comprehensive models. Linear and non linear models. Interactive models, gravity models. Construction of a model and data - collection. Urban Transport Planning Process Model. Systems view of planning. Basic concept in matrix algebra, calculus, and probability theory will be covered; attention will be focused upon their use in projecting trends and on applications in planning.

Books Recommended:

1. Margate, Roberts, Planning Techniques, 1978
2. Chadwick, George, Models of Urban and Regional Systems in
3. Developing Countries, Oxford Pergamon, 1987.
4. Bassa Tomesdela, Integrated land Use and Transport Modeling, Cambridge Press, 1989.
5. Putman, S.H. Integrated Urban Models, London, Pion Ltd. 1983.
6. Jee, C., Models in Planning, Oxford, Paragon, 1973
7. Openson, Stass, Using Models in Planning, England, RPA, 1978

CRP-563 PLAN IMPLEMENTATION

Theory

Types of plans; planning out puts; development proposals; programmes and projects; institutional methods, processes and procedures related to programme and project implementation; analysis of implementation modes; alternatives, case examples and best practices. BOT, international tendering. Master plan as an instrument of guiding and regulating city growth. Legal and institutional bases of Master Plans. Review of assumptions, approaches and effectiveness of master planning in the U.S.A., Canada, Britain, China, India and Pakistan. Institutional, political and administrative pre-requisites of Master plans in different social contexts. Case studies of master planning efforts in Calcutta, Karachi, Lahore. Assessment of the scope of policy plans as instruments of urban planning. Examination of Cleveland and Chicago policy plans and review of the experience of structure plans in Britain. Zoning and land use controls as tools of urban planning. Review of British and American experience. Planning for urban services and facilities. Capital budgeting and public enterprise as means of plan implementation.

Books Recommended:

1. Clara Greed, Implementing Town Planning: The Role of Town Planning in the Development Process.
2. Pasha H.A. Resource Mobilization and Expenditure Planning in the Provinces of Pakistan
3. Merret, A.J., Finance and Analysis of Capital Projects, Long man, London, 1973
4. Stagnyer, Jeffry, Understanding Local Government, Oxford Martin 1983
5. LDA, Lahore, Building Regulations 1984, Lahore LDA, 1984
6. Liver pool University, Urban Project Manual, Liverpool University Press, 1983
7. Dalcin, A. Lyddon, D., International Manual of Planning Practice, Netherland 1989

CRP-564 URBAN SOCIOLOGY

Theory

The roots of urban sociology, cities and uneven development, inequality and social organization in the city. Perspectives on urban culture, urban culture and regeneration of urban meaning, urban politics, urban social problems, economic conditions of urban areas.

Books Recommended:

1. Mike Savage, Alan Warde & Kevin Ward (2002), Urban Sociology, Capitalism and Modernity, Palgrave Macmillan Publishing. ISBN-033971590
2. Dave, H. Kaplan, James O. Wheeler, Steven Hollway (2003), Urban Geography, Wiley. ISBN-047135998 x.

3. John M. Levy (2005), Contemporary Urban Planning (7th ed.), Prentice Hall. ISBN-0131930680.

CRP-565 INFORMAL HOUSING

Theory

The course focuses on developing understanding of local housing conditions and the processes being undertaken by the informal sector to address the need of the poor. It includes study of the built environment with their linkages with the social and economic conditions of the people inhabiting it. Study of innovative housing approaches and initiatives and their analysis within the social, economic and political reality of Pakistan.

Books Recommended:

1. Turner, J.F.G, Housing By People, London Marion Boyars, 1975.
2. Vander Linden J. and Baross P., Transformation of Land Supply Systems in Third World Cities, Aldershot, Avebury.
3. Geoffrey K. Payne, Urban Housing in the Third World, London, 1984.
4. Hasan Arif, Housing For The Poor, Failure of Formal Sector Strategies, City Press, Karachi, 2000.
5. Hasan Arif, Community Initiatives, City Press, Karachi.
6. Hasan Arif, Seven Reports on Housing, OPP-RTI Publication, Karachi, 1992.

CRP-566 HOUSING POLICY AND PRACTICE

Theory

Housing as a process. Urbanization trends and their effect on urban housing situation. Housing policies and programmes adopted in Pakistan. Slum and squatter upgrading. Sites and services schemes by public and private sectors. Public land banking and urban land tenure as policy instrument to regulate land prices and uses. Formal and informal sectors of urban economy and organization of respective housing markets. Housing delivery system. Community facilities and services, shelter, tenure, physical environment and costs as elements of the housing delivery system. Housing needs and demands. Housing supply and the structure of housing market. Determinants of the supply and demand of housing. Public intervention in housing markets through the regulation of finances, land, community facilities and through direct participation in the form of public housing schemes. Low income and squatter housing. Problems, issues and approaches. Self-help and incremental development approaches for low income housing. Community involvement in slum and squatter upgrading. Role of private sector and the NGOs in housing. Implementation of housing programmes. Case studies of housing programmes initiated by the international agencies and national governments, particularly in the third world countries. Review of housing programmes in Pakistan.

Books Recommended:

1. Cotton A and Frances R (1991): Services for Shelter, Liverpool, University Press/Fairstead Press.
2. Davidson F. and Payne G. (1983): Urban Project Manual, Liverpool, University Press.
3. Mathey K ed (1992): Beyond Self Help Housing, London, Mansell.
4. Tipple, G. and Willis, K.G. (1991): Housing the Poor in the Third World, London, Routledge.
5. Turner J.F.G. (1975): Housing by People, London Marion Boyars.
6. Van der Linden J. and Baross P. (1990): Transformation of Land supply Systems in Third World cities, Aldershot, Avebury.
7. Geoffrey K. Payne, Urban Housing in the Third World, London, 1984

CRP-567 URBAN TRANSPORTATION PLANNING**Theory**

The Urban Transportation Planning process. Generation of alternatives and their evaluation. Introduction to systems analysis approach to transportation. Introduction to models of travel demand in transportation studies including residential and non-residential trip generation; Gravity and opportunity models of trip distribution; trip end and trip interchange modal split; net work assignment. Policies for urban mass transit.

Planning for pedestrians, cyclists and animal driven vehicles. Transportation problems of rural areas and programmes of rural development.

Books Recommended:

1. Buchanan, C, (1963) Traffic in Towns, H.M.S.O.,
2. I.H.T./D.T.P.(1987) Roads and Traffic in Urban Areas, H.M.S.O.
3. Buchanan, M.(1990) Extract from "Urban Transport Trends and Possibilities, Rees-Jeffries Transport and Society, Discussion Paper.
4. O. Flaherty, CA., (1986) Highways, Vol.1, Traffic Planning and Engineering, 3rd edition, PP. 150-156.
5. Moseley, M. (1979)Accessibility: the Rura; Challenge, Chapter 4, pp. 53-78,
6. Charactered Institute of Transport, Paying for Progress a Report on Congestion and Road use Changes, March, 1990.
7. L.D.A./World Bank/L.D.A., Lahore Urban Development and Traffic Study, Vol.3, especially Chs.5&6, 1998.
8. P.R.T.C., Towards Safer Roads in Developing Countries, Proceeding of Seminar C, Summer Annual Meeting, 1991.
9. Dowing A. J. Road, Accidents in Pakistan and the Need for Driver Training and Traffic Law Enforcement, P.R.T.C. 1985.
10. Devon Country Council, Traffic Calming Guidelines.
11. Hass –Klau, C. et. Al., Civilized streets, a Guide to Traffic Calming, Ch.2, Traffic Calming and Traffic Management Measures, Environmental and Transport Planning, 1992.

12. McLintock , H. Planning for the Bicycle in Urban Britain, Chapter 14 in the Greening of Urban Transport (ed. R. Tolley), Belhaven Press, 1990.
13. D.T.P./Welsh Office, Cyclists at Road Crossings and Junctions, H.M.S.O., 1986.
14. Inst. Of Highways and Transportation, Pedestrianization Guidelines, I.H.T., 1989.
15. Hass-Klau, C., The Pedestrian and City Traffic, Belhave, 1990, (available in the U.E.T., Central Library).
16. P.R.T.C. Summer meeting Public Transport in Developing Countries, Selected papers pp. 1-80, 1990.
17. Armstrong-Weight, A., Urban Transit Systems: Guidelines for Examination of Options, World Bank, 1986.

CRP-568 ENVIRONMENTAL PLANNING AND MANAGEMENT Theory

Introduction to environmental planning. Environmental planning and sustainability issues. Physical environment as an ecological system. Human impact on nature. Measuring use of nature and monitoring environmental qualities. Review of problems of urban physical environment: Population growth, poverty and environment; disposal of human and animal wastes and sewerage in cities; air and noise pollution; toxic/hazardous wastes; traffic congestion; land and water scarcities; soil erosion and waste of agricultural land. Approaches to environmental planning: Environmental action plans and conservation strategies; Indicators of sustainable urban development; Theory and techniques of Environmental Impact Assessment (EIA), use of EIA in planning; Strategic Environmental Assessment; Valuing the environment, fundamentals of environmental economics; Emergency planning; Environmental law, rights and justice.

Introduction to Environmental Planning and Management; Sustainable Development; Environmental Planning Framework; Life Cycle Assessment; Environmental Management and new technologies; Environmental Stakeholders; Designing for the environment; The ISO 14000 model; selling the environmental concept; Total Environmental Quality Management. Understanding Pollution; the waste management hierarchy; an introduction to toxicology; Environmental risk assessment; Air pollution; Air pollution and global change; Water pollution; Solid waste; metals; pesticides; Environmental estrogens; Energy production and use; pollution at home

Books Recommended:

1. Marquita K., Understanding Environmental Pollution, Hill University of Maine, Orono July 2006
2. Christen N Madu, Environmental Planning and Management. (Pace University, New York) 2006
3. World Commission on Environment and Development (1987) "Our Common Future", Oxford University Press.

4. Adams W.(1990) "Green Development", London, Routledge.
5. Pearce, D., et al (1990) "Sustainable Development: Economics and the Environment in the Third World", Edward Elgar.
6. Field, B. C., (1994) "Environmental Economics: An Introduction", London, McGraw-Hill, Inc.
7. Selman, P., (1992) "Environmental Planning: The Conservation and Development of BioPhysical Resources", London: Paul Chapman Publishing Ltd.
8. World Bank (1992) "Development and Environment" Oxford University Press.
9. Biswas, A. K., (ed) "Environmental Impact Assessment for Developing Countries", Oxford, Butterworth.
10. Dhyani, S.N., (1993) "Management of Environmental Hazards", New Delhi, Vikas Publishing House Pvt., Ltd.
11. IUCN/JRC/GOP (1991) "The Pakistan National Conservation Strategy", Karachi, IUCN.
12. Sarre, P. (ed) (1991), "Environment, Population and Development", London, Hodder and Stoughton in association with the Open University, Milton Keynes.

CRP-569 COMMUNITY ORGANISATION AND DEVELOPMENT

Theory

Models and perspectives of community organization, types of community organizations, and roles of community organizer. The role and work of different sectors like government, non-governmental organizations, volunteers etc., in relating to community organization and liaison. The purpose and vision of community development. The principles and concepts of community-based development. Methods for evaluating and documenting progress and results of community development efforts. Skills and techniques of community organization and development: community study; identification and analysis of community needs, problems, networks and resources; making individual contacts and building relationship; public relations strategies and skills; developing networks; training of community leaders; methods of involving marginalized people; organizing mass meeting and public hearing; designing, managing and implementing community education programmes; working with community groups to carry out community problem-solving action; forming and sustaining community groups and organizations; promoting participation; mobilizing and developing resources; developing community based information for use in community decision formation; budgeting and financial management; intervening into crisis and managing conflict; negotiating and lobbying; preparing for specific change actions; planning of action strategies and tactics. Identification and analysis of the major issues and problems in community organization and liaison in developing countries: social responsibility, political involvement, social control, accountability, and citizen participation, etc. Role of IT in community organization and development.

Books Recommended:

1. Kothary, Rajni (1993), Poverty: Human Consciousness and the Amnesia of Development, London, Zed Books.
2. Lipton, Michael (1976), Why poor People stay poor? A study of Urban Bias in World Development, London: Temple Smith.
3. Siddiqui, Tasneem Ahmed, (1996) Development Issues: Innovation and Successes, Fiction House, Lahore
4. Arif Hasan, Community Initiatives
5. A.P.cotton, Community Initiative in Urban Infrastructure
6. Mahlon Apgr, New Perspectives on Community Development, London, U.K.
7. UNHCR (Habitat) (1986), Community Participation in Squatter Settlement, Nairobi
8. Ward Peter and Chant, S. (1987), Community Leadership and Self Help Housing, Pergamon Oxford.

CRP-570 HOUSING & URBAN DEVELOPMENT**Theory**

Study of dominant concepts in Housing , Mass housing, Public Housing, Private Housing, Housing Co-operatives, Concepts of formal sector Housing provision, Informal Housing, Squatter settlements, their origin, characteristics and Problems, Housing Economics, social, cultural, administrative and legal Aspects of Housing, Implication of Designs in Housing, Housing Issues with reference to Pakistan. Besides case studies will be undertaken of the relevant housing projects of Pakistan.

Books Recommended:

1. Hasan Arif, Urban Housing Policies and Approaches in a changing Asian Context, City Press, Karachi.
2. Hasan Arif, Seven Reports on Housing, OPP-RTI Publication, 1992.
3. KARACHI SPECIAL DEVELOPMENT PROJECT;
 - a. Study Document 2: Urban Land Management
 - b. Study Document 4: Financial Mechanism In the Karachi Land Market
 - c. Study Document 5: Institutional Mechanism, Planning Regulations, 1990 KMC
4. Abderrahman AYOUB, Jamila BINOUS, Abderrazak GRAGUEB, Ali MTIMET, Hedi SLIM. Umm El Madayan: An Islamic City through the Ages. Translated by Kathleen Leverich Boston: Houghton Mifflin Company, 1994.
5. Ralph KNOWLES, Energy and Form: An Ecological Approach to Urban Growth (MIT Press, 1974), 5-15.
6. M.N. JOGLEKAR and S.K. DAS Contemporary Indian Architecture: Housing and Urban Development. 1995, 112 p., col photos, diagrams Veronique DUPONT, Emma TARLO and Denis

VIDAL Delhi: Urban Space and Human Destinies. Delhi, Manohar, 2000, 250 p., ISBN 81-7304-366-3.

7. R.P. MISRA and Kamlesh MISRA, Million Cities of India: Growth Dynamics, Internal Structure, Quality of Life and Planning Perspectives. 1998

CRP-571 URBAN DESIGN

Theory

Theories and practices of urban design. Analysis of the visual, natural and cultural aspects of urban design. Social equity and urban design. Studying interacting pattern of land uses and activities in a city and their evolution through time. Design factors influencing the functioning and quality of a city. Urban form and landscape design problems in developing countries. Methods of identification and analysis of urban design problems in the built environment. Developers' and users' perspective on urban design problems and solutions. Alternative design policies and evaluation of their effects on the built environment. Introduction to sustainable urban design. Principles and approaches to sustainable urban design; livable neighborhoods, place management, reclamation of streets, revitalization of city centers and employment generation through participatory approaches etc.

Books Recommended:

1. Barnet, J., (1990) "An Introduction to Urban Design".
2. Broadbend, G., (1990) "Emerging Concepts in Urban Space Design", London, Van Nostrand Reinhold Co., Ltd.
3. Moughtin, C. (1992) "Urban Design: Street and Square", Oxford, Butterworth Heinemann Ltd.
4. Banerjee, T., and Southworth, M., (eds) (1990), "City Sense and City Design: Writings and Projects of Kevin Lynch", London, The MIT Press.
5. Zain-ul-Abidin, Islamic Methods in Urban Design.
6. George Bent, Elements of Urban Forms.
7. Spreiregon, Paul D. (1974), Urban Design: The Architecture of Towns & Cities, McGraw Hill Inc. New York

CRP-572 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Theory

Introduction to GIS. Principles of Remote Sensing and GIS. Data acquisition techniques, characteristics and nature of spatial data, projections and objects. Spatial analysis. Data model and data structure. Typical GIS operations like linking multiple varied sources of tabular data to spatial datasets, importing spatial data, adding attribute data, labeling features, working with layers, designing GIS questions, integration of GIS with other software applications like AutoCad etc. Geo-Information Management. Geo-statistics. Global Positioning System and Land Information System and their

relevance to City and Regional Planning. Research design and project management in GIS. Using GIS in carrying out urban and regional planning tasks like site selection, land use planning, zoning, land registration and titling, development control, utilities management and community planning.

Books Recommended:

1. Lillis and Thomas, Remote Sensing and Image Interpretation, John Willey, New York, 1979
2. UNCHS (Habitat), Remote Sensing for Human Settlement, Nairobi, 1989
3. Pazner Micha, Map Processor; A Geographic Information System, John Willey, New York, 1989.

CRP-573 URBAN LAND MANAGEMENT

Theory

Urban problems and land management tasks. Understanding the operation of land and real estate markets. The dynamics of land supply and demand. Access to land. Land transaction and land development process in developed and developing countries. The governance of land and the actors involved in land management process. Role of central, provincial and local government, NGOs, Cooperatives, and Property Dealers. The informal sector in land management. Forms of land tenure and their characteristics. Techniques of tenure reforms. Land registration and titling process; constraints and opportunities; private sector involvement in land registration and titling. Land use planning and sub-division regulations as mechanisms to manage land and overcome constraints on the land markets. Strategies and instruments to ensure effective urban land management and their relevance to developing countries; nationalization of land and land-use rights, compulsory land acquisition, land banking, land lease, land readjustment, clearance and redevelopment, resettlement. Relationship between land management and the provision of infrastructures. Guided land development. Land Management support system.

Books Recommended:

1. Chapin, F. Stuart (1978) Urban Land use Planning, University of Illinois Press, Chicago
2. Brad Shaw, A.D., Restoration of Land, Oxford Blachwell, 1980
3. Devey Kenneth J., Elements of Urban Management, W.Bank, Washington, 1993
4. Hoyle, S.B., Special Aspects of Development, John Willey, Oxford, 1974
5. Rubnstein, M.H., A Guide to Site & Environmental Planning, John Willey, New York, 1980

CRP-574 PROJECT APPRAISAL

Theory

Introduction to the concepts underlying the appraisal of investment projects. Project appraisal as a tool of policy analysis. The framework and elements of project appraisal. Objectives and criteria. Commercial and social appraisal. Social cost-benefit analysis. Valuing benefits time, life environment. Capital budgeting discounting for time, risk and uncertainty. Applications of commercial appraisal, cost-benefit and cost effectiveness analysis, multi criteria analysis and other appraisal frameworks. Case studies demonstrating the use of project appraisal techniques in practice.

Books Recommended:

1. Mathur, Low Cost Housing in Developing Countries
2. Lichfield, Nathaniel, Economics of Planned Development, London, 1974
3. Willis, K.G., Economics of Town and Country, London Granada, 1980

CRP-575 INFRASTRUCTURE PLANNING

Theory

Types of infrastructure; physical, social and institutional infrastructure; assessment of infrastructural requirements in various territorial and socio-economic contexts; need analysis for infrastructural planning; pre-requisites to infrastructural planning; spatial considerations in infrastructural planning; collaborations; partnerships and input of formal and informal sector in infrastructure planning; case studies. Integrating informally planned infrastructure within a larger plan.

Books Recommended:

1. Salvata, *Environmental Engineering & Sanitation*, Wiley Inter-Services, 1992
2. Kumar, Santosh, *Water Supply Engineering*, Khanna Publishing, (Latest Edition)
3. Kumar, Santosh, *Waste Water Engineering*, Khanna Publishing, (Latest Edition)

CRP-576: Climate Considerations in Urban Design

Theory

Building Climatology: Comfort issues and climate analysis for building design. Climate characteristics of housing types like single family. Detached houses, town houses, multistorical apartment buildings, high-rise buildings, climate characteristics of internal courtyards and attached enclosed open spaces. **Urban Climatology:** The urban temperature: The "Heat Island" phenomenon. Overall spatial pattern of the urban heat island. Heat Island models. Impact of the nocturnal urban heat island phenomenon on human comfort, health and energy use in different climates. The urban wind field,

urban radiation and sunshine. **Urban Design Effect on the Urban Climate:** Location of a town written a region. Effect of size of cities on urban heat island. Climate effects of density of the build up area. Climatic impacts of street width and orientation. Urban density and the urban wind field. Effect of plants on the environmental conditions. Climatic impact. Building types considerations in hot-dry climates. Urban design in hot-dry regions. Urban design guidelines for hot-humid regions. Urban design in cold climates. Urban design in hot-humid summer and cold winters. Urban climate study of Karachi, Lahore, Faisalabad, Murree, Multan, Peshawar and Quetta.

Books Recommended:

1. Givoni, Baruch (1998), Climate Consideration in Building and Urban Design, John Wiley & Sons. ISBN-0471291773.
2. M. Rohinton Emmanuel, Martin DePorrs Rohinton Emmanuel (2005): An Urban Approach to Climate Sensitive Design, Spon Press, UK. ISBN-0415334101.
3. Cecil, C. Konijnendijk, Kjell Nilson, Thomas B. Randrup, Jasper Schipperijn (Ed) (2005), Urban Forests and Trees, Springer. ISBN-354025126x.
4. Dr. Mickey Glantz, Michael H. Glantz, (2003), Climate Affairs, Island Press. ISBN-1559639199.
5. James & James, (2001), Energy and Climate in the Urban Built Environment, Earthscan Publishers. ISBN-1873936907.
6. Peter Newman, (1996), Urban Planning in Europe, Routledge, UK. ISBN-041511179.
7. Harriet Bulkeley, Christopher Yunn Naorris, Michele Betsill, (2003), Cities and Climate Change, Routledge, UK. ISBN-041527379

CRP-577 SUSTAINING ENVIRONMENT

Theory

Cities and sustainability, thinking about the urban environment, Understanding key problems and their cause, Can urban development be sustained, planning to sustain cities The leap: a framework for urban environmental planning, Tools for analysis and planning The leap process in action, Choosing appropriate management options, Good practice for managing the urban environment

Books Recommended

1. Dr. Josef Leitmann , Sustaining cities: environmental planning and management in urban design, (McGraw-Hill; New York, 1999)

CRP-578 ENVIRONMENTAL LAND USE PLANNING & MANAGEMENT

Theory

Environmental land use management; Environmental planning; Land use planning for Environment Management; Collaborative Environmental Management and public participation; Land conservation for working landscapes, Open spaces and ecological protection; Design with Nature for people, sustainable, livable and smart land use development; Local government smart growth management; Regional, state and Federal Management of Environmental land Protection; Natural hazard Mitigation; Eco system and watershed management Environmental land use principles and planning analysis. Environmental geographical data and geographic information systems. Soil topography and land use. Land use stream flow and run off pollution. Storm water management & stream restoration. Land use and ground water. Landscape ecology, Urban Forestry and wet lands. Land use, wild life Habitats and Bio-diversity. Integration Methods for environmental land analysis.

Books Recommended

1. John Randolph Island; Press Washington

CRP-579 SPECIAL TOPICS

A student may study on the topics of his interest individually. Topics and reading lists must be approved by the faculty supervisor prior to registration for this course.

CRP-599 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 Planning Research Methods. These proposals shall be considered by the Post Graduate Board of Studies and got approved from the Vice-Chancellor through the Directorate of Advanced Studies and Research 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 thesis Semester of 3 months, the students are required to concentrate wholly on their research thesis. A time table (weekly schedule) for the thesis Semester 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 thesis Semester.

RECOMMENDATIONS

1. Town Planning may be treated as separate field to deal with the foreign MS and Ph.D. scholarships in HEC.
2. Special attention may be given for higher education of Town Planners under HEC faculty development programme.
3. Diploma course 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 etc.
4. Appropriate number of special HEC scholarships (covering full cost) may be awarded to the candidates from Balochistan and NWFP as no CRP education opportunity is available in these provinces. To boost the development in Baluchistan and particularly in Gawader, CRP degree may be initiated in Quetta or Gawader
5. BS-CRP degree may be initiated in Karachi to meet the dire needs of the city in particular and the province in general.
6. Centres of Excellence may be established in CRP at UET Lahore immediately, and at later stage in any public sector university in Karachi.
7. Well-equipped GIS labs at CRP Department UET, Lahore, and CRP Department MUET, Jamshoro may be established.
8. 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.
9. To enhance the job market, non planners working in the govt./semi govt. organization, development authorities, TMAs (Tehsil / Town Municipal Administrations), Cantonment Boards etc. may be replaced by the qualified and registered City and Regional Planners.
10. Current system of admission results 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.
11. 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 especially about the use of computers and the new requirements under the Devolution Plan. Town planners working in the field may also be invited to join these refresher courses to update their knowledge and keep themselves abreast of the 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.