CURRICULUM

OF

CITY & REGIONAL PLANNING
BS

(Revised 2017)
CURRICULUM DIVISION, HEC

Prof. Dr. Mukhtar Ahmed
Prof. Dr. Arshad Ali
Mr. Muhammad Raza Chohan
Dr. Muhammad Idrees
Mr. Riaz-ul-Haque
Mr. Muhammad Faisal Khan

Chairman, HEC Executive
Director, HEC Director General
(Academics) Director
(Curriculum) Assistant Director
(Curriculum) Assistant Director
(Curriculum)
CONTENTS

1. Introduction
2. Part-I BS Program (4-Year) in City & Regional Planning
3. Scheme of Studies for BS City & Regional Planning
4. Detail of Courses for BS City & Regional Planning
PREFACE

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

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

In compliance with the above provisions, the Curriculum Division of HEC undertakes the revision of curricula after every three years through respective National Curriculum Revision Committees (NCRCs) which consist of eminent professors and researchers of relevant fields from public and private sector universities, R&D organizations, councils, industry and civil society by seeking nominations from their organizations.

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

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

http://hec.gov.pk/english/services/universities/RevisedCurricula/Pages/default.aspx

(Muhammad Raza Chohan)
Director General (Acad.)
CURRICULUM DEVELOPMENT PROCESS

STAGE-I

CURRI. UNDER CONSIDERATION

COLLECTION OF EXP. NOMINATION UNI., R&D, INDUSTRY & COUNCILS

CONS. OF NCRC.

PREP. OF DRAFT BY NCRC

STAGE-II

CURRI. IN DRAFT STAGE

APPRAISAL OF 1ST DRAFT BY EXP

FINALIZATION OF DRAFT BY NCRC

STAGE-III

FINAL STAGE

PREP. OF FINAL CURRI.

PRINTING OF CURRI.

STAGE-IV

FOLLOW UP

QUESTIONNAIRE

COMMENTS

IMPLE. OF CURRI.

ORIENTATION COURSES BY LI, HEC

REVIEW

BACK TO STAGE-I

Abbreviations Used:

NCRC. National Curriculum Revision Committee
VCC. Vice-Chancellor’s Committee
EXP. Experts
COL. Colleges
UNI. Universities
PREP. Preparation
REC. Recommendations
LI Learning Innovation
R&D Research & Development Organization
HEC Higher Education Commission
CURRICULUM DEVELOPMENT CYCLE

STEP 1: Nominations from all stakeholders

STEP 2: Selection of relevant members

STEP 3: Circulation of preliminary draft for feedback (local/foreign)

STEP 4: Convening of final NCRC

STEP 5: Preparation of draft

STEP 6: Formulation of NCRC

STEP 7: Composing/printing

STEP 8: Dissemination (website/hard copies)
INTRODUCTION

The final meeting of National Curriculum Revision Committee (NCRC) in the discipline of City and Regional Planning (CRP) for BS & MS Programs was held from March 20-22, 2017 at Higher Education Commission (HEC), Regional Centre, Lahore. Earlier, a preliminary meeting was held from November 15-17, 2016 at the same venue. Experts from academia, industry, practicing town planners as well as entrepreneurs participated in the meeting. HEC representation was ensured by Dr. Muhammad Idrees (Director, Academics Division, HEC, Pakistan). The list of members who participated in the meetings is as below:

<table>
<thead>
<tr>
<th>S.N</th>
<th>Name &amp; Institution</th>
<th>Position</th>
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<th>Final Meeting</th>
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<td></td>
<td>Professor/Chairman, Department of City &amp; Regional Planning, University of Engineering &amp; Technology, Lahore.</td>
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<td>Mr. Mubushar Hussain</td>
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<td></td>
<td>General Manager (Urban Planning), Osmani&amp; Company (Pvt) Ltd Karachi</td>
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<td>3</td>
<td>Meritorious Professor Amir Khan</td>
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<td></td>
<td>Ex-Director (Rtd), Institute of Geography, Urban &amp; Regional Planning, University of Peshawar, Peshawar.</td>
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<td></td>
<td>Professor/Head of Department, Department of City &amp; Regional Planning, Lahore College for Women University (LCWU), Lahore.</td>
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<td>5</td>
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<td></td>
<td>Associate Professor, Department of</td>
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<td>Ar./Plnr. T. Sadia Fazli</td>
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<td></td>
<td>Pakistan Council of Architects &amp; Town Planners</td>
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<td>61-C, 4th Floor, 21st Commercial Street, Phase-II Extension, D.H.A, Karachi</td>
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<td>7</td>
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<td></td>
<td>Associate Professor/Chairman, Department of City &amp; Regional Planning, Mehran University of Engineering &amp; Technology, Jamshoro, Sindh</td>
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<td></td>
<td>Assistant Professor/Head of Department, Department of Urban &amp; Regional Planning, National University of Science &amp; Technology, Islamabad</td>
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<td>Mr. Khurram Farid Bargatt</td>
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<td></td>
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<td>Dr. Muhammad Idrees</td>
<td>Coordinator</td>
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**NCRC Agenda**
The agenda of NCRC for City and Regional Planning was as follows:

1. To revise/update the draft curriculum in the discipline of City and Regional Planning (BS & MS Programs) according to indigenous needs and to bring it at par with international standards.
2. To revise/update preface, mission, vision, preamble, and rationale of the subject.
3. To develop and revise objectives/learning outcomes, list of contents and assessment criteria (formative & summative) and align these with undergraduate programs (vertical approach) and other MS programs (horizontal approach).
4. To incorporate/suggest latest reading materials/references (local & international) for every course.
5. To revise/update course contents keeping in view the uniformity across other disciplines and avoiding overlapping.
6. To make recommendations for promotion/development of the discipline, keeping in view the futuristic needs of the society and international trends.

The preliminary meeting started with recitation from the Holy Quran. Mr. Muhammad Raza Chohan, Director General, Academics Division, HEC, Islamabad welcomed the participants. All the participants introduced themselves highlighting their qualification, experience and area of expertise. Keeping with the tradition, Dr. Muhammad Idrees, Director Academics Division, HEC, Islamabad offered the house to nominate the Convener and Secretary of the NCRC for smooth functioning. Prof. Dr. Rizwan Hameed, Chairman, Department of City & Regional Planning, University of Engineering & Technology, Lahore and Mr. Mubushar Hussain, General Manager (Urban Planning), Osmani Company (Pvt) Ltd., Karachi were selected unanimously as Convener and Secretary respectively.

Dr. Muhammad Idrees presented the objectives of the NCRC. He highlighted the importance of this meeting and emphasized for adaptation of general rules of curriculum development and revision like scope of the subject/program, horizontal & vertical alignment, rule of flexibility and adaptability keeping in view the futuristic approach, market value/job market and societal needs. He also shared a template for revising/updating the curricula. The template was unanimously accepted to be followed. It was also agreed to add learning outcomes, teaching methodology and assessment segments in the curricula.
After thorough deliberation, the committee unanimously agreed on draft curriculum of the BS (4-year) and MS (2-year) City and Regional Planning degree programs. The draft was to be finalized in another meeting and keeping in view the comments from local and foreign experts in the field of city and regional planning as well as from NCRC members.

The final meeting again held at HEC Regional Centre at Lahore and started with recitation from the Holy Quran. Dr. Muhammad Idrees, Director, Academics Division, HEC, Islamabad again welcomed and refreshed the participant, particularly those attending the NCRC meeting for the first time, about the objectives of the NCRC. He highlighted the importance of this meeting and emphasized for adaptation of general rules of curriculum development and revision like scope of the subject / program, horizontal and vertical alignment, rule of flexibility and adaptability keeping in view the futuristic approach, market value / job market and societal needs.

After thorough deliberation, the committee unanimously agreed on the final draft curriculum of the BS (4-year) and MS (2-year) City and Regional Planning degree programs. This final draft would be shared with three foreign experts agreed with HEC for their input for review and further refinement.

In the end, Dr. Idrees thanked the Convener, Secretary and all members of the Committee for sparing their time and for their contribution to prepare the final draft of the curriculum. He further stated that their efforts will go a long way in developing workable, useful and market oriented comprehensive degree programs in City and Regional Planning. Prof. Dr. Rizwan, Convener of the NCRC, also thanked Dr. Idrees as well as the Secretary and all the members of NCRC for their inputs and valuable suggestions in revising / updating the City and Regional Planning curriculum to make it more practical, competitive, efficient and realistic. The committee highly appreciated the efforts made by the officials of HEC Regional Centre, Lahore for making arrangements to facilitate the committee and their accommodation at Lahore. The meeting ended with the vote of thanks to Dr. Idrees and his team from HEC for providing an ideal environment to complete the given agenda.
2. PART-I BS PROGRAM (4-YEAR) IN CITY AND REGIONAL PLANNING

Vision

Contribute towards enhancing the quality of life and environment of diverse populations from varied human settlements through participatory, equitable and inclusive sustainable development

Mission

1. Impart knowledge and skills to produce empowered, creative, values driven and motivated City and Regional Planners capable of meeting the challenges of contemporary and future human settlements thereby adding to knowledge economy within local and global context.

2. Develop ability to deal with the emerging planning problems and development issues at the urban and regional scales while considering ground realities.

3. Inculcate skills of leadership, entrepreneurial creativity, cost benefit analysis, planning and spatial data analysis, equity, ethics, decision making, advocacy and public involvement.

4. Equip the students with theoretical knowledge and field experience so that they can pursue career in planning and development sectors at national and international levels and promote sustainable development.
### SCHEME OF STUDIES FOR BS IN CITY AND REGIONAL PLANNING

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<th>Course Title</th>
<th>Credit Hours</th>
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<td><strong>FIRST SEMESTER</strong></td>
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<td>Introduction to City and Regional Planning</td>
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<td>2.</td>
<td>Technical Drawing</td>
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<td>3.</td>
<td>Mapping and Remote Sensing</td>
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<td>4.</td>
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<td>Site Planning and Landscape Design</td>
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<td>Professional Planning Practice</td>
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14
### SEVENTH SEMESTER

| 39. Spatial Development Planning – I | 2 | 2 | 4 |
| 40. Land Use and Building Control | 2 | 1 | 3 |
| 41. Project Planning and Management | 2 | 1 | 3 |
| 42. Research Methods | 2 | 1 | 3 |
| 43. Disability and development | 1 | 1 | 2 |
| 44. Project (Part - I) | 0 | 0 | 0 |
| **Total Credit Hours** | 9 | 6 | 15 |

### EIGHTH SEMESTER

| 45. Spatial Development Planning – II | 2 | 2 | 4 |
| 46. Regional Planning | 2 | 1 | 3 |
| 47. Estate Management | 1 | 1 | 2 |
| 48. Entrepreneurship | 2 | 0 | 2 |
| 49. Project (Part- II) | 0 | 6 | 6 |
| **Total Credit Hours** | 7 | 10 | 17 |
| **Total Credit Hours** | **82** | **51** | **133** |

**NOTE:** The Bachelor (BS) degree course requires to be completed in 4 years or 8 semesters, and shall require minimum qualifying of 130 credit hours. Internship of 4-6 weeks with credit hours (0-0) is mandatory in the Second/Third Year during semester breaks/summer vacations to gain practical experience and to provide exposure to the students in the field of City and Regional Planning.

### 4. DETAIL OF COURSES FOR BS CITY AND REGIONAL PLANNING

#### FIRST SEMESTER

#### 1. INTRODUCTION TO CITY AND REGIONAL PLANNING

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

**Specific Objectives**  
To Introduce the Basic Concepts in City & Regional Planning

**Learning Outcomes**  
After studying this course, the learners will be able to:
1. Define and describe the terms of Planning, City, Regional and administrative units ranging from District, Town, Union Council in context of geographical and demographical parameters.

2. Understand the Planning Process, basic principles, elements and types of planning.

3. Understand the planning systems being practiced in Pakistan at Federal, Provincial and Local level.

4. Compare the advantages and disadvantages of planned and unplanned human settlements.

Content List

- Introduction to City and Regional Planning, Definitions and Terms.
- Justification and Aims of Planning.
- Planning Principles and Elements of Planning.
- Types of Plans and Planning.
  - Planning and its Relationship with other Professions.
  - Emerging Trends in Planning.
- The Planning Process.
  - Overview of Old and New Towns Designed in the Developed and Developing Countries.
- Historical and Modern Cities of Pakistan.
  - Characteristics of Planned and Unplanned Human Settlements.
- Introduction to Planning System in Pakistan.
  - Functions of Professional Planners in Development Authorities, Towns and Districts.

Practical

- Field visits to study the characteristics of planned and unplanned areas.
- Visit to local planning institutions / organizations to understand the systems and scope of the planning profession.

Proposed Teaching Methodology

- Lecturing
- Written Assignments
- Interaction with senior planners working in different institutions
- Field Visits
- Report Writing

Written long/short questions, quizzes etc.

Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

2. TECHNICAL DRAWING
Credit hours: 2
(1+1) Prerequisites: None

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

Learning Outcomes
After studying this course, the learners will be able to:
1. Prepare technical drawings utilizing traditional and computer aided drafting tools, scales and techniques.
2. Apply computer applications in planning, building and geometric construction.
3. Apply and display graphic representation of building and planning drawings through various rendering techniques.
4. Create multi-view orthographic, orthogonal, isometric and pictorial projections of objects, geometric constructions and apply rendering techniques.
5. Organize and display land use, density and sub-division maps as per international coding standards.

Content List
Introduction to:
   a. Drawing instruments & scales
   b. Drafting techniques
   Geometric Construction
      a. Drawing various solid geometric objects
      b. Introduction to Auto Cad application and use of its tools for geometric construction.
Orthographic Projection
   a. Orthogonal projections of simple solids in simple position, oblique and auxiliary planes.
   b. Free hand sketches from solid objects and from orthographic projections.
   c. Application of various tools of Auto Cad for drawing orthographic projections
Building Drawing
   a. Understanding of basic stages and elements of architectural drawing
   b. Practicing to draw measured building drawings including plan, elevation and section of buildings.
   c. Application of various tools of Auto Cad for building drawing.
Perspective & Rendering
   a. Introduction to Perspective drawing and rendering techniques.
   b. Perspective of a building and group of buildings.
Graphic Representation of Planning Maps/Drawings
   a. Preparation of land use, density and sub-division maps.
   b. Colour coding and representation of planning standards.

Proposed Teaching Methodology
   Lecturing
   Drawing and drafting Assignments

Proposed Assessment (theory, 100%)
   Mid Term (40%)
      Written short questions, quizzes etc.
   Final Term (60%)

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Written short questions, quizzes etc

**Proposed Assessment (practical, 100%)**
Presentations, drawing and drafting assignments, report writing, viva voce, field visits etc

**Recommended Books**

**3. MAPPING AND REMOTE SENSING**

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

**Specific Objectives**
To impart skills and techniques for mapping and use of emerging technologies like Remote Sensing (RS) and Global Position System (GPS) for planning

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Define and describe various type of maps, remote sensing and global positioning system.
2. Understand the basic principles, elements and types of mapping, photogrammetry and remote sensing
3. Apply various types of map for urban and regional planning.
4. Apply remote sensing and mapping techniques for the preparation of thematic maps to be used for spatial development planning.
5. Apply the knowledge of mapping and remote sensing in their professions and daily life experiences.
6. Compile maps and build models by using General Topographical Sheet RS and GPS for points data, arc and polygon data on map.

**Content List**
Basic concepts in the field of Cartography and its use in Planning

Essentials of mapping: Co-ordinate system, Plane Spherical; Rectangular, Latitude and Longitude; Scales: Representative Fraction (RF), graphic and area scale; scale of factor determination and change of map scale.

Map types with respect to scale and use such as Survey of Pakistan (SOP) General Topographical Sheet and revenue department cadastral Maps.

Content and presentation techniques; Map Symbols. Thematic maps.

Photogrammetry: Characteristics of Aerial Photographs Interpretation of Mosaics.

Introduction to Remote Sensing (RS) and Global Positioning System (GPS): Definition and History, Physical Basis; Spatial, temporal and spectral aspects; Sensor Systems (Space and airborne); Platforms (Types and Orbital Characteristics); Thermal Infrared; Introduction to Microwave (Importance and applications); Digital Image Processing (Over view of computer based image processing).

Practical

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

Use of GPS in the field to locate points, polygons or lines.

Proposed Teaching Methodology

Lecturing
Demonstration
Use of related software

Proposed Assessment (theory, 100%)

Mid Term (40%)
Written long/short questions, quizzes etc.

Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)

20
Recommended Books

4. SOCIOLOGY

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

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

Learning Outcomes
After studying this course, the learners will be able to:
1. Define and describe the basic terms of sociology.
2. Understand the cultural differences and social strata classification.
3. Compare social and cultural problems in rural and urban areas.
4. Understand the significance of family and household as bases of collective social empowerment.
5. Understand the vicious circle of social distrust and underdevelopment.
7. Apply approaches to generate social trust for participatory development.
8. Analyze social issues related to city and regional planning.

Content List
Basic Terms and Definitions of Sociology
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.
Kinship relations, Institution, Social processes and values and norms. Rural culture.
Significance of family; Household and social institutions in Urban planning. Household, Income, Dependency ratio and Employment pattern.
Social processes and social change in population. Viz. transformation and natural increase, characteristics and effect of growth trend on housing, utilities and community facilities.
Relationship of Social Trust and Development.
Social Learning Theory and its relation to City and Regional Planning.
Disadvantages of bureaucratic approaches to solve social problems.
Vicious circle of Distrust and Underdevelopment.
Possibilities to break vicious circle of distrust and underdevelopment by applying concepts and theories of sociology.

**Proposed Teaching Methodology**

Lecturing
Written Assignments
Guest Speaker
Field Visits

**Proposed Assessment (theory, 100%)**

**Mid Term (40%)**
Written long/short questions, quizzes etc.

**Final Term (60%)**
Written long/short questions, quizzes etc.

**Recommended Books**
1. DK. (2015), *The Sociology Book (Big Ideas Simply Explained)*,.

5. **COMPUTER AIDED DESIGN AND MODELING**

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

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

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Create objects in AutoCAD
2. Draw basic 2D and 3D drawings in AutoCAD
3. Use AutoCAD in planning and designing of houses and housing schemes
4. Prepare technical drawings by utilizing the tools of AutoCAD

**Practical**
- Introduction to Computer Aided Design (CAD) for Planners.
- Basic concepts of computer use in town planning.
- Introduction to operating systems like DOS and Windows. Concepts of electronic drafting.
- Using the AutoCAD 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.

**Proposed Teaching Methodology**
Demonstration
  Drawing and drafting Assignments
  Use of related software

Proposed Assessment (practical, 100%)
  Presentations, assignments, viva voce, etc.

Recommended Books

6. APPLIED MATHEMATICS

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

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

Learning Outcomes
After studying this course, the learners will be able to:
  1. Apply derivatives to find rates of change, asymptotes, curvature, and carry out optimization of single and multi-variables.
  2. Compute integrals by using techniques, applications of definite integrals and develop understanding of analytic geometry.
  3. Use matrices to solve linear equations and build concepts of complex numbers.

Content List
Pre-requisite: Algebra of complex numbers; Polar form of complex numbers; Algebra of matrices; Determinants and their properties; Crammer’s rule. Algebra of vectors; Scalar and vector products; Rules of differentiation; Techniques of integration
Contents: Product and quotient of complex numbers in polar form; Properties of complex numbers; Logarithm of a complex number; De Moivres Theorem, The nth roots of a number; Solution of equations.
A review of matrices, determinants and Crammer’s rule: Inverse of a matrix through elementary row operations; Solution of the system of linear equations; Eigenvalues and eigenvectors. Function and its different kinds; Inverse of a function; Graphs of some well-known functions; Continuous functions; A review of differentiation: Geometrical interpretation of a derivative; Infinitesimal; Differential coefficient; Derivatives of higher order; Indeterminate forms and L. Hopital’s rule; Asymptotes; Increasing and decreasing functions; Maxima and minima of a function; Directional derivatives.

Further techniques of Integration; Integration by reduction formula; Fundamental Theorem of Integral Calculus; Definite integral and its properties; Area enclosed between curves; Arc length;

Scalar and vector triple products. Scalar and vector point functions; Differentiation and integration of vector point functions. Formation of differential equations and solution of various types of first order differential equations. Cartesian, cylindrical and spherical coordinates; The ratio formula; Equations of a straight line in R3; Direction ratios and direction cosines; Angle between two straight line, Distance of a point from a line; Equations of a plane; Angle between two planes; The sphere.

**Proposed Teaching Methodology**

Lecturing
Demonstration
Use of related software

**Proposed Assessment (theory, 100%)**

**Mid Term (40%)**

Written long/short questions, quizzes etc

**Final Term (60%)**

Written long/short questions, quizzes etc

**Recommended Books**


7. **ENGLISH-I (Functional English)**
Credit hours: 3 (3+0)
Prerequisites: None

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

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Provide English language support to students whose first language is not English to be well prepared to participate effectively in their university studies
2. Inculcate English language skills so that foreign/indigenous students graduate with strong English language competency

**Content List**
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
Proposed Teaching Methodology

Lecturing
Demonstration

Proposed Assessment (theory, 100%)

Mid Term (40%)
Written long/short questions, quizzes etc

Final Term (60%)
Written long/short questions, quizzes etc

Recommended Books
6. Hewing, M. *Advanced Grammar in Use*, New Ed, CUP.

SECOND SEMESTER

8. HISTORY OF CITIES AND URBAN PLANNING

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

Specific Objectives
To understand the evolution of cities and urban planning from antiquity to present times.

Learning Outcomes
After studying this course, the learners will be able to,

1. Understand historical evolution of cities and urban planning.
2. Identify traits of cities in different historical periods.
3. Recognize elements and principles of cities from different ages.
4. Be acquainted with the historical development of planning profession.
5. Describe the development of cities in Pakistan.
Content List
The evolution of cities and urban planning profession through ages in light of changes in conditions of the times including social, political, cultural, religious, economic, technological etc. developments.

Origin of cities and Neolithic settlements
Mesopotamian Cities in Fertile Crescent, Indus Civilization, Egypt, China and Meso America
Classical cities in Greek and Roman times
Medieval Cities in Europe
Cities and urban planning during Islamic rule
Renaissance and Baroque Urban Planning
Industrialization, its effect on urban growth and early modern cities
Modern city movements and masters
Postmodern cities and urban planning
Evolution and history of urban planning profession internationally and in Pakistan
History of cities and urban planning profession in Pakistan including pre and post-independence eras.

Proposed Teaching Methodology
Lectures
Presentations
Discussions

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Recommended Books

9. TRANSPORTATION ENGINEERING

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

**Specific Objectives**
To Introduce Basic Concepts in Transportation Engineering

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Describe the criterion for site selection for development of new roads
2. Classify urban road network
3. Understand the importance of road characteristics, vehicle characteristics, human behavior, and traffic flow characteristics for geometric design of highways
4. Conceptualize the planning, designing and configuration of airports, railways, harbors and sea-ports

**Content List**
Roads:

- Classification of Roads
  - Vehicle and Human Characteristics: Characteristics of Vehicle (size, weight, axle configuration and power-to-weight ratio, turning radius and turning path), Human Behavior; Perception-Reaction Process; Comfort, Vision, Design Driver
  - Traffic flow Characteristics: Road Capacities, Analysis of Speed, Flow and Density Relationship, Highway Capacity and Level of Service
  - Bridge Heights and Clearances for Road and Rail Crossing, Gradient on Bridge Approaches and Road Alignment.
o Road Junctions & Interchanges; Intersections

o Mass Haul Diagrams (Earthwork Profile)

o Geometric Design of Highways: Locational Design; Elements of Design: Sight Distance, Stopping Sight Distance, Passing Sight Distance, Design Vehicle, Driver Performance, Operational Speed, Design Speed, Free-Flow Speed, Design Data; Speed and Right of Way (ROW), Soil and Slope Stabilization, Elements of Road Curves: Supper Elevation, Transition Curves, Cross-Falls, Extra Width of Carriage, Sight Distances on Vertical and Horizontal Curves, Drainage, Camber, Crown

Railways

o Railways: Introduction to Railroad, Types of Rail Tracks and Gauges, Joints and Crossings, Yards and Stations, Right of Ways; Design of Railway Track; Grade Compensation, Design Components and Foundation; Introduction to Mono-rails; Mass-transit systems etc.

Airports:

o Airport Planning, Airport Approach Requirements, Factors Affecting the Location and Planning of

o Design and Configurations of Air Side Area: Principle Features; Landing Strip, Runways, Taxiways, Apron, Hangers, Over-run Strip. Approach Zone, Turning Zone, V.F.R. and I.F.R; Type of Air Traffic, Speed and Capacity; Design standards and Orientation. Site Requirements and Operational analysis. Physical Aspects and risk Assessment;

o Design and Operation of Land Side Area: Air Terminal Building, Vehicular Circulation and Parking, Terminal Ground Access

Water Ways:


Practical

30
Study of Engineering Design Parameters of Roads and Railways.
Designing of Intersection (Plain, Midgrade)
Visits and Preparation of Sketch Plan such as a Railway Station, Airport, Terminus, Harbors and Sea-ports, etc.

Proposed Teaching Methodology
Lecturing
- Written Assignments
- Guest Speaker
- Field surveys
- Report Writing
- Poster Display

Proposed Assessment (theory, 100%)
Mid Term (40%)
- Written long/short questions, quizzes etc.
Final Term (60%)
- Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
- Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

10. **SURVEYING**

Credit hours: 3 (1+2)
Prerequisites: None
Specific Objectives
To impart basic skills and techniques for topographic / physical surveys using traditional and latest tools and equipment.

Learning Outcomes
After studying this course, the learners will be able to:
1. To describe various terms and equipment used in basic surveying
2. To calculate areas and volumes of regular and irregular objects
3. To prepare plane table and contour maps of small areas

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

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

Proposed Teaching Methodology:
Lecturing
Field surveys
Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc.
Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books
11. INTRODUCTION TO GIS

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

Specific Objectives
To introduce basic concepts, tools and techniques in GIS (Geographical Information Systems)

Learning Outcomes
After studying this course, the learners will be able to:
1. Understand terminologies, and scope of GIS
2. Know the techniques of data capturing, storing, basic analysis, and retrieval in map and report formats
3. Evaluate quality parameters of existing GIS data
4. Analyze GIS data for problems identification
5. Applying GIS applications for development plan implementation and monitoring

Content List
Introduction, Definitions Components, Functional Subsystem, Raster Data Model, Vector Data Model, Attribute Data Model
Data Acquisition Techniques, Data Resources, Data Capturing Techniques And Procedures
Data Interoperability (Transferring Data to and From Different Software like ArcGIS, AutoCAD etc.)
Remote Sensing as Data Source; Introduction to Remote Sensing and Image Processing
Data Transformation, Visualization of Spatial Data in Desired Projections
Cartography and Visualization: Map Elements, Symbols to Portray Points, Lines, Area and Volumes, Variables Visual Hierarchy, Map Scale And Spatial Details
Introduction to Spatial Analysis: Overlay Functions, Neighborhood Functions, Triangular Irregular Network (TIN), Digital Elevation Model (DEM)
Network And Overlay Analysis, Segmentation Analysis
Spatial Data Quality, Data Accuracy and Precision

Practical
- Introduction to GIS lab (hardware/software)
- Practical demonstration of raster/vector/attribute data preparation, entry and display
- Data capturing through various means
  - Digitization, vector/raster conversion, data layer integrations, data visualization, map layouts
  - Data classification and thematic mapping, handling topological errors

Proposed Teaching Methodology
- Lecturing
- Written Assignments
  - Field Visits for data capturing and verification
  - Lab Work using GIS software

Proposed Assessment (theory, 100%)
- Mid Term (40%)
  - Written long/short questions, quizzes etc
- Final Term (60%)
  - Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
- Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books


6. ESRI, *Getting Started with ArcGIS*, Online Tutorial, USA.

12. DEVELOPMENT ECONOMICS

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

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

Learning Outcomes
After studying this course, the learners will be able to:

1. Define and describe the basic concepts, ideas, and strategies employed in the pursuit of development economics in terms of city, regional and planning
2. Understand the basic principles that enable critical assessment of alternative development policies and programs
3. Reflect on the goals and objectives, implementation strategies, and successes and failures of economic development efforts
4. Reflect development plans at local, provincial and national level
5. Referring to CPEC and other important development treaties and accords

Content List

Economic Base Theory (Such as Economic Base Theory and Regional Growth; Rastow Model, Classical and Keynesian
Equilibrium Models; Return to the Post-Keynesian Framework; Cumulative Causation)
Political Context of Economic Development
Economic Analysis of Why and Where Cities Develop
  Determination of Urban Land Use, Reasons for Suburbanization
  Location and Trade with Particular Reference to Current Scenario Like CPEC, and other such Agreements
  Investment in Inner Cities and Low-Income Communities, Small Businesses
  Technology and Technical Assistance, Economic Development Plans (e.g. Five Year Plans, Annual Development Plans, Economic Development Report, Perspective Plans etc.)
Economic Infrastructure and Environment
Globalization and Regionalism from Economics point of view

Proposed Teaching Methodology
  Lecturing
  Written Assignments
  Guest Speaker
  Student(s) Seminar
  Review of development plans

Proposed Assessment (theory, 100%)
  Mid Term (40%)
    Written long/short questions, quizzes etc
  Final Term (60%)
    Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
  Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

13. ISLAMIC STUDIES /PAKISTAN STUDIES / ETHICS (COMPULSORY)

Credit hours: 2 (2+0)
Prerequisites: None
(See Annexure A)

14. ENGLISH-II (Communication Skills)

Credit hours: 2 (2+0)
Prerequisites: English-I

**Specific Objectives**
To enhance language skills and develop critical thinking

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Improve communication skills required to be a competent communicator
2. Improve understanding of day to day functional use of language
3. Increase understanding of communication skills leading to successful behaviour in business setups
4. Apprise students with social and business etiquettes and manners
5. Acquaint students with importance of non-verbal communication

**Content List**
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. Précis 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.

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Recommended Books
8. Debska-Ainta, Upgrade your English, Oxford University Press.
9. Cosmo, F. Ferrara, Writing on the Job.
10. Ketteley and Thompson, English for Modern Business.

THIRD SEMESTER

15. TRANSPORTATION PLANNING
Credit hours: 3 (2+1)
Prerequisites: None

Specific Objectives
To Impart Skills and Techniques for Transportation Planning Including Public Transport

Learning outcomes
After studying this course, the learners will be able to:
1. Design and conduct surveys to provide data required for transportation planning
2. Learn and understand zonal demand generation and attraction regression model
3. Learn and understand modal split for mode choice analysis
4. Learn calculating parking demand and parking efficiency
5. Learn concepts of Intelligent Transport System (ITS), its component and application
6. Familiarize with categories of public transportation, key terms of public transportation and how to calculate capacity of public transportation
7. Understand transportation project planning and development

Content List

Transportation System and their Influence upon National, Regional and Local Development: Road Transportation, Water Transportation, Railroad Transportation, Truck Transportation, Pipeline Transportation, Air Transportation

Traffic Management Measures


Parking and Service Areas: Appropriate Siting and Planning of Car Parks and Garages (including Mechanical Methods) above and below Ground; Petrol Filling Stations and Service Areas. Types of Parking (On-Street, Off-Street, Shared parking, Metered Parking, Mechanical Parking, Park and Ride etc.), Parking Efficiency, Parking Accumulation, Turn-over Rate, Volume, Probability Calculation


Trip Generation Modeling: Trip Production and Trip Attraction

Trip Distribution Model: Gravity Model, Modal split

Land use and transportation interaction: Accessibility Index;

Land use Transportation Model, Traffic Assignment Models

Urban Structure and Mobility: Centripetal, Grid Type & Linear Structure and their Effect on Mobility, 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, Trees and Streams. Planning of Road Junctions and Intersections to
Facilitate Free Flow of Traffic With Safety and Comfort for all Users, Pedestrian and Bicycle Facilities Design, Planning of Transport Terminals
Intelligent Transportation System: Objective, Classification of ITS, Merits and Demerits of ITS
Urban Mass Transit Systems, Transit –Orient Development;
Effects and Changing Trend along Transit Corridors w.r.t Current Transportation Paradigm Shift, Traffic Impact Assessment (TIA) of proposed land use on the surround road network.

Practical
Traffic and Parking Surveys
Travel Time and Delay Studies. Hotspot Surveys.
Application of TAZ in Study Area
Household Surveys for Trip Calculations of Residential Area
Traffic Impact Analysis of a Proposed Commercial Plaza

Proposed Teaching Methodology
Lecturing
Written Assignments
Guest Speaker
Field Visits
Report Writing
Poster Display

Written long/short questions, quizzes etc.
Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

16. **PLANNING THEORY**

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

**Specific Objectives**
To make students understand planning theories.

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Understand the theoretical aspect of policies and planning
2. Explore how the planning theories can be applied for spatial development plan making
3. Build planning model to test the economic and regional growth for the identification of suitable location for industries, human settlement including new towns, agriculture and alike.

**Content List**
- Theory of Planning: Evolution of planning theory, ends and means in Planning
- Choice theory of Planning
  - Comprehensive planning: Goal and process, advantage and disadvantage
- Incremental planning
  - Mixed scanning- a science of muddling through Advocacy and pluralism
  - Community participation and decision behavior; social planning and public participation
- Theories in Planning: economic growth models, regional growth theories, growth pole and growth center
- Locational theories for example, human settlement location, industrial location and agricultural location
Proposed Teaching Methodology

Lecturing

Demonstration

Proposed Assessment (theory, 100%)

Mid Term (40%)

Written long/short questions, quizzes etc

Final Term (60%)

Written long/short questions, quizzes etc

Recommended Books

7. *Journal of RTPI*.

17. **APPLIED STATISTICS**

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

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

**Learning outcomes**
After studying this course, the learners will be able to:
1. Apply numerical and graphical techniques to interpret descriptive statistics.
2. Select appropriate probabilistic methods for analyzing uncertainty, risk and reliability
3. Develop a mathematical relationship between two or more data sets, using regression analysis including strength of relation and forecasting
Content List
The organization of data, data types
Statistical tabulations; time series, presentation of data, bar chart; pie chart; plotting the frequency distribution; histogram; plotting time series; scatter diagram
Descriptive statistics, arithmetic mean; median; mode; standard deviation; variability in sample data and their application in planning.
Index numbers and their interpretation; using an index to deflate a series
Time series, the components of a time series; calculation of the trends; exponential smoothing; calculation of seasonal variation; series with seasonal Variation eliminated; importance of residuals; forecasting from the time series; additive or multiplicative models
Probability, measuring probability; three approaches to probability; the laws of probability and their applications; tree diagrams; conditional probability; independence and correlation.
Probability distribution; normal distribution
Binomial distribution; mean and standard deviation of a binomial distribution
Poisson distribution
Non-parametric statistics, Chi-square and its interpretation, etc.

Proposed Teaching Methodology
Lecturing
Demonstration
Use of related software

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc.
Final Term (60%)
Written long/short questions, quizzes etc.

Recommended Books
18. **ARCHITECTURAL DESIGN**

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

**Specific Objectives**
To develop basic understanding of architectural design especially vis-a-vis contextual relationships of buildings

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Understand the processes of architectural design
2. Explain the architectural elements of buildings
3. Apply aspects of architectural design in planning
4. Grasp the impact of planning on architecture of the city

**Content List**
- Introduction to Building Forms and Functions.
- Introduction to Architectural Design Methodologies and Theories.
- Terminology and Nomenclature of Basic Components of a Building Such As Walls, Floors, Roofs, Doors, Windows, Staircases, Arches etc.
- Parameters for Design of Residential, Educational, Commercial, Recreational and Public Buildings; Design Standards and Space Requirements;
- Siting and Contextual Analysis of Buildings.
- Building Orientation and Climatic Control.
- Introduction to Structures, Systems and Services Of Buildings.
- Principles of Aesthetics in Architectural Design.
- Study And Development of Design Briefs And Project Programs;
- Survey of Past and Contemporary Key Monuments and Architectural Icons in the World and Pakistan.
- Introduction to Accessibility, Eco-Design and Green Buildings.

**Practical**
- Analytical exercises in architectural design.
- Solid void analysis of buildings within cities.
- Design of houses and apartments for various plot sizes.
- Design of commercial and institutional buildings.
- Study of architectural plans and working drawings for residential and commercial buildings.
Exercises in architectural process documentation via visits to architectural offices and construction sites, interviews of architects, survey of architectural process drawings etc.

**Proposed Teaching Methodology**

- Lecturing
- Design
- Projects Visits
- Guest Speakers
- Seminar

**Proposed Assessment (theory, 100%)**

- **Mid Term (40%)**
  - Written long/short questions, quizzes etc

- **Final Term (60%)**
  - Written long/short questions, quizzes etc

**Proposed Assessment (practical, 100%)**

- Presentations, assignments, viva voce/jurie, etc.

**Recommended Books**


**19 APPLIED GEOGRAPHY**

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

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

Learning Outcomes
After studying this course, the learners will be able to:

1. Understand the nature and basic concepts of applied, physical and human geography
2. Apply the geographical data and local knowledge in urban and regional development planning
3. Understand the locational, ecological/climatic and physiographic aspects for urban and regional planning
4. Apply and evaluate various theories of applied geography such as, concentric zone, sector and multiple nuclei theory in urban and regional development

Content List
Basic Concepts In Physical, Human And Applied Geography And Their Application In City And Regional Planning
Impacts Of Physical Factors, such As Topography, Hydrology, Climate, Flora And Fauna, And Natural Hazards On The Growth And Expansion Of Human Settlement Including Mega Cities And Their Region
Physical Factors in Development of Human Settlements in Pakistan.
Physiographic And Climatic Regions Of Pakistan, Location And Geographical Space In The Distribution Of Cities
Functional Classification Of Cities, Industrial, Commercial, Mining, Tourist And Religious Towns
Cities As Central Places And Theories Of Urban Structure
Basic And Non-Basic And Formal And Informal Functions And Their Role In Growth And Development Of Cities
Urban Growth and Urban Sprawl, Causes, Affects and Control of Urban Sprawl.

Proposed Teaching Methodology
Lecturing
Written Assignments
Guest Speaker
Field Visits
Report Writing

Proposed Assessment (theory, 100%)
   Mid Term (40%)
      Written long/short questions, quizzes etc
   Final Term (60%)
      Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
   Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books

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

Specific Objectives
To enhance language skills and develop critical thinking

Learning Outcomes
After studying this course, the learners will be able to:
1. Learn principles of effective writing
2. Recognize and adapt writing for a variety of audiences and situations
3. Apply effective writing strategies in order to produce concise, clear and meaningful documents ranging from technical definitions to technical proposals and reports

Content List
Presentation skills
Essay writing: Descriptive, narrative, discursive, argumentative
   Academic writing: How to write a proposal for research paper/term paper; How to write a research paper/term paper (emphasis on style, content, language, form, clarity, consistency)
   Technical Report writing
   Progress report writing

Proposed Assessment (theory, 100%)
   Mid Term (40%)
      Written long/short questions, quizzes etc
   Final Term (60%)
      Written long/short questions, quizzes etc

Recommended Books

FOURTH SEMESTER

21 - HOUSING
Credit hours: 3 (2+1)
Prerequisites: None

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

Learning Outcomes
1. Understand the traditional tools of housing policy and planning
2. Appraisal of housing issues in Pakistan as well as in other countries
3. Understand housing systems, policies and practices
4. Able to plan and design housing schemes

Content List
   Housing Problems in Developed and Developing Countries with Special Emphasis on Pakistan.
Housing Supply and Demand, Evaluation of Housing Shortage and Need for the Future. Quantitative Aspects. Socio-Economic Aspects. Housing Data Collection Techniques. Looking and Listening Surveys etc. Slums and Squatter Settlements Improvement Programs such as Orangi Pilot Project. Low Income Housing Incremental Development Schemes, such as Khuda Ki Basti.


Practical
Housing layout patterns
Application of housing data collection techniques Designing of a housing scheme

Proposed Teaching Methodology
Lecturing
Written Assignments
Guest Speaker
Field Visits
Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc.
Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, viva voce, field visits etc.

Recommended Books

22. **PLANNING SURVEYS AND DATA ANALYSIS**

Credit hours: 3 (1+2)
Prerequisites: Introduction to city and regional planning

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

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Define and describe the terms related to planning surveys
2. Understand the purposes of conducting various types of planning surveys
3. Discuss sampling methods
4. Conduct various types of planning surveys by applying tools for data collection
5. Perform data analysis
6. Make analytical reports

**Content List**
- Nature and Purposes of Planning Surveys
- Basic Concept of Variables, Traits and Indicators
- Identification of Goals and Objectives of Planning Surveys
  - Nature, Contents of Various Types of Urban and Regional Surveys
Sampling: Purpose, Types and Methods
Samplesing Errors and Measures to Control Sampling Errors.
Tools for Data Collection; Questionnaires, Interview Schedule, Observation Sheet, Etc.

Practical
Designing of Survey/Data Recording Instruments
Conducting Various Surveys Such Land Use, Socio-Economic, and Housing, Industrial, Commercial, Education, Health, and Infrastructural Services
Generating Land Use Plans and Preparing Analytical Reports Based on Survey Data

Proposed Teaching Methodology
Lecturing
Assignments
Field Visits
Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books

23. ENVIRONMENTAL PLANNING AND MANAGEMENT

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

Specific Objectives
To develop understanding of environmental issues and familiarize the students with environmental planning and management approaches

Learning Outcomes
After studying this course the learner will be able to:

1. Understand the basic concepts in environmental planning and management
2. Discuss environmental issues at global, national and local level
3. Describe impacts of environmental issues on health
4. Understand the concept of sustainable development and its application in city and regional planning
5. Discuss and critically evaluate various existing environmental policies, rules, regulations, and institutional structures relating to environmental planning and management
6. Assess impacts of human activities on environment and ecology
7. Suggest policies and measures for environmental improvement and risk reduction in urban and rural areas

Content List
Basic Concepts; Ecology, Ecosystem, Pollution, Waste and Hazards etc, Environmental Problems at Home, Workplace, and City, Relationship Between Environment and City & Regional Planning
Environmental Issues at Global, National and Local Level and their Impacts on Cities and Regions, Impacts of Environmental Issues on Human Health, Regulating Industrial and Transport Pollution, Waste Management, Urban Sprawl and Compact Development
Importance of Environmental Policy, National Environmental Policies, Standards, Regulatory Institutions and Environmental Justice Delivering Mechanism
Environmental Auditing, Environmental and Social Impact Assessment, Environmental Risk Reduction Strategies
Introduction to Natural Resource Management
Emerging Concepts in Environment Planning and Management.

Practical
Field visits to observe and identify environmental issues in a city
Conduct Environmental Impact Assessment of a certain project
Conduct Environmental Auditing of a certain organization/business entity
Prepare environmental management plan for commercial, industrial and residential areas of the city

Proposed Teaching Methodology
Lecturing
Field Visits
Guest Speaker
Project

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books


24. INFORMATION TECHNOLOGY AND DATABASE MANAGEMENT
Credit hours: 3 (1+2)
Prerequisites: None

**Specific Objectives**
To impart basic skills and techniques in information technology and their use in database development and management

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Define and describe the terms pertaining to IT and database management
2. Understand the basic principles, elements and types of information technology as well as databases
3. Develop data base using Access
4. Analyze, manipulate and organize data using SPSS and Excel
5. Make presentations using Power Point

**Content List**
Basic Computing
- Use Of MS Office Package - Word, Excel, Access, Power Point
- Basic Concepts In Database Development And Management
- Entity Relationship Modeling
- Relational Data Model And Algebra
Structured Query Language
Database Design
Functional Dependencies And Normal Forms
Transaction Processing And Optimization Concepts
Concurrency Control And Recovery Techniques
Database Recovery Techniques
Database Security And Authorization
  Introduction To Statistical Package For Social Sciences (SPSS)
  Questionnaire Coding And Data Preparation For Computerized Analysis
Data Entry Into SPSS
Editing Data Values And Controlling Data Display
  Defining Variables And Selection Of A Procedure From The Menus To Calculate Statistics
  Recoding Existing Variables And Computing New Variables
  Assigning Variable Labels And Value Labels
  Constructing Simple Frequency Tables And Cross-Tables
  Elementary Graphics
Creating Statistical Diagrams And Charts
Editing Results Display In The Output Navigator

Practical
  Hands-on practice in using a database system to create files, tables, forms and queries
  Enter and manipulate data and generate reports
  Statistical analysis survey data using SPSS and preparation of tables and cross tables and charts
  Small group project implementing a database

Proposed Teaching Methodology
  Lecturing
  Demonstration
  Guest Speaker
  Practice in Computer Lab
  Use of Related Software

Proposed Assessment (theory, 100%)
  Mid Term (40%)
    Written long/short questions, quizzes etc
  Final Term (60%)
    Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits, etc

**Recommended Books**


**25. CLIMATE CHANGE AND DISASTER MANAGEMENT**

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

**Specific Objectives**

To familiarize with the basic concepts and skills about natural and human induced hazards and associated disaster, disaster management, and adaptation to climate change

**Learning Outcomes**

After studying this course, the learners will be able to:

1. Define the basics of natural and human-induced hazards and associated disasters
2. Understand and explain disaster management cycle (Pre-disaster, disaster, and post disaster scenario), and its relation to development
3. Outlining the hazard profile of Pakistan and its sub-regions
4. Define and describe the Climate change as a phenomenon, and its relation to potential disasters
5. Interpret analyze and map the likely impacts and required preparation to reduce the impact upon happening of disasters to achieve disaster resilience development
6. Mapping of hazard specific and overall vulnerability, capacity w.r.t. historical trends and current climate change scenario

Content List
Introduction to Hazards and Disasters (concepts, definitions and types)
Hazard Dimensions, Distributions, Patterns, Associated Processes & Historical Trends
  Disaster Management Cycle, Pre-Disaster Phase (Prevention, Mitigation & Preparedness), Disaster Phase (Response, relief and recovery), Post-Disaster Phase (Rehabilitation, Development)
Social & Economic Aspects of Natural and Human-Induced Hazards
Individual and Community Adjustments w.r.t. Perceptions, Attitudes and Behavior
Hazard and Disaster Investigation, Hazard Vulnerability Assessment & Risk Mapping and Management
Disaster Risk Management (DRM) and Disaster Risk Reduction (DRR) in Development Planning
Damage and Need Assessment
Climate Change scenario in Pakistan and its Adoptability
  Disaster Management Policies and Institutional Infrastructure from National to Local Level
  Pakistan: National Disaster Management Plan; National DRR Policy; National Climate Change Policy
Case Studies (Local and International).

Practical
Hazards Identification and Mapping
  Risk / Vulnerability Assessment and Mapping
  Disaster Mitigation Strategies Development
Analysis of any Natural or Human Induced Disaster with Field Investigation using GIS / Remote Sensing Techniques (Field investigation with selected area is highly encouraged)

Proposed Teaching Methodology
Lecturing
Written Assignments
Guest Speaker
Student(s) Seminar
Group Field Assignment / Small Projects Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books
26. **ISLAMIC STUDIES/PAKISTAN STUDIES/ETHICS**

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

(See Annexure A)

FIFTH SEMESTER

27. **SITE PLANNING AND LANDSCAPE DESIGN**

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

**Specific Objectives**
To develop skills for site analysis and landscape design.

**Learning Outcomes**
After studying this course, the learners will be able to,
1. Develop skills in site planning and landscape design
2. Understand impact of site planning and landscape design on urban and regional planning
3. Plan sites of medium scale
4. Design and document natural and man-made features on planning sites

**Content List**
- Site Planning Overview, Definitions, Professional Roles, Resources, Process, Techniques and Technology.
- Site Analysis Parameters; Climate, Views, Landscape, Infrastructure, Location, Neighborhood, Density, Urban Scape, Byelaws Etc.
- Physical, Environmental, Social, and External Influences on Sites and Their Regional Settings and Contexts.
- Impact of Zoning, Regulations & Performance Standards on Site and Landscape Design.
- Concept Planning For Sites through Relationship Diagrams, Overlay Drawing Techniques, Design Process Charts Etc.
Contemporary Trends and Influences on Site and Landscape Designing.
Techniques in Review of Site and Landscape Plans.
Design Elements and Principles for Landscape Planning Of Open Spaces and Parks.

**Practical**
- Site Analysis (research, diagrams and report). Site plan review checklist.
- Exercises in review and selection of site for a new town and its civic components.
- Landscape plans for medium scale sites

**Proposed Teaching Methodology**
- Lecturing
- Field Visits
- Assignments

**Proposed Assessment (theory, 100%)**
- **Mid Term (40%)**
  - Written long/short questions, quizzes etc
- **Final Term (60%)**
  - Written long/short questions, quizzes etc

**Proposed Assessment (practical, 100%)**
- Presentations, assignments, report writing, viva voce, field visits etc

**Recommended Books**
28. **URBAN REGENERATION AND CONSERVATION**

Credit hours: 3 (2+1)
Prerequisites: Introduction to city and regional planning

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

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Understand restoring and rebuilding the physical fabric of cities
2. Understand the relationship between urban regeneration policy and changing economic, social and political circumstances
3. Show core knowledge of the key features and impacts of recent urban regeneration policies in worldwide
4. Show awareness of the procedural and management consideration involved in the delivery of urban regeneration initiatives
5. Demonstrate an understanding of the principal social, economic and physical challenges confronting cities and regions in Pakistan

**Content List**
- Urban growth, slums and squatter settlements; definitions, Identification, causes and potentials for improvement.
- Urban Regeneration and urban renewal; Concepts, Approach and Processes.
- Urban Regeneration Goals, Objectives and Targets for Regeneration of Residential, Commercial, Industrial and other Urban Areas.
- Impediments to Regeneration Efforts and Their Implications, Tools, Programmes and Overall Policies for Urban Regeneration and Conservation.
- Case Studies of City Centre Dynamics and Historic Evolutions.
- Urban Regeneration and Integrated Development Projects in Central Cities Areas.
- Methodological Approach to Direct Observation of Central City Areas.
- Treatment Mechanism; Clearance and Redevelopment, Conservation and Rehabilitation, Environmental Improvement and Maintenance; Policy and Strategies.
Conservation and Preservation Of Culturally and Historically Valuable Buildings, Spaces and Objects
Conservation Charters and Conventions
Peoples’ Participation in Urban Regeneration and Conservation Programmes.
Urban Regeneration as a Participatory Process; Examples and Case Studies. Involving Local Communities and Institutional Building.
Institutional Framework and Mechanism for Urban Regeneration Projects and Programmes.
Working With the Private Sector in Sustainable Urban Regeneration: Towards Win-Win Solutions

Practical
Urban Regeneration workshop with an objective to prepare an urban regeneration and conservation project for a part of a city or a slum area
Study of a city neighborhood, city Centre, slums/katchi abadies etc.
Application of Urban Regeneration and conservation on selected study area

Proposed Teaching Methodology
Lecturing
Readings
Written Assignments
Guest Speakers
Field Visits
Project/assignment

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books


### 29. INFRASTRUCTURE PLANNING AND MANAGEMENT

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

**Specific Objectives**
To introduce knowledge and skills related to physical and socio-economic infrastructure planning and management issues.

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Identify infrastructure requirements for dwellers
2. Understand the conceptual basis of Infrastructure Planning
3. Understand government and private sector roles in basic infrastructure provision
4. Point out political and legal aspects in the process of infrastructure provision
5. Analyze various categories of Infrastructural development plans
6. Evaluate mega infrastructure projects in Pakistan

**Content List**
Conceptual Basis of Infrastructure Planning
General Considerations for the Infrastructure
Planning Categories of Infrastructure
Principles and Practices of Infrastructure Planning at Local, Regional and National Levels (Transportation, Utility Services, Communications etc.).
The Role of Government and Private Interest Groups in the Infrastructure Development Process.
The Use of Demand Modeling (Infrastructure Requirements with Respect to Population Density).
Political, Financial, Public Relations, Legal and Environmental Concerns of Various Stakeholders
Public-Private Partnership in Infrastructure Development Projects.
An Introduction of Mega Infrastructure Projects in Pakistan and their Benefits

Practical
Study on Physical Infrastructure Planning Standards and Implementation.
Planning and designing of suitable infrastructure for urban and rural dwellers.
Infrastructure requirements for Residential, Commercial and Industrial Uses.
In-depth analysis of mega infrastructure planning projects (Case Studies)

Proposed Teaching Methodology
Lecturing
  Tutorial Assignments
  Field Visits
  Report Writing

Proposed Assessment (theory, 100%)
  Mid Term (40%)
  Written long/short questions, quizzes etc
  Final Term (60%)
  Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
  Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books
5. *Infrastructure Planning Review*, Online ISSN: 1884-8303, Print ISSN: 0913-4034, Japan Society of Civil Engineers, J-Stage Publisher.
6. *Journal of Infrastructure Systems*, ISSN (print): 1076-0342, ISSN (online): 1943-555X, American Society of Civil Engineers.

30. GIS ANALYSIS AND APPLICATIONS IN PLANNING

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

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

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Introduce advanced tools, techniques and applications of GIS in City and Regional Planning
2. Understand and review of existing GIS applications for problems identification
3. Use of GIS applications for plan implementation and monitoring.

Content List
GIS And Related Applications With Particular Focus On Advance Spatial Analysis And Their Use In Solving Planning Problems Multi-Criteria Decision Analysis/Making (MCDA/MCDM) Review Of Existing GIS Applications In Planning, Such As Master Plan Monitoring And Implementation, Housing And Socioeconomic Analysis, Utilities, Facilities And Infrastructure Management, Transportation And Traffic Management Etc. Spatial Decision Support Systems (SDSS)

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

Proposed Teaching Methodology
Lecturing
Written Assignments
Guest Speaker
Field Visits

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

66
31. **PLANNING LEGISLATION**

Credit hours: 2 (2+0)
Prerequisites: Introduction to city & regional planning

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

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Define and describe the terms related to planning legislation
2. Understand the significance and implications of planning law
3. Understand local planning legislation
4. Discuss and compare planning law in developed countries like USA, UK with that in Pakistan.
5. Decide sample planning applications for development in the light of planning legislation.
6. Evaluate sample court cases related with planning issues.

**Content List**
Significance Of Law In Planning
Outline Of Planning Legislation, Evolution, And Understanding Factors Which Stimulated The Enactment Of Such Legislation In U.K And U.S.A
Concepts, Definitions And Objective Of Zoning And Land Sub-division Regulations
The Legislative Basis For Planning And Implementation Of Plans The Relationship Of Central And Local Government 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 And Land Sub-Division, Building Control, Land Use Control, Transport, Public Health And Environmental Protection
Process Of Enacting Planning Related Laws And Regulations In Pakistan
Proposed Teaching Methodology
Lecturing
Analysis of selected law cases
Presentations and report
writing Guest Speaker

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc

Final Term (60%)
Written long/short questions, quizzes etc

Recommended Books
8. Provincial Local Government Ordinances and Rules

32. ENVIRONMENTAL ENGINEERING

Credit hours: 3 (2+1)
Prerequisites: Environmental Planning and Management

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

Learning Outcomes
After studying this course the learner will be able to:
1. Define the basic concepts relating to environmental engineering
2. Describe various sources of air pollution
3. Describe types of solid waste
4. Describe water supply sources
5. Measure water quality
6. Selection and design of landfill sites
7. Apply existing technologies to control air pollution
8. Design water supply schemes of a neighborhood/new city
9. Design water treatment plant

Content List
Basic concepts and terminologies related to environmental engineering
Air Pollution
Various sources of air pollution
Air pollution measurement
Air pollution control technologies
Water Resources and Water Pollution Control
Measures of Water Quality (Dissolved oxygen, oxygen demand, solids, nitrogen, Bacteriological measurement
Water Quality Standards
Solutions to Water Pollution Problems
Design of urban water supply schemes
Drinking Water Treatment Plant Design
Municipal and Industrial waste water
Calculation of waste water flow and BOD load
Appropriate methods and technologies to treat municipal and industrial waste Solid and
Hazardous Waste
Solid Waste generation, reuse, recycling
Incinerating and Land Filling Solid Wastes Hazardous Waste Management
Toxic Metals
Achieving Low-Waste Society

Practical
Lab work for measuring water quality, field visits to know about technologies in use for controlling air pollution, waste water treatment plants, landfill sites and incineration plants.
Design of innovative technologies/methods relating to air pollution control, waste water treatment and solid waste management.
Teaching Methodology
Lecturing
Field Visits
Guest Speaker
Assignment relating to designing of pollution control technologies/methods

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books

SIXTH SEMESTER

33. URBAN DESIGN
Credit hours: 3 (2+1)
Prerequisites: Site Planning and Landscape Design

Specific Objectives
Demonstrate creativity, critical thinking and innovation when identifying and solving built environment problems in diverse contexts and assessing implications of decisions and actions.

**Learning Outcomes**

After studying this course, the learners will be able to:

1. Explore urban design principles, approaches, theories, and applications.
2. Practice basic skills of urban design analysis.
3. Gain visual, graphic and spatial literacy.
4. Ability to transform a problem or question into a solution plan.
5. Generate both the process and product of the design of the built environment.

**Content List**

- Definition and Explanation of Urban Design, Urban Design in the Context of Town Planning.
- Basic Elements of Urban Design Such As 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 Process and Techniques.
- Examples of Urban Design from international and local context.
- Urban Aesthetics, Space, Street Furniture and Landscape Design.
- Urban Design Data Collection Techniques Like Behavior

A project involving site observation through data collection techniques, analysis and graphic presentation of data, proposal preparation.

Practicing the process of Urban Design through a site-specific urban scale project like Beautification of Public Square, an environmental uplift solution for Commercial Strip etc.

- Lecturing
- Design Assignments
- Guest Speaker
- Field Visits
- Report Writing
Proposed Assessment (theory, 100%)
  Mid Term (40%)
  Written long/short questions, quizzes etc.
  Final Term (60%)
  Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
  Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

34. PLANNING OF NEW TOWNS

Credit hours: 3 (1+2)
Prerequisites: Introduction to city and regional planning History of cities and urban planning

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

Learning Outcomes
After studying this course, the learners will be able to:
  1. Able to examine new towns through the lens of historical context, political background, economic logic and sociology
2. Understand methods to appreciate social, political and economic developments and tendencies in new cities and how can they be evaluated
3. Explain the issues and potentials of the old New Towns
4. Argue what are the contemporary planning issues of new cities of the 21st century and explain these urban projects

Understanding the Requirements of a Modern City as a Dynamic Organism
The Need for Integrated Approach towards Planning of Various Components of a City.
Examples of Modern Cities: Brasilia, Canberra, Islamabad, Chandigarh, New Delhi, Putrajaya etc.

Process of Planning and Designing a New Town
Application of Space Standards and Locational Criteria for Various Land Uses;
Zoning Plan Planning and Design for Land Use, Layout of Roads and Streets;
Neighborhood Planning, Layout Plan of Housing Blocks and Public Facilities and Services;
Town Centre Plan, Planning of Civic, Administrative and Commercial Areas;
Industrial Estate Plan, Layout and Placement of Various Types of Industries and Related Services and Facilities;
Town Park, Elements of Design of a Town Park.

Practical
Review of new cities practices report.
Selection of a site for a new town.
Preparation of a zoning plan and neighborhood plan.
Planning of a town center, industrial estate and town park.
Model making for various designs.

Proposed Teaching Methodology
Lecturing
 Written Assignments
 Class Activities
 Guest Speaker
 Field Visits
 Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc

Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books

35. RURAL PLANNING

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

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

Learning Outcomes
After studying this course, the learners will be able to:

1. Define and describe the terms pertaining to rural planning
2. Understand the basic principles and elements of rural planning in Pakistan
3. Understand the theoretical knowledge and ground realities of rural areas of Pakistan
4. Discuss and evaluate the existing system of rural planning in Pakistan
5. Apply the principles of basic need, and sustainable development goal for rural planning
6. Evaluate different approaches adopted for rural development planning

Content List
- Elements Of The Conceptual Framework For Modern Rural Planning And Rural Development
- Historical Background To Rural Planning In Indo-Pak Sub-Continent
- Rural Settlement Patterns With Special Reference To Pakistan
- Characteristics Of Bar And Bet Lands In Rural Areas Of Pakistan
- Various Approaches To Rural Development, Role Of Rural Centers, Planning And Criticisms On Concepts Of Rural Planning
- Village As A Focal Point Of Rural Planning And Development
- Basic Needs And Sustainable Development Approaches For Rural Areas
- Rural Urban Linkages. Farm To Market Roads
- Structural Transformation Of Rural Areas As Sustainable Human Settlements

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

Proposed Teaching Methodology
- Lecturing
- Written Assignments
- Guest Speaker
- Field Visits
Report Writing

Proposed Assessment (theory, 100%)

Mid Term (40%)
Written long/short questions, quizzes etc.

Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books

36. PUBLIC PARTICIPATION AND COMMUNITY DEVELOPMENT

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

Specific Objectives
To familiarize with the concepts of community development and role of public participation in planning and development

Learning Outcomes
After studying this course, the learners will be able to:
1. Explore community development principles, approaches, theories, and applications
2. Understand how communities and community organizations can be mobilized to achieve their goals
3. Develop and apply participatory theories useful for understanding and acting within the field of community development
4. Create skills to facilitate, strengthen, and improve less-advantaged communities, empower their residents to define and participate in the development process

Content List
Introduction to Community Development, Empowerment and Participation.
Principles of Community Planning and Public Participation.
Benefits of Empowerment and Community Participation.
Poverty Alleviation Strategies for Pakistan.
Role of NGOs and Other Social Organizations in Community Development.
Participatory Planning for Less-Privileged Population: Disable, Women, Old, Children etc. Gender Issues, Role of Women in Community Development Activities.
Scope of Community Participation in the Provision of Health, Education and other Civic Amenities in Rural and Urban Areas.

Practical
Select a case study area, develop Problem & Solution Tree, apply relevant community empowerment technique, implement a scenario on case study area, and display findings.
Preparation of improvement plans and implementation frameworks for the provision of education, health and recreational or infrastructure facilities in low-income communities/slums or villages on self-help basis.
Organization of forums in urban/rural communities for community meeting / mobilization to achieve sustainable development.

Lecturing
Written Assignments
Guest Speaker
Field Visits
Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc.

**Final Term (60%)**
Written long/short questions, quizzes etc.

**Proposed Assessment (practical, 100%)**
Presentations, assignments, report writing, viva voce, field visits etc.

**Recommended Books**

**37. BUILDING CONSTRUCTION**
**TECHNOLOGY** Credit hours: 3 (2+1)
Prerequisites: None

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

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Identify stages of construction and their planning requirements
2. Understand construction methods, materials, techniques and process
3. Understand construction drawings
4. Illustrate stages of construction
5. Analyze quantitative aspects of construction drawings

**Content List**
- Introduction to Techniques of Construction Technology for RCC, Masonry, Stone, Mud and Pre-Fabricated Construction.
- Properties And Uses Of Various Construction And Building Materials Like stone, Timber, Bricks, Blocks, Lime, Mud, Cement, Sand, Aggregate Etc.
- Construction Technologies For Various Types Of Buildings
  - Terminology And Nomenclature Of Basic Components Of Sub And Super Structure Of A Building, For Example, Excavation,
Leveling, Compaction, Lean Concrete, Reinforced Concrete, Waterproofing, DPC, Plinth, Columns, Beams, Lintels, Slabs, Sunken Slabs, Screed, Roof Insulation Etc.
Infrastructure Construction; Plumbing, Electricity and Gas Points, Insulation and Fire Protection.
Basic Joinery Construction Details And Their Drawings With Execution In Wood, Aluminum, Steel Etc.
External Development And Finishes Of Buildings Including Various Types Of Plaster (Plain, Textured, Pigmented Etc.), Paints, Cladding (Tiles, Concrete Panels, Aluminum Composite Panels Etc.), Pavement, Curbs, Drive-Ways, Hard Landscape, Steps, Ramps, Infrastructure Services, Waterproofing And Damp Proofing Etc.
Construction Drawings And Shop Drawings Including Detail Drawings Of A Small Scale Project.
Elementary Quantity Estimation Of Various Categories Of Building Elements Like Walls, Slab, Beams Etc.
Conservation And Retrofitting Techniques For Existing Buildings
Health, Safety, Disaster Response and Environmental Considerations of Construction Process and Sites.

Practical
Drawing of various building components
Charts of building construction process and characteristics of building materials
Documentation of construction drawing sets
Small exercise in construction project planning with quantity estimation.
Market analysis of contemporary construction technologies.
Risk assessment of existing structures
Site visits to construction sites under construction to observe sub, super structure construction and finishing at various stages and preparation of report

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc
Final Term (60%)
Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

**Recommended Books**


**38. PROFESSIONAL PLANNING PRACTICE**

Credit hours: 2 (1+1)
Prerequisites: Introduction to city and regional planning

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

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Understand in their ability to communicate by practicing and receiving feedback on business communication skills
2. Understand academic and workplace language proficiency are embedded in the course
3. Analyze and debate selected practice-related topics with senior professionals and your peers
4. Review professional codes of conduct for planners and reflect on their implications for your practice
5. Communicate ideas using diverse formats and strategies to academic and professional audiences within and external to the discipline of urban and regional planning
6. Work with others in a range of roles and contexts, demonstrating cultural and social sensitivity, environmental stewardship and ethical and reflective practice
7. Apply theoretical knowledge of planning and ethics to progressive planning practice

Content List

Concepts and Need of Professional Ethics and Norms of Good Governance Including Accountability, Transparency, Rule of Law, Confidentiality Etc. Justification and Aims of Planning. Role and Responsibilities of Professional Bodies in Promoting Professional Ethics, PCATP Code of Conduct, Code of Conduct of Professional Bodies like RTPI, APA

Entrepreneurship Skills and Professional Ethics.

Interaction between Planners and Stakeholders in the City and Region Such as Politicians, Bureaucrats/ Administrators, Media, Judiciary, Academia, NGOs and Civil Society.

Functions of Professional Planners.

Resolution of Conflicts in the Implementation of Plans.


Social and Ethical Audit of Development Plans and their Implementation.

Practical

Visits to Public and private sector organization

Visit to local planning institutions / organizations to understand the systems and scope of the planning profession

Preparing report on functions of department/organization/professional planner within their scope of work.

Proposed Teaching Methodology

Lecturing

Written Assignments

Guest Speaker

Field Visits

Report Writing

Proposed Assessment (theory, 100%)

Mid Term (40%)

Written long/short questions, quizzes etc

Final Term (60%)

Written long/short questions, quizzes etc

Proposed Assessment (practical, 100%)

Presentations, assignments, report writing, viva voce, field visits etc
Recommended Books

7. *Journal of professional practice*, Volumes 89-93, American Society of Civil Engineers, Department of Conditions of practice, US.

SEVENTH SEMESTER

39. SPATIAL DEVELOPMENT PLANNING-I

Credit Hours: 4 (2+2)
Prerequisites: Core Courses (to be defined by individual institutions)

Specific Objectives
To impart knowledge and develop skills for preparation of development plans for human settlements

Learning Outcomes

1. Understand various levels of planning for preparing a comprehensive spatial development plan
2. Understand key spatial development planning issues and their resolution
3. Apply knowledge and skill to prepare spatial plans for human settlements
4. Formulation of development plan reports focusing key planning issues

Content List

Emerging Issues Concerning Spatial Development Planning in Countries Like Pakistan Especially In The Light Of The Current Global/Economic Scenario
A Comparative Overview Of Process And Methodology Involved For The Development Of Spatial Development Plans
Spatial Development Planning Versus Master Planning, And Structure/Strategic Planning
Local Development Plans; Subject, Area Development, Sectoral Plans etc
The New Paradigm For Comprehensive Development Planning Of Urban And Rural Areas In Pakistan
Review Of National Environmental Policies And Regional Strategies Related To The Land Development In Pakistan
Spatial Development Plans And The Role Of Local Governments And Private Developers
Development Planning Process Goals And Objectives Of Comprehensive Planning
Interaction With Stakeholders; Planning Surveys And Studies Of Component Subjects As A Basis For Development Plans
Data Collection And Analysis To Formulate Spatial Development Plan; The Essential Data Regarding Major Land-Using Activities Such As Employment, Housing, Shopping, Leisure And Transport
The Key Actors and Institutions Who Shape the Content of Development Planning.
Identification Of Problems and Issues in the Implementation Process of Spatial Development Plans
Institutionalization and Financing of Spatial Development Plans

Practical
Planning surveys and studies of the selected city as a class / group project with special emphasis on team work capability development..
Review Case Studies: Students need to review existing development plans of the various cities of Pakistan and come-up with the findings to develop a report and present before the class.

Proposed Teaching Methodology
Lecturing
Tutorial Assignments
Field Visits and Surveys
Report Writing

**Proposed Assessment (theory, 100%)**

- **Mid Term (40%)**
  Written long/short questions, quizzes etc
- **Final Term (60%)**
  Written long/short questions, quizzes etc

**Proposed Assessment (practical, 100%)**

- Presentations, assignments, surveys, report writing, viva voce, field visits etc

**Recommended Books**


**40. LAND USE AND BUILDING CONTROL**

Credit Hours: 3 (2+1)
Prerequisites: Planning Legislation

**Specific Objectives**

To Introduce the Concepts of Land Use Development Control and Building Control System
Learning Outcomes
After studying this course, the learners will be able to:

1. Understand the methods and techniques for land use development control and building control
2. Understand the detailed methods of land use planning and building control system of planning agencies

Content List

Concepts and Needs of Land Use and Building Control as a Tool for Implementation of Master Plan and other Local Plans, Zoning and Development Control.

Processes and Procedures for Implementation of Building control. Procedural Checks such as Ownership Verification, Planning Application Forms, Drawings, Fees, No Objection Certification, Advertisements etc.

Issue and Problems Regarding Control of Urban Land Use and Development Control. Conformity with the Development, Lands Use Zoning, Planning Criteria, Building Bye Laws, Design Guidelines, Building Line, Parking Spaces Per Business Center Jobs and Parking Spaces Per Residential Units, Chamfer Requirement, Construction over Culverts, Gross Floor Area (GFA), and Net Floor Area (NFA), Floor Area Ratio (FAR), Open Space Ratio, Densification (Infilling; Redevelopment, Industrial Relocation) Vs Extensification (Contiguous Un-Channeled Peripheral Development, Corridor Development, Satellite Cities and New Town), Transfer of Development Rights (TDR), Guided Land Development (GLD), Land Use Classification and Coding System, Uses Classes, Opportunity Cost of Land

Objectives and Problems of Land Use Regulation; Enforcement of Building Bye-Laws: Demarcation and Removal of Encroachments, Action Against Illegal Buildings Dangerous Buildings Identification, Management and/or Demolition

Litigation Involved in Building Control.

Commercialization Policy and Transformation of Land Uses, Land Conversions

Private Development Schemes.

Practical

Survey of Various Buildings, Markets and Plazas Regarding the Provision of Parking Space, Building Lines / Setbacks etc.

Identification of Violation of 50 Planning Standards and Regulations.

Enlisting Dangerous Building after Developing Parameters for Buildings to be Declared Dangerous

Teaching Methodology
Lecturing
Written Assignments
Guest Speaker
Field Visits/building Inspections
Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc.
Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

12. CDA, DHA, Byelaws for Building Control (Latest Edition)

41. PROJECT PLANNING AND MANAGEMENT

Credit Hours: 3 (2+1)
Prerequisites: None
Specific Objectives
To Familiarize with the Methods and Techniques for Project Planning and Management and Financial Aspects of the Planning Projects

Learning Outcomes
After studying this course, the learners will be able to:
1. Understand the methods and techniques for project planning and management
2. Apply the knowledge to prepare PC-I and PC-II form for development project
3. Prioritize the projects by using CBR, NPV, IRR, Discounted Factor
4. Evaluate and monitor the existing project
5. Use Primavera /MS Project for the execution of development projects

Content List
Process of Project Planning and Implementation in Pakistan
Relationship among Policy, Plans, Program 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, Net present Value, Internal Rate of Return
Defining Project Management; what has to be managed? Scope, Time, Cost, Quality, Procurement, Planning and Progress, Risk, Project Success/Failure.
Stages of Project Development: Inception to Completion, Handover; Audit and Review, Cost/Benefit Analysis, Work Breakdown Structure (WBS), Critical Path Method (CPM), Schedule of Work, Gantt Chart, Statement of Work (SOW)
Procurement System, PPRA Rules etc.
Social and Environmental Acceptability of Projects.
Sanctioning Authority and Institutions for Approval of Projects. The Role of Project Execution Authority.
Community Participation for Effective Implementation and Monitoring of Projects.

Practical
Preparation of a PC-I and PC-II for a Development Project. Evaluation of an Existing Project.
Use of Prima Vera, and MS Project Software. Management Information Systems in Project Management

**Proposed Teaching Methodology**

Lecturing
Written Assignments
Guest Speaker (workshop, seminar) Field Visits
Report Writing

**Proposed Assessment (theory, 100%)**

**Mid Term (40%)**
Written long/short questions, quizzes etc.

**Final Term (60%)**
Written long/short questions, quizzes etc.

**Proposed Assessment (practical, 100%)**
Presentations, assignments, report writing, viva voce, field visits etc.

**Recommended Books**


**42. RESEARCH METHODS**

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

**Specific Objectives**
To develop skills for designing and conducting research

**Learning Outcomes**
After studying this course, the learners will be able to:
1. Understand the process, basic elements and methodology of research
2. Understand the knowledge of research methods and its application in the field of planning
3. Demonstrate ability to design research proposal
4. Demonstrate ability to apply appropriate research techniques and methods
5. Demonstrate ability to analyze and interpret the data
6. Demonstrate ability to synthesize and compile the research findings in report format

Content List

Introduction To Research And Its Significance In Planning Characteristics of Scientific Research.

Ethical Considerations In Research

Types Of Research


Theory and Research, Theoretical Framework and Testing Of Hypothesis.

Research Design And Its Components: Measurements: Definition, Nature And Levels Of Measurements, Research Methodology: Collection And Analysis/Interpretation Of Data, Generalization, Types Of Observation, Laboratory And Field Experimentation, Personal Interviews: Questionnaire

Construction: Content Of Questions, Types Of Questions, Question Format, Sequence Of Questions, Index Construction And Scaling Methods

Sampling Techniques And Sample Design, Evaluation

Organization and Format of Planning Report: Reference, Quotations, Bibliography, Paging, etc.

Writing Up Of The Thesis And Dissemination Of Research Work Compilation of Research Proposals and Presentation

Practical

Preparation of a research proposal

Review of a Thesis

Report Writing

Presentation

Lecturing

Written Assignments

Guest Speaker

Case Studies

Proposed Assessment (theory, 100%)

Mid Term (40%)

Written long/short questions, quizzes etc.
Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, case studies, field visits etc.

Recommended Books

43. DISABILITY AND DEVELOPMENT
Credit hours: 2 (1+1)
Prerequisites: None

Specific Objectives
To strengthen skills for barrier free planning and designing

Learning Outcomes
After studying this course, the learners will be able to:
1. Understand the terms and concepts of Disability and Development issues
2. Compare the national and global disabled population estimates
3. Discuss the issues of mainstreaming disability in the planning process
4. Strengthen skills as professional planners Specific Design Requirements of Persons with Disabilities (PWDs)
5. Apply knowledge of accessibility design for designing barrier-free towns and housing projects

Content List
- Contemporary Disability Policy And Practice
- Disability Demographics
- National And Global Disabled Population Estimates
- Disability And Poverty Trap Estimates
- Of GDP Loss Due To Disability
- Development Oriented Disability Policy Framework
- Development Oriented Research On Disability Issues In Town Planning
- Millennium Declaration And The Millennium Development Goals (MDGs)
- Sustainable Development Goals (SDGs) and Development Rights of Persons with Disabilities (PWDs)
- Mainstreaming Disability in City and Regional Planning
- Specific Design Requirements in Housing Projects to Cater the Needs of PWDs
- Political Movements for Mainstreaming Disability in Development Planning
- Accessible Design Case Studies (Global Perspective)
- Accessible Design Case Studies (Pakistan Perspective)

Proposed Teaching Methodology
- Lecturing
  - Written Assignments
  - Field visits
  - Interaction with the organizations working for the development rights of PWDs.
- Guest Speaker

Proposed Assessment (theory, 100%)
- Mid Term (40%)
  - Written long/short questions, quizzes etc.
- Final Term (60%)
  - Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

**Recommended Books**


44. **PROJECT (Part-I)**

Credit Hours: 0 (0+0)
Prerequisites: Core Courses (to be decided by individual institutions)

**Learning Outcomes**

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

**EIGHTH SEMESTER**

45. **SPATIAL DEVELOPMENT PLANNING-II**

Credit hours: 4 (2+2)
Prerequisites: Spatial Development Planning-I

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

**Learning Outcomes**

1. Understand the contents of various planning instruments, like development and execution
2. Understanding structure plan for cities and Local plan for smaller areas at rural or tehsil level etc.
3. Subdividing development plan preparation process for an area
4. Evaluating data to prepare appropriate and viable development plan
5. Evaluating Land use Maps using GIS in Spatial Development Planning Process
6. Building Skill to prepare development plans for human settlements

**Content List**

**Development Plans Process**
- Policy planning: Need, Key Features, National Policy for Urban Growth and New Towns
- Spatial Development Plans; Zoning and Land use Policies to control Urban Sprawl/Haphazard Growth
- Policy Planning In The Light Of Existing Studies and Development Strategies
- Local Development Plans Such As Subject Plans and Action Area Plans
- Phasing And Programming: Planning, Programming And Budgeting System (PPBS)
- Administering the Development Plan (Administrative Requirements during Plan Development Process)
- Coordination between Various Line Departments and the Local Planning Agencies: (Coordination Tools and Methods)
- Public Participation as a Tool for Effective Formulation and Implementation of the Plans and Component Projects

**Development Plans Evaluation and Periodic Feedback**

**Practical**

- Evaluation and Review of existing master plans
- Preparation of a spatial development plan for a town with digitized Land-use maps

**Proposed Teaching Methodology**
Lecturing
Tutorial Assignments
Field Visits
Report Writing

**Proposed Assessment (theory, 100%)**

**Mid Term (40%)**
Written long/short questions, quizzes etc

**Final Term (60%)**
Written long/short questions, quizzes etc

**Proposed Assessment (practical, 100%)**
Presentations, assignments, report writing, viva voce, field visits etc

**Recommended Books**


**46. REGIONAL PLANNING**

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

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

**Learning Outcomes**
After studying this course, the learners will be able to:

1. Define the regional planning
2. Explain the basic principles, elements and types of regions
3. Apply regional planning techniques for the preparation, presentation and implementation of regional plan
4. Understand the relationship between national and regional planning in Pakistan
5. Evaluate different theories of regional development planning like growth pole, growth center and central place theory

Content List

Introduction To Regional Planning; Concept, Need And Objectives
Formal, Functional and Planning Regions, Methods for the Delineation of Regions, Districts as Planning Region
Inter And Intra-Regional Inequalities
Overlapping Administrative Boundaries and Management Issues at Local and Regional Level
Relationship between Regional and National Planning, Importance of Institutional Coordination. Guidelines for the District and Local Level Planning In Pakistan In Relation To Potential Resources
District Level Spatial Plan And Local Plans For Sanitation, Development Of Health And Educational Institutions, And Service Centers
Spatial Distribution Of Central Places - Hierarchy Of Settlements And Their Utility In Location Of Health, Education And Other Services
Regional Development Theories, Spatial Flows, Rural-Urban Linkages, Growth Poles and Regional Growth
Preparation and Presentation of Regional Plans and Their Implementation; Review Of Public Sector Programs with Particular Reference to Pakistan

Practical

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

Proposed Teaching Methodology

Lecturing
Written Assignments
Guest Speaker
Field Visits
Report Writing

Proposed Assessment (theory, 100%)

Mid Term (40%)
Written long/short questions, quizzes etc.

Final Term (60%)
Written long/short questions, quizzes etc.

Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc.

Recommended Books
7. Govt. of Pakistan/Housing and Physical Planning Department, Regional Development Plan for Thal.

47. ESTATE MANAGEMENT

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

Specific Objectives
To familiarize planners with the management skills for estate management

Learning Outcomes
After studying this course, the learners will be able to:
1. Understand the procedures of land record management
2. Understand and Compare the land prices mechanism
3. Discuss the property rights and land transfer procedure for sale and purchase of property
4. Understand the significance of urban land valuation table for its application in Estate Management
5. Evaluate land prices and market trends for investment in real estate
6. Strengthen skills as professional planners in property management and land marketing
7. Apply knowledge of land market system to establish social entrepreneurship in real estate and asset management

Content List
- Introduction to Definitions and Terms Used In Estate Management. Origin And Need For Estate Management
- Introduction to Land Management for Urban Expansion and Operation of Urban Land Prices
- Understanding Land and Property Right System in Pakistan
- Understanding of Land Valuation Table and Its Significance in Estate Management
- Land Development in Formal and Informal Sector
- Introduction to Land Revenue System. Land Titling and Registration Process, Property Transfer and Disputes, Property Sale, Values and Taxes
- Plot Allotment Criteria, Demarcation of Land and Plots, Land Management System
- Land Management Process For The New Town And Master Planning
- Business Development Planning for Real Estate Management

Practical
- Visit to land record management departments of government
- Visit to private housing projects
- Preparation of database of real estate management firms
- Preparation of land Valuation Sheets of an existing (e.g. housing) project

Proposed Teaching Methodology
- Lecturing
- Written Assignments
- Interaction with leading Estate Management firms.
- Field Visits
- Report Writing

Proposed Assessment (theory, 100%)
- Mid Term (40%)
  - Written long/short questions, quizzes etc

- Final Term (60%)
  - Written long/short questions, quizzes etc
Proposed Assessment (practical, 100%)
Presentations, assignments, report writing, viva voce, field visits etc

Recommended Books
5. IREM (2011), Principles of Real Estate Management, Amazon.
8. Mike Beirne (2006), The Property Management Tool Kit, Amazon.
9. UN Habitat, Land and property right in Pakistan: training manual.

48. ENTREPRENEURSHIP

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

Specific Objectives
To Familiarize the Concept of Enterprise Development and Entrepreneurial Skills

Learning Outcomes
After studying this course, the learners will be able to:
1. Understand the nature and importance of entrepreneurs
2. Ability to identify a business opportunity and explain corresponding proposed solutions
3. Discuss the impact of macro-environmental factors on business
4. Evaluate the feasibility of business ideas
5. Explain the role of marketing
6. Analyze direct and indirect competitors
7. Identify promotion techniques and evaluate the suitability of a promotion technique in a given situation
8. Apply the concepts of entrepreneurship to determine the final business description/market positioning

Content List

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Practical

Identify a Business Opportunity and Corresponding Proposed Solutions
List the Rewards and Challenges Facing a Business Owner
Conduct an Industry Analysis of a Chosen Business in Relation to Suppliers, Buyers, Substitutes and Competitors
Formulate a Strategy to Counter Competitors’ Strategies.
Evaluate the Suitability of a Promotion Technique in a given Situation.
Develop the Appropriate Promotion Mix for a Chosen Business.

Proposed Teaching Methodology

Lecturing
Written Assignments
Guest Speaker
Field Visits
Report Writing

Proposed Assessment (theory, 100%)
Mid Term (40%)
Written long/short questions, quizzes etc.

Final Term (60%)
Written long/short questions, quizzes etc.
presentations, assignments, report writing.

Recommended Books
3. Paulson, M. (2016) Online Business from Scratch: Launch Your Own Seven-Figure Internet Business by Creating and Selling.
4. Bygrave, W. D and Zacharakis (2014), Entrepreneurship,

49. PROJECT (Part 2)
Credit hours: 6 (0 + 6)
Prerequisites: Project (Part 1) and Core Courses (to be decided by individual institution)

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

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