**. INFRASTRUCTURE PLANNINGAND MANAGEMENT**

Credit hours: 2 (1+1)

Prerequisites: None

**Specific Objective:**

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

**Learning Outcomes**

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**Content List**

* Conceptual basis of Infrastructure Planning
* Categories of infrastructure,
* General considerations for the Infrastructure Planning
* Principles and practices of infrastructure planning at local, and national levels (transportation, utilities, services, communications, socio-economic infrastructure, etc.).
* The role of state and local governments 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. Infrastructure Projects: Stockholders concerns and feedbacks.
* Public-private partnership in infrastructure development projects.
* Mega Infrastructure Projects in Pakistan: Introduction and 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**

 **Mid-Term (40%)**

* Written (Long Questions, Short Questions, MCQs) 50%
* Presentation 20%
* Assignments 20%
* Report Writing 10%

**Final Term (60%)**

* Written (Long Questions, Short Questions, MCQs) 50%
* Presentation 20%
* Assignments 20%
* Report Writing 10%

**Recommended Books**

1. Rainer, George (1990), “Understanding Infrastructure: Guide for Architects and Planners” Wiley-Interscience; 1 edition, ISBN: 0471505463.
2. Khanna, Practice Civil Engineers Hand Book, Karachi, Union Book Stall.
3. Govt. of Pakistan, Provincial Local Government Ordinances 2001, Lahore, Mansoor Books House.
4. Infrastructure, planning and the command of time Environment and Planning C: Government and Policy 0263774X16642768, 2016.
5. Demography and Infrastructure (National and Regional Aspects of Demographic Change) Kronenberg, Tobias, Kuckshinrichs, Wilhelm (eds.) ISBN 978-94-007-0458-9; Springer; 2011 edition.
6. Infrastructure Planning and Finance (A Smart and Sustainable Guide), [Vicki Elmer](http://www.tandfebooks.com/author/Elmer%2C%2BVicki)and [Adam Leigland](http://www.tandfebooks.com/author/Leigland%2C%2BAdam), Print publication Print ISBN: 9780415693189; eBook ISBN: 9780203552391; Adobe ISBN: 9781135906412
10.4324/9780203552391
7. Alvin S. Goodman, Makarand Hastak (2006), Infrastructure Planning Handbook (Planning, Engineering and Economics), McGraw-Hill Professional, ASIN: B00F0LCU8Y.
8. Tim Marshall (2012), Planning Major Infrastructure (A Critical Analysis), Print ISBN: 9780415669542, eBook ISBN: 9780203112120, Adobe ISBN: 9781136281150, 10.4324/9780203112120.
9. Journal of Infrastructure Systems, ISSN (print): 1076-0342, ISSN (online): 1943-555X, American Society of Civil Engineers.
10. Infrastructure Planning Review, Online ISSN: 1884-8303, Print ISSN: 0913-4034, Japan Society of Civil Engineers, J-Stage Publisher.