

**Lecture Plan**  
**Department of Planning, School of Planning and Architecture, Vijayawada**

**Name of Course:** Planning for Physical Infrastructure (BPLN304)

Programme & Sem: **Bachelor of Planning (UG), Semester Three**

Course Duration: July 10 to Nov 03, 2017

Course Coordinator: Mr. D Maqbool Ahmed, Assistant Prof., Dept. of Planning  
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Number of Credits: 03

Total Periods/Week: 03 (As per the Time Table)

Internal Assessment: 50 (minimum pass marks 50%)

End Evaluation: 50 (minimum pass marks 50%) – Written Exam.

Total Marks: 100 (to be converted to CGPA credit pattern as per regulations)

**Subject Objective:** *To introduce the basic concepts related to water supply, sanitation, solid waste management.*

Week	Lecture / Session Topic (Teaching-Learning Objective aimed)	Session Mode (Optional)	References / Suggested Readings
Week 1 (July 10-14)	Definition of Infrastructure and its components, role of physical planner in planning the utilities and services;	Lecture.	1) Planning Commission (2011) "Definition of Infrastructure", Secretariat for Infrastructure, Government of India. New Delhi. 2) Olivier Toutain and Gopiprasad .S (2006) "Planning for Urban Infrastructure", 3i Network, Oxford University Press, New Delhi. 3) Rastogi, Anupam (2007) "India Infrastructure Report 2007" 3i-network, New Delhi. 4) Rangawala (2011) "Water Supply and Sanitary Engineering (Environmental Engineering)", 25th Edition. Charotar Publishing House PVT.LTD, Ahmedabad.
Week 2 (July 17-21)	Objectives of utilities and services planning and implications for public health and environmental protection; Hydrological cycle; Introduction to the institutions related to infrastructure services.	Lecture	5) Ministry of Urban Development (2014) "URDPFI Guidelines", Volume 1. Government of India, New Delhi.
Week 3 (July 24-28)	Water supply sources, treatment system and types, distribution system and types, pressure requirements	Lecture	6) Nathanson, Jerry .A (2008) "Basic Environmental Technology, Water Supply, Waste Management and

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Week 4 (July 31-Aug 4)	Water requirements for domestic and non-domestic purposes of a settlements, fire fighting, seasonal variations in demand and factors affecting water demand	Lecture	<p>Pollution Control", Fifth Edition. Vol. 1. Pearson Prentice Hall, New Delhi</p> <p>7) Rangawala (2011) "Water Supply and Sanitary Engineering (Environmental Engineering)", 25th Edition. Charotar Publishing House PVT.LTD, Ahmedabad.</p>
Week 5 (Aug 7 -11)	Standards of water demand per capita, variations of water demand and consumption, requirements of distribution and storage; pipe network analysis.	Lecture.	<p>8) Shah, Charanjith .S (1998) "Architectural Handbooks Series, Water Supply and Sanitation", Galgotia Publishing Company, New Delhi.</p> <p>9) Central Public Health and Environmental Engineering Organisation (2014) "Manual on Water Supply and Treatment", Ministry of Urban Development, New Delhi. &lt;<a href="http://cpheeo.nic.in/Watersupply.htm">http://cpheeo.nic.in/Watersupply.htm</a>&gt;.</p> <p>10) Ministry of Urban Development (2014) "URDPFI Guidelines", Volume 1. Government of India, New Delhi.</p>
Week 6 (Aug 14 - 18)	Internal Assessment – 1		
Week 7 (Aug 21 - 25)	Estimating storm run-off, Dry Weather Flow (DWF) and Storm Weather Flow (SWF), run-off coefficient, rainfall intensity, time of concentration; Gravity flow, hydraulic gradient line, Manning's formula and nomographs, full flow and partial flow	Lecture	<p>11) Davies, David Butler and John .W (2011) "Urban Drainage", 3rd Edition. London: Spon Press (Taylor &amp; Francis).</p> <p>12) Rangawala (2011) "Water Supply and Sanitary Engineering (Environmental Engineering)", 25th Edition. Charotar Publishing House PVT.LTD, Ahmedabad.</p>
Week 8 (Aug 28-Sept 1)	Layout and design of storm water system; General considerations, inlets, self-cleansing velocity, non-scouring velocity, physical layout-design principles, data requirement; Rain water harvesting.	Lecture	<p>13) Shah, Charanjith .S (1998) "Architectural Handbooks Series, Water Supply and Sanitation", Galgotia Publishing Company, New Delhi.</p> <p>14) Ministry of Urban Development (2014) "URDPFI Guidelines, First Draft</p>

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			Report", Volume 1. Government of India, New Delhi.
Week 9 (Sept 4)	Field Work I		.
Week 10 (Sept 11 - 15)	On-site detention, design procedure for on-site detention; Low cost appropriate technologies for sanitation; Sanitary sewer system, sewer network, materials used	Group Interactive Session & Lecture.	15) Central Public Health and Environmental Engineering Organisation (2013) "Manual on Sewerage and Sewage Treatment", Ministry of Urban Development, New Delhi <a href="http://cpheeo.nic.in/Sewerage.aspx">http://cpheeo.nic.in/Sewerage.aspx</a> .
Week 11 (Sept 18 - 22)	Internal Assessment – 2 (Sept 18-22):		
Week 12 (Sept 25 - 29)	Sewer system location and layout, data needs and procedure of planning	Lecture & Group Discussion	1. Ministry of Urban Development (2012) "Toolkit for Solid Waste Management", Government of India, New Delhi.
Week 13 (Oct 2 - 6)	Quantity of sewage, standards for Indian cities, sewer appurtenances; Sewer pumping and forced main manholes.	Lecture.	2. Ministry of Environment and Forest (2000) "Municipal Solid Waste Management Rules", Government of Indi, New Delhi.
Week 14 (Oct 9 - 13)	Solid waste and types, municipal solid waste management rules 2000 and 2013;	Lecture.	
Week 15 (Oct 16 - 20)	Stages of solid waste management and current practices	Lecture	
Week 16 (Oct 23 - 27)	Assessment – 3 (from Oct 23 -27): Time bound Test		
Week 17 (Oct 30 – Nov 3)	Composting process, Indore and Bangalore methods, concepts of re-use and recycle, e-waste and bio-medical waste generation and treatment methods.	Lecture.	3. Ministry of Urban Development, (2014) "URDPFI Guidelines", First Draft Report. Volume 1. Government of India, New Delhi 4. Wolfe and Mahadevia, Darshini (2008) "Solid Waste Management in Indian Cities, Status and Emerging Practices", Concept Publishing Company, New Delhi:2008

**Note:**

1. Any other closed holidays as declared by SPAV shall supercede the above lecture plan. Holidays shown above may alter as per Notice from time to time.
2. Assessment Sessions may be re-scheduled, with prior intimation.
3. Reading lists provided is not exhaustive and is subject to addition – students are advised to follow progression of class to keep abreast of the new reading lists, if any.