



L	T	P/S	SW/FW	TOTAL CREDIT UNITS
03-	1	-	-	04

Course Title: WATER RESOURCES SYSTEM PLANNING AND DESIGN

Credit Units:03

Course Level:UG

Course Code: CEE412

Course Objectives:

This course deals with design and planning of water resources system.

Course Contents/Syllabus:

	Weightage (%)
Module I Introduction: Water systems engineering –scope and approach. Issues and the systems planning approach- water system dynamics- water resource development alternatives – Water systems planning objectives- Constraints and Criteria – Economic and Econometric principles	35
Module II Hydrologic input analysis, Demand analysis, System elements & Subsystem planning - Stochastic planning and management - Design and management issues	20
Module III Optimization methods and their application in W.R. systems. Linear programming and Dynamic programming models. Problem formulation for W.R systems – Multi objective planning – Large scale system analysis- Case studies	25
Module IV Ground water system planning – Conjunctive surface and G.W development- Hierarchical approach- Water quality management planning- Regional planning- Policy issues	20

Student Learning Outcomes:

- An understanding of water systems engineering for planning.
- An understanding of multi objective planning.
- An ability to carry out ground water system planning.

Pedagogy for Course Delivery:

- Class room teaching supported with presentation for enabling better understanding of the subject.
- Application oriented assignments.
- Class room lectures will be supplemented with field related examples.

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
100	NIL	100

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	A	CT	HA	VIVA	
Weightage (%)	5	10	7	8	70

Lab/ Practical/ Studio Assessment: NIL

Continuous Assessment/Internal Assessment					End Term Examination		
Components (Drop down)							
Weightage (%)							

Text & References:

- M. C. Chaturvedi, W.R. Systems – Planning & Management, Tata McGraw Hill Publications, New Delhi
- Louks D P etal W.R System Planning & Analysis, Prentice Hall - 1981.
- Maass. A. etal – Design Water Resources Systems – Mc. Millan. 1968
- Goodman. A.S. Principles of Water Resources planning, Prentice – Hall, 1984