

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PLAN 8th SEMESTER
GIS & Master Planning
SUBJECT CODE: 1085502

Prerequisite: 7th Semester GIS for Planning

Aim : To study the application of GIS in master planning

Objective:

1. To study the concepts of GIS, GIS Modelling and its Application in Spatial Planning with Network Analysis
2. To study GIS Software Packages (ESRI and Open Source) and Advanced Concepts of GIS.

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA(I)	
1	0	2	2	40	30	00	30	100

L- Lectures; T- Tutorial/Teacher Guided Student Activity/Field work; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment.

Content:

Sr. No.	Content	Total Hrs	% Weightage
Unit -1	Network Analysis Creating a network dataset, Creating a multimodal network dataset, Finding the best route using a network dataset, Finding the closest fire stations, Calculating service area and creating an OD cost matrix, Creating a model for route analysis, Servicing a set of orders with a fleet of vehicles, Finding best routes to service a set of paired orders, Choosing optimal store sites using location-allocation	10	20%
Unit - 2	Applications in Master Planning using the following methods like Data acquisition, geo- referencing, GPS survey, data processing, ground truthing, generation of thematic layers	15	30%
Unit - 3	GIS-Based Master Plans creating, understanding, analysing predicting with example of AMRUT	15	30%
Unit – 4	Case study on Formulating a master plan for decision-making; Effective landuse management and utilization; Spatial growth management; Enable project planning; and Urban management.	10	20%
TOTAL		50	100%

Practicals will be taught on ArcGIS and Q GIS

Reference Books:

Sr. No.	Name of Authors	Titles of the Book	Edition	Name of the Publisher
1	Michael N. Demers	Fundamentals of Geographic Information Systems		-- John Wiley
2	Chor Pang Lo, Albert Yeung	Concepts and Techniques of GIS	2007	Prentice Hall
3	ESRI	Getting to know Arc View GIS ESRI		
4	John Peter Wilson	Handbook of GIS	2008	Blackwell Publishing
5	Paul Longley and Michael Betty	Spatial Analysis – Modeling in GIS Environment	1996	John Wiley
6	Michele Campagna	GIS for Sustainable Development	2005	Taylor and Francis

List of Exercises / Practicals:

- 1 Visit to Town Planning and Valuation Department (AMC)

List of Assignments/Tests :

- 1 Use of GIS in planning Smart Cities of India
- 2 Case study of Use and Advantage of GIS for Master planning

ACTIVE LEARNING ASSIGNMENTS: Preparation of power-point slides, which include videos, animations, pictures, graphics for better understanding theory and practical work – The faculty will allocate chapters/ parts of chapters to groups of students so that the entire syllabus to be covered. The power-point slides should be put up on the web-site of the College/ Institute, along with the names of the students of the group, the name of the faculty, Department and College on the first slide. The best three works should submit to GTU.