

**GIS 56 Course Outline as of Fall 2021****CATALOG INFORMATION**

Dept and Nbr: GIS 56 Title: GIS LAND USE PLAN

Full Title: GIS Applications in Land Use Planning

Last Reviewed: 3/14/2016

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	8	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

This course uses the GIS (Geographic Information Systems) analysis process to explore the strategies of managing land use planning projects. Introduction to and analysis of issues related to urbanization.

**Prerequisites/Corequisites:**

Course Completion of GIS 51

**Recommended Preparation:****Limits on Enrollment:****Schedule of Classes Information:**

Description: This course uses the GIS (Geographic Information Systems) analysis process to explore the strategies of managing land use planning projects. Introduction to and analysis of issues related to urbanization. (Grade Only)

Prerequisites/Corequisites: Course Completion of GIS 51

Recommended:

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Research, acquire, manage and use data for GIS analysis.
2. Solve spatial analysis problems related to land use planning.
3. Complete a land use planning project using GIS.

### **Objectives:**

Upon completion of this course, the student will be able to:

1. Explain the conceptual process of performing a GIS analysis project.
2. Demonstrate comprehensive knowledge of the functionality and applications of GIS technology.
3. Demonstrate high level skills in spatial problem solving and spatial analysis.
4. Perform data research and manipulation.
5. Design, document and present a land use planning project using GIS.
6. Describe how applications of GIS assist Sonoma County communities to improve quality of life.

### **Topics and Scope:**

#### I. Urbanization issues

- A. Relationship of urbanization in GIS analysis
- B. Harmonizing urbanization with the environment
- C. Describe, analyze and map urbanization with GIS
- D. Visual images and data graphics

#### II. Introduction to raster GIS

- A. Multivariate data graphics
- B. Using raster GIS to resolve conflicts between the natural and built environments
- C. Visualizing relationships with multivariate data graphics

#### III. Creating map layouts

- A. Spatial equity and regional integration

- B. Symbolizing map features
- C. Communicating with graphics
- IV. GIS in regional planning
  - A. Review of a model regional plan (eg. Portland, Oregon)
  - B. Analysis of case studies
- V. Presentation of GIS data

**Assignment:**

1. Weekly readings (10-60 pages)
2. Lab assignments (8-12)
3. Written reports (6-8)
4. Semester GIS project and/or presentation
5. Midterm exam
6. Final exam

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written reports (including research data)	Writing 15 - 20%
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**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Semester project	Problem solving 15 - 25%
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**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Lab assignments, project and/or presentation	Skill Demonstrations 40 - 50%
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**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, completion, true-false, short answer, mid-term and final	Exams 20 - 30%
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**Other:** Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%
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**Representative Textbooks and Materials:**

ESRI (Environmental Systems Research Institute) virtual campus course  
 John Randolph, Environmental Land Use Planning and Management, 2nd Edition, Island Press, 2011

Instructor prepared materials