National Center for Geographic Information and Analysis

NCGIA GIS Core Curriculum for Technical Programs

With support from the National Science Foundation, in 1996–1998 NCGIA (UCSB) organized a project under the direction of Steve Palladino to provide a web-based GIS curriculum-building resource for course instructors in Community Colleges.

This outline provides direct links to the completed CCTP resource units, in addition to the following:

> Instructor's Guide—provides contextual information for creating GIS instructional resources for use in two-year technical programs and an illustration of how CCTP can be used (e.g., a Tutorial for Creating a Digitizing Project)
>
> A tree graphic (and metaphor), used by project organizers to structure CCTP resources:
>
> - Background Information—trunk
> - Spatial Data Tasks (units)—branches
> - Resources—roots

Update (2015):

For more information about NCGIA's CCTP project, see the **Introduction**
Two other NCGIA core curricula projects are available through this eScholarship site:

- Core Curriculum-Geographic Information Systems (1990)
- Core Curriculum-Geographic Information Science (1997-2000)

For more recent information and support in providing GIS instruction for community colleges, consult resources provided by the **GeoTech Center**.

NCGIA's CCTP Outline 1998

Background Information—Trunk:

What is GIS?

Geography for GIS

Computing for GIS

GIS Applications and Case Studies

Spatial Data Tasks—Branches (units)

***** titles only; units not available

Accessing Spatial Data Sources

Unit 1: Data Acquisition

Unit 2: Demographic Data

Unit 3: Locating Transportation Data

Unit 4: Land Records

Unit 5: Natural Resources Data *

Unit 6: Terrain Data

Unit 7: Finding, Creating, and Interpreting Metadata

Unit 8: Error Checking *

Unit 9: Spatial Data Conversion

Unit 10: Projecting Data

Unit 11: Registration and Conflation

Unit 12: Planning a Digitizing Project

Unit 13: Digitizing Maps

Unit 14: On-Screen Digitizing

Unit 15: Labeling

Unit 16: Planning a Scanning Project

Unit 17: Scanning Maps

Unit 18: Scanning Air Photos

Unit 19: Planning a Tabular Database *

Unit 20: Using Text Editors *

Unit 21: Using Spreadsheets *

Unit 22: Merging Tabular Data with Spatial Data *****

Unit 23: Creating Maps with CAD

Unit 24: Using GPS Data

Unit 25: Using COGO for Data Input

Managing Spatial Data

Unit 26: Editing Point Data *

Unit 27: Editing Linear Data **

Unit 28: Editing Polygons

Unit 30: Validating Databases

Unit 31: Managing Database Files **

Unit 32: Managing Digital Libraries

Analyzing Spatial Data

Unit 33: Using Buffers

Unit 34: Overlay Operators

Unit 35: Point in Polygon Operations, and Line in Polygon Operations *

Unit 36: Using Distance and Connectivity Operators *

Unit 37/38: Characterizing Spatial Neighborhoods or Regions *

Unit 39: Performing Statistical Analyses

Unit 40: Using Reclassification Operators *

Unit 41: Using Boolean Search Techniques

Unit 42: Using Map Algebra

Unit 43: Using Derivative Surface Operators

Unit 46: Address Matching

Reporting on Spatial Data

Unit 47: On-Screen Visualization

Unit 48: Designing Products for Printing

Unit 49: Operating Plotter/Printer Hardware *

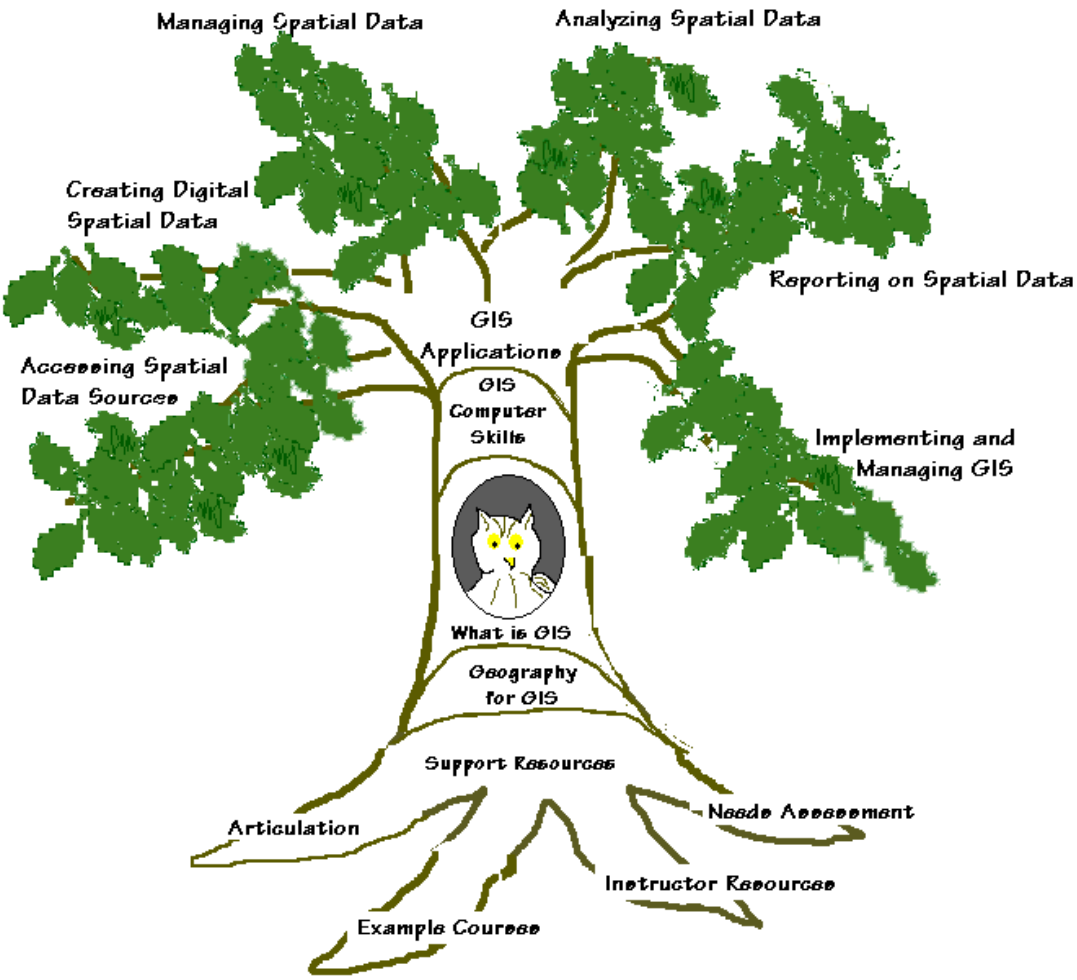
Unit 50: Operating Plotter/Printer Software *

Unit 51: Preparing Digital Presentations

Implementing and Managing GIS

Unit 52: Project Management

Unit 53: Communicating About and Distributing GIS Products


Managing Spatial Data
Analyzing Spatial Data
Creating Digital Spatial Data
Reporting on Spatial Data
GIS Applications
Accessing Spatial Data Sources
GIS Computer Skills
Implementing and Managing GIS
What is GIS
Geography for GIS
Support Resources
Articulation
Needs Assessment
Instructor Resources
Example Courses