GISP Test Prep Course

Course Length: 3 days

Overview

The GISCI Geospatial Core Technical Knowledge Exam® is a part of the GIS Professional Certification process. This course reviews concepts and provides insights into specific topics that should be mastered to pass the exam. The course is taught by a GISP who can answer questions and explain in depth GIS concepts across the full gamut of the Geospatial industry.

The GISCI Geospatial Core Technical Knowledge Exam® tests a person's general geospatial knowledge. It does not test a particular software. Passing the test requires a combination of education and experience that gives a person a solid understanding of many aspects of the geospatial field. Thus, taking this test prep course alone does not guarantee the passage of the exam. This course does, however, review the knowledge areas tested on the exam, starting with understanding the Earths geometry and finishing with database and systems design. It will introduce you to areas of the industry which you may not have had exposure, and help you figure out the topics that you need to put more effort into, and it will supplement the work you will be doing to prepare for the exam.

Audience

Professionals with at least four years of full-time GIS experience who are planning to apply for GISP Certification and who wish to review the concepts before taking the GISP exam.

Topics Covered

Day 1

- GISP Certification Overview – The GISP certification process and expectations in the GIS workplace. (The Purpose of the GISP Certification; GISP certification process and requirements; How the exam is administered and scored; Your responsibilities to the geospatial professional practice; Understanding of appropriate interpretation of work-related policies and procedures; Understanding of ethics related to technical GIS work; Knowledge of managing, documenting, and communicating GIS work; Awareness of how GIS is used across other professions; Awareness of GIS-related professional organizations and certification)
- Industry Standards – A discussion of geospatial industry standards. (The standards organizations, such as OGC, FGDC, and ISO; OGC GIS data standards; FGDC metadata standards; US National Map Accuracy Standards)

• Mapping the Globe – A discussion to help you really understand datums and projections. (Approximating the shape of the Earth so that it can be mapped: geoids and spheroids; Understanding datums and geographic coordinate systems; Projected coordinate systems)

• Core Knowledge – Basic Earth science concepts. (Essential geology and geomorphology terms; Traditional maps in the US, including USGS Topo maps and DEMs; Measuring distances; Specifying directions)

Day 2

• Cartography and Visualization – Cartographic techniques and essential terminology around creating maps. (The various map scale formats and their uses; Small scale vs. large scale; Understanding map principles and essential map elements; Graphic representation techniques and the implications of using them; Techniques and implications of data classification; Understanding surface interpretation and representation)

• GIS File Types – Review of geospatial data types. (Representation of discrete features and continuous phenomena in GIS; Spatial data formats; 3D formats; Web services; Data transfer protocols)

• Data Acquisition – Methods of and issues around data acquisition. (Data quality control and data quality assurance; Maintaining topological relationships; Understanding data resolution; Data validation and uncertainty; Metadata; Georeferencing, data format conversion, and data transformation; Understanding field data collection methods and GPS specifics)

• Data Manipulation – Review of GIS data exchange formats and methods for data conversation and transfer. (Spatial data generalization operations and methods; Spatial file types and their applications and limitations; Data integration)

Day 3

• GIS Analytical Methods – Review of basic geometric and mathematical principles on which GIS is based. (Data selection queries and views; Essential SQL; The differences between commonly used geoprocessing tools; Analytical operations and methods; Map algebra; Descriptive and spatial statistics; Linear, aerial, and angular unit conversions)

• Raster Processing and Analysis – Discussion of essential raster terminology and basic understanding of raster analysis. (Raster data basics; raster file formats; Raster calculations and analysis)

• Database Design and Management – Review of databases and their relationships. (Database Basic terminology; Relationships among database objects (joins and relates); Database design; Database management and administration; Data security)

• Scripting and Application Development – Creating GIS models and applications. (Coding, scripting, and modeling basics; Essential Python; Basic application development methods)

• Systems Design and Management – Creating GIS systems and leveraging new technology. (Systems architecture and design, including various GIS software, platforms, and environments; Systems and application security; Trends in geospatial technology)

Format

In-person or virtual instruction with hands-on practice and course materials you can keep.

Prerequisites and Notes

Disclaimer: The GIS Certification Institute (GISCI) and TeachMeGIS are not affiliated.