



GISCI GEOSPATIAL CORE TECHNICAL KNOWLEDGE EXAM[®] CANDIDATE MANUAL

Updated: June 2022

This document provides information about the GISCI Geospatial Core Technical Knowledge Exam[®], now a requirement for GISCI GISP Certification. For information about the GISP Certification Program, consult the GISCI website at www.gisci.org.

This document is updated prior to each exam window.

Exam Date: December 3 – 10, 2022 (Worldwide)

Application Period: North American locations: until two weeks prior to first exam date
International locations: until two weeks prior to first exam date

Currently, exams are scheduled twice a year, in June & December.

Exam Procedure

- **Submit Application** Apply online at the GISCI website (www.gisci.org).
- **Pay Application and Exam Fees** Once your Application Form is received you will be contacted with instructions for payment.
- **Application Fee** The Exam Application Fee is \$100. If you have previously paid The Application Fee for failed test, you will not be charged a second time.
- **Exam Fee** US and Canada: \$250
International: \$300

Schedule your specific exam date: You will receive email authorization to schedule your exam. Once you receive this email notice, contact the test provider to schedule your specific exam date, time, and location. The exam will be offered at specific times at test facilities across the US. Exam times and seat capacity will vary among test facilities, so, to ensure obtaining the most convenient location and time, you are encouraged to schedule your exam as soon as possible after you receive authorization.

Take the Exam: You must take the exam at the place and time arranged between you and the test provider (PSIOnline).

Receive Exam Results: You will receive your exam results from GISCI after we complete a full exam review. GISCI will review the exam scoring and send a final notification within three to four weeks of the exam close.

Extensions to the Procedure

- **Rescheduling.** You may contact PSI to reschedule your specific exam date at least 2 days prior to the exam date, without financial penalty, if there is space available.
- **Inability to schedule your specific exam date.** If you are signed up to take the exam, but do not schedule your specific exam date, you may receive a refund or transfer the Exam Fee to the next exam period, upon request. (Contact the GISCI Executive Director.)
- **Postponement to a later exam event.** If you wish to take the exam at a later exam event, you must obtain authorization for that exam event. Your Exam Fee may be transferred to that event.
- **Failure to take your exam as scheduled.** If you schedule your exam and do not take it, the Exam Fee may not be refunded without prior notice. If you want to take the exam at a later event, you must obtain authorization for that date, and pay the Exam Fee for that date.
- **Exam failure and retake.**
 - If you fail the exam, you may take it again at the next exam event. You must obtain authorization for that future event.
 - If you fail the exam, you must pay the Exam Fee to take it again and must obtain authorization for the exam event in which you plan to take it.
 - If you fail the exam twice, in back-to-back sessions, you must wait a year before re-testing.
 - You may not retake the exam in the same exam event.
- **Next exam.** The GISCI Geospatial Core Technical Knowledge Exam[®] is scheduled with a current interval of approximately 6 months, with exam events scheduled in the Summer and Fall of each year. (Check the GISCI website www.gisci.org for future exam dates.)

Exam Location & Scheduling

- The exam will be offered through PSIOne's testing centers worldwide.
- North American locations: Once you receive your authorization, you may contact PSI to schedule your exam date, time

International locations: While many locations may offer online scheduling, you may need to schedule your exam date & time by direct request to GISCI

Exam Description

- **Length:** Each exam will have 180 questions. 100 of the questions are scored and are pre-determined.
- **Time:** The time allowed for the exam is 4 hours. We try to accommodate special needs.
- **Format:** The questions are Selected Response format (Multiple Choice or Multiple Response).
- **Medium:** The exam will be offered via Computer Based Testing on the computers at the PSI testing centers. Calculators will be provided, onscreen, as necessary, on the testing center's computers.
- **Environment:** The exam will be proctored at a PSI testing center.
- **Language:** English.

Scoring: The exam has two types of questions: multiple choice and multiple response. Approximately $\frac{3}{4}$ of the exam questions are multiple choice. For these questions, select the one best answer from the list of options. The rest are multiple response. Each multiple response question ends with "Select all that apply." For these questions, select all of the correct answers from the list of options. There are at least two correct answers for each multiple response question.

Each question is scored as correct or incorrect, and all items have the same weight. Items with no response are scored as incorrect. Multiple response items must have all correct responses to be scored correct. Otherwise, they are scored as incorrect. The number of correct answers is totaled to determine the candidate's exam score. A score of 73% correct answers for the 100 scored questions is needed to pass.

Exam Content

Exam Foundation: The exam is based on a job analysis involving GIS professionals across all GIS job categories and sectors, with at least four years of GIS experience. It is also guided by the Geospatial Technology Competency Model, Tier 4, Core Geospatial Industry-Wide Technical Competencies, and informed by the Geographic Information Science & Technology Body of Knowledge.

Core GIS Technical Knowledge: The exam tests core geospatial technical knowledge. Therefore, it does not address software details, specific environments, specialized knowledge, ethics, or management knowledge.

Exam Knowledge Areas

The exam covers 45 specific Knowledge Areas grouped into ten Categories as shown in the tables below.

GISCI Geospatial Core Technical Knowledge Exam[®] Knowledge Categories

Knowledge Category	Weight
1. Conceptual Foundations	10%
2. Geospatial Data Fundamentals	15%
3. Cartography & Visualization	10%
4. Data Acquisition	11%
5. Data Manipulation	11%
6. Analytical Methods	11%
7. Database Design & Management	10%
8. Application Development	7%
9. Systems Design & Management	7%
10. Professional Practice	8%
10. Total	100%

Sample Questions

The following sample questions supply examples of the question format. An answer key is provided at the end of the list of questions.

- 1) Which is an example of analog-to-digital conversion? a) Creating centroids from a polygon file b) Importing a DXF c) Scanning a map document to JPG format d) Transforming a GIF to a TIF
- 2) Which of the following is NOT a component of the OGC geometry object model? a) Chain b) Curve c) Point d) Surface
- 3) Which is the most effective method for maintaining data quality to ensure that no line features of a stream center line layer intersect the polygon feature of a land cover layer? a) Clip b) Intersect c) Overlay d) Topology
- 4) According to National Map Accuracy Standards, what percentage of features must be within 1/30 of an inch or less from their intended horizontal accuracy on maps with scales of 1:20,000 or larger? a) 5% b) 10% c) 90% d) 95%
- 5) Which are compression techniques for raster data? Select all that apply. a) Lattice b) Pyramids c) Quad trees d) Run length encoding

(ANSWER KEY: 1=c; 2=a; 3=d; 4=c; 5=c, d)

Exit Report

Upon completion of the exam, you will receive an exit report detailing the next steps in the process. Once testing is complete, the testing the exam results must be reviewed by our Exam Review committee and our psychometrician. Because of this necessity, no score can be provided upon exit. This review can take approximately 4 weeks. Upon completion of this task, we will provide you with your pass/fail result. Your exam result will be communicated directly by email from GISCI, and a confirmation letter will follow. Any information not provided by GISCI cannot be considered reliable.

Study Resources

Resources that hold information related to the exam content are readily available in many forms. The following are examples of the types of materials that supply information about exam topics:

- GIS textbooks
- GIS compendiums and manuals (not software manuals)
- GIS courses
- GIS periodicals
- Cartography textbooks
- Cartography courses
- Geography textbooks
- Geography courses
- Mathematics and statistics textbooks
- Mathematics and statistics courses
- GIS software supplier general GIS discussion (not software specific)
- General computer and programming texts
- General computer and programming courses

Any of the specific items in the above categories would supply relevant information. Therefore, GISCI does not supply specific titles and citations.

The exam assesses geospatial professional competence acquired over the course of an individual's geospatial education, career, and mastery of the material. It is expected that, for most candidates, study will involve refreshing their familiarity with some aspects of core geospatial knowledge that they may not have applied recently.

Exam Preparation Materials

An Official Practice Exam, an Unofficial GISCI Exam Study Guide, and other materials are on the GISCI website:

Practice Materials - <https://www.gisci.org/ExamInfo/ExamCandidateInformation/ExamPreparationInfo.aspx>

Practice Exam - <https://www.gisci.org/ExamInfo/PracticeExam.aspx>

On the Day of the Exam

- Arrive at the testing center **30 minutes** in advance.
- Present a valid, government-recognized, unexpired, photo **ID** with your name as it appears on your exam authorization and scheduling. (Contact GISCI at least two weeks in advance if you need to make arrangements for another type of ID to be used and bring that pre-approved ID to the test center.)
- **No personal items** are to be brought into the testing area.
- **No electronic devices** of any kind are allowed in the testing area.
- You are **not allowed to leave the building or use your cell phone or other electronic devices** during the exam.
- There is to be **no conversing** or other form of communication among candidates once you enter the testing area.
- **Persons not scheduled to take the exam are not allowed** to wait in the testing center or surrounding common area.
- Test takers must always conduct themselves in a professional and courteous manner.
- You are **prohibited from reproducing, communicating, or transmitting any test content** in any form for any purpose. Any such actions are violations of PSI and GISCI security policy and may result in the disqualification of exam results and/or lead to legal action.

PSI Exam FAQs are available here: <https://candidate.psiexams.com/faqs/faqs.jsp>

Special Accommodations

All exam centers are equipped to provide access following the Americans with Disabilities Act (ADA) of 1990, and every reasonable accommodation will be made in meeting a candidate's needs. If you have specific requirements, please contact GISCI at least 30 days before the exam date, so that suitable arrangements can be made.

Non-Discrimination

GISCI does not discriminate based on race, religion, sex, age, sexual orientation, or national origin, or any other category that is protected by federal law or applicable laws and regulations.

Appeal of Results

Any appeals regarding exam results should be submitted to the GISCI Executive Director.