



GISCI GEOSPATIAL CORE TECHNICAL KNOWLEDGE EXAM[®] CANDIDATE MANUAL

Updated: July 2023

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 2 – 10, 2023 (Worldwide)	
Application Period:	North American locations:	until November 20, 2023
	International locations:	until November 20, 2023

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

Exam Procedure

Submit Application: Apply online at the GISCI website (www.gisci.org).

Pay Exam Fee: You should pay the Exam Fee at the time of application. The GISCI accepts MasterCard, Visa, American Express, and Discover Card. If you need to pay via check, you will be contacted with payment instructions. International candidates should check with GISCI for exam availability prior to paying the Exam Fee.

Checks should be mailed to:

**GIS CERTIFICATION INSTITUTE
503 E NIFONG BLVD #338
COLUMBIA, MO 65201-3717**

Exam fees are as follows:

US and Canada: \$250

International: \$300

Exam fees are non-refundable.

Schedule your specific exam date: Within a few days of payment, you will receive email authorization to schedule your exam from our exam delivery provider, PSI. Once you receive this email notification, follow the link provided to the exam delivery provider scheduling portal 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 receiving the authorization email. If you have questions concerning scheduling your exam, after you have received a scheduling email from PSI, please contact PSI at examschedule@psionline.com or by calling their Candidate Service Center 1-800-211-2754. Do not call this number unless you have received an email authorization to schedule your exam. PSI will not have your record in their system.

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

Exam Results: You will not receive your exam results upon completion at the testing facility. The GISCI performs a full review of all exam results. **This process can take up to four weeks to complete.** Each exam candidate will receive their pass/fail result via email within four weeks of the close of the exam. Candidates that fail the exam will receive a performance report via email.

Extensions to the Procedure

- **Rescheduling.** To reschedule during the same exam window, you must contact the exam delivery provider, PSI 48 hours prior to your scheduled exam time. To reschedule with less than a 48-hour notice, you must contact GISCI at info@gisci.org. Rescheduling will occur only if space is available at your selected testing center.
- **Postponement to a later exam event.** If you are unable to take the test during the exam window you registered for, candidates may be allowed to roll their exam fees to the next exam window with prior approval of the Executive Director. If approved, candidates must test during the next exam window or forfeit their exam fee. Rolling of exam fees is only done under extreme circumstances.
- **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 June and December of each year. (Check the GISCI website www.gisci.org for future exam dates.)

Exam Location & Scheduling

- The exam will be offered through PSIONline's testing centers worldwide.
- North American locations: Once you receive your authorization, you may contact PSI to schedule your exam date, time.
- International Locations: The list of international exam locations is increasing, but you should check with the GISCI before paying for the exam to ensure there is a test center in your area.

Exam Description

- **Length:** Each exam will have 100 pre-determined, scored questions and up to 80 unscored pretest questions (but typically fewer). The number of pretest questions may vary from exam to exam.
- **Time:** The time allowed for the exam is 4 hours.
- **Format:** The questions are in 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 75 percent 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 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 as 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 Knowledge 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, our Exam Review committee and psychometrician must review the exam

results. 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 conversation** 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. Please visit <https://www.gisci.org/Exam-Info> for more information and to access the request form.

Non-Discrimination

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