



## GISCI GEOSPATIAL CORE TECHNICAL KNOWLEDGE EXAM® CANDIDATE MANUAL

January 2022

This document provides information about the GISCI Geospatial Core Technical Knowledge Exam®, a requirement for GISCI GISP Certification. For information about the GISP Certification Program, consult the GISCI website at [www.gisci.org](http://www.gisci.org). This document is updated prior to each exam window. Currently exams are scheduled twice a year, in early June and early December, begin on the 1st Saturday of each month and run for a week.

### NEXT EXAM DATE: June 4-11, 2022

**APPLICATION PERIOD:** Open until two weeks prior to first exam date

**LOCATION:** Worldwide at authorized PSI testing centers

## 5 STEP OVERVIEW OF THE EXAM PROCESS

- 1) **Submit your exam application.** Apply online at the GISCI website ([www.gisci.org](http://www.gisci.org)). If you are new to the site, you will need to register first and log in to be able to submit your application.
  
- 2) **Pay the application and exam fees.** Once your Application Form is received, GISCI will contact you with instructions for payment.
  - Exam Application Fee: \$100
    - This is a one-time fee. It is not charged in the event of re-testing.
  - Exam Fee:
    - US and Canada: \$250
    - International: \$300
  
- 3) **Schedule your specific exam date.** After your payment is confirmed, PSI will send you an email with authorization to schedule your exam. Note, this comes from PSI (via [no-reply@psixams.com](mailto:no-reply@psixams.com)), not GISCI. Once you receive this email, access and register on the PSI's online scheduling portal to choose and set your specific exam date, time, and location. Scheduling for the June exam will start in mid-February.
  - **You are encouraged to schedule your exam as soon as possible after you receive authorization.** Exam times and seat capacity will vary among test facilities in the US and internationally, so scheduling as soon as possible helps to ensure obtaining the most convenient location and time.
  
- 4) **Take the exam at your scheduled test facility.** You must take the exam at the place and time arranged between you and the test provider (PSI Online). You can reschedule (subject to seat availability) or cancel up to 2 days prior to your scheduled exam. If you do not reschedule or cancel with at least 2 days' notice, you will be charged an **\$85 no-show fee**. *More information on rescheduling and cancelling is provided below. More information about the exam day experience is also included in this manual.*



- 5) **Receive your exam results.** You will not receive your results at the testing center. GISCI will review exam scoring and send official notification of your pass/fail result, usually within four weeks of the exam close. If you already have an approved portfolio submission and you receive notice of passing the exam, you will be awarded (and notified of) your GISP certification soon after the exam results are announced. There is no additional action for you to take to trigger this process.

## EXAM LOCATIONS & SCHEDULING

The exam will be offered through PSI Online testing centers worldwide. Not all PSI locations are authorized to administer GISCI's exam. For more information on testing center locations visit

<https://www.gisci.org/ExamInfo/ExamTestingLocations.aspx>

- **For North American locations:** Once you receive your authorization, you may Contact PSI to schedule your exam date and time via the link provided in your PSI scheduling email.
- **For International locations:** While many locations may offer online scheduling, you may need to schedule your exam date & time by direct request to GISCI. Use PSI's online portal to attempt to schedule first. If you encounter difficulty, contact GISCI.

## EXAM DESCRIPTION

- **Environment.** The exam will be proctored at a PSI testing center.
- **Language.** English
- **Length.** Each exam will have 180 questions. 100 of the questions are scored and are pre-determined. 80 of the questions are unscored and are being tested for potential use on future exams.
- **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 and 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.

## SCORING

The exam contains 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 questions have the same weight. Questions 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. We do not report scores, only pass/fail.

## 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, or management knowledge.



**Exam Knowledge Areas.** The exam covers 45 specific Knowledge Areas grouped into ten Categories as indicated in the table below. For a more detailed description of each Category, please consult the 2019 Exam Blueprint:

<https://www.gisci.org/Portals/0/PDF's/REVISED%20BP%20-%20Official%20-%20July%202019.pdf>

### **GISCI Geospatial Core Technical Knowledge Exam® Knowledge Categories**

<b>Knowledge Category</b>	<b>Weight</b>
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%

## **STUDY RESOURCES**

GISCI does not endorse any particular preparation materials or resources. Resources that contain information related to the exam content are readily available in many forms. The following are examples of the types of materials that provide information regarding 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 specific items in the above categories would provide relevant information, therefore, GISCI does not provide 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 can be found on the GISCI website

- <https://www.gisci.org/ExamInfo/ExamCandidateInformation/ExamPreparationInfo.aspx>
- <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 permitted 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 permitted** to wait in the testing center or surrounding common area.
- Test takers must conduct themselves in a **professional and courteous** manner at all times.
- 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>

View this video to learn more about the PSI Test Center Experience: <https://vimeo.com/243199352>

## SPECIAL ACCOMMODATIONS

All exam centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990, and every reasonable accommodation will be made in meeting a candidate's needs. If you have special 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 on the basis of 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.

## RESCHEDULING, CANCELLATIONS, REFUNDS, TRANSFERS, ABSENCES

- **How do I reschedule my exam to a different date/time/location?** Use your PSI online portal to reschedule your specific exam date **at least 2 days prior to your exam date**, without financial penalty, if there is space available.
- **How do I cancel my exam?** You can use your PSI online portal to cancel your specific exam date **at least 2 days prior to your exam date** without financial penalty.
- **What if something comes up within 2 days of my exam date and I can no longer test?** If you are within 2 days of your scheduled exam and want to reschedule or cancel, contact GISCI for assistance. We cannot guarantee that you will be able to reschedule or cancel with PSI without penalty, but we will try to assist you.
- **Inability to schedule your specific exam date.** If you are authorized to take the exam but do not schedule a specific exam date, you may receive a refund of your Exam Fee or transfer the 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 to do so and then your Exam Fee may be transferred to that event. Contact the GISCI Executive Director.
- **Failure to take your exam as scheduled.** If you schedule your exam and do not take it, you will be charged an **\$85 no-show fee** and 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.

## RETAKE THE EXAM

- **If I fail the exam, when can I retake it?** If you fail the exam, you may take it again at the next exam event. You must obtain authorization for that future event by going through the exam application and scheduling process as before.
  - If you fail the exam, you must pay the Exam Fee to take it again.
  - 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.
- **When is the exam offered?** The GISCI Geospatial Core Technical Knowledge Exam® is scheduled with a current interval of approximately 6 months, with exam events usually scheduled in June and December of each year. Check the GISCI website for future exam dates: [www.gisci.org](http://www.gisci.org)

## SAMPLE QUESTIONS

The following sample questions provide 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)

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