

The 2014 National Geospatial Technology Skills Competition

RULES AND IMPORTANT DATES FOR THE 2014 NATIONAL GEOSPATIAL TECHNOLOGY SKILLS COMPETITION

Welcome to the 2014 National Geospatial Technology Skills Competition! We are excited to open the 2014 national mapping competition exclusively to students who are enrolled in a two year community or technical college geospatial technology program in the U.S. This competition allows our two year college learners to demonstrate their expertise in the skills identified in the new Department of Labor “Geospatial Technology Competency Model” or “GTCM”. The GTCM is a comprehensive document, release in June 2010, which precisely defines for the first time, the entire Geospatial Technology Industry and its sectors. You can read about the GTCM on the DOL [website](#).

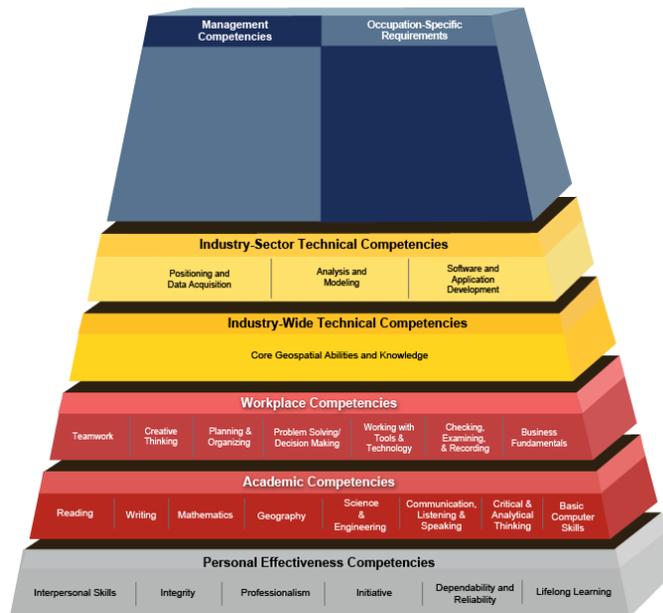


Figure 1: Geospatial Technology Competency Model

ELIGIBILITY:

The National Geospatial Technology Skills Competition is open exclusively to students at two year community and technical colleges who are enrolled during the Spring 2014 semester in a geospatial technology program in the U.S.

IMPORTANT DATES

- January 21, 2014 - Competition Announced
- January 27, 2014 - March 15, 2014 12:00 midnight EST - Round One Exam Available and must be taken by midnight EST on March 15.
- March 1 to April 1, 2014 12:00 midnight EST – Round 2 Project must be uploaded to YouTube no later than April 1, 12:00 midnight.
- May 15, 2014 - Five Semi-finalists Announced and invited to attend Esri EdUC
- June 1, 2014 - Invitations to EdUC by Semi-finalist must be acknowledged and accepted or rejected.
- July 13—16, 2014 - Conference Attendance by Semi-finalists at EdUC and UC in San Diego, CA
- July 15, 2014 - Presentation at Esri User Conference on Tuesday,
- July 15, 2014 - Winners announced on Tuesday during the ESRI Special Interest Group meeting for Community Colleges.

The 2014 National Geospatial Technology Skills Competition

CONTEST OVERVIEW

The intent of the National Geospatial Technology Skills Competition is to showcase the geospatial technology skills of students in two year community and technical colleges who are enrolled during the Spring 2014 semester in a geospatial technology program in the U.S. The contest will test student aptitude in geospatial theory and software applications, and will draw content from the Geospatial Technology Competency Model (GTCM) to insure that the most relevant skills and knowledge are being assessed.

The National Geospatial Technology Skills competition will take place in three rounds with the first round requiring students take an online examination that tests their knowledge of geospatial science and technology (geographic information systems, remote sensing, and global navigation satellite systems (GNSS)).

The second round will require students to create a project using geospatial technology that demonstrates their knowledge and addresses a real-world problem. The student will then capture the project as a video that will demonstrate their use of geospatial tools and communication and presentation skills. The student will then upload their video to the GeoTech Center YouTube Channel. The videos of the projects will be judged and scored by panelists of geospatial professionals (GISCI). The scores from the exam and project will be combined to select the top five students.

The final round of the competition will take place at the 2014 Esri Education Users Conference (EdUC) July 12-15 in San Diego, California where the five finalists will present their project and be judged by a panel of geospatial professionals.

DETAILED CONTEST RULES

ELIGIBILITY AND REGISTRATION

Students who are at least 18 years old and currently enrolled during the Spring 2014 semester in a geospatial technology course (e.g., geographic information systems, remote sensing, or GPS/GNSS) or geospatial technology program at an accredited 2 year institution are eligible to enter. If you have any questions regarding eligibility contact the competition coordinator at sjeffry@cCBCmd.edu.

Students may enter the contest only once and participate on only one project. Students must provide the contact information for their instructor (Instructors Name, email address, school name, and phone number) when they register.

The category of the project must be clearly defined and adhere to the rules and expectations outlined in the National Geospatial Technology Skills Competition guidelines below.

To compete in the 2014 National Geospatial Technology Skills Competition students must create a profile on LinkedIn.com. The student profile must:

- [1] contain a recent picture of themselves (head shot only, please),
- [2] provide current contact information including a current email address and phone number
- [3] identify the educational institution they are attending and,
- [4] provide a contact (email address and phone number) for one of their current geospatial instructors.

Once the student profile is complete they need to request to join the GeoTech Center's National Geospatial Technology Competition LinkedIn Group. Students can find the group by using the LinkedIn search tool. If the student already has a LinkedIn profile, and all of the requested information is included, they will only need to request to join the GeoTech Center's National Geospatial Technology Competition LinkedIn Group.

Failure to provide a complete profile will prevent the student from being able to take the online examination.

The 2014 National Geospatial Technology Skills Competition

ROUND 1: On-line Exam (TOTAL POSSIBLE POINTS: 100)

Once the student registration has been confirmed through the GeoTech Center's National Geospatial Technology Competition LinkedIn Group they will receive via email a practice set of 10 questions and instructions how to access and complete the competitions online exam. The official online exam will be made available January 27, 2014 and will remain open until midnight (EST) March 15, 2014.

The official on-line exam will consist of 50 multiple choice questions based on the GTCM. Points will be awarded using the following system based on the percentage of correct answers in the exam:

Less than 44% = 20 points
44 to less than 55% = 30 points
55 to less than 65% = 50 points
65 to less than 75% = 70 points
75 to less than 85% = 90 points
85 to 100% = 100 points

The online exam **must** be taken by midnight EST March 15, 2014.

Students who score 65-75% on the exam (earning ≥ 70 points for Round 1) will become members in the Honors Roll (listed on GeoTech website with name and school) and receive a Certificate of Achievement recognizing their honor roll status.

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The 2014 National Geospatial Technology Skills Competition

ROUND 2: Student Project (TOTAL POSSIBLE POINTS: 100)

Note: A preliminary format and description of judging criteria for Round 2 are included on pg. 5. Formal grading rubrics will be made available prior to March 15th, 2014).

In the Round 2 students will create a software-based project that demonstrates their knowledge and proficiency of geospatial technology and analysis and submit a 3 to 5 minute (less than 6 minute) video to YouTube. The YouTube video must be submitted (uploaded) no later than midnight, April 1, 2014 Eastern Standard Time.

The YouTube video presentation will be completed online and judged by a panel of geospatial professionals selected from the geospatial industry.

The goal of this round of the National Geospatial Technology Skills Competition is for students to demonstrate their capabilities in applying geospatial technology (geographic information systems, remote sensing, and global navigation satellite systems) on a real world project. The scope of the project is open to the student's discretion but must adhere to the following guidelines:

[1] Students must choose one of the two categories listed below for their project. Students may only compete in one category and may only submit one project.

[2] Data sources must be well documented including, if necessary, permissions for use. Project data that is downloaded from the internet must include the date of the data as well as the date that the URL was accessed and/or the date the data was downloaded. Field data that is/was collected as part of the project must be identified with the date of collection.

CATEGORY 1: DYNAMIC MAPPING (choose either Option a) or Option b))

Recognizing the rapid growth and proliferation of online mapping students who elect to enter this category may choose to present a Narrative Mapping Project or an Interactive Mapping Project defined below:

Option a) Narrative Mapping Projects will use the ArcGIS Online Mapping platform to **present** a project which presents information in a way that communicates a cause, message, or story.

OR

Option b) Interactive Mapping Projects incorporate tools into the **presentation** which allow for interrogation and presentation of data, utilize geoprocessing, or provide comparison of data (geovisualization) in a manner that demonstrates change or relates a cause-and-effect relationship.

Note: Projects in the Dynamic Mapping category emphasize the use of ArcGIS Online for presentation; however, ArcGIS Desktop and associated extensions will likely be required for analysis or geoprocessing and the results uploaded to ArcGIS Online given the limited functionality of the ArcGIS Online platform.

CATEGORY 2: STATIC MAPPING

While online mapping may be the wave of the future, static maps are also important in provide a snapshot of a project or problem and allows for presentation and analysis of spatial data in a manner that cannot be conveyed via web based resources. Students who enter this category will produce a YouTube video about their project and use ArcGIS desktop and extensions to present their project.

The 2014 National Geospatial Technology Skills Competition

Judging Criteria for Round 2

Note: Formal judging rubrics for the two categories IN Round 2 will be made available to all student competitors prior to March 15th, 2014. While there will be slight differences in the scoring based on the selected category the projects will be evaluated using the following general categories, criteria, and weight:

Project Design, Organization, and Analysis (60 points)

In order to receive all points in this area, the project must include the following sections.

1a: Introduction (5 points)

- The project goals and objectives are clearly stated
- Project has a title
- Project shareholders are identified
- Project's geographic area is clearly defined

1b: Data Preparation (20 points)

- Source of data layers is clearly explained; were they created vs. downloaded
- Challenges related to data preparation are presented
- Discussion of types of data is included (formats, coordinate systems, etc.)

1c: Data Analysis (20)

- Types of analysis clearly discussed (what types and why?)
- Challenges encountered during analysis explained
- Any additional types of analysis that could be used in the future

1d: Conclusions (5 points)

- Summarize your project

Project Presentation (40 points)

Points awarded in this area are related to the following:

2a: Application of geospatial technology (10 Points)

- Project uses at least 2 technologies or applications related to geospatial, e.g., GIS, GPS, remote sensing, mobile GIS, web-based GIS, etc. 2b:

2b. Presentation quality (20 Points)

- YouTube Presentation is clear
- YouTube Presentation is well-organized
- YouTube Presentation is within time limit
- YouTube Presentation makes use of cartographic output
- YouTube Presentation makes use of tables or other graphs

2c. All data must be used with permission and attribution as to its source (10 Points).

A total of 100 Points can be earned for projects. Details for how each project category will be judged will be available prior to March 15th 2014.

The combined score from Round One and Two (maximum of 200 points possible) will be used to select the top five students who will be invited to compete in the Final Round to be held on Tuesday, July 15, 2014 at the Esri User Conference in San Diego California. The names and institutions of the five student finalists will be announced and will be posted on the

The 2014 National Geospatial Technology Skills Competition

GeoTech Center website (www.geotechcenter.org) and the National Geospatial Technology Skills Competition LinkedIn websites on May 15, 2014. The five students must acknowledge and accept the invitation as soon as possible, but no later than June 1, 2014, or the next qualified student will be asked to participate. All travel expenses will be covered through a \$2,000 travel stipend for those competitors who come to San Diego and present their projects.

ROUND 3: Formal Project Presentation (TOTAL POSSIBLE POINTS: 100)

Finalists will begin Round 3 with a blank slate (i.e., scores WILL NOT be carried over from Rounds 1 and 2). The order of presentation will be determined by random drawing.

All of the finalists – regardless of the category they have chosen – will produce an ANSI E format poster (34"x44") of their project for presentation at the Final Round. The project posters will also be displayed at the Esri Map Gallery during the Esri international Users conference.

The 1st, 2nd, and 3rd place winner for the overall national contest will be chosen by the highest combined score as determined by the judge's panel. If there is a tie at the end of Round 3 the exam score will be used to rank the finalists.

Judging criteria (and rubrics) will be made available to student competitors no later than May 14, 2014.