

2021 NSPS Student Competition

Instructions

INTRODUCTION

The 2021 NSPS Student Competition will be held in conjunction with the Spring meetings of the National Society of Professional Surveyors. This year's competition will not include field exercises in order to accommodate official health and safety advice.

The Competition will begin with an online briefing event on **February 16, 2021** with a presentation by NSPS of the purpose of the Annual Student Competition and purpose of this year's challenge.

The event will not involve person-to-person contact. Therefore, potentially opening the event to teams that may have found raising funds for travel &c. a hinderance to participation.

There will be two separate divisions, one for students matriculated into Associates degree programs and one for students matriculated into Baccalaureate degree programs. The status of a student's eligibility will be their status on **January 1, 2021**. Any team made up of students matriculated into both Associates and Baccalaureate degree programs must compete in the Baccalaureate degree division. Graduate students may not be part of a team.

REGISTRATION

The team must email the registration form to trishm@nsp.us.com or faxed to 240-439-4952, no later than **February 26, 2021**. There will be no fee to participate.

Teams will provide a final registration form along with their Technical Report.

CONTACT

Please direct any questions VIA EMAIL to the 2021 Competition Chairman and a CC copy as shown below. Sending to both will help assure aren't any missed communications.

Chairman

J. Anthony Cavell, PLS, CFedS Email: JAC@GPSman.com

Center for GeoInformatics (<http://c4g.lsu.edu/> & <http://c4gnet.xyz/>)

Louisiana State University

NSPS Office Manager

Trish Milburn (240-439-4615 ext. 105)

E-mail: trishm@nsp.us.com

2021 NSPS Student Competition Registration Form

Please PRINT all information CLEARLY.

Please complete and email or fax by February 16, 2021

Date Submitted: _____

Associates Degree Program Competition or Baccalaureate Degree Program Competition

School: _____

Mailing Address: _____

City: _____ State: _____ Zip code: _____

Team Leader (Student): (1) _____

Team Leader email address: _____

Team Leader cell phone # (for use at the competition) _____

Names of other team members, (matriculated students):

Name (Please Print Clearly!)
(2)
(3)
(4)
(5)
(6)

Faculty Adviser who will be attending: _____

Faculty Adviser email address: _____

Faculty Adviser cell phone # (for use at the competition) _____

2021 STUDENT CHALLENGE

The topic for the 2020 competition was cutting edge: “The Terrestrial Reference Frames and the Geopotential Datum of 2022 of the National Spatial Reference System by the National Geodetic Survey.

The topic for the 2021 competition will be to revisit some fundamentals that underpin much of what we recognize as surveying today, along with a practical exercise in professional communication, such as you may be called onto produce in your future professional practice.

The challenge for Associate degree teams will be different from the challenge for Baccalaureate degree teams as follows

Fundamentals Challenge for Associate Degree Teams

Greek philosopher Pythagoras first suggested that the Earth was round in 500 BC. Later, Greek philosopher Aristotle proved Pythagoras correct. Eratosthenes of Cyrene, a Greek polymath, poet, astronomer, mathematician, librarian, and geographer, established the Earth’s circumference in 235 BC.

Your mission, should you decide to take it, is to study their methods and submit a report. You must find a way to imitate Eratosthenes’ using a technique of your design inspired by him and derive a circumference of the earth from your findings using tools and resources available in your area. Use of artificial satellite technology is disallowed.

The report should take the form of a proposal as if proposing the plan to a state agency or patron. Please include in your report your analysis of the ancients’ work, how you planned to imitate Eratosthenes techniques, describe the progress of your survey, and present the results. Using a style similar to a formal research paper is the idea. Convince the reader you have the ability, within your area to complete the survey and present plausible results within a realistic budget. Approach the problem like a project manager.

Chairman’s comment: The report should reflect how you would propose to accomplish the project, not an idealized scenario. Assume the reader is an agency or client who will be persuaded by a realistic assessment of your situation (your state, your school, funds, &c.). An appendix that contains the means by which you derived the content of your report will aid judges in their assessment.

Extra: **not required** but may help break a tie. Show how Pythagoras could prove the theorem named for him without using equations. Then show how Eratosthenes could calculate the circumference of the earth in a similar way.

Advanced Challenge for Baccalaureate Degree Teams

The 18th century saw natural philosophers debate how the earth's shape varied from that of a sphere. People of renown such as Cassini and Newton disagreed whether the shape was oblate or prolate. With time, sufficient surveys were performed to answer the question.

Your mission, should you decide to take it, is to perform the Fundamental Challenge above, followed by making a similar study and proposing a realistic project of observations to determine evidence of Earth as an ellipsoid using the tools and resources available to you in your area. You must find a way to imitate what was accomplished in the 18th century expeditions using a technique of your design and derive a ellipsoid parameters of the earth from your findings. Use of artificial satellite technology is disallowed.

The report should take the form of a proposal as if proposing the plan to a state agency or patron. Please include in your report your analysis of the ancients' work, how you planned to imitate Eratosthenes techniques, describe the progress of your survey, and present the results. Using a style similar to a formal research paper is the idea. Convince the reader you have the ability, within your area to complete the survey and present plausible results within a realistic budget. Approach the problem like a project manager.

Chairman's comment: The report should reflect how you would propose to accomplish the project, not an idealized scenario. Assume the reader is an agency or client who will be persuaded by a realistic assessment of your situation (your state, your school, funds, &c.). An appendix that contains the means by which you derived the content of your report will aid judges in their assessment.

REPORT (PROPOSAL) SPECIFICATIONS

Teams will provide **one hard copy of their Report as well** as one digital copy, as a single PDF. The hard copy should be bound and shipped to the NSPS office along with the digital copy on a flashdrive.

National Society of Professional Surveyors
Attn: Trish Milburn
5119 Pegasus Court, Suite Q
Frederick, MD 21704

The Report should not exceed 100 pp. double spaced. The Report shall be the original work of the team, with all quotations, properly cited and sourced in accordance with applicable standards of academic honesty and professional conduct. Appendixes of cited, non-original

material, not to exceed an additional 50pp. can be included but is not mandatory. The Appendixes should not be “filler” but be thoughtfully chosen and referenced in the Report.

The writing standards for the Technical Report shall be those for manuscript submission to the *Surveying and Land Information Science Journal* (<http://www.salis-journal.org/forauthors/submission-guidelines/>). The Paper copy of the Report submitted shall be double spaced, printed on one sided, 12 pt. Times New Roman Font, 1” margins all around. The PDF must be named as follows: ***yourschoolabbreviation_Report_NSPS_2021.PDF***. There should be a Table of Contents and a Title Page.

The Report may receive additional bonus points if at the time the Technical Report is submitted a marked-up DRAFT copy is also supplied which clearly documents that the paper was critiqued by the team’s institution’s “writing center”. If no writing center exists, the review may be conducted by a faculty member outside the contestants’ academic department.

The PDF should also include as the FIRST PAGE (prior to the actual Report), the final registration form. Binders must be received at the office of NSPS no later than **5:00 pm April 2, 2021**.

National Society of Professional Surveyors
Attn: Trish Milburn
5119 Pegasus Court, Suite Q
Frederick, MD 21704
204-439-4615, ext. 105

There will be no exceptions to April 2 deadline. It is the responsibility of the team to verify receipt of their submission by NSPS. Students should use such methods as certified mail, return receipt requested or carrier tracking numbers, and then the team should follow up with a phone call to NSPS HQ once delivery is confirmed by the carrier to double check.

OTHER PRESENTATIONS

At present there is under consideration an opportunity for presentation of reports or some form for team quiz-bowl. Registrants will be notified as plans become develop.

AWARDS

Awards will be given to the 1st, 2nd, and 3rd place teams in each category including monetary awards. Each advisor and participant will receive a special token for participating.

NSPS 2021 Student Competition Prize/Check Disbursement Information Form

Please PRINT all information CLEARLY.

Checks/Prizes cannot be sent without a properly completed form.
Please read the below *NOTE* carefully before submitting this form.

Name of School:			
Entity to whom the single check should be made out to:			
Mailing Address (must be a campus address)			
Street Address -1:			
Street Address -2:			
City:			
State:			
Zip:			
Adviser (Print Name):			
Adviser Signature/Date:		Date:	

*NOTE: NSPS will only be issuing one check per winning school and it must be made out to an entity such as the student chapter of NSPS, the college/university itself, student government, etc. Under no circumstances will multiple checks be provided or will checks be made out to individuals (e.g. team members or advisers). Checks will only be mailed to campus addresses. Prize money for which a properly completed disbursement request form has not been received by NSPS by **May 1, 2021** will be considered "un-claimed" and will be used by NSPS to help defray the general competition costs for the 2021 NSPS Student Competition. NSPS is aware that different schools have different mechanisms and processes for receiving such funds. so please verify the process for receiving funds with your school as you complete this form.*