

*The Eighteenth
Annual*

**North American
Computational
Linguistics
Open
Competition**

2024

www.naclo.org

2024 **Coordinator Handbook**

Last updated: August 2023

Please check <http://www.naclo.org> for updates and announcements

2024 Contest Dates (USA and Anglophone Canada)*

Open Round: January 25, 2024 / Invitational Round: March 14, 2024

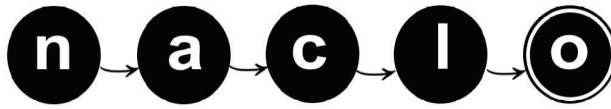
Site registration deadline: January 15, 2024

Student registration deadline: January 22, 2024

Contact nacloinquiries@googlegroups.com if you miss the deadline.

Walk-ins allowed with advance permission of the local site host.

* The dates for the 2024 Francophone contest in Canada will be announced later. Check the [OLCF](#) site.



CONTEST OVERVIEW

NACLO (the North American Computational Linguistics Open competition) is a contest for US and Canadian pre-university students in which contestants solve compelling puzzles in linguistics and computational linguistics. Requiring no previous knowledge of linguistics, languages, or computing, these puzzles can be solved by analytical reasoning alone. They serve as a fun and educational introduction to a field to which many high school students have never been introduced. Winners of NACLO are eligible to compete in the International Linguistics Olympiad (IOL), one of about twelve international high school academic competitions.

Contestants must participate at a registered contest site. In 2023, we had 185 NACLO sites in the US and Canada. Contest sites are expected to host the contest for free and must not charge students for participation. NACLO is targeted at high school students, but many younger students enjoy participating. (See below for eligibility requirements.)

Contest in Canada

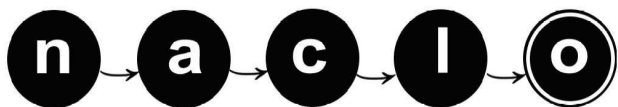
Canada is represented by two teams at the IOL: an Anglophone team which is selected through NACLO, and a Francophone team which is selected through the Canadian Francophone Linguistic Olympiad (OLCF). Information about the OLCF can be found [here](#).

Open Round

The Open Round is open to all interested middle school and high school students. Its purpose is to introduce students to the fields of linguistics and computational linguistics, as well as to identify the contestants who will advance to the Invitational Round. In 2024, the Open Round will be on **January 25**.

Invitational Round

The Invitational Round will be on **March 14, 2024**. The purpose of the Invitational Round is to provide an additional fun and educational challenge to those who did well in the Open Round, therefore the problems are more difficult. NACLO also uses the Open Round to identify national winners to compete in the International Linguistics Olympiad (IOL) if they meet IOL eligibility requirements. (See relevant section below.) If your school is closed for Spring Break on this date, students may be able to participate at a nearby university site or a nearby secondary school. See naclo.org for the list of host sites. (Only sites that have students invited to the Invitational Round may be available, however.) Please contact nacloinquiries@googlegroups.org if you are unable to find a site nearby.



Contest Start Times and Length

The Open Round is three hours long. Note that the judges have the authority to lengthen it in the event of unforeseen circumstances. There are two start times for the Open Round, 9:00am Central and 9:00am Pacific.

Sites in the Eastern and Atlantic time zones are expected to compete at the Central time zone starting time, which will be 10:00am in the Eastern time zone and 11:00am in the Atlantic time zone.

Sites in the Mountain, Alaskan, and Hawaiian-Aleutian time zones are expected to compete at the Pacific time zone starting time, which will be 7:00am Hawaiian-Aleutian, 8:00am Alaskan, and 10:00am Mountain.

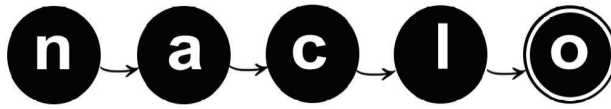
<i>Time for the Open Round</i>	<i>Start</i>	<i>End</i>
Hawaiian-Aleutian	7:00am	10:00am
Alaskan	8:00am	11:00am
Pacific	9:00am	12:00noon
Mountain	10:00am	1:00pm
Central	9:00am	12:00noon
Eastern	10:00am	1:00pm
Atlantic	11:00am	2:00pm

Because the jury answers clarification questions live during the contest, NACLO cannot be flexible about the contest times. For students who have a conflict, their best chance may be to take the contest with the other set of time zones. For example, a student in the Pacific time zone can start the contest at 7am in order to participate with the Central, Eastern, and Atlantic time zones, but only if their entire site participates at this time or a new site is created by a teacher especially for that student.

The start times shown here are when students can work on the problems. Registration and other administrative activities should be completed earlier. Hosts and participants should arrive at the site 30-45 minutes prior to the designated start time to set up for the contest.

The Invitational Round will be four hours long. The contest will start at 9 AM local time in all time zones except the Atlantic Time Zone.

<i>Time for the Invitational Round</i>	<i>Start</i>	<i>End</i>
Hawaiian-Aleutian	9:00am	1:00pm



Alaskan	9:00am	1:00pm
Pacific	9:00am	1:00pm
Mountain	9:00am	1:00pm
Central	9:00am	1:00pm
Eastern	9:00am	1:00pm
Atlantic	10:00am	2:00pm

HOW TO BECOME A SITE HOST

Who can be a site host?

Any school, college, or university can be a NACLO site host. Legal homeschools can also host NACLO for their own students. Clubs such as regional math or language clubs with adult coaches may also host NACLO.

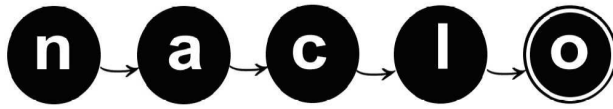
Learning and testing centers must meet certain requirements in order to host NACLO. For example, site hosts are not permitted to charge fees for participation in NACLO and may not offer for-profit training courses or tutoring for NACLO.

College and University Sites

If you are employed by a college or university, you can become a site host. As a college/university site host, you should accept participants from your geographic area. The only limitation should be how many participants you can seat. The list of universities currently hosting NACLO as of publication of this document is available at https://www.naclo.org/university_sites.php. If you would like to be a university site host, and your university is not already on the list, please contact us at nacloinquiries@googlegroups.com.

NACLO is a great opportunity to reach out to students who are interested in studying linguistics or computer science. You may provide information on careers in linguistics and language technologies and how to study linguistics and language technologies in college. You can also provide information about your academic programs and admissions requirements.

Each university site is responsible for responding to emails with announcements from the NACLO organizers and contacting registered students with directions and other important information about the



day of the contest. We **strongly** suggest creating a webpage with information about your site (location, site-specific procedures, student arrival times, etc.)

High School or Middle School Sites

Students who cannot or choose not to participate at a university site can participate at their own school. In order to participate at school, students should ensure that a teacher (or other administrator such as a librarian) at their school will serve as a site facilitator, is aware of the rules of the contest and will supervise them on the contest day.

If your high school is already listed on the NACLO website, the NACLO organizing committee will confirm with the current host that you will be hosting again this year. If it is not listed, you can register your high school on the NACLO website [here](#). Then, register yourself as a high school host [here](#). Then, interested students can register to participate in NACLO at your site [here](#).

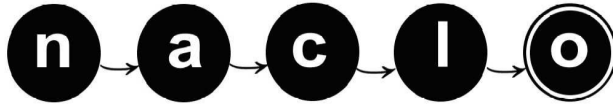
If your student wishes to sign up for another high school site, they must contact the host for that site prior to registration. Many high school site hosts are teachers who only have enough space for, or permission to host only their own students, so **be prepared with the knowledge that they may not be able to accommodate you. Some high school hosts may limit participation to their own students due to health restrictions or other school or local regulations.** NACLO cannot help with making such arrangements.

Note regarding health contingency or inclement weather plans: **If a high school is engaged in remote learning on the contest date, they will be asked to serve as proctors for NACLO in a virtual environment similar to that being used at the schools for other examinations. NACLO itself will not be offering an at-home participation option in 2024.**

Homeschool Sites

If you are a parent of a homeschooled student, do not register on the website. Instead, use [this Google form](#) for registration. The Google form will ask for proof of homeschooling. We will be manually reviewing this, so any kind of proof is acceptable: e.g. a PDF of email confirmation from a county or state homeschooling coordinator or a record of membership in a homeschooling co-operative. If you're uncertain, upload what you have and we will reach out to work with you if there is any issue.

Clarifications regarding competing at a high school or university site



If you are unable to host the competition, your students can still participate at a nearby university site. In this case, do **not** register as a site host. Instead, the coordinator at the university site your students will be attending will carry site host responsibilities.

Online

NACLO will **not** be offering an online option in 2024. However, US and Canadian students living abroad may inquire about participation at nacloinquiries@googlegroups.com.

STUDENT ELIGIBILITY

To participate in NACLO, students must satisfy all of the following criteria:

- They have never been enrolled as a full-time college or university student.
- They will be younger than 20 years old on the first day of the IOL, whose dates are at <https://ioling.org/upcoming/>.
- They are a citizen of the US or Canada or a student in a secondary school in the US or Canada.
- They are available to participate in the contest at one of the times when it is offered.
- They can either participate in the contest at a registered university site or find a teacher or librarian who can run a high school site as specified above.

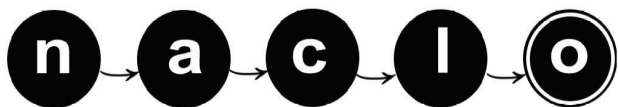
To be eligible for the Anglophone Canadian IOL team, students must:

- Be eligible for and participate in NACLO.
- Be a citizen of Canada or a student in a Canadian secondary school, and provide proof if asked.
- Meet all IOL eligibility rules: <https://ioling.org/rules/rules.pdf>

To be eligible for the US IOL team, students must:

- Be eligible for and participate in NACLO.
- Be a citizen of the US or a student in a US secondary school, and provide proof if asked.
- Meet all IOL eligibility rules: <https://ioling.org/rules/rules.pdf>

IMPORTANT: Students must declare US or Canada



In the case of a multinational contest, like NACLO, all students must be considered as attempting to qualify for only one national IOL team, and must indicate which beforehand, per IOL Regulations. **Therefore**, if a student is eligible for both the Anglophone Canadian and US IOL teams, according to the criteria above, they must choose one team that they wish to be considered for. The student will be considered ineligible for the team they do not choose. To declare their choice, the student must email nacloinquiries@googlegroups.com prior to the NACLO Open Round (January 25, 2024). If no email is received before this date, the student will be considered by default to have chosen the country which they selected during registration.

IMPORTANT: Students must declare NACLO or another contest

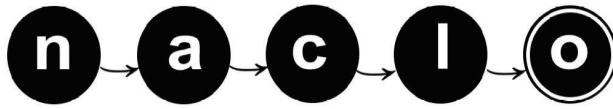
In a given year, a student may only attempt to qualify for one national IOL team, per IOL Regulations. A student may participate in more than one IOL-qualifying contest, but must declare before each one which national team they intend to qualify for. **Therefore**, if a student is participating in NACLO and an IOL-qualifying contest in any other country (e.g., UKLO in the United Kingdom, OBL in Brazil, etc.) in the current year, **they must declare** this by emailing nacloinquiries@googlegroups.com prior to the NACLO Open Round (January 25, 2024). If no email is received before this date, the student will by default be considered **ineligible** for both the Anglophone Canadian and US IOL teams.

HOST RESPONSIBILITIES

This is the list of responsibilities for university and high school hosts.

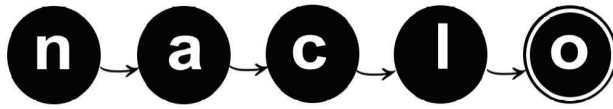
As soon as possible–

- **Read this booklet** and familiarize yourself with the contest. NACLO has been active since 2007 and the rules have evolved. The [website](#) also has all the relevant information about the contest, including many [resources](#) and [sample problems](#).
- **Reserve a contest room.** The contest room should be large enough so that the number of students who have registered (plus any more walk-ins/late registrants you are willing to take) will each have a desk/writing surface and can spread out so they cannot see each other's papers. The room must also have an internet connection so you can communicate with the jury during the competition. You should reserve the contest room starting at least one hour before the contest start time. This will allow you time to welcome the students, thank the sponsors and local volunteers, read the rules, etc. as well as distribute the contest booklets. The students should



start working on the problem set at the designated time and have exactly three hours (in the Open Round) to actually work on the booklets. This means you need to finish with all preparations, reading the rules, etc. before the contest start time.

- **Promote the competition.** Circulate email announcements, flyers and practice problems to students at your school or near your university. Promotional materials can be found at <https://www.naclo.org/resources.php>. Please share with us any inventive ways of outreach that you come up with. Tell interested students to register online.
- (Optional) **Arrange for a training/information session.** These are encouraged, but are not required for participation in NACLO and not all participating sites provide them. The training sessions may include problem solving practice, an overview of linguistics and computational linguistics, and ideas about careers in linguistics and computational linguistics. Sessions typically last from one to two hours. The NACLO website has instructions for running such sessions under the “Resources” tab.
- (Optional) **Schedule additional facilitators if needed.** Use your judgment regarding how many facilitators you will need. There must be at least one person in the room with the participants at all times to take questions and make sure that all participants follow the rules.
- (University sites only) **Set up a local webpage** with information for contestants such as building and room number, driving directions, a campus map, schedule...etc. When your webpage is up and running, please send an email to nacloinquiries@googlegroups.com so we can link your page on the NACLO [website](http://www.naclo.org).
- **Monitor the registration page for your site** at www.naclo.org to keep track of the number of students registered for your site. In the past, we have had anywhere from 1 to 250 students with a mean of 15 students per site (1,500 students at 100+ sites). You should set a limit for your site based on the size of the room and number of facilitators.
- **Send reminders to registered students about the contest.** Plan for two emails: two weeks before the competition and one week before the competition. The first one can be a reminder of the dates and times. The second one should include directions to your location, a schedule for the day including transportation information, and a list of rules.
- (Optional) **Plan to print a NACLO poster listing the sponsors.** We will send you a poster by email. If you don't have a large poster printer, we will mail it to you on paper. Contact us at nacloinquiries@googlegroups.com if you would like us to send you one.



- (University sites only, optional) **Do you have any swag for the students?** T-shirts, keychains, pens, etc. At present, we do not have funding to help out with such items, but you may seek funding for these from your department, school, university, or from local businesses.
- (Optional) **Do you want to give the students any food before or after the competition (not during)?** At present, we do not have funding to help out with this, but if you can get someone to donate some food, go ahead.
- (Optional) Do you want to give out college or career information? This is often done during the registration/check-in hour, because students may need to leave immediately after the competition. The Linguistics Society of America (LSA) has several brochures on their [website](#). You can also give out information on majoring in linguistics/language technologies at your university or have brochures/representatives from language technologies companies.

Two days before the contest

First and foremost, you will need to **CERTIFY** your site. In order to do so, you will need to:

- Go to your Site Coordination page (different for universities and high schools) on the NACLO website).
- University sites: Select your site, and log in with your password.
High school and homeschool sites: Log in with your username and password.
- If you do not know your password, please email nacloinquiries@googlegroups.com **before** the day of the contest.
- Click on “Edit Self” and complete the certification checklist. Make sure you’ve done all 10 items on the checklist, and click the “Update checklist (certify)” button when complete.
- Sites that don't certify (and thereby indicate that they are familiar with the rules, etc.) will not be allowed to participate. If you have any questions or are having a problem certifying your site, or if you do not know your password, please email nacloinquiries@googlegroups.com.
- Note that you should not register as a site host if you are dropping your students off at a different testing site such as a university.

The day before the contest

- Obtain the booklets from the jury (they will be emailed in PDF format) and print one copy (at 3600 dpi, if possible). Make sure that all diagrams and fonts print properly. If everything looks normal, print booklets **single-sided** as the students will be required to write their answers on

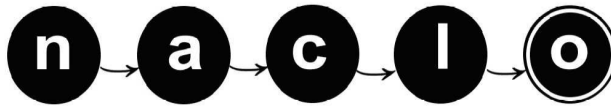


the answer sheets and you will need to scan those and submit them to the jury. Make sure to print enough copies for all participants, and print extras if you plan to accept walk-ins. It is ok to print multiple copies of the blank page that appears near the end of the booklet and use it as an extra page for students who request it.

- You will receive an email that will ask you to confirm that you are ready for the contest. Please reply to it ASAP. You will be asked if your site will allow walk-ins on the day of the contest.
- **Piazza:** You will also receive an email with a link to the website where you will be communicating with the jury during the contest. We use **Piazza** for this purpose. Please log in to the site to ensure you are able to access the forum. It will be important to keep this site open and monitor it throughout the contest as the jury will post announcements and clarifications which will need to be shared with the contestants.
- Make sure that no student has access to the booklets before the contest starts. Make sure that they are informed not to discuss the problems *even after the contest is over* (to prevent cross time zone cheating). We will post the problem booklets on the website by the end of April.

The day of the contest and beyond

- (Optional) Set up a registration table 30-45 minutes before start time. You may get some walk-in students who haven't preregistered. If this happens, let them use your computer to [register on the NACLO site](#) before the actual contest starts and get a registration number. If that is not possible, let them register as soon as the contest is over. Each participant needs to get a registration number.
- When students arrive, ask them to complete the registration page completely including the "Site ID" part. Your site ID is available on the NACLO website on your Site Coordination page. If you are still unable to find your ID, please use the site name.
- Log in to the Piazza site at least 15 minutes prior to the start of the contest. You must keep this site open throughout the contest.
- When the contest starts, post a private message in Piazza with the exact starting time on the day of the contest so that we can keep track. For example, "Kevin Smith - PS 45, Milwaukee, WI - start time 09:04, end time 12:04 - participating: 5 students."
- It is absolutely crucial that you keep track of which registered students did and did not show up for the contest on your NACLO page. In order to do this, you will need to:
 - [Go to your Site Coordination page \(different for universities and high schools\) on the NACLO website\).](#)



- University sites: Select your site, and log in with your password.
High school sites: Log in with your username and password.
- Click the "Test Day Checkoff" button.
- Check the corresponding box for each student who shows up to the contest.
- Also, make sure to enter the exact time your contest started in the box at the top of the page.
- When students raise their hands for questions, go over to them in order to make sure that they don't blurt out a clue or an answer. Tell the student that you will convey the question to the jury. **Do not answer the question** even if you think it is simple or obvious.
- All questions from the participants should be posted on the NACLO 2024 Piazza site. Please post your question as a private question just to the jury. The jury will be periodically updating a webpage with all active clarifications that need to be conveyed to all participants. If resources are available at your site, you may wish to project this webpage for all participants to view, or write these clarifications on the board.
- Continuously monitor the Piazza site for possible announcements and clarifications by the judges. Make sure that you convey all jury clarifications to all contestants in a timely manner.
- Ask the students to complete a short online student evaluation form. Each student will be emailed a link to the evaluation once the contest has ended.
- Fill out the short online facilitator evaluation form.
- Collect the booklets from your students. Students are **not allowed to take copies of the booklets with them**; this rule is essential for preventing possible cross time zone cheating. The booklets will be posted on the NACLO site by the end of April.
- While collecting the booklets, please ensure that all contestants have written their names and registration numbers **on each Answer Sheet**.
- Please scan all Answer Sheets (only cover page with identification information and answer pages) and convert them to PDF format. Name each booklet with the student's ID number (e.g. '557.pdf.') Use a professional scanner at your school (or use a service like a Fedex Office). Do not use a phone, unless you are certain to get highly legible booklets in PDF format.
- **Please do not scan each page of a student's booklet as an individual PDF, and please do not send multiple students' booklets in the same PDF. IT IS VERY CRUCIAL TO NAME EACH FILE PROPERLY.** The jury reserves the right not to grade any submissions that are not properly named. Note that scans must be legible and complete. That is, all answer pages must be submitted, even if blank or incomplete.



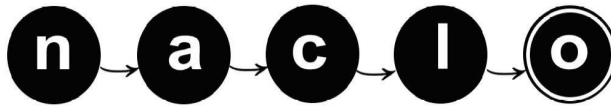
- Once you have scanned all the booklets, the procedure for the Open and Invitational Rounds differs. **For the Open Round:** upload each student’s submission to the NACLO website in the Site Coordinator portal. You will see an “Upload” button next to each student’s name on the list of registrants. Once you have done this, your responsibilities for the Open Round are over; however, please keep the booklets until results become available in case an error should arise (e.g. a page's scanning is faulty and the jury asks you to scan it again).
- **For the Invitational Round:** Unlike the Open Round, answer sheets should be submitted by email to naclo24jury@googlegroups.com.
- Note that scans must be legible and complete. That is, **all answer pages must be submitted, even if blank or incomplete.**
- For both rounds, once you have scanned and uploaded/emailed the booklets, your responsibilities are done! As you wait for the results, keep in mind that it may take 5-7 weeks for these to become available.
- (Optional) You may follow up with the students about their results, e.g., for college admissions guidance, etc.

OTHER CONTEST RULES

Students should submit all their solutions in writing, using a *black pen*, only in the space provided and ensure that their handwriting is legible. The use of a black pen is essential to ensure legible photocopying or scanning of the solutions, which may be done to streamline the grading process.

Students may solve the given problems in any order, and should try to solve as many problems as possible. Students are not penalized for incorrect answers. Some problems (mostly on the Invitational Round) **may** include "practice" (explanations) and "theory" questions; the practice sections are worth approximately 60% of the score, and the theory sections are worth approximately 40%. Students may receive partial credit for providing an incomplete solution to a problem, and/or partial credit for specific ideas for solving it. Thus, if they have ideas for solving a problem, they should write them even if they have not been able to develop a complete solution. In other words, students should be encouraged to show their work and/or thought process when solving these problems.

Given the large number of expected participants in the Open Round, most or all of the problems will not require a “theory” part. Instead, the answers will be automatically gradeable. "Blue," "17", "1A, 2D, 3D,



4E, 5C", "nihuetzi," and "A>C>G>F>B>E>D" are fine answers. The problem booklets will be designed to include an answer sheet.

Allowed and disallowed materials

Students should bring their own pens and pencils. Students are **not** allowed to bring their own paper. The facilitators will provide all paper needed.

Participants must write their solutions in black ink, and may use pencils only for scratch work. They may use blank paper for scratch work; however, they should copy their final solutions into the spaces provided in the problem booklet, and they may enclose additional sheets only if the space in the booklet is insufficient. Scratch paper is to be handed in with the answer booklet, but kept separate from it.

Students may not use any electronic devices except basic wristwatches. In particular, they may not use calculators, computers, tablets, cell phones, pagers, or wristwatches with internet access or built-in calculators. Attempts to use electronic devices will normally lead to disqualification. If a student has any medical electronic devices, required for health reasons, he or she should let the facilitators know before the contest.

Participants may not use any written or printed materials such as books or their own notes produced before the contest.

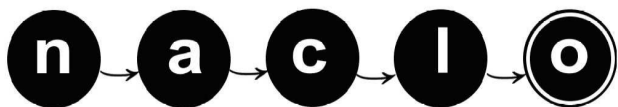
Conduct during the contest

Students should follow all instructions of the facilitators; if they have questions about the rules or acceptable conduct during the contest, they should raise their hand and ask a facilitator.

Students may not talk with anyone except facilitators, and may not collaborate with other contestants. Attempts to communicate with other contestants will normally lead to disqualification.

Bags should be placed under the seats before the contest, and may not be used during the contest. If students have brought snacks, these should be placed on the desk before the contest begins.

If a student has a cell phone, pager, or any other sound-emitting device in his or her bag, he or she should turn it off before the contest. Just switching it to vibrate or silent mode is not sufficient.



Participants may take bathroom breaks during the contest; however, they may not take their bags, any electronic devices, problem booklets, or their notes with them when temporarily leaving the room. Also, two contestants may not take a bathroom break at the same time.

Unless the local facilitator overrides this rule (e.g., due to university or high school regulations or health precautions), students may bring a snack into the contest site and eat during the contest, but they should be considerate of others. In particular, they should avoid "noisy" foods, such as foods with noisy wrappers, and foods with a strong odor. The facilitators have the authority to remove any types of food from the contest site if they feel that these types of food may distract other contestants. Noisy wrappers should be opened before the contest begins.

If students arrive late, they may still participate in the contest; however they may not ask facilitators to repeat any instructions or announcements that have been missed. Also, they may not ask for time extensions at the end of the contest, which means that they will have less time than the other contestants.

Questions during the contest

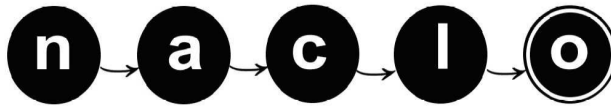
If a student has a question, he or she needs to raise a hand, and one of the facilitators will talk with him/her. When talking with a facilitator, students should keep their voices low, to make sure that they do not distract other contestants and do not accidentally provide a hint for solving the problem.

If a student needs a clarification for a specific problem, the facilitator will need to contact the judges via email, which means that an immediate answer may not be available. Please note that local facilitators are unable to answer student questions without contacting the judges. If the judges agree that the problem requires a clarification or correction, they will normally announce it to all site facilitators via email.

If the judges feel that an answer is already contained in the booklet, or that attempting to give a student an answer may give someone an unwanted hint, they may refuse to answer the question by telling the student that they are unable to answer the question.

SCORING

Every problem will be worth a specified number of points; harder problems are generally worth more points.



The judges will score each solution based on its correctness, quality, and clarity, and determine the overall score as the sum of solution scores. The judges will complete the scoring and announce the results (ideally, within five to seven weeks after the competition).

The judges are solely responsible for scoring the solutions, ruling on unforeseen situations, and selecting the winners. Their decisions are final.

FREQUENTLY ASKED QUESTIONS

How does a student register for the competition?

The competition is intended for students in the 13-18 age group. If students are younger than 13, with parental permission, they can also participate. However, students under 13 **do not register online**. Instead, the student should ask their parents to contact nacloinquiries@googlegroups.com directly.

Students should register at https://naclo.org/registration_page.php. Students must enter the required information, including an email address which they regularly monitor because NACLO will use it to send any updates throughout the year. Students **must select** a site to participate in from the site drop down menu. Students may register to participate at their own school (if it has a NACLO site), at a University Site (all of which accept all students), or any High School site which accepts all students (clearly specified next to their name). If no NACLO site is near a student, students can ask a teacher or staff member at their own school to assist them by hosting NACLO at their school.

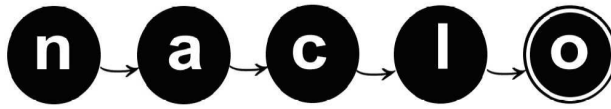
How many problems should participants expect?

Participants should expect 6-9 problems during the Open Round and 8-12 (generally harder) problems in the Invitational Round.

What problem types should participants expect?

Students may encounter the following problem types; however, this list is not exhaustive, and they may also get problems of other types. The problems will contain all information required for solving them, and no specialized linguistic knowledge will be needed.

- *Translation problems:* A problem includes a set of sentences in a foreign language and their translations into English, which may be in order or out of order. The task is to learn as much as possible from these translations and then translate other given sentences to or from English. Note that the foreign language may have "tricky" structure and grammar. For example, German sentences often end in verbs. Japanese people speak differently about their family than they do



about someone else's family. Some languages do not use articles or any equivalent of "to be." Others treat animate and inanimate objects differently. Be prepared to figure out these unfamiliar features from the text.

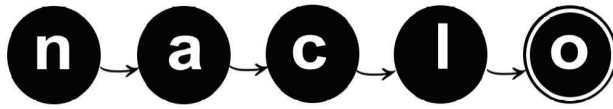
- *Number problems:* A problem includes foreign sentences that describe basic arithmetic facts, such as "six times four is twenty-four," and the task is to figure out how to translate different numbers and expressions. Some languages use bases other than ten; others use different words for the same number depending on the objects being counted, etc.
- *Writing systems:* The task is to figure out how a particular writing system works and then use it to write out a given text, such as an ancient inscription. Some languages are written right to left or top to bottom, others do not use vowels, etc.
- *Calendar systems:* The task is to figure out what calendar was used by a particular civilization based on sentences that refer to it.
- *Formal problems:* In this context, "formal" means that participants have to build a logical model of a language phenomenon. For example, a transformation rule may say "to convert an active voice sentence to passive voice, make the object of the former sentence the subject of the latter one, convert the verb to passive by using an appropriate form of the verb 'to be' with the past participle of the verb, and add 'by' before the word that was the subject of the former sentence." If we apply this rule to "Maya ate an apple," we get "An apple was eaten by Maya."
- *Phonological problems:* The task is to figure out the relationship between the sounds of a language and its writing system.
- *Computational problems:* The task is to develop a procedure to perform a particular linguistic task in a way that can be carried out by a computer.
- *Other types:* Deciphering kinship systems, transcribing spoken dialogue, associating sentences with images, translating unknown languages from scratch, and many other types of problems.

Where can I find example problems and related materials?

You can find more than 200+ past problems on the main website under "[Practice Problems](#)."

You may find even more problems by searching the web for "IOL" where IOL stands for "International Linguistics Olympiad."

By searching for NACLO on YouTube, you will find some videos that give an overview of NACLO and a few videos that walk through how to solve a NACLO problem.



What knowledge and skills do participants need?

Participants mostly need logical thinking as well as basic general knowledge, such as arithmetic and standard calendars. Participants do not need prior knowledge of linguistics, computer science, programming, or foreign languages.

How many people participate in NACLO?

In 2023, 1,500+ students competed at 130+ high school sites and 55 university sites.

What happens if a participant does well?

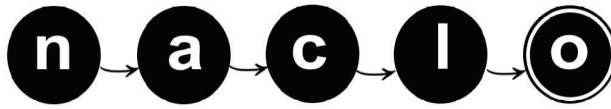
If a participant earns a high score at the Open Round, they will advance to the Invitational Round. They will be notified if you are invited to participate in the Invitational Round. The top scorers in the Invitational Round will be invited to an online practice program. The top-scoring four US students and the top-scoring four Canadian students in the Invitational Round will be chosen to represent the United States and Canada at the International Linguistics Olympiad. Additionally, four more top-scoring US students on an as-yet undetermined combination of the Open Round and Invitational Round may be invited as a second team to represent the United States at the International Linguistics Olympiad.

If participants advance to the International Linguistics Olympiad, do they have to pay for their trip?

NACLO always tries to raise funds to cover travel expenses so that team members do not need to pay. For the past several years, the US National Science Foundation has paid all the expenses for the two US teams. We also actively engage in fundraising to cover the Anglophone Canadian team. However, we may not always succeed in our fundraising efforts. Therefore, if a student is selected for the team (US or Canada), we will inform them about the funding situation and let them know whether they will need to find additional sources of funding.

What if my question was not answered above?

If you have further questions, please contact nacloinquiries@googlegroups.com.



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