

Connecticut High School Science and Humanities Symposium 2025–26 Core Rules of Competition

The Connecticut High School Science and Humanities Symposium (CT HSSH) is a research program for high school students enrolled in grades 9-12 who engage in research investigations in the sciences, technology, engineering, or mathematics (STEM). It is sponsored by the Connecticut Area Health Education Center (CT AHEC) at UConn Health.

For questions or more information, contact Ellen Ravens-Seger, Administrative Program Coordinator, CT AHEC/UConn Health, 860-679-7969.

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I. Eligibility Rules

CT HSSH is an individual research competition.

- If a research project was done as a team, a team leader must be selected to register and present the results of the group work.
- The team leader will be the only member of the team invited to present. Other team members may be allowed to attend as guests or observers.
- The research cannot be presented by any other member of the team.
- The judging criteria used to judge all CT HSSH presentations remain the same (as Junior Science and Humanities Symposium).
- The presentation should focus on the coordinated efforts of all team members and properly acknowledge the contributions of the team (students, mentors, and/or teachers).
- Scholarships and other awards available are awarded to the presenter.

Additional Eligibility Criteria:

1. Connecticut residents who attend online high schools may compete, even if the physical location of the school is out of state.
2. Depending on the requirements of potential funders, proof of citizenship status--to travel to participate in a potential national competition--may be requested.
3. Students may continue a research investigation previously submitted to CT Junior Science and Humanities Symposium. If a continuation project is submitted, the student must present significant new research, discuss how the project was expanded (e.g., methodology, new variables) and address any revisions in experimentation, analysis, methodology, and data.
4. A student may present a report on work done as part of a class project, or as a science fair project, or summer research project.
5. Projects that are demonstrations, "library" research, literature reviews, or informational projects are not appropriate for CT HSSHHS.
6. Research must have been conducted within the calendar year before the date of CT HSSHHS.
7. Students may only present one project per competition year.
8. The date/time for the student's presentation is determined by symposium leadership. A student must be present for the assigned time or risk disqualification.

Students who wish to apply to CT HSSHHS must utilize the registration link to apply and submit all required work for submission.

At the time of registration, students should be prepared to:

- Submit a written abstract of the completed research investigation for review by a CT HSSHHS panel.
- Submit the CT HSSHHS Statement of Outside Assistance (SOA) form.
- Complete registration with all application materials by the submission deadline.
- Comply with rules and policies that apply to the preparation of written reports and presentations.

The abstracts should present the results of the students' original research investigation.

- Assistance from teachers, mentors, parents, or other students may be obtained.
- Students must clearly communicate their role in the completion of the investigation and demonstrate a thorough understanding of the research results.
- For research projects conducted in a lab, submitted to a scientific journal, or under patent review, the applicant must have a primary, first author role in the work submitted.
- Any work done in a laboratory setting must be detailed on the SOA and signed by the supervising mentor.

Students do not need teacher, mentor, or school sponsorship to register for CT HSSHHS.

II. Schedule and Deadlines

- December 15, 2025 - Application deadline
- January 20, 2026 - Applicants to be notified of their presentation status
- February 7, 2026 – Presenters’ Workshop (online)
- February 12, 2026 – Final abstracts due
- February 15, 2026 – Oral presenters’ papers due and poster competitors’ posters due
- February 17, 2026 – STEM poster exhibitors’ poster presentation videos due
- February 21, 2026 – Oral and poster judging (Saturday, virtual, invitation only)
- February 23 - 27, 2026 – STEM Poster Exhibition (virtual)
- February 28, 2026 – CT HSSH Symposium
- May 2026 (date and location TBD): CASE 51st Annual Meeting & Dinner (The top 5 CT HSSH oral winners attend.)

III. Core Rules and Guidelines for CT HSSH Submissions

Students apply to CT HSSH by submitting an abstract of the completed research investigation and an SOA form and filling in the information requested in the registration portal.

A first round of judging is conducted by a panel of professionals in the STEM fields. The panel reviews the students’ submissions to select those students who will compete in the symposium. Selected presentations will represent the finest efforts of Connecticut high school students toward either original laboratory research, field research, or applied research. Selected students may be invited to present their research in an oral competition or poster competition, or as a non-competitive STEM poster exhibitor.

IV. Abstract Preparation

All CT HSSH student applicants must submit a 250-word (maximum) abstract. The abstract should accurately convey the essential nature of the research conducted. The abstract **must** include the hypothesis and any conclusions reached as a result of the research. A further purpose of the abstract is to attract the interest and curiosity of the non-specialist reader.

The header preceding the abstract body must include:

1. Title of the research project
2. Student name
3. High school name, city, and state
4. Name of teacher/mentor/sponsor and the mentor’s organization. Precede the individual’s name with a subheading (i.e., teacher, mentor, sponsor).
5. Include one line of space between the heading and the abstract body.

The formatting requirements for the abstract body are:

- 250 words maximum
- 1-inch margins
- Single-spaced
- 11-point, Arial font

Abstracts may be included in the symposium program. Please carefully proofread your submission. Abstracts that exceed the 250-word limit will be shortened.

Abstracts must be submitted as Word (.doc/.docx) or PDF (.pdf) documents.

V. Research Paper Preparation

Students selected as oral presenters must also submit a research paper by February 15, 2026. Requirements for the research paper are as follows.

- The paper must be in APA Style student format. For help with APA, see the [APA Guide](#) and [Purdue OWL](#). Both sites also have sample papers as examples.
- Submitted papers must be typed in 11-point Arial font. Submitted papers must be double spaced. References and appendices may be single-spaced.
- The paper should be a minimum of 5 pages and a maximum of 20 pages, including appendices and references.
- Photography, graphs, tables, diagrams, charts, or other graphic representations included in the paper must be simply presented.
- Hyperlinks or URLs (except for those used for citations) to external content are not permitted. All hyperlinks must be disabled.

A recommended outline for the research paper includes:

- Cover page stating the student's name, school address, and title of the research
- Acknowledgement of major assistance received
- As applicable, statement that "research involving non-human vertebrates or human subjects was conducted under the supervision of an experienced teacher or researcher and followed state and federal regulatory guidance applicable to the humane and ethical conduct of such research"
- Table of contents
- Introduction
- Materials and methods
- Results (data or findings)
- Discussion and conclusions
- References, or literature cited
- Appendices (if necessary but please keep in mind that the introduction is far more valuable in the judging process than appendices of raw data)

VI. Statement of Outside Assistance

All CT HSSHS applicants must prepare and submit a Statement of Outside Assistance (SOA) form as a part of their registration. This form requires students to report on their contributions to the research investigation. Use of AI tools is allowed per Section VIII, but all use of AI tools must be clearly described in the SOA.

Students may only use the CT HSSHS-provided form dated 2025-26; older versions of the form or forms from other competitions will not be accepted.

Students must provide as much detail as possible in their SOA to fully explain the amount and type of outside assistance received. This information will be referenced by judges at all levels of the competition to assist in their deliberations.

The supervising teacher or mentor **must** provide:

- Comments on the students' individual contributions to the research investigation.
- Acknowledgment that the student conducted the research in accordance with proper procedures and protocols for animal or human research.
- Signature on the last page of the SOA.

If no teacher or mentor was involved in the research, a parent or guardian must provide the above items.

VII. Competition Categories

Student research presentations will be organized into eight categories. Categories are assigned based upon a review of all abstracts and the area of research selected by the student. Students' self-selected categories are not guaranteed and may be changed after review of all abstracts to ensure that presentations in each category align with the subcategories below and the expertise of the judges.

Categories

Environmental Science

Environmental Science/Engineering: Bioremediation, Ecosystems Management, Environmental Engineering, Land Resource Management, Pollution, Toxicity; Impact upon Ecosystem

Biomedical Sciences

Biomedical Medicine, Microbiology, Cellular/Molecular Biology, Genetics, Immunology, Pharmacology, Virology, Bacteriology

Life & Behavioral Sciences

Developmental Biology, Plant Physiology, Population Genetics, General Biochemistry, Microbiology, Behavioral Sciences

Medicine & Health

Biochemistry, Bioengineering, Disease Diagnosis and Treatment, Epidemiology, Immunology, Neuroscience, Physiology, Pathology

Engineering & Technology

Aerospace, Aerodynamics, Electrical Engineering, Energy – Solar, Vehicle Development, Devices, Mechanical Engineering, Robotics

Mathematics & Computer Science

Probability and Statistics, Mathematics, Computer Science – Algorithms, Databases, Networking, Computer Engineering

Physical Sciences

Astronomy, Physics – Theoretical, Physics – Solid State, Acoustics, Optics, Thermodynamics, Particle Physics, Quantum Physics, Nuclear; Internet of Things (network of physical objects or “things” embedded with electronics, software, sensors, and network connectivity)

Chemistry

Physical Chemistry, Materials, Alternative Fuels, Organic Chemistry (possibly in Life Science), Chemical Engineering, Earth Science, Geochemistry, Energy – Alternative Fuels, Material Science

VIII. Academic Integrity

All abstracts and research papers submitted to CT HSSH must be the original work of the student submitting the project. Students are expected to act with respect and integrity while conducting their research. Students must not present someone else’s work as their own, fabricate data and figures, or otherwise plagiarize existing scientific work. All sources must be properly cited. In instances of collaboration during the research process, the SOA must list all contributors and their role in the project.

CT HSSH specifically forbids the use of generative artificial intelligence (AI) to entirely author the content of student research papers or abstracts. It is appropriate to utilize these AI tools to assist in text editing, rephrasing, or as a part of the research process (such as review, prompts for exploration or discovery, and clarification such as would normally be assisted by internet search engines). It is inappropriate to utilize AI tools for authorship (such as prompting authorship from scratch or minimal content) or utilization of AI tools for generation of a draft only modified by a student. The use of all AI tools, with exact specifications as to how the tool was utilized, must be disclosed in detail on the SOA.

Research papers may include supporting materials that were created by another person if an accurate citation of the quoted material is included. Quotations from materials printed in newspapers, magazines, or books are permissible if an accurate citation is included. If citations are not included, this is a form of plagiarism. Additionally, AI tools often quote content from sources (people, printed materials, etc.) without citation; the use of AI tools holds the user responsible to independently verify content is not plagiarized.

No submission may include any trademarked material without the written permission from the owner(s) of the trademarked material. In addition, no research paper may include material that was created by another person without permission to quote such materials by the creator or owner of such intellectual property, such as unpublished documents or documents that explicitly state to obtain permission to use. If a student obtains permission to use someone else’s material as part of their work, a copy of such permission must be made available to CT HSSH.

Plagiarism will result in the submission being disqualified from the CT HSSH and/or revocation of awards or honors at any time following the event. Plagiarism and AI detection software may be used where appropriate as part of the evaluation of submitted student work.

Reporting Academic Integrity Concerns

Reporting an academic integrity concern should only be done in good faith and with credible evidence. CT HSSHS discourages anonymous allegations, as anonymous reports may lack context, which affects the ability to thoroughly investigate the claims. Individuals who report an academic integrity concern via the channels below will not face retaliation or adverse action.

The first point of contact for reporting concerns is CT HSSHS Site Director Brittany Knight, Ph.D. Dr. Knight can be reached via email at ctjshs.knight@gmail.com. If necessary, she can escalate concerns to the CT HSSHS Advisory Committee should additional insight be needed. The result of the investigation will be shared with those involved in the claim but will not be otherwise published.

IX. Research Involving Invertebrate Animals, Vertebrate Animals, or Human Subjects

Research involving invertebrate animals, vertebrate animals, or human subjects must be conducted under the direct supervision of a qualified teacher or mentor with an approved active protocol that complies with local, state, or federal regulations for such research. CT HSSHS requires students to acknowledge in their written research report, and in the SOA, that proper procedures and protocols were followed. Projects conducted without proper supervision will be disqualified from competition.

CT HSSHS recognizes that students may conduct research in a high school setting, and both students and teachers may have questions on how to obtain proper approvals if the research is conducted in a school, home, or field research setting versus in a university laboratory.

General guidelines for research involving invertebrate animals (adapted from Gilbertson & Wyatt (2016):

- Research protocols should be reviewed by institutional staff (science teacher, school principal, or mentor).
- Use the least invasive methods possible to achieve research objectives. Avoid unnecessary suffering or distress.
- Ensure research involving invertebrates is scientifically justified, with clear objectives and potential benefits outweighing ethical concerns.
- Optimize experimental conditions to reduce stress, including appropriate housing, nutrition, and handling.
- Regularly monitor animal conditions and maintain detailed records of care and experimental procedures.

General guidelines for experimentation involving vertebrate animals (adapted from Bonkalski et al, 1994):

- Only animals that are lawfully acquired shall be used in experimentation and their retention and use shall be in every case in strict compliance with state and local laws and regulations.
- Animals used in experimentation must receive every consideration for their bodily comfort; they must be kindly treated, properly fed, and their surroundings kept in a sanitary

condition.

- No intrusive techniques may be used, including surgery, injections, or taking of blood.
- When animals are used by students for their education or the advancement of science, such work shall be under the direct supervision of a committee of individuals knowledgeable of applicable regulations governing the care of animals in the conduct of the project.
- At no time should a student do harm to a vertebrate animal in the conduct of the research.

General guidelines for research involving human subjects (adapted from Bonkalski et al., 1994):

- No project may use drugs, food, or beverages in order to measure their effect on a person.
- Projects that involve exercise and its effect on pulse, respiration rate, blood pressure, and so on are approved if a valid normal physical examination is on file and provided the exercise is not carried to the extreme.
- If your research involves the administration of questionnaires or surveys, proper consent from subjects must be obtained.
- No human cultures of any type – mouth, throat, skin, or otherwise – will be allowed.
- Tissue cultures purchased from reputable biological supply houses or research facilities are suitable.
- The only human blood that may be used is that which is either purchased or obtained from a blood bank, hospital, or laboratory. No blood may be drawn by any person or from any person specifically for a science project. This rule does not preclude a student making use of data collected from blood tests not made exclusively for a science project. Blood may not be drawn exclusively for a science project.
- Experimentation involving human subjects requires direct supervision of a committee of individuals knowledgeable of applicable regulations governing the conduct of such research. Non-regulated research institutions (i.e. high schools) should establish a committee of knowledgeable teachers and other mentors to view the research plan prior to the conduct of the research.

X. Suggestions to Prepare for Presentations

Remember, you are the expert. No one in the audience knows as much about your research investigation as you. Therefore, remember to explain your research in enough detail so the audience will understand what you did, how you did it, any help that you received, and what you learned.

Whenever possible, avoid jargon or unnecessary terminology. If it is essential to use specialized terms, remember to explain the specialized terms briefly. Give your audience enough time to understand what you are trying to convey. Graphs, tables and other representations help explain your results. Keep them simple and uncluttered. Focus on important information; for example, remember to name the variables on both axes of a graph, and state the significance of the position and shape of the graph line.

Deliver your presentation at a comfortable pace. It helps to practice your presentation before a non-specialized audience. Practice will help perfect the presentation and the timing. Listen to the advice of your non-specialized audience, but also get help from a teacher or other advisors as needed.

XI. Judging Criteria

Judges evaluate students' presentations using the criteria below and detailed judging rubrics. The 2025-26 Judging Rubrics ([Oral Competitor](#) and [Poster Competitor](#)) are available on the CT HSSHS website.

Judging criteria include but are not limited to:

- Statement and identification of research problem
- Scientific thought, creativity/innovation, appropriate duration
- Research or engineering design and procedures
- Logical conclusion relevant to the research problem. What was learned? Did students recognize their contribution to the field?
- Skill in communicating results
- References stated

XII. Requirements for Oral Presentations

Session Timing

- The research presentation may not exceed 12 minutes, followed by a maximum 6-minute question period.
 - At the 12-minute point, the student speaker must stop the presentation even if he or she has not finished.
- A session moderator will aid the student speaker in maintaining this schedule and in fielding questions from the audience.
- Following the presentation, the session moderator will ask for questions from the judging panel.
 - Only the judging panel may ask questions.
 - The speaker should repeat a question before answering so all judges may understand the entire dialogue.
 - If the speaker runs out of time and does not get to show all of their presentation slides, he or she cannot reference unseen slides during the question-and-answer period.

Presenters are not allowed to bring anything to the presentation such as proof of design, prototypes, handouts, or other materials. Everything presented must be on the presentation slides alone.

Slide Deck Requirements

- The presentation must be in the form of Microsoft PowerPoint, Google Slides, Keynote, or Adobe PDF document.
- Students should number their slides to aid in referring back to specific slides during the question-and-answer session.
- There is no limit or requirement for the number of slides. The number of slides should be sufficient to communicate the process and results of the research within the 12-minute presentation period.
- The aesthetic design of the slide deck is up to the student's discretion. Slides should be legible and not overcrowded.
- Embed any video, or other presentation developed through other software, into the slide

deck.

- If using video, students must comply with the following ground rules:
 - The video component cannot make up more than one (1) total minute of the presentation and must be directly relevant to the project.
 - No audio or background music is permitted other than sounds that are an integral part of the research.
 - Videos (and audio, if any) may be used only for those aspects of the presentation that cannot adequately be presented in a slide.
 - Recorded or mechanically produced narration is not permitted. Narration must come from the student presenting.
 - Video material presented must be an integral part of the research and should not be a substitute for presentation of data.
 - Videos must not be used for presentation of common procedures, illustrating equipment, or showing laboratory facilities.
 - Videos should illustrate work that was done and should not be used for stimulation or aesthetic value.
- QR Codes or hyperlinks leading to additional information beyond what was included in the slide deck are not permitted.

A recommended outline for the slide deck includes:

- Title slide with the presenter's name and project title
- Acknowledgement of major assistance received
- Introduction of the research question, hypothesis, etc.
- Materials and methods
- Results (data or findings)
- Discussion and conclusions
- References

XIII. Requirements for Poster Presentations

Students presenting posters should be prepared for a short "elevator pitch" of 3 minutes to share with judges and additional 4 minutes to answer any questions asked by judges during the review of their posters.

Posters for competition must include and/or meet the following standards:

- Because you will be presenting your poster online or projected on a screen, you will not be printing it. However, you will still create the poster with that same "3 height by 4 width" ratio in mind.
 - Create the poster in PowerPoint or Google Slides. Students are able to use poster templates available online at <https://www.posterpresentations.com/free-poster-templates.html> or elsewhere.
 - When using an online template, select the 36 x 48 size.
- The Title should be at least one inch (72 pts) in height. The student's name should be included and should be 48-pt font size. All other lettering should be in 24-point font size. (Point size indicated above is suggested size only. Very small font sizes should be avoided).
- The poster should be balanced and organized in a logical, sequential order.
- Keep the amount of text to a minimum.

- There should be more emphasis on graphics, tables, charts, and graphs. These items should be cited on the poster board.
- Photographs in addition to other illustrations may be used. Figures may be in color.
- No specimens, no apparatus, no chemical reagents, no models, prototypes, logbooks, handouts, or papers are to be used during the presentation.
- QR codes or links to additional information, videos, or other materials are not permitted.