Community Solutions Challenge

Official Rulebook

2025-2026

A Welcome Message

Dear Participants,

This rulebook sets the foundation for the first annual competition season of WinSPIRE's Community Solutions Challenge at the University of North Carolina at Chapel Hill. This competition encourages high school students from across the state of North Carolina to identify and propose solutions to a pertinent problem in their community using methodologies rooted in science, technology, engineering, and math (STEM).

To everyone participating, welcome! Here's to a group of problem solvers and innovators.

Welcome to The Hill.

Sincerely,

Sanika Dolas

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Shriya Rajesh

WinSPIRE Community Solutions Challenge Team

University of North Carolina at Chapel Hill

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About WinSPIRE at UNC

Who is WinSPIRE?

The WinSPIRE Organization is a volunteer-led organization at the University of North Carolina at Chapel Hill (UNC-CH) that provides training, experience in STEM research, and mentorship to high school students. WinSPIRE is dedicated to creating spaces where all people can thrive. Our primary approach to these goals has been through our 6-week in-person Summer Research Program. Through this programming, we not only provide high school students with hands-on research experience at UNC-CH, but we also provide training to UNC-CH researchers to ensure those actively involved in STEM research have the tools necessary to make inclusive and safe spaces for the next generation.

Why the CSC initiative?

The goal of the Community Solutions Challenge is to increase access to STEM education and opportunities for high school students across North Carolina. We aim to provide advanced knowledge of the scientific process that replicates real-world research and celebrate the diversity of communities across North Carolina from which participants hail, by engaging them in projects that will positively impact their communities.

Research opportunities for high school students can be difficult to find and hard to obtain, and their availability is often skewed towards communities with existing resources. We are committed to lowering the barriers to STEM research at the high school level across the state by allowing students to experience aspects of real-world research at no cost and within their own high schools. Through the Community Solutions Challenge, high schoolers will be able to engage with researchers from UNC-CH, learn valuable skills on how to apply the scientific method to solve an important issue, and become more proficient in reading and writing in a scientific context. This will be accomplished through our year-long workshop series which concludes with a competition day.

We are passionate about making outreach opportunities easy to access and open to everyone, because we believe every student has something valuable to offer. Your ideas, experiences, and voice matter—and they can help make your communities stronger.

About the Community Solution Challenge (CSC)

What is the CSC?

The Community Solutions Challenge is designed to encourage students to become more engaged in their communities by identifying a problem they wish to address and collaborating with their peers to develop STEM-based solutions. The CSC hopes to embrace the unique communities across North Carolina, and encourages participants to do the same when they begin thinking of solutions to problems in their respective communities. The CSC team believes that *everyone* has the capacity to be a scientist and push for change in their communities. Participants will first identify a community problem they are invested in, and work with their peers towards solving it creatively. The goal of this competition also lies in getting participants acquainted with problem solving. Participants will receive guidance on how the scientific process works and how to best approach designing a solution, through our workshop series, and with guidance from mentors within various scientific fields within those workshops. In the initial stages, competitors will draft a Letter of Intent (LOI). The LOI should highlight the chosen issue, current research/work done towards a solution, and briefly discuss what the team's proposed solution is. In the months leading up to the in person competition, participants will work towards creating a pitch for their solution and how it is/will be implemented. Throughout this whole process we aim to guide students into the scientific process, and help them envision how they can make a lasting impact in their communities.
Possible CSC Topic Areas:

The solutions your team proposes can be from any STEM discipline* and will be judged based on the nature of their topic.

*Possible Topic Areas- Students can choose to focus on a community solution based on any of the following topics:

- Agriculture/Animal Sciences
- Architecture/Engineering/Physics
- Astronomy
- Behavioral Sciences/Psychology
- Biology/Biomedical Sciences
- Computer Science/Software
- COVID-19
- Ecology/Environmental Sciences/Conservation
- **Economics**
- **Education**
- Public Health/Policy
- Other (see note below)

There are categories that are currently bolded or "Other". For these topics, there is some additional information to consider:

1. **The Bolded topics** (Economics and Education) can be used as a focus topic. However, the proposals themselves need to be shown in a scientific light. For example, address how changing something in economics can lead to the improvement of something related to STEM, or how a certain phenomenon in education affects the progression of science. These two examples are simply a framework for how you can approach a proposal with these two topics in mind.
2. **Are the listed categories not specific enough?** Make use of the 'other' designation. The use of the 'other' designation allows you to specify your topic of interest. For example, selecting 'Medicine/Health Sciences' and 'other' would let you specify that the topic is related to a specific branch or specialty of medicine. This is a completely optional designation, and we will do our best to place topics designated as 'other' into a category that fits the project description the best.

Remember, this competition is about the *proposal* of a solution to a problem in your own community. Every project will be unique and aligned with what a specific community needs. Be curious and inquisitive. If possible, consider reaching out to community officials and members to find problems that could be truly impactful if implemented.

Eligibility Criteria:

1. Schooling: Applicants must be:
    a. A student attending a North Carolina High School or who is homeschooled and of high school age (a minimum age of 14 years old by the start of the 2025-2026 school year and a maximum of 18 years old).
    b. For homeschooled applicants, there will be a specific section on registration forms to
2. Registration and Problem Statements: Applicants must:
    a. Fill out the Team Registration Form **AT LEAST 24 hours** before a workshop, if you are interested in attending the workshop series that will occur during the course of this competition season.
    b. Submit a letter of intent. There are 2 deadlines for the LOI:
        - Letter of intent for feedback Deadline: December 1st , 2025
        - Competition Registration Deadline: February 28th, 2026. THIS IS THE FINAL DEADLINE TO REGISTER AND SUBMIT LETTERS OF INTENT TO BE ELIGIBLE TO COMPETE. This will also make you eligible to attend any workshops that occur after this date.
    c. Propose a research project that fits within the above categories (including the 'OTHER' designation.)

Participation Criteria:

Team formation: Teams of 1-4 eligible high school students and one advisor can register to participate in the CSC.

1. We welcome students to participate from any high school across North Carolina
2. Teams can be anywhere from 1 to 4 students.
3. Each team has to designate one adult advisor affiliated/registered to their school to oversee day-to-day activities, receive CSC communications, and act as a chaperone during the final competition, if attending in person.
4. Each high school/homeschool can have multiple teams/groups to participate.
    a. There is no limit to the number of teams per school.
    b. Each high school *must* have at least one advisor for every 12 participants in the high school.
    c. Advisors should not take part in the creation of the teams' projects. However, they can be there as support, as well as helping prepare them for competition.
5. A student is also eligible to participate alone. They must, however, have an advisor within the school or a parent or guardian.
6. Home schooling: a parent or guardian must act as the advisor.

Team Registration: Teams must register 24-hours in advance of any workshop or deadline to participate in it. Registration is rolling through the year up until the final Spring Competition registration deadline on February 28, 2026.

1. To be eligible to participate in the competition or attend workshops, the team's advisor must fill out the following forms:
    a. Team Registration Form
        i. The Team registration form also includes
            1. The Honor Pledge
            2. The Zoom Recording Release Form
            3. Participant Code of Conduct
    b. Code of Conduct Form (This is the same as the code of conduct form linked in the team registration form)
2. Teams should fill out the Team Registration Form **AT LEAST 24 hours** before a workshop date, if you are interested in attending the workshop series that will occur during this competition season.
3. Teams should submit their Letter of intent by either of the two deadlines listed below
    a. December 1st, 2025, for the letter of intent feedback deadline
    b. Or by February 28th, 2026, which is the Competition Registration deadline.
        i. IF a team registers by December 1st they will receive guaranteed mentor feedback for their projects. They will also be able to attend the live workshops throughout the year, which enable participants to ask questions during workshop sessions.
        ii. IF a team registers by February 28th, we cannot guarantee that mentor feedback will be received, but we will try our best to get them reviewed. Participants are still eligible to participate in the Spring competition. They will be able to attend the live workshops that occur after this date and will still have access to previous recorded workshop sessions.

c. See the ‘Fall Due Dates’ and ‘Spring Due Dates’ section for more information.

AI Policy

The heart of UNC WinSPIRE Community Solutions Challenge is based on the ideation of unique problems within North Carolina communities. Therefore, ***competitors are prohibited from using AI to any extent***. AI should not be used to think for you or have a hand in any part of this project. This means AI software cannot be used in any sort of ideation, implementation, or creation process. Participants are required to brainstorm problems in their community and think of and create the solution themselves. To be eligible to participate, participants MUST sign the honor code statement that makes it clear that they will not use AI in any part of their project. However, that does not mean participants are forbidden from using resources on the internet like search engines or scholarly websites.

Who are the mentors:

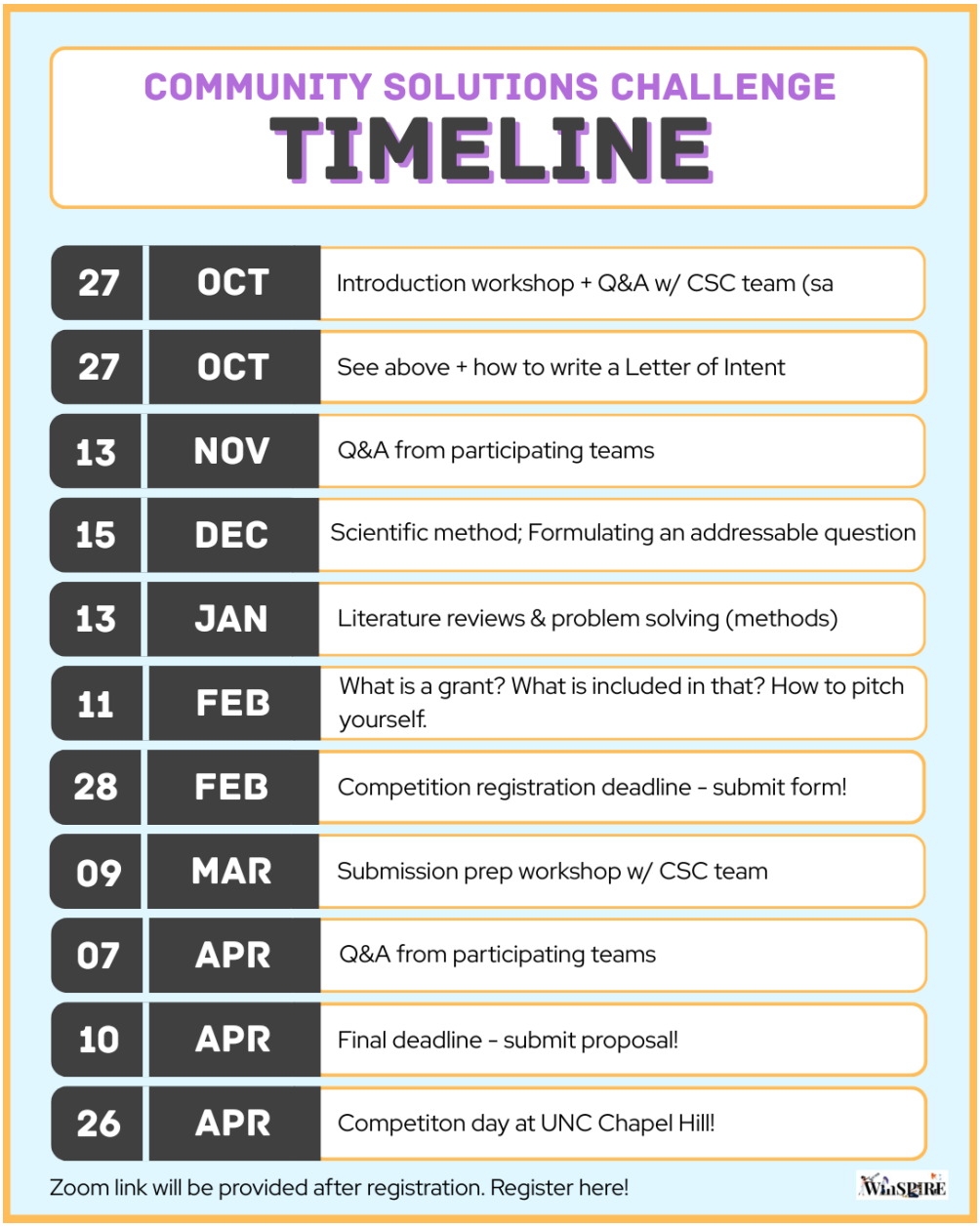
Mentors are graduate students and professionals who are experienced in research and will help guide students in formulating their ideas and familiarize themselves with the research process. Although there will not be 1-on-1 mentor-student interactions, participants will have chances to interact with mentors and receive guidance during the monthly competition workshop series. Mentors will briefly present their research and break down various topics related to the scientific process. The Mentors are from various STEM disciplines, so each participant/team will have chances to interact with mentors who work in areas related to their project’s topic.Workshops:

We understand that research, especially if it is done for the first time, can be an overwhelming process. This is why we plan to hold workshops, both for getting more acquainted regarding competition (FAQs, logistics, overview), and getting acquainted with the research process and meeting professionals in the industry. Workshops will be held at the beginning of every month starting in October.

Our workshops ensure every student gets something from the challenge. Students who attend 75% of workshops will receive a certificate stating they participated in a science workshop series and now have that many hours (will depend on number of hours attended) of scientific experience.

As of right now workshop dates are set in stone, however, if any changes need to be made, participants will be notified through their primary advisor contacts.

CSC 2025-2026 Timeline:



IMPORTANT DATES

1 DECEMBER, 2025

LETTER OF INTENT DEADLINE

11:59 PM | Last date to submit for panel feedback

28 FEBRUARY, 2026

REGISTRATION DEADLINE

11:59 PM | Last day for participant registration

10 APRIL, 2026

PROPOSAL, MODEL, POSTER DUE

11:59 PM | Submit materials for judge review

26 APRIL, 2026

COMPETITION DAY

9 AM - 10:30 PM | Be ready to compete!

Workshop Registration

In order for students to be eligible for attending workshop sessions, their advisor must submit the Team registration form AT LEAST 24 HOURS before the start of the workshop date. You will receive workshop information including zoom link, date, and time after you register.

Letter of Intent (preliminary proposal for feedback):

Deadline: December 1st 11:59 PM

Each team is invited to submit a Letter of Intent (LOI) describing their community problem and proposed STEM solution. (See competition format for more details regarding what we expect from you). Submitting the letter of intent for the project by this deadline allows you to get guaranteed feedback from researchers at UNC. The LOI should explain why the chosen issue is a community problem, and describe steps that will be taken for proposing a solution. Feedback will be returned to participants by Mid-January. Submitting an LOI early is advantageous for participants. . LOIs submitted after this deadline are not guaranteed to receive feedback.

Challenge Registration

Deadline: **February 28th 11:59 PM**

This is the deadline for eligible participants who are interested in taking part in this competition. ***Participants must have also filled out the registration form prior to registering for the challenge.*** We will do our best to provide feedback for participants who submit their letter of intent by this deadline,from mentors and judges, but it is not a guarantee. Participants will also be able to attend research and competition related workshops that will occur throughout the year.

The final proposal, and presentation aspect is due on April 10th 2026 before the competition. We do recommend, however, getting it in earlier. This gives time for judges to get an initial overview of participant research.

Teams can submit PDFs of their finalized research proposals in a designated place, and specific instructions for competition day (April 26th, 2026) can be found in the Competition Format section below.

Competition Format:

The Date of the competition will be April 26th.

The competition will have two parts:

FALL: This is the Ideation stage**.** This is where you identify your community's problem and propose how you plan to address it. create your solution and write about it. For the letter of intent, focus on why this is a challenge that has to be addressed, projected impact, and possible solutions that will be explored throughout the year.

- You must include:
  - Project Summary: Brief overview of the goals, methods, and outcomes of the proposal.
  - Introduction: What is your community problem that you hope to solve? Give background, why is this problem significant? Why did you choose this particular problem?
  - Problem Statement: What is the community context for the problem you have decided to solve? Elaborate on why this problem in particular was chosen, with community input if possible.
  - Goals and Objectives: How do you envision solving this problem? Try to propose at least 2 solutions in case the first one fails.
  - Materials: What are materials that you would potentially need in order to implement your solution?
  - Methods: Steps to take
  - Evaluation/Analysis: Describe how you will determine if your proposed solution works. Is it feasible? Any difficulties you anticipate? Address potential challenges.
  - Proposed budget: Is your solution cost effective?
  - Conclusion: Bring everything together. Why is this important?
  - References: We expect at least 10 sources from scholarly websites (ie. The NIH, the CDC, WHO, Pubmed, any academic research articles.
  - Appendices (this section is optional)

1. The LOI has a 2 page limit, excluding references and appendices. The LOI should be written on U.S. letter-sized 8.5" x 11" pages with at least .5" margin and no smaller than 11-point font, single-spaced.

SPRING: Full Proposals and competition day presentation: This is where we want to see where the solution is heading. Where do you plan to go with the solution you have thought of?. Although you are not implementing the solution in this competition, we still request to see proof of effort.

Full Proposals and competition day presentation: In the full proposal, you should describe in detail how each aspect of your proposed solution(s) is addressing the main issue, all with community input in mind, if possible. The presentation on competition day is your chance to highlight the efforts that were put into your project and why it is worth implementing. Although

you are not implementing the solution for this competition, we still request to see proof of effort.

What is Proof of effort:

Proof of effort is where it is evident that competitors have plans to get in contact with the community or implement their solutions. Writing how community contact will be established is a good stepping stone to show proof of effort. Showing or demonstrating a plan of how competitors plan to interact with the community, proposal of how the solution will work if it suddenly came to life the next day, and how it affects the community are some examples of things to look for. Build a budget if needed. Planned or contact with members of the community (Teachers, Peers, Officials, Parents/Parentals, Older members of the community) is welcome. Write these in final grant proposals and discuss during presentations.

PRESENTATIONS: For teams who cannot make it to UNC, there will be a zoom attendance option so everyone will be able to share their work. (Zoom link will be provided a week before the presentation date in April).

Projects must include:

1. A presentation: This can be in any form and of any type (including but not limited to: PowerPoint, Google Slides, Prezi, Canva Presentations). Think of these presentations as Shark Tank style pitches.
2. A grant proposal: This can be similar to the fall deadline, except it MUST include an implementation section if it does not already. It ***must*** show proof of refinement, complete ideas for how the solution could be implemented, and new updates.

What we expect:

Fullproposals should be around 5 pages excluding references.

You may include figures if you wish, HO

- Abstract/Summary: This is an overview of your grant proposal.
    - What is the goal of your proposal? What is the problem you are trying to solve? Why is this something we should care about? How will it help your community?What are your expected outcomes?

- Statement of the problem: What is the problem you aim to solve and why is it important?
    - Think of this as an in depth background of what you are trying to address.
- Project Description:
    - Methods: How are you going to solve the problem. What are your steps for creating and implementing your solution?
    - Goals/Objectives
        - Are these goals feasible to meet with resources within your community
    - How will these goals be evaluated in the future?
        - How are these goals quantified? How do you know that your solution is working if you end up implementing these solutions?
    - What are the impacts of these solutions?
        - What is the broader impact of your solution? How many people will this affect positively? (We are only looking for expected numbers. Please be realistic with your numbers.)
        - How do you expect these people to be impacted?
- Budget: What do you need in terms of resources? What do you need in terms of support?
    - DISCLAIMER: As the nature of the competition is project pitch and solution ideation, we will not be able to provide the resources in this section. Think of this as a *potential* solution that could be implemented in the future. You may go to a different pitch competition in the future where a business plan, clearly describing your budget and needs, wo uld be needed and could allow you to implement the solution. The more details you give here, the more feedback our team can provide.
    - Make use of tables!

What do participants get out of this:

Winners will be determined by a panel of judges on the competition day. Teams will be judged in the context of their proposals, keeping in mind that every category and project will be unique. Projects will be evaluated by a topic agnostic rubric (this will be made visible at the start of the spring semester). Final winners will be evaluated based off of how well the team's solution is proposed in the context of their problem *regardless* of category.

FAQs

I'm a high schooler at a registered high school, but am not of high school age. Am I still eligible to participate?

Yes, participants are still eligible to participate if they are not of high school age, if and only if they are in a registered North Carolina High School. This, however, does not apply to homeschooled students. Homeschooled students must be within the high school age range (14-18).

How will we communicate with you?

All information regarding workshops, competition materials, deadlines, reminders, or logistics, will be sent out to the team's registered advisor (as listed in the registration form). The advisor must satisfy the requirements stated in the eligibility section of this rulebook. It is the responsibility of the advisor to relay the information we send out to the participants.

I can't attend every single workshop on the dates and times stated. Are they mandatory?

It is okay if you are not able to attend every workshop. Recordings of the workshops will be provided shortly after each workshop. Each workshop will be an hour and a half long.

How is attendance being tracked?

Each team will enter the meeting room online with their school name, and attendance will be tracked as such. If teams cannot get together, each participant will have the name of their school as well as their name. In the case of multiple school teams, we will designate numbers (Example: School A1, School A2). We will be recording attendance in the first 15 minutes and last 20 minutes of the session. In order to receive the certificate, you must attend 75% of sessions.

I joined after the letter of intent feedback deadline, am I too late to attend workshops?

Nope! Competitors who register after the December 1st[t] deadline will still be able to attend workshops that occur after they register. It is important to note, to be able to attend future workshops, they MUST register at least 24 hours before the upcoming workshop. However, they will still have access to past workshops as they will be recorded and posted on our website.

What is the difference between letter of intent feedback deadline and the registration deadlines? Will they affect my score at competition?

The letter of intent deadline is meant to be an earlier deadline for participants to submit their letters of intent in the fall so they can get mentor feedback. The registration deadline will also be a time for participants to submit their letters of intent; however, they will not receive mentor feedback as it is much later in competition stage. It is important to note that submitting during the priority deadline is truly optional. The sole act of submitting letters of intent during the priority deadline will not affect scoring. However, we do recommend participants submit early so they can receive mentor feedback.

Do I need to submit my registration forms along with my LOI for the December 1st Deadline?

It is strongly recommended to have registration forms completed BEFORE the December 1st deadline. Even if you do not plan to submit on the LOI Feedback deadline, submitting registration forms at least 24 hours before a planned workshop date ensures that you can attend the workshop series and get valuable information. However, you can also submit your registration forms along with your LOI for the LOI feedback deadline. This ensures that participants will be eligible to participate for any workshop that happens after this deadline.

How are winners chosen?

A winner will be chosen (either team or individual) based on judge scores on a pre-determined rubric. The solutions will be judged based off of how well the team or individual presents a solution based on the context of their problem. Highest score will be the winner.