



2026 CHS Hydrogen Safety Challenge for Students

Official Rules & Participation Guide

The Center for Hydrogen Safety (CHS) created this Challenge to help prepare the next generation of engineers, technicians, and safety professionals to work safely with hydrogen technologies.

Students will:

- Develop real, demonstrable hydrogen safety skills
- Learn how industry applies tools, best practices, and codes & standards
- Gain visibility with future employers through recognition across CHS meetings, website, newsletters, and professional channels
- Build portfolio-ready project work and presentation experience

Team Structure & Eligibility

Who can participate

- Students must be **18 years or older**
- Must be **currently enrolled during the Challenge** in:
 - A college or university
 - A technical school
 - A Joint Apprenticeship Training Committee (JATC) program
 - Or an international equivalent

Team Format

- Students may participate **individually or in teams**.
- **Team size:** 2–5 students
- Interdisciplinary teams are encouraged

Mentors

- Faculty or industry mentors are encouraged
- Mentors may provide guidance but **must not complete any student work**
- Challenge judges may not serve as mentors

Timeline

Event	Date
Sign-Up Opens	January 2026
Challenge Period	February 2 – April 2
Entry Form Due	February 27
Video and One-Page Summary Due	April 2
Winner Announcement	April CHS Member Meeting + global publication

The Three Challenge Components

Part A — Hydrogen Safety Design Analysis

Goal

Analyze a realistic industrial or laboratory hydrogen system and identify safety principles, hazards, and mitigation strategies.

What teams will do

- Conduct a safety analysis of a hydrogen system design
- Identify hazards, controls, ventilation needs, and applicable codes and standards (such as NFPA 2)
- Recommend mitigation strategies for identified hazards

Suggested resource

Kirk-Othmer Encyclopedia of Chemical Technology

Part B — Hydrogen Incident Analysis & Mitigation

Goal

Identify at least one real hydrogen incident related to the hazards in Part A and integrate lessons learned into your mitigation strategy.

What teams will do

- Select a relevant hydrogen incident that occurred within the past **15–20 years**
- Analyze root causes
- Propose preventive measures and integrate them into the Part A design

Incident selection requirements

- Incidents should come from [H2Tools.org](https://www.h2tools.org) when possible
- Incidents from other sources require **pre-approval**. Email chs@aiche.org.
- The selected incident must clearly relate to the system analyzed

Additional learning resource

- [CHS free Laboratory Safety eLearning course](#)

Part C — Lessons-Learned Video (2–3 minutes)

Goal

Create a short video that communicates your safety thinking clearly and professionally. This is your chance to be creative and show off what you've learned.

Your video should summarize

- Your system design and safety approach (Part A)
- Key lessons learned from the incident analysis (Part B)
- How those lessons improved your final mitigation strategy

Submission Requirements

1. [Entry Form](#) – Due by February 27

Includes:

- Short description of the system design
- Analysis approach
- Selected incident

2. Lessons-Learned Video (2–3 minutes) – Due by April 2

- Must be submitted as a **private/non-public link** until reviewed by CHS. Email link to chs@aiche.org.
- Videos made public before CHS review will be **disqualified**
- Videos longer than **3 minutes will not be accepted**. Exceptions must be requested and approved in advance
- A transcript is required for non-English videos

3. One-Page Written Explanation – Due by April 2

- One-page overview of the system design and safety analysis
- Must clearly explain how lessons from Part B improved the final design
- Email with video link to chs@aiche.org

Awards & Recognition

Winning teams will:

- Be recognized at the **CHS April Member Meeting**, including a live video presentation and Q&A
- Be featured on the **CHS website, newsletter, and LinkedIn**
- Receive a **shareable digital badge** for resumes and professional profiles
- Receive a printable **certificate PDF**

There are two Winner Categories: 1) Universities; and 2) Community / Technical Colleges / JATCs and international equivalents

Outstanding videos may also be shared on CHS platforms and H2Tools.org.

Terms & Conditions

- Participation is subject to all Challenge rules and submission requirements
- Awards and final determinations are made at the discretion of CHS