

# SUSEF

HOSTED AT SUU

## Senior Fair Handbook

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March 6th, 2025

Sharwin Smith Student Center Ballroom

Southern Utah University

<http://suu.edu/cose/fair/>

SUSEF is a regional science competition for students in grades 5-12 in southern and eastern Utah. It has been affiliated with the Regeneron International Science and Engineering Fair (ISEF) since 1974.

## Dear School Principals, Teachers, and Parents,

In these pages, you will find rules and links to entry forms for the Southern Utah Science & Engineering Fair (SUSEF) Senior Fair. The SUSEF Committee invites you and your students in grades 9-12 to participate. Please note that the SUSEF Junior Fair and SUSEF Senior Fair have different categories, rules, and entry forms. Be sure to use the correct forms for your grade level. Carefully read through the Scientific Review Checklist! If you have any questions about the admissibility of a research plan, please contact the Scientific Review Committee Chair or Fair Director before experimentation begins.

### **Registration Reminder:**

Teachers must first register their school, then register as a teacher and select their school. Students may then register and choose their appropriate school and teacher.

Registration fees are as follows:

- \$25.00 for on-time registration
- \$30.00 for late registration

Before experimentation begins, a local or regional Institutional Review Board (IRB) or Scientific Review Committee (SRC) associated with SUSEF must review and approve projects involving human participants, vertebrate animals, and potentially hazardous biological agents.

*Note:* If a project involves the testing of a student-designed invention, prototype, or concept by a human, an IRB review and approval may be required prior to experimentation. See the "Human Participants Rules" section in the ISEF handbook for more details.

All required forms, including completed abstracts, must be submitted by the deadline. Entry forms without accompanying paperwork will not be considered. Visit the ISEF website for any rule changes for the 2025 competition year.

SUSEF participants should compete in a school or district science fair before entering SUSEF. These "feeder" fairs must limit the projects they send to SUSEF to either:

- A total of 50 projects
- Or the top three projects in each category

This handbook provides the basic information needed to get started on your project. The referenced forms are the ones required for all projects, though some projects may need additional forms.

Good luck, and we'll see you at the fair!

## 2025 Categories

Students may compete as individuals or in teams with a maximum of three members. Each category is judged separately. Team projects are judged alongside individual projects; however, teamwork is taken into account.

Project categories and descriptions are also found in the ISEF website

[Animal Sciences \(ANIM\)](#)

[Behavioral and Social Sciences \(BEHA\)](#)

[Biochemistry \(BCHM\)](#)

[Biomedical and Health Sciences \(BMED\)](#)

[Biomedical Engineering \(ENBM\)](#)

[Cellular and Molecular Biology \(CELL\)](#)

[Chemistry \(CHEM\)](#)

[Computational Biology and Bioinformatics \(CBIO\)](#)

[Earth and Environmental Sciences \(EAEV\)](#)

[Embedded Systems \(EBED\)](#)

[Energy: Sustainable Materials and Design \(EGSD\)](#)

[Engineering Technology: Statics and Dynamics \(ETSD\)](#)

[Environmental Engineering \(ENEV\)](#)

[Materials Science \(MATS\)](#)

[Mathematics \(MATH\)](#)

[Microbiology \(MCRO\)](#)

[Physics and Astronomy \(PHYS\)](#)

[Plant Sciences \(PLNT\)](#)

[Robotics and Intelligent Machines \(ROBO\)](#)

[Systems Software \(SOFT\)](#)

[Technology Enhances the Arts \(TECA\)](#)

[Translational Medical Science \(TMED\)](#)

## **Adult Sponsorship and Support**

### **The Adult Sponsor**

An Adult Sponsor may be a teacher, parent, university professor, or scientist in whose lab the student is working. This individual must have a solid background in science and maintain close contact with the student throughout the project. The Adult Sponsor is ultimately responsible for the health and safety of the student conducting the research, as well as the welfare of any human or animal subjects. The sponsor must review the student's Research Plan and Student Checklist to ensure compliance with all SUSEF rules and confirm that all paperwork is complete.

### **The Designated Supervisor**

The Designated Supervisor is an adult directly responsible for overseeing student experimentation. The Adult Sponsor may also act as the Designated Supervisor. If the student is working with live vertebrates and the animals' behavior or habitat is influenced by humans, the supervisor must be knowledgeable about humane care and handling.

### **Institutional Review Board (IRB)**

An IRB is a federally mandated committee that evaluates potential physical or psychological risks in research involving human subjects. Approval must be obtained prior to experimentation, including for surveys or questionnaires. An IRB must consist of at least three members: a science teacher, a school administrator, and a medical or mental health professional (e.g., psychologist, physician). The Adult Sponsor, parents, Qualified Scientist, or Designated Supervisor may not serve on the IRB for a project they oversee.

### **Scientific Review Committee (SRC)**

The SRC is responsible for evaluating student research plans, certifications, and exhibits for compliance with rules and regulations. It must consist of at least three qualified members, such as a biomedical scientist, a science teacher, and a school administrator. The SRC examines projects for:

- Evidence of literary research
- Proper supervision
- Appropriate research techniques
- Complete forms, signatures, and dates
- Alternatives to animal use (if applicable)
- Humane treatment of animals
- Compliance with rules and laws for human and animal research
- Compliance with hazardous biological agent regulations
- Expansion documentation for continuation projects
- Adherence to the ISEF ethics statement

### **ISEF Rules and Documents**

<http://www.societyforscience.org/isef/rulesandguidelines>

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The ISEF Documents include:

- The full text of the Current Rules and Regulations, Student Handbook, and all Intel ISEF forms.
  - The [ISEF Rules Wizard](#) – This “wizard” asks a series of questions about your planned project and will provide a list of forms that you need to complete.
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## Judging Criteria

### *Science Projects (100 points)*

- Research Question (10 points)
- Design & Methodology (15 points)
- Data Collection, Analysis & Interpretation (20 points)
- Creativity (20 points)
- Presentation (35 points)
  - Poster (10 points)
  - Interview (25 points)

### *Engineering Projects (100 points)*

- Research Problem (10 points)
  - Design & Methodology (15 points)
  - Construction & Testing (20 points)
  - Creativity (20 points)
  - Presentation (35 points)
    - Poster (10 points)
    - Interview (25 points)
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## Special Thanks

*The Southern Utah Science & Engineering Fair would like to express our gratitude to the many professionals who volunteer their time and expertise; and also to the dedicated teachers and advisers who worked all year with the students to help make our fair a success.*

Dylan Kirklin  
Director, STEM Center for Teaching and Learning