International Rules for Pre-Collegiate Research: Guideline for Science and Engineering Fairs

Changes for 2024-2025

The following items were the key changes made to the International Rules for 2024-2025.

All instances of Designated Supervisor (DS) was modified to Direct Supervisor (DS). Only the name of this role has changed; No changes were made to the qualifications or responsibilities of this role.

All Projects (pages 3-7)

In Ethics Statement, under Integrity (page 3) modified to include the use of AI and to state that a project may only represent one year of work

- Integrity. Honesty, objectivity, and avoidance of conflicts of interest are expected during every phase of the project. The project should reflect independent research done by the student(s) and presented in their own words with proper citation, most particularly if artificial intelligence is used. The project may only represent one year of work and must not include fraudulent data, plagiarism or inappropriate use of AI in presenting work that is not their own.

Under Approval and Documentation (page 4) #5 was added.

- 5. After competing in an Affiliated Fair, projects may not be changed or amended. However, additional data may be collected using the same methodology that was previously approved for the affiliated fair.

Human Participant Rules (pages 8-10)

Under Rules, 6.c. the word advice was added

- Students are prohibited from providing advice, diagnostic or medical information to participants without direct supervision and involvement of a medical professional. This includes publishing diagnostic apps on public websites or app stores without appropriate FDA approvals

Potentially Hazardous Biological Agents (PHBA) Rules (page 15-17)

Under Rules for All Projects, page 15, number 13 was added

- All local, state and national laws and permit requirements must be followed regarding the transport and use of microorganisms such as, but not limited to citrus greening or tobacco mossaic, etc.

Under Rules for All Projects, page 15, letter g was added

- The BSL-2 Checklist when a BSL-2 facility is used that is not at a Regulated Research Institution.

In C. Additional Rules for Projects with Tissues and Body Fluids, including Blood and Blood Products, Rule 7 (page 16) modified to exempt the student researcher

- 7. All studies involving human or wild animal blood or blood products, except those that only involve blood from student researcher(s) should be at a minimum a BSL-2 study done under the supervision of a Qualified Scientist.

In Exempt Studies (No SRC pre-approval required), Rule g. (page 17) modified to clarify E. coli strain

- g. Studies involving E. *coli* K-12 (OP-50 used solely as a food source for C. *elegans*)

Under Rules for All Projects Involving Hazardous Chemicals, Activities or Devices on page 19, the word transportation was added to the second sentence in #1.

- This risk assessment should be documented to include the risk assessment, transportation, supervision, safety precautions, usage, biosafety and appropriate methods of disposal.

Under Rules for All Projects Involving Hazardous Chemicals, Activities or Devices on page 19, the following sentence was added to the end of #4.

- All transportation and acquisition of materials must comply with all Federal and State laws and regulations.

Under Rules for All Projects Involving Hazardous Chemicals, Activities or Devices on page 19, the following sentence was added to #5.

- Disposal procedures shall be described in sufficient detail to ensure compliance.

Hazardous Chemicals, Activities, or Devices Rules (page 19-20)

Section B on Prescription Drugs was rewritten to clarify differences between prescription drugs and controlled substances

- In the United States, the Food and Drug Administration (FDA) tightly regulates the issuance of prescription drugs including non-controlled medications. State laws further regulate the use of prescription drugs, and it is unlawful for any person to knowingly or intentionally possess a noncontrolled medication unless it was obtained directly from a valid prescription or order of a practitioner while acting in the course of their professional practice. It is also unlawful to use a prescription for persons or purposes outside of the original intent of the prescription or for the person it was originally prescribed for. All applicable federal, state, and country laws must be followed.
    1. Students are prohibited from the use of prescription drugs in their study outside the authority of a practitioner or researcher that has obtained the non-controlled medication with appropriate approvals and is using the medication for the purpose for which it was prescribed.
    2. Exemptions include research and educational products purchased that are considered research grade and not pharmaceutical grade, therefore not for human consumption.
    3. 3. In the case of prescription drugs administered to vertebrate animals, this may only be done under a veterinarian's supervision and with prescriptions provided for this specified purpose.

Forms

Information on Required Abstract & Certification for All Projects at ISEF

Added clarifying language to Completing the Abstract section

- After finishing research and experimentation, you are required to write a (maximum) 250 word, one-page abstract. For ISEF, this abstract is written in the online Finalist Questionnaire portal and submitted electronically. This abstract must be written in your own words and will be run through a plagiarism checker.
- It is recommended that it include the following: a. purpose of the experiment b. procedure/methodology used c. most important/significant results you found d. conclusions/research applications Only minimal reference to previous work may be included.

Student Checklist (1A)

Added underneath 3. School:

- (if multiple schools, list of the team leader or list all schools).

Research plan/Project Summary Instructions

Added under b.

- If changes are made during the research prior to competing in an affiliated fair, such changes can be added to the original research plan as an addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate review and approvals.

Added under C.c.

- List of materials

Regulated Research Institutional/Industrial Setting Form (1C)

- Reformatted to fit on one page by condensing questions and including Yes/No check boxes

Qualified Scientist Form (2)

- Question 4, parts a and b were deleted as they were redundant and answered by the signatures below.
- Last sentence in Qualified Scientist signature box was deleted, "I understand that a Designated Supervisor is required when the student is not conduction experimentation under my direct supervision."

Vertebrate Animal Form (5A)

- Text boxes reorganized to clarify where signatures are needed

Potentially Hazardous Biological Agents Risk Assessment Form (6A)

Added under Section 1: Project Assessment the word strain

- Identify potentially hazardous biological agents to be used in this experiment. Include the strain, source, quantity and the biosafety level risk group of each microorganism.

Added under Section 3 in the 1st check box

- (include a copy of the checklist for BSL-2).

Added under Section 3 in the 3rd check box

- which does not require IBC or IACUC pre-approval for this type of study

Human and Vertebrate Animal Tissue Form (6B)

Under 3. The following sentence was added

- If human tissues were used, attach a copy of IRB approval.

In first check box in signature box, the word de-identified was added

- I verify that the student will work solely with de-identified organs, tissues, cultures or cells that will be supplied to him/her by myself or qualified personnel from the laboratory;

Continuation/Research Progression Projects Form (7)

Second sentence at the top was deleted since only the form is only needed for the most recent year

- The information must be on the form; use an additional form for previous year and earlier projects.