

Dear Teachers:

This year, the MARSEF committee will serve as the SRC (Scientific Review Committee) for all science projects that will be submitted to MARSEF.

The committee will approve each project before its start date, and keep a log of the name and approval date. Then, the committee will sign the forms with the date of approval at MARSEF check-in.

Every student should submit the following forms in an electronic word document to the chair of the SRC (Dr. Jonathan Rhoad).

- A. SRC Cover Sheet (complete the attached form)
- B. List of Forms Identified by the ISEF Rules Wizard (complete attached form).
- C. Research Plan (complete the attached form)

After submission, the chair will forward the submission to the appropriate scientist for review and the student will receive an e-mail stating his or her approval and date, which should be printed out and retained with his or her project papers. The SRC expects to return submissions within 10 days of submission. Submissions can be made at any time prior to the start of experimentation.

Please submit all proposals, even if you do not believe they need SRC approval.

How to Submit:

By e-mail: jrhoad1@missouriwestern.edu
By fax: (816) 271-4217
By mail: Jonathan Rhoad
Chemistry Dept., MWSU
4525 Downs Dr.
Saint Joseph, MO 64507

If you have questions about this procedure, please contact Jonathan Rhoad at (816) 271-4389 or at the e-mail address above.

DO NOT BEGIN ACTUAL DATA COLLECTION UNTIL THE INVESTIGATION HAS BEEN APPROVED BY THE SRC. If this has occurred before the arrival of this notice, contact Jonathan Rhoad.

Thank you,



Jonathan S. Rhoad, Ph.D.
Chair, MARSEF SRC

Research Plan

The sections can be expanded for longer research plans (as needed).

Working Name of Project: _____

Name of Student: _____

A. Question or problem being addressed:

B. Hypothesis / engineering goals:

C. Description in detail of method or procedures:

Procedures: Detail all procedures and experimental design to be used for data collection.

Describe the procedures you will use to analyze the data that will answer research question or hypothesis.

D. Bibliography: (five references are needed)

E. Additional Information (see attached reference sheet) for

1. Humans
2. Vertebrate Animals
3. Potentially Hazardous Biological Agents
4. Hazardous Chemicals, Activities, and Devices

Additional explanations for working with items listed in E

Items 1-4 below are guidelines to be followed when applicable:

1. **Human subjects research** (See instructions on p. 13 of the International Rules):

- Subjects.** Describe who will participate in your study (age range, gender, racial/ethnic composition). Identify any vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
- Recruitment.** Where will you find your subjects? How will they be invited to participate?
- Methods.** What will participants be asked to do? Will you use any surveys, questionnaires or tests? What is the frequency and length of time involved for each subject?
- Risks.** What are the risks or potential discomforts (physical, psychological, time involved, social, legal etc) to participants? How will you minimize the risks?
- Benefits.** List any benefits to society or each participant.
- Protection of Privacy.** Will any identifiable information (e.g., names, telephone numbers, birthdates, email addresses) be collected? Will data be confidential or anonymous? If anonymous, describe how the data will be collected anonymously.
If not anonymous, what procedures are in place for safeguarding confidentiality? Where will the data be stored? Who will have access to the data? What will you do with the data at the end of the study?
- Informed Consent Process.** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.

2. **Vertebrate animal research** (See instructions on p.17 of the International Rules):

- Briefly discuss **POTENTIAL ALTERNATIVES** and present a detailed justification for use of vertebrate animals
- Explain potential impact or contribution this research may have
- Detail all procedures to be used
 - Include methods used to minimize potential discomfort, distress, pain and injury to the animals during the course of experimentation
 - Detailed chemical concentrations and drug dosages
- Detail animal numbers, species, strain, sex, age, etc.
 - Include justification of the numbers planned for the research
- Describe housing and oversight of daily care
- Discuss disposition of the animals at the termination of the study

3. **Potentially Hazardous Biological Agents** (See instructions on p.21 of the International Rules):

- Describe Biosafety Level Assessment process and resultant BSL determination
- Give source of agent, source of specific cell line, etc.
- Detail safety precautions
- Discuss methods of disposal

4. **Hazardous Chemicals, Activities & Devices** (See instructions on p.25 of the International Rules):

- Describe Risk Assessment process and results
- Detail chemical concentrations and drug dosages
- Describe safety precautions and procedures to minimize risk
- Discuss methods of disposal