



ESC Student Research Grant Application Instructions

GENERAL INFORMATION

The Ecosystem Science Center (ESC) solicits student research grant proposals twice per year. This call is open to undergraduate and graduate students working with an ESC member on research related to the ESC mission to advance our understanding of how ecosystems function and how human activities influence ecosystem processes. This call is intended to give students an opportunity to gain experience in writing competitive grants and to gain experience in science by conducting their own research project. Allowable costs include lab supplies, sample analysis fees, field equipment, personnel and travel to research sites.

Application Deadlines

Fall: First Friday of December

Spring: Final Friday of March

Funding Amounts

- Undergraduate students: up to \$750
- Graduate students: up to \$1000

Eligibility

- A student is eligible to receive a maximum of one research grant per academic year and must be working with an ESC member. Students who apply in December and are declined funding may re-apply in the spring. Students who have received funding in Spring may apply for funding in the following fall.
- If you've been awarded an ESC research grant in the past year or have an open project from any year, you must fill out a Progress Report before you can be granted any monies for this year.
- Research must be related to the interests of the ESC to advance our understanding of how ecosystems function and how human activities influence ecosystem processes. A statement of relatedness must be included in the project description as described in the detailed instructions.
- ESC funds are for unfunded research initiatives. This includes projects without any current funding or it could be for *additional* work on a funded project. If the proposed work is connected to another project, please explain how the ESC funds will enable an expansion in scope of the funded project.

Award Requirements

- Submit a Progress Report upon completion of the project to the ESC Director or Center Manager. The Progress Report form can be found on the ESC website.

- Funds are to be expended within one year of an award.
- Publications resulting from ESC supported research should formally acknowledge the ESC and posters and presentations of supported research should display the ESC logo (see ESC website).

REVIEW PROCESS

ESC research grants are competitive. The grants will be judged by a panel of ESC members on the following criteria. Feedback will be given for all proposals that are reviewed.

Scientific Merit: The proposed work should make a novel contribution to knowledge or understanding and its scientific merit should be clear to the reviewer, who may not have expertise in your field. Careful attention to the required elements described below for each proposal section will help achieve this goal.

Quality of Writing: The proposals should be clearly written, well organized, concise, with proper grammar and spelling.

Completeness: The proposals should be formatted properly and address the guidance given for all of the sections listed in the detailed instructions below.

SUBMISSION

Your ESC Student Research Grant application should include:

- A single pdf that includes 1) a cover page (form found on the ESC website) with applicable signatures and 2) a project description (formatted according to the application instructions) with a file title in the format of *YOURLASTNAME-SEMESTER-YEAR-esc-student-research-grant.pdf*.
- ESC Student Research Grant Progress Report (*if applicable*). A progress report is *required* for any previous ESC research grants, including unfinished projects (just provide details of progress to date) before you can be granted any monies for a new project. This form is found on the ESC website.
- Submit all required documents to the ESC Manager, Jeff Henquinet at jwhenqui@mtu.edu.

PROPOSAL INSTRUCTIONS

Cover letter

The first page of the proposal should be a completed cover letter form with signatures. The cover letter form is available on the ESC website.

Project Description

Formatting: Project descriptions should be a maximum of 2 pages with 11 pt font and 1 inch margins. You are allowed one major figure or table beyond the two page limit. This could be used to show a conceptual model, provide preliminary data, or illustrate a sample design or experimental setup. Other smaller figures

and tables are permitted but would have to be within the 2 page limit. References should be placed last and use the same font and page margins as the main text. References do not count against the two page proposal limit.

Include all of the following sections listed below and address the guidance given for each:

Title: The title should reflect the subject of the proposal.

Background: The background section should provide the larger scientific context of the proposed work. It should also be clear how the proposed work fits into this scientific context. Assume your audience is intelligent, but has little direct knowledge about your research topic and why it is important. Introduce your study from a broad context then into a narrower context that will link to the specific questions to be asked or hypotheses to be addressed.

- **Relatedness to ESC mission:** Include a statement in the background section about how your proposed research is related to the ESC mission to advance our understanding of how ecosystems function and how human activities influence ecosystem processes. Any proposal deemed inappropriate for the ESC will not be reviewed.

Objectives: If the work is part of a larger project, summarize the broader objectives of that project. Also state the specific objectives for the work to be carried out by the funds requested in your proposal. It should be clear that your request is for important additional work. These objectives should clearly arise from the background provided.

Hypotheses/questions: The hypotheses or questions to be addressed in this proposal should be clearly stated, and testable or answerable. They should be clearly in line with the background and objectives.

Methods: The link between hypotheses/questions and methods should be clear. The proposed methods should be appropriate for testing the hypotheses or answering the questions defined above. They should briefly but clearly define the study sites, sampling and analytical techniques to be used.

If there are important measurements or analyses related to your research request that are being addressed by a larger project, please briefly describe them and the fact that they are being supported by the larger project. Otherwise, you risk reviewers asking “Why isn’t XXX measured?” It is understood that \$1,000 will only fund a small amount of work, but it needs to be clear how it fits in to the larger scheme of some projects. Your methods should primarily describe what you will use the ESC funds for, but background on other activities occurring at the study location can help reviewers as they assess your specific request.

The methods should include a timeline for field measurement, lab and data analysis, and writing/presentation activities.

Budget Justification: The budget should be appropriate for the costs of the proposed work. If the proposed work will require more funds than available from the ESC grant, state other sources of funding available, or how the work will be scaled back if other funding is not obtained.

Allowable costs include lab supplies, sample analysis fees, field equipment, personnel, and travel to research sites.