

**GUIDELINES FOR ACADEMIC CHALLENGE RESEARCH GRANTS**  
**DEPARTMENT OF BOTANY, MIAMI UNIVERSITY**  
Updated April 2009

Grantsmanship is one aspect of a successful scientific research career. The ability to communicate the potential, plan, and significance of a research project in a clear and concise manner to non-specialists is considered by the Department of Botany to be an integral part of both undergraduate and graduate education. The goal of the Department of Botany's Research Grants Program, within the Academic Challenge Program context, is to support independent scholarship by graduate and undergraduate students working with Botany faculty.

The Department of Botany's Academic Challenge Research Grant Program is competitive and not an entitlement to the student or faculty advisor. Graduate committees should not approve plans of study assuming support from this program is automatic. Failure of students to make adequate progress toward their degree aspirations because of financial constraints is not the responsibility of this program. Students and their faculty mentors are expected to apply for and successfully obtain support from external (outside the university) grant programs as well as from Miami University grant programs, such as through the Undergraduate Research Committee.

### **A. Eligibility**

1. Botany graduate students working on scholarship approved by their graduate committee and under the direction of a member of the Botany faculty are eligible. Students who have not had a plan of study approved by their committee are eligible to submit a start-up proposal only.
2. Undergraduate students working on scholarship as part of an enrolled program of independent research under the guidance of a member of the Botany faculty are eligible.
3. Except under exceptional conditions, graduate students must provide evidence that they have attempted, or that they are aggressively attempting, to secure funds for this project elsewhere, preferably from external sources. Undergraduates are encouraged to seek funds elsewhere, although not necessarily outside of the University.

### **B. Submission Process**

***1. Failure to follow guidelines will disqualify proposals for funding.***

2. ONE electronic copy of the complete grant proposal (already reviewed by the advisor) is to be submitted to the departmental secretary on or before one of

the following deadlines: October 1 and March 15. The student will provide a list of committee members for review.

3. Graduate committee members are to review the proposals and provide the students with constructive criticism within one week of the receipt of proposals. In the case of undergraduate proposals the faculty research advisor(s) will serve as the "committee".

4. Students are to revise proposals based on comments of committee members. Prior to re-submission, the student must obtain the signatures of their committee for the cover page. One signed hard copy and one electronic copy of the REVISED, complete grant proposal are to be submitted to the departmental secretary on or before one of the following deadlines: October 15 and April 1 (by 5:00 pm). [Note: If any of the deadlines in this section fall on a weekend or holiday, then proposals are due on the following business day.] The hard copy of the proposal will be kept on file in the Botany Department and the proposal will be distributed electronically to the members of the Research Committee for review.

5. Proposals must be prepared with: (a) minimum 2.5 cm margins at top, bottom, and on each side, (b) minimum 10 point font size, (c) if constant spacing is used, there should be no more than 12 characters per 2.5 cm, whereas proportional spacing should provide an average of 15 characters per 2.5 cm, and (d) maximum 6 lines per 2.5 cm.

6. Proposals that involve the use of human subjects as part of the research must show evidence of having obtained (or are obtaining) Institutional Review Board (IRB) approval before funds can be released.

7. Students conducting research in foreign countries or in protected regions in the United States must show evidence of having obtained (or are obtaining) appropriate permits before funds are disbursed.

### **C. Requirements for Start-up Proposals**

Each student doing scholarship within the Department of Botany is entitled to apply for one start-up grant of \$350 to enable the student to gather preliminary data with the intent of demonstrating that his/her project is feasible.

The Start-up grant proposal submission (1 to 2 pages in length) shall consist of:

- a. Completed cover page (see attached; not counted in 1-2 pages).
- b. Brief introduction including justification, hypothesis, and statement of objectives.
- c. General outline of the types of methods to be used. If work requires instrumentation or equipment not available in the department this should be indicated.

d. Statement of significance of the study.

Attached to the proposal (and not counted as part of the two pages) shall be the following appendices: A budget and budget justification, curriculum vitae and any other appendices.

#### **D. Requirements for Full Research Proposals**

1. Students may submit only one proposal per deadline. In the past, research awards have not exceeded \$2,000 per submission. This program cannot fully fund research projects in their entirety.

Students have a professional obligation to submit proposals to their graduate committee members in time to allow thorough, critical review before signing. Advisors have a professional obligation to review proposals before they are submitted to the entire committee.

2. The format of a proposal shall be as follows:

a. Completed Cover Page (see attached), copies of which are available in the department office.

b. Table of Contents.

c. Project summary (limited to 200 words)

d. Project description (limited to 5 pages)

(1) Introduction: A short perspective on the project.

(2) Hypothesis/ Goals: Include a statement of the overall goals of the project. For research projects, a concise statement of the hypothesis(es) to be tested and how this hypothesis(es) relates to the overall research goals should be included.

(3) Materials and Methods: For each goal, present a descriptive outline of the procedure(s) to be used to answer the question or test the hypothesis(es), and how data will be collected and analyzed.

(4) Rationale for, and Feasibility of, the Project: A statement that will convince proposal reviewers that your materials and methods are appropriate for addressing the hypothesis(es). Include any preliminary findings, if applicable.

(6) Significance: How is the proposed project important to scientists within and outside of your specialty area, as well as to the general public?

(7) Plans for Dissemination of Results: Where do you plan to present your research results (i.e., which professional meetings, journals, etc.)?

3. Attached to the proposal shall be the following Appendices:

- a. Literature cited.
- b. Timetable for proposed research.
- c. Detailed budget with detailed justification, including summer Field Workshop funds, Herbarium Travel Funds, and grants, etc. Indicate how these funds relate to the budget as a whole. Only expenses directly related to the research will be considered. Investigator salary, meals, and faculty travel will not be funded.
- d. A table listing ALL past, present, and pending proposals, external and internal, funded and unfunded, submitted while at Miami University. This table is to include: PI & Co-PI's, proposal titles, funding agency/source, funded amount, starting and ending dates (not counted as part of the five pages).
- e. Curriculum vitae.

### **E. Submission of Renewal Grant Proposals**

— Expansion or Continuation of scholarship funded through an “Academic Challenge Start-up Grant” is not to be considered a renewal.

1. Proposals from students who previously received funding for scholarship activities conducted as part of their current degree program are treated as Renewal Grant Proposals.

2. Renewal proposals also must include a 1 to 2 page statement on "Progress on Previously-Funded Project" (not counted toward the five page limit). This section is to immediately follow the Table of Contents.

In this section, students must state the objectives of their previously-funded proposal and provide a detailed summary of results. Failure to demonstrate that significant progress has been made in achieving the objectives will adversely affect chances for additional support. This section also must include a list of presentations at professional

meetings and manuscripts submitted to refereed journals, if any, based on previously-funded project. Students who have actively disseminated their research results will be advantaged in competition with other students submitting Renewal Grant Proposals.

## **F. Criteria for Proposal Evaluation**

Consideration of eligible proposals will be based on:

**1. Adherence to the Guidelines: *Failure to follow guidelines will disqualify proposals for funding.***

2. Competence: Capability of the investigator, technical soundness of the proposed approach, and availability of resources. This criterion normally will be judged according to the demonstrated feasibility of a new project or the demonstrated progress in addressing the objectives of a previously funded project (renewal proposal).

3. Intrinsic merit: Likelihood that the proposed activity will lead to new understandings.

4. Written quality of the proposal: The proposal must be understandable to a scientifically or technically literate reader outside of the specialized area of the proposed project. Proposals should be clear and complete, and proposers should reduce, and define, jargon as much as possible.

5. Budget: The degree to which expenditures have been justified.

Preference in awarding funds may be given to Botany graduate students or undergraduate Botany majors. Faculty mentors, if serving on the Research Committee, will absent themselves from the room during discussions and decisions on their students' proposals.

## **G. Administration of Grant Funds**

Administration of any funds granted will be primarily the student's responsibility, but will be overseen by the student's faculty mentor. All paperwork associated with grant expenditures must be signed by the student and countersigned by the student's faculty mentor.