

## CALS DISTINGUISHED UNDERGRADUATE RESEARCH

### Information for students and faculty

This award recognizes students who have demonstrated superior achievement in original research, and as such is one of the highest honors conveyed by the College of Agriculture and Life Sciences. Under the supervision of a faculty mentor, these students have conducted significant, independent and scholarly research. Distinguished Undergraduate Research (DUR) awards are granted to students who have had their project-related work, written submissions, and oral presentations evaluated and endorsed by both departmental faculty and the Academic Awards Committee.

Each student receiving DUR College Honors is formally recognized at the CALS Honors Day Ceremony. In addition, the title of the student's research project will be included in the UVM Commencement booklet.

*It is important that students and faculty project advisors contemplating submission of projects to the Academic Awards Committee become familiar with the procedures and requirements described below. **Careful planning and attention to deadlines are essential. Failure to meet these deadlines will result in disqualification of the student from the DUR process.** Questions should be directed to the Academic Awards Committee chairperson, Stephanie Phelps ([Stephanie.Phelps@uvm.edu](mailto:Stephanie.Phelps@uvm.edu)). For additional questions, contact the CALS Dean's Office at (802) 656-2980.*

### Deadlines for Fall 2009 Honors Defense

- **Friday April 10, 2009:** Application form, project proposal and faculty mentor letter are due in the CALS Dean's Office by 4PM.
- **Friday April 24, 2009:** Proposal defense day.
- **Monday May 11, 2009:** Proposal resubmissions are due in the CALS Dean's Office by 4PM.
- **Friday August 28, 2009:** Email update on research progress due to the Chairpersons by 5PM.
- **Late September to early October 2009:** Student presentation to their department for faculty endorsement.
- **Friday October 23, 2009:** All project-related papers and letters, including submission of letter from department chairperson indicating faculty endorsement of the project are due in the CALS Dean's Office by 4PM.
- **November 6, 2009:** Presentation of the student projects at the DUR College Honors Symposium Day.

### **Deadlines for Spring 2010 Honors Defense**

- **Friday September 18, 2009:** Application form, project proposal and faculty mentor letter are due in the CALS Dean's Office by 4PM.
- **Friday September 25 & October 2, 2009:** Proposal defense days.
- **Friday October 16, 2009:** Proposal resubmissions are due in the CALS Dean's Office by 4PM.
- **February 5, 2010:** Email update on research progress due to the Chairpersons by 5PM.
- **Early to mid-March 2010:** Student presentation to their department for faculty endorsement. NOTE: Spring Break is March 8-12, please plan accordingly.
- **Friday March 26, 2010:** All project-related papers and letters, including submission of letter from department chairperson indicating faculty endorsement of the project are due in the CALS Dean's Office by 4PM.
- **April 2 & 9, 2010:** Presentation of the student projects at the DUR College Honors Symposium days.
- **April 16, 2010:** Recognition of DUR recipients at CALS Honors Day.

### **Deadlines for Fall 2010 Honors Defense**

- **Friday April 9, 2010:** Application form, project proposal and faculty mentor letter are due in the CALS Dean's Office by 4PM.
- **Friday April 23, 2010:** Proposal defense day.
- **Monday May 10, 2010:** Proposal resubmissions are due in the CALS Dean's Office by 4PM.
- **Friday August 27, 2010:** Email update on research progress due to the Chairpersons by 5PM.
- **Late September to early October 2010:** Student presentation to their department for faculty endorsement.
- **Friday October 22, 2010:** All project-related papers and letters, including submission of letter from department chairperson indicating faculty endorsement of the project are due in the CALS Dean's Office by 4PM.
- **November 5, 2010:** Presentation of the student projects at the DUR College Honors Symposium Day.

## Procedure

The student and faculty member identify a significant and challenging project capable of being carried out independently (see below) by the student with the support and guidance of the faculty member. Projects may be related to the faculty member's present research or scholarly activities. **Projects may be a continuation of a previously started UVM grant (examples: URECA, HELiX, etc), undergraduate research, internship or for-credit experience. You cannot submit a completed project for DUR consideration; the research has to be active. For example, if you did your research over the summer and wrote it up in the fall for a spring defense, your research is considered active.**

### *How independent is independent?*

Research is never done in a vacuum. A student research project will rely on the work of past researchers and collaboration with current researchers. The idea for your project does not have to be original (although it could be). The project idea could come from your faculty mentor, and be a project she or he has had in mind for some time. You should develop the ideas for your project by working with your faculty mentor and other faculty and interested persons. Use these people as resources for figuring out how you will approach your project (how to hone hypotheses, develop experimental or qualitative tests, decide on data to collect and statistical procedures to use). This project is your project, not your faculty mentor's, so you do need to demonstrate how you did most of the data collection or data organization, and analysis.

Questions about the appropriateness of a project or the degree of independence may be directed to Academic Awards Committee chairperson, Stephanie Phelps ([Stephanie.Phelps@uvm.edu](mailto:Stephanie.Phelps@uvm.edu)).

***It cannot be emphasized enough that an early start, careful attention to planning and deadlines are important. It is the responsibility of the student to make sure that enough time is provided for completion of the final project (including letters of faculty endorsement of the project).***

## Application Form

Students must complete and deliver the DUR application form, their project proposal and the faculty mentor letter directly to the CALS Dean's Office.

“Guidelines to Authors”: Students need to examine the journals to which their mentor normally submits his/her research and choose one that closely reflects the scope and aims of their research. The student is required to examine the “Guidelines to Authors” or “Preparing the Manuscript” form from that journal and submit the web link to it with their application. Students will then be required to adhere to those guidelines for the overall format for their final paper, including the maximum length and number of figures.

## **Project Proposal**

A formal project proposal for DUR must be made to the Academic Awards Committee by the deadline stated above. The proposal is to be no more than 6 pages (references and figures excluded), double-spaced, 12 point Times New Roman font, 1-inch margins top, bottom, left and right. *Proposals that do not fall within these standards will not be considered and extensions to revise documents to conform to these standards will not be granted.*

**Quantitative Research:** The proposal should be a short description of the project that must include a title, a short (no more than 2 pages) background section with key literature references (a minimum of 8), a hypothesis, a clear and succinct statement or list of specific objectives, and a description of methods to be used for data collection and analysis. The proposal should also include expected results and potential pitfalls.

**Qualitative Research:** The proposal should be a short description of the project that must include a title, a short (no more than 2 pages) background section with key literature references (a minimum of 8), a central research question along with a succinct statement or list of objectives, and a brief overview of the methods to be employed (interviews, focus groups, participant observations, etc.). The proposal should also include expected results and potential pitfalls.

Some projects may contain both quantitative and qualitative research. In those cases, students should write the proposal addressing the necessary aspects of the above requirements.

## **UVM CALS Faculty Mentor Letter**

The proposal must be accompanied by a signed letter (no emails) from the project mentor stating that he/she has reviewed the proposal and that it is ready for submission. The letter must also explain:

- The degree of independence the student will have on the project.
- What contribution the proposed research will have on the field of study.
- Why the proposed project has the potential to earn a Distinguished Undergraduate Research award.
- The probability for a peer-reviewed publication.

*Note:* If your project mentor is not a CALS faculty member, it is your responsibility to obtain a second mentor that is. This individual should be closely involved with your project throughout its duration. Letters from both mentors will need to be submitted with your proposal and final documentation.

## **Project Proposal Defense Days**

The major purpose of this defense is to ensure that the proposed project is of a standard sufficient to be deemed eligible for DUR College Honors. Students will have a 15 minute oral defense of their project proposal with the Academic Awards Committee. Students do not prepare a presentation, but should be able to answer basic questions on their research, justify the experimental process, and discuss their timeline and any potential problems that may be encountered.

Shortly afterwards, students will be notified by email of the status of their proposal and whether a resubmission will be necessary.

## **Project Proposal Resubmissions**

Proposals that require resubmission will be returned to the student with comments that must be addressed before approval of the proposal is given. Resubmissions are due on the date indicated above.

## **Email Update of Research Progress**

On the date indicated above, the student will submit a Word document update (2 pages maximum, double-spaced, 12 point Times New Roman font, 1-inch margins top, bottom, left and right) on the progress of their research as an email attachment. This document should indicate where they are in the objectives or specific aims that they proposed, if they are encountering any problems and if so, what is being done to resolve them. The email can be sent to the Committee chairperson, Stephanie Phelps ([Stephanie.Phelps@uvm.edu](mailto:Stephanie.Phelps@uvm.edu)).

***Failure to send the email update by 5PM on the date indicated above will result in disqualification of the student from the DUR process.***

## ***What if I don't complete the research I proposed?***

Quite often progress on a research project does not occur as quickly as one thought it would. This is the very nature of research; new questions are being asked, novel techniques or protocols are being developed and unforeseen problems occur. What is important is how you approach and deal with these difficulties. Since this is your research project, you should be suggesting or providing possible solutions to your mentor to surmount these problems. The Committee will be looking at how your mentor and department faculty felt about your progress and the handling of any problems in their letters of endorsement. In your final paper and oral presentation you may propose solutions to the encountered problems and explain the importance of the future experiments and results in advancing your area of study.

## **Departmental Endorsement**

Endorsement of the project (the final paper and presentation) by department faculty is required. At some stage in the work when the student and project advisor deem it appropriate (see suggested dates above), they schedule a departmental seminar for presentation and discussion of the project design, methodology, and results. Faculty in attendance must judge the project and work to be of high quality and worthy of eventual consideration for DUR College Honors. The department chair, head of the unit, or the director or coordinator for undergraduate research informs the Academic Awards Committee chairpersons of the faculty's endorsement in writing. Two (2) UVM faculty members not directly involved with the project and capable of evaluating the quality of the project critically review the final paper and oral presentation and, if necessary, recommend revisions. When the reviewers judge the paper and presentation to be of outstanding quality, they each draft a letter of endorsement to the Academic Awards Committee chairpersons.

## **Final Paper and Letters**

With faculty endorsement, the student completes the work and drafts the final paper according to guidelines below.

- A *very high quality paper* in a format selected by the student at the time of proposal submission. The student must adhere to that “Guidelines to Authors” for paper format, length, and number of figures (Note: The length of the paper and number of figures may be less than what was stated as the maximum in the “Guidelines to Authors”).

A total of five (5) letters are to be submitted to the Committee:

**Note:** *It is the students' responsibility to make sure all letters have been received by the Dean's Office by the 4PM deadline.*

- Letter 1. As described above, a letter by the Chair of the Department, Head of the Unit (BIOC, BISC), Director of the Program (ENSC, ENVS) or Coordinator for Undergraduate Research with the student's home department stating that the faculty endorses the project for DUR College Honors.
- Letters 2 & 3. As described above, two (2) letters from UVM faculty reviewers pertaining to the quality of the work and of the final paper or product.
- Letter 4. A letter from the project mentor describing the overall performance of the student, the degree of independence exercised by the student, the nature of supervision provided during the course of project and in preparing the final paper or product.
- Letter 5. A letter written by the student describing the degree of independence in designing and carrying out the project and in preparing the final paper or product.

The student should also indicate how much they learned during the project and how the experience has influenced them.

### **DUR College Honors Symposium Days**

On the dates indicated above, a DUR College Honors Symposium Series will be held at which candidates formally present their work to the CALS faculty, administrators, staff, and students. Each student will be allotted 15 minutes for their oral PowerPoint presentation and at least 5 minutes for questions from the Committee and the audience to be answered by the student.

After the seminar the Committee meets to discuss submissions, presentations and make their final decisions. Students will be notified by letter from the Dean of the College of Agriculture and Life Sciences.

### **Criteria for evaluating projects by the Academic Awards Committee**

- Quality of final paper or product -- content, format, style, clarity.
- Quality and professionalism of the final oral presentation of work -- content, organization, delivery, Q&A.
- Understanding and mastery of the project's content, design, and relevant disciplinary knowledge.
- Level of independence, competence, and responsibility in carrying out the project.
- Level of independence in preparing the final paper or product.

### **Appeal Process**

If a student wishes to appeal the decision of the Academic Awards Committee, it is their right to do so through a formal letter of appeal to the Associate Dean, Dr. Josie Davis. The Associate Dean will evaluate input from the student and the Academic Awards Committee. It is not appropriate for faculty to appeal this process or advocate for their students, unless requested by the Associate Dean. The decision by the Associate Dean may be appealed to the Dean of the College of Agriculture and Life Sciences.

For information, contact the College of Agriculture and Life Sciences Dean's Office at (802) 656-2980.