

AnSc 4009 Undergraduate Research Thesis

Instructors: Animal Science Faculty

Coordinator: Laura Mauro
495F An Sci/Vet Med
612-624-6274
mauro002@umn.edu

Credits: Six credits required. Usually completed over multiple semesters with 1-6 credits completed per semester.

Course description:

The Undergraduate Research Thesis is a research project conducted under the supervision of a University of Minnesota faculty member. Typical length of the experience is one to two years. A bound thesis and oral presentation are required for completion.

Objectives:

1. To gain research experience in a subject matter relevant to the Animal Science Major.
2. To add to a student's professional resume.
3. To meet the student's learning objectives and personal growth.
4. To help clarify the student's career objectives.
5. To increase the student's critical thinking and writing skills.

Research thesis guidelines:

1. The student is responsible to find a faculty member the will supervise the research.
2. It is preferred that the research have an animal focus but this is not absolutely required. Students should select a research area that meets their educational objectives.
3. Six credits are required for completion. To meet the AnSc requirement for graduation, the credits must be taken A-F.
4. This course cannot be used as part of an Undergraduate Research Opportunities Program.

Guidelines for the thesis:

The thesis should be modeled after a M.S. or PhD thesis but will not be as long, have the same breadth, or the large amount of research data that would be included in these graduate theses. The general outline is as follows:

1. Title Page: Title of your project, your name, your affiliation, name of your mentor and date
2. Acknowledgements: Optional statement of thanks to anyone who has helped your efforts
3. Background & Significance: A review of the current literature relevant to your topic including what the significance or importance of this work is to society, the scientific community and field; and a brief (2-3 sentences) stating your hypothesis and summarizing the project.
4. Experimental Design & Methodology: Explain the design of the experiments you conducted and what technical methods you used. You might wish to break this down into sections with subheadings for experiments
5. Results: Explain the results; you will usually have figures in this section
6. Conclusions: You would interpret your data in this section
7. General Discussion: Optional section to discuss your data in the context of the field

AnSc 4009W meets the experiential learning designation. Working with the research supervisor or academic adviser, the student will address the following questions:

- A. **Self-reflection questions to be complete** and submitted to faculty adviser before the research project is started:
1. How do you think that this research project will complement your coursework and add to your overall college education?
 2. What are your learning objectives for this experience?
 3. How do you think that this research project will change you as a person?
- B. **Approximately** midway through the research project, students will answer the following questions and discuss with the faculty adviser:
1. What has been the most important professionally relevant skill that you have learned this research project to date?
 2. Does it appear that you will be able to accomplish all of the learning objectives listed part A?
 3. In what areas do you feel you were least prepared for this research experience?
 4. What has been the highlight of this experience to-date?
- C. **After the thesis has been completed**, students will answer the following questions and discuss with the faculty adviser:
1. What has been the most important professionally relevant skill that you have learned during this research experience?
 2. Did you accomplish all of the learning objectives that you originally set for yourself?
 3. Describe a frustrating experience that you encountered during your research project?
 4. How has this experience influenced your career goals?
 5. What have you learned about yourself during this experience?

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Inquiries regarding compliance may be directed to the Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455, (612) 624-9547, eoaa@umn.edu. You may also visit the website at www.eoaffact.umn.edu.

This syllabus is available in alternative formats upon request. Please contact Megan Schmidt, 225A Haecker Hall; phone (612) 624-2289; email schm2221@umn.edu.