SENIOR THESIS SYLLABUS AND SURVIVAL GUIDE

The Senior Thesis or Project is a hallmark of the Ecology and Conservation Biology program. While most of the requirements of this or any degree are accomplished in traditional classroom, lab, and field trip settings, the ECB Senior Thesis or Project takes students on a journey of independent inquiry and hands-on learning. Besides being an excellent intellectual experience, we believe that your Senior Experience will give you a better grasp of scientific principles and methods, make your degree more appealing to potential employers, and prepare you for grad school if you choose that route.

This guide provides a timeline, with a list of key benchmarks for completing the thesis. It addresses a set of frequently asked questions. Note- in particular- the standards for evaluation. There are rigorous standards for successful completion of the thesis, and a series of time-specific benchmarks that must be met. Your advisor, thesis mentor, and the program director are available to help you with this process. It is ultimately your responsibility to understand and meet requirements. Students have experienced delayed graduation through not understanding or taking thesis standards seriously. Please review this document thoroughly.

Senior Thesis: Timeline, and Key Requirements

Anytime before registering for 485/497

- Attend at least one 'Senior Thesis support session'
- Attend at least one thesis presentation session (fall or spring)

Junior year (or earlier!!!!)

- Contact mentor
- Begin discussing and reading about topic.

Spring Semester, Junior year

- Work with a faculty mentor to develop your thesis or project design
- Register for 1 credit of 485 or 497
- Write a thesis or project proposal, submit to your mentor (Due two weeks before you present)
- Submit your presentation (power point) to your mentor for review <u>at least</u> two weeks before presentation, and obtain your advisor's signature on a form stating that you're ready to present (forms are available from Lynaire Banks in the CNR main office)
- Present the proposal at the Spring ECB poster session (April)

Summer: between Junior and Senior Year

- Register for 1-2 credits of 485-497
- Conduct data gathering or project implementation, Analyze data or complete project

Fall Semester, Senior Year

- Analyze data or complete project
- Register for 1 credit of 485-497 (only if 3 credits have not already been taken)

Spring Semester, Senior Year

- Register for 1 credit of 483
- Write thesis research results or project completion report, submit to your mentor (Due two weeks before you present)
- Submit your presentation (power point) to your mentor for review <u>at least</u> two weeks before presentation, and obtain your advisor's signature on a form stating that you're ready to present (forms are available from Lynaire Banks in the CNR main office)
- Present results of senior experience at the Spring ECB poster session (April)

Senior Thesis: FAQ

Q1: How will my thesis project be evaluated?

Q2: What the heck is the difference between a thesis and a project?

Q3: How should I find a project?

Q4: Do I have to follow the exact timeline given above?

Q5: When do I have to register for thesis/project credits?

Q6: How much work is involved in the thesis/project?

Q7: What happens if I present a proposal, and then my thesis or project changes later?

Q8: Does my mentor have to be ECB faculty?

Q9: Do I have to present my proposal before I do my research?

Q10: How will I pay for this?

Q11: What should be included in my proposal?

Q12: What should be included in my final presentation?

Q13: What if I plan to be elsewhere during the scheduled poster or final presentation session?

Q14: When do the proposal and final presentation sessions take place?

Q1: How will my project or thesis be evaluated?

A: Your proposal and final presentation will be evaluated by a faculty panel, and by your ECB mentor. During your presentation, you will be graded using a rubric (see below). Note that we hold presenters to a professional standard. You must meet the following criteria to pass.

Proposal level

- Overall average score of '2.5' or higher on the rubric
- No average score for any single category falling below 2
- Approval of faculty mentor

Final presentation level

- Overall average score of '3 or higher on the rubric
- No average score for any single category falling at or below 2.5
- Approval of faculty mentor

If the student fails to pass at either stage (proposal or final presentation) then the ECB thesis committee will work with the student's mentor to draft a set of criteria for moving forward. These criteria may include additional analyses or an additional presentation. We will try to make this process transparent and fair, but it is IMPERATIVE that you communicate with your mentor regularly to ensure that you're meeting expectations.

As communicated above, deviations from your proposal should be communicated to your mentor and to the ECB director (and thus to the ECB thesis committee) as soon as possible.

You are NOT guaranteed a passing grade for your thesis. The thesis is a great opportunity for professional growth and development, but we do expect our students to strive for professional standards. Do not take this opportunity (and responsibility) lightly.

There are several other benchmarks that must be met. These include:

- 1) Attend a 'Senior Thesis Support Session' and a Thesis Presentation Session'. Attending these events is a <u>prerequisite</u> for enrolling in NR 485 or NR 497.
- 2) Submit both your proposal and your final presentations to you mentor for review <u>AT LEAST</u> two weeks before you present.

3) Obtain your mentor's dated signature on a form stating that you're ready to present. your mentor's dated signature on a form. These are available from Lynaire Banks in the main CNR office.

Q2: What the heck is the difference between a thesis and a project?

A: For a **thesis**, you should be conducting **original research and hypothesis testing** and collecting your own data.

In contrast, **projects** do not require original hypothesis testing and data collection. For a project, **you can synthesize existing information, conduct a meta-analysis, or otherwise use existing material to make an original creative contribution**. Examples of past projects include: creating a GIS database for Taylor Ranch, assessing key differences between Endangered Species Recovery plans. However, there are requirements common to both project and thesis options. These include:

- Full responsibility in choosing a topic and mentor
- A written proposal detailing rationale, objectives, methods, and timetable
- Defense of the proposed project at a spring poster session
- Completion of a scholarly work in consultation with your mentor
- Written thesis or project completion report
- Presentation of accomplishments at a spring poster session/celebration

Q3: How should I find a project?

A: There are a number of approaches...

- 1. Review the list of ECB faculty, and do a little research into their interests. Then, approach people who are doing work that appeals to you. It definitely helps to be well-informed... faculty typically are not motivated to help people who just show up and ask 'so... what do you do?'
- 2. Check with your advisor for leads.
- 3. Review the list of available projects online (through the ECB web page)
- 4. Utilize an existing job or internship as an opportunity to develop a thesis project.
- 5. Develop a project in conjunction with a professional at another University or agency.

Q4: Do I have to follow the exact timeline given above?

A: No. The timeline is a guide only. It would be possible, for instance, to present your proposal earlier than your junior year. HOWEVER, the process should take roughly a year and a half to unfold, and should follow the proposal-research-presentation sequence. There's plenty of flexibility... but don't expect to cram things all into your senior year.

Q5: When do I have to register for thesis/project credits?

A: You need **three credits of 497/485** (thesis/project) and **one credit of 483** (thesis/project presentation). You need to be registered for 497/485 <u>during the semester that you present your proposal</u>. You need to be registered for 497/485 <u>during the summer session</u> (if that is when you do your research). You need to be registered for 483 during the semester when you present your final results.

Q6: How much work is involved in the thesis/project?

A: Three credits of 497 correspond to at least 135 hours of effort. This effort includes library work; writing, presentation and defense of the proposal; and the gathering and analysis of data. One credit of 483 constitutes at least 45 hours of work writing the thesis or project, and presenting the entire senior experience at an end-of-semester poster session. The program expects professional standards for your work- in fact, there have been several students who have published their thesis work in peer-reviewed journals.

Q7: What happens if I present a proposal, and then my thesis or project changes later?

A: This does happen- sometimes because your ideas change, sometimes because of the unpredictable character of field work. However, if your product is veering away from your proposal, you need to A) **talk with your mentor, and B) contact the ECB director.** The director will consult with a panel of ECB faculty. In most cases, changes will be allowed... but the committee may work with the student and their mentor to ensure that the altered product meets the benchmarks set by the program.

Q8: Does my mentor have to be ECB faculty?

A: You should always have an ECB faculty member as a mentor... but the mentor's involvement can vary from project to project. For instance, you may choose to work with a researcher at another institution (or from another UI department)... in this case, your ECB mentor would work to ensure that you met program requirements, but the other researcher would be the primary supervisor for your actual research.

Q9: Do I have to present my proposal before I do my research?

A: In almost all cases, yes. The proposal is an opportunity for faculty to give feedback and critique a student's proposed research direction; students should not plan to do research first, and THEN present a 'proposal'. HOWEVER, we do recognize that there are some situations where it may be difficult for students to define their exact objectives early on in the process. Examples include- students who enter an REU (Research Experience for Undergraduates) program, or students who travel abroad, hoping to do research while out of the country. If you feel like the proposal timeline might be a problem, talk to the ECB director. Usually, students can be accommodated... but only if things are worked out ahead of time.

Q10: How will I pay for this?

A: There are- at this time- no funds expressly set aside for thesis research. Many of the projects available through ECB faculty WILL be fully funded, but this will vary. There are various grants and funding sources available for student research: some of these are listed on the ECB website, you can also talk to advisors, faculty for ideas. Note- there are always small-scale, regional research questions that can be evaluated without a huge budget, whereas shark-telemetry off Cape Horn may be a bit more prohibitive.

Two competitive research grant programs are worth special attention. The Student Grant Research Program (http://www.uro.uidaho.edu/sgp) provides excellent support to students with good ideas. Another excellent source of funding is provided by the Berklund Undergraduate Research Scholar Award (http://www.cnrhome.uidaho.edu/documents/2006%20Berklund%20Undergraduate%20Research%20Scholar%20Award.pdf?pid=97823&doc=1)

Q11: What should be included in my proposal?

A: Your proposal will be prepared as a written document (due 12th week of semester, submitted to faculty mentor) using professional, technical writing standards. The following should be included:

- Title page
- Abstract
- Introduction and background
- Research objectives
- Research activities and methods
- Animal Care and Use Protocol Application (ACUC Application) and Human Subject Review Form (HAC Application) filled out if appropriate and ready to be assessed if the proposal is successful
- Proposed data analysis approach
- Relevance of research to career goals and/or society
- Timetable (not to exceed 12 months)
- Description of support provided by supervising faculty member (mentoring and/or matching financial support)
- Literature references
- Student vitae/resume
- Letter of support from supervising faculty member

You will also present this material as a power point presentation. You will have ~15 minutes (with questions) to present. The items in italics should be included.

Q12: What should be included in my final presentation?

A: Your final presentation will be prepared as a written document (due 14th week of semester, submitted to faculty mentor) using professional, technical writing standards. The following should be included:

- Title page
- Abstract
- Introduction and background
- Research objectives
- Research methods
- Results and discussion
- Implications for management
- Conclusions
- Literature references

You will also present this material as a poster. You will have ~ 15 minutes (with questions) to present. All items should be included. Guidelines for preparing your poster are available on the ECB website.

Q13: What if I plan to be elsewhere during the scheduled poster or final presentation session?

We can accommodate remote presentations under special circumstances, but you should let us know well in advance.

Q14: When do the proposal and final presentation sessions take place?

There are two- generally in November/early December and April.

ECB proposal evaluation form							
Mentor name:			Oate:				
Key: 'Outstanding' = 'exceeds professional expectations', 'Excellent' = 'meets professional expectations', 'Good' = 'would need some improvement to meet professional standards', 'Fair' = 'would need considerable improvement to meet professional standards', 'Poor' = 'falls far below professional standards'							
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Comments							

Mentor name:			Oate:				
Key: 'Outstanding' = 'exceeds professional expectations', 'Excellent' = 'meets professional expectations', 'Good' = 'would need some improvement to meet professional standards', 'Fair' = 'would need considerable improvement to meet professional standards', 'Poor' = 'falls far below professional standards'							
Background, Objectives and Methods are clear and justified							
Outstanding	Excellent	Good	Fair	Poor			
Comments							
Results and Discu	ission clear and jus	stified					
Outstanding	Excellent	Good	Fair	Poor			
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Outstanding	Excellent	Good	Fair	Poor			
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Overall evaluation							
Outstanding	Excellent	Good	Fair	Poor			
Comments							

ECB final presentation evaluation form