Preparing a Capstone Project: Tips, Hints, and Suggestions

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So, you have reached the point in your undergraduate college career when you' ll conduct a capstone research project. You may have many questions about how to begin and complete this project. This document has been prepared to provide you with tips, hints, and suggestions through the research process from beginning to end.

I. The first step, Enrolling in Bot 4983, Plant Biology for the 21st Century

A. Enroll for the class and begin thinking about a research project you would like to conduct

1. Identify your interests. Think of the reasons you are interested in botany; why you started studying botany, what you would like to do when you complete your degree, or an area of botany that you would like to further explore.

2. Brainstorm. Write down many ideas that you could research and how you could research them; keep endpoints (what you want to gain from your research, besides just a grade) in mind.

B. Capstone Committee. Keep in mind that you will have three faculty members, specializing in three different areas, serving on your capstone committee:

1. Advisor--one faculty member will serve as your advisor. This should be someone you have worked with before, or someone whose work interests you. They will guide you through the capstone project, suggest other committee members, approve a research project, and will be the main reviewer and editor of your final paper.

2. Other two committee members-these two people will provide suggestions to you concerning your project. They will also review your final paper and ask questions at the end of the project. Your capstone advisor can help you choose the two committee members.

C. Discussion with potential advisor. Go ahead and set up a meeting with the person that you would like to be your advisor; see if he or she is willing to serve as your advisor. Discuss preliminary research topic ideas and other possible committee members.

D. Brainstorm over the break about potential research projects. Be specific, make an outline, and be realistic (you can't save the world in a semester- or can you?); consider supplies, possible resources, and timelines.

1. The timeline should include time to complete the project and write a

final paper, with time to have the paper revised several times and a final meeting with your committee. Be realistic and seek advice from your advisor.

E. The scope of the research project. You have options.

1. The scope of a laboratory-based project is variable depending on the nature of the research conducted and the project objectives outlined by your advisor and committee members. You should expect to complete a substantial written component for the Capstone research project and to present your results orally at scientific meetings. You and your faculty committee members are encouraged to focus on a project that will result in publication.

2. The scope of the library-based research project should result in a paper from 20 to 30 pages in length. Like a lab-based project, the outcome of the project will vary depending on the nature and focus of the study. An oral presentation at a scientific meeting is strongly suggested. You and your faculty committee members are encouraged to focus on a project that will result in publication.

II. Beginning the Bot 4983 Semester

A. First week of semester: Set-up another appointment with your advisor; propose your project, or review your project outline, and be sure to include the supplies you may need, resources, and the timeline. Your advisor and committee members may have suggestions or modifications to your project (they are there to help you); check with the other two people who you want to serve on your committee and see if they are willing to do so.

B. Second week of semester: Set-up and have a meeting with entire committee, you and three faculty members; propose how you will conduct your project, what your endpoints are, and bring a timeline (this will show the committee that what you are proposing to do can be done and what the results of the project will be).

III. Throughout the Bot 4983 Semester

A. Each week of semester: Work on your project a previous set amount each week. Remember, Bot 4983 is a 3 credit hour course. The set amount may be completion of a certain amount of tasks, certain amount of hours, or certain amount of resources found. Do not procrastinate.

IV. Towards the end of the Bot 4983 Semester

A. Five weeks 'til end of semester (including finals week): Turn in the first draft of your final paper; you will want to have your paper reviewed and revised several times before submitting the final paper to your committee for review.

B. Fourth, Third, and Second weeks 'til the end of the semester (including finals week): Revise and have your advisor review your paper and offer

suggestions as many times as possible.

C. Week before finals week: Set-up a meeting time and place during finals week for you and your committee members to review your project and final paper; this is the time when you will defend your capstone - your undergraduate thesis project.

D. Week before finals week: Make final revisions on your paper and distribute a final copy to the three committee members; make sure that they have sufficient time to review your paper before the capstone defense; this is the paper that your committee will be drawing information from for the questions and comments session; Do the best you can, you are representing yourself.

V. Final week of Bot 4983 Semester

A. Final meeting with committee members; this is also known as your undergraduate capstone defense; committee members will ask you questions and will put you on the spot; if you have done your research project well it will be no problem; actually kind of fun.

VI. Extra Tips, Hints, and Suggestions

A. If you initially have problems coming up with a research project idea think about these things:

1. Have you ever wondered about a botanically related issue, but not had time to research it?

2. Look at current environmental, political, or other news events related to plants and think about whether or not you could expand on any of these ideas.

3. Have you ever read a scientific paper and wondered if the research they conducted was accurate?

4. Think about what initially interested you in botany.

5. Think about what you want to do in the future related to botany.

B. Making a specific timeline for completion of your project is key. First lay the project outline in front of you and figure out everything that must be done to complete the project. Break the tasks down into individual tasks and figure out how much must be done each week to complete the project. Stick to this timeline.

C. It is easy to think that you will have time later in the week, month, or semester to complete the project. If you follow your timeline, then you should not become overwhelmed towards the end of the semester.

D. If and when you run across problems during your research, set-up an appointment with your advisor and discuss these problems. They are there to help you, not to watch you struggle.