

Capstone Theme: (BIO)DIVERSITY

**Your Capstone Mentor: Dr. Romi L. Burks; @ProfRomi
Chair & Professor of Biology**



Semester Class Time: 8:30 – 9:45 am Tuesday and Thursdays, Fondren Jones 103

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Office Hours: Wednesdays 10-11; 1 – 2 pm and by appointment.

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Biology Capstone is a course for senior biology students, in which you investigate advanced topics in biology, integrating the concepts and knowledge you have gained from previous courses taken in the major. In this capstone seminar, we will explore the theme of diversity. I define “biodiversity” as the sum of all genetic, species and ecosystem variation present in an area. One can quantify biodiversity. It has identifiable characteristics as well as both monetary and immeasurable value. While clearly definable, biodiversity extends beyond what we can conceive and connects to any number of social and political issues. The term biodiversity literally contains the word “diversity” which refers to more broadly to the extent of variation present and likely connects to structure and function in biological systems outside of ecology, such as within or across cell and molecular biology.

For BIO50-994 students, it will be your capstone objective to connect your own interests in biology to this theme in a thoughtful literature review. As a part of the seminar, each of the 994 students will write a focused literature review on (bio)diversity and give two oral presentations about the findings. Students will lead and participate in peer discussions of research papers, help themselves and their peers prepare for the ETS Major Field Test in Biology, and reflect on their biology experience. During class times, students will take the ETS Major Field Test in Biology and complete the Biology exit survey. In addition, they will attend all department seminars.

For BIO50-991 students, it will be your capstone objective to connect your undergraduate research and experience in upper level courses to this theme in a Paideia reflection

- Students taking the one-hour version of the Biology Capstone (50-991) should meet with their research mentors to plan out their Capstone Seminar Expectations and discuss responses needed to complete the Capstone form.
- Based on the conversation with the Primary Research Mentor, students should complete this form by the end of the 2nd week of classes. Responses will be sent to the Primary Research Mentor, the Capstone Professor, and the Chair of the Biology Department.
- Based on consensus from the faculty of the Biology Department:
 - The Capstone Paper collectively will represent 75% of the 1-hour course grade (300/400 pts).
 - The Primary Research Mentor will be responsible for assessing paper quality.
 - Oral Presentations (80 points) and MFT Preparation (20 points) will make up the remaining 25%.
- To pass the course, BIO50-991 students must also take the Major Field Test, write an acceptable Paideia essay and Biology Reflection (completion grade only – may be return by Burks for revision as deemed necessary) and complete any additional tasks as outlined on the syllabus by the Capstone Professor, including attending class when required and Department Seminars.
- Any additional Research in Biology (BIO50-97X) credit taken by the student will be graded by the Research Mentor with a different set of expectations outlined.

What You Can Expect:

1. To produce original work in this course.
2. To struggle to come up with a feasible research question.
3. To analyze some data and write a basic R script.
4. To rewrite everything.
5. To connect the dots across the subdisciplines of biology.
6. To foster your ability to sustain engaged discussion.
7. To critically think about how to present a story.
8. To work collaboratively with your peers to review core concepts in biology.
9. To reflect on your experience and identity as a biology major.
10. To create something about which you can be proud.

My Goal: My goal is that every student does well in this course and has a good experience in their biology capstone. Please come in to see me if you are having difficulty, or not doing as well as you would like in the course. Often, I can offer suggestions on how you can better prepare for class and be more effective in your writing and studying.

Course Learning Objectives

Biology capstone students should:

1. Demonstrate the ability to locate, critically evaluate, and summarize research literature on a specific biological topic.
2. Lead peer discussion and contribute constructively to discussion of scientific, primary research papers.
3. Give a formal and informal oral presentation of a biology research project, internship, literature review, grant proposal, or another relevant topic.
4. Write a scientific research or review paper for a scientific audience, which includes review and synthesis of primary literature.
5. Reflect on the biology experience at Southwestern University by completing the Biology Exit Survey and writing a reflection essay on their biology experience.
6. Demonstrate mastery of biology content by taking and passing the Major Field Exam in biology.
7. Discuss in a written essay insightful and meaningful connections among concepts from cellular/molecular, ecology, evolution and population courses. At least one connection must be between the areas of cell/molecular and population/ecology/evolution.
8. Understand the scientific process from hypothesis formation to support of conclusions.

CORE PRINCIPLES IN RESEARCH



OCCAM'S RAZOR

"WHEN FACED WITH TWO POSSIBLE EXPLANATIONS, THE SIMPLER OF THE TWO IS THE ONE MOST LIKELY TO BE TRUE."



OCCAM'S PROFESSOR

"WHEN FACED WITH TWO POSSIBLE WAYS OF DOING SOMETHING, THE MORE COMPLICATED ONE IS THE ONE YOUR PROFESSOR WILL MOST LIKELY ASK YOU TO DO."

JORGE CHAM © 2009

994 Capstone Components

A. Proposal and Research– 20% of grade

80 points

Students will develop a novel question of their own about some aspect of “biodiversity” and then investigate that question into a review paper using the primary literature.

<u>Components</u>	<u>Points</u>	<u>Date</u>
A. Identification of area of interest in (bio)diversity <ul style="list-style-type: none"> • Scale, subject, time frame, cause/effect 	10 pts	Tues 1/28
B. Development and isolation of research question	10 pts	Tues 2/4
C. Proposal for literature research <ul style="list-style-type: none"> • Inspiration • Revised question • Literature Search Approach (keywords) 	15 pts	Thurs 2/20
D. Annotated bibliography (minimum 15 papers) <ul style="list-style-type: none"> • Provides information used from paper • Correctly cited – see Citation Guide 	30 pts	Thurs 2/27
E. Quantitative analysis <ul style="list-style-type: none"> • Sources of quantitative data • Type of analysis 	15 pts	Tues 3/5

You should submit all work electronically to Moodle but also bring a paper copy to class when noted on the day-by-day schedule or with instruction from Dr. Burks.

B. Literature Review – 40% of grade

160 points

The resulting review paper will include at least one quantitative analysis and one figure or table related to the research question. It will include the typical scientific paper sections including an Abstract, Background/Introduction, Methods, Results and Discussion.

<u>Components – DUE BEGINNING OF CLASS</u>	<u>Points</u>	<u>Date</u>
A. Outline	10 pts	Tues, 3/3
B. Developed Outline	20 pts	Tues, 3/10
C. First Draft	20 pts	Tues, 3/24
D. Peer Review	20 pts	Thurs, 3/26
E. Second Draft	20 pts	Tues, 4/7
F. Revision Reflection	10 pts	Tues, 4/7
G. Final Paper	50 pts	Tues, 4/21
H. Revision Reflection	10 pts	Tues, 4/21

C. Group MFT Prep – 5% of grade

20 points

Four Review Dates: 2/4, 2/25, 3/3, 3/10

As a group, students will identify a specific topic covered by the Major Field Test that warrants more focus within a subject area of Organismal Biology or Population Biology, Evolution and Ecology. Students will prepare a quick review sheet and design an interactive exercise (20-25 minutes) for class.

To pass the Biology Capstone course, students must also take and receive a passing grade on the Biology Major Field Exam. Students not reaching the expected minimum on the electronic exam will then meet with pertinent faculty for an oral exam on sections that did not meet the expected standard. Students must also complete the Biology Exit Survey. Any student failing to pass the Biology Major Field Exam or who does not complete the Biology Exit Exam will receive a failing grade in the course.

D. Research Presentations – 20% of grade

80 points

Students will give three presentations during the course. The first will focus on a primary literature paper related to their research question on invasion. The second will be a 10-12 minute talk (with 3 minutes available for questions) similar to what would occur at a scientific meeting. The third will be a public, 5-minute INSPIRE talk.

<u>Components</u>	<u>Points</u>	<u>Date</u>
1. PL Presentation	20	2/11-2/25
2. A professional meeting-like presentation	40	TBD
3. 5-minute INSPIRE talk	20	TBD

Primary Literature Presentation: Each student in the class will lead a peer discussion of a paper related to their question in invasion biology. For each discussion, the leader should have carefully read the paper and prepared a series of questions for the class to consider. Dr. Burks needs to approve the chosen primary literature at least seven days prior to the discussion and a copy or link to the paper should be made available to the instructor at least seven days prior to date of the discussion. Other students in the class who are not leading discussion should have read the paper and come to class ready to discuss it.

Each student should prepare and must turn in at the beginning of class a list of 2-3 appropriate questions about the paper on the day of the discussion.

Research Presentations: Both 991 and 994 students will give two presentations. All 991 students will give their professional meeting-like presentation to the general public after their INSPIRE presentations to the class. Each of the 994 students may have the choice of giving either a meeting-like presentation or an INSPIRE talk to the general public.

E. Participation and Engagement - 15% of grade

60 points

In addition to day-to-day writing, students will write two reflections in the capstone course.

<u>Components</u>	<u>Points</u>	<u>Date</u>
A. Biology Major Reflection (see Moodle prompt)	10 pts	Thurs, 2/6
B. Paideia Connections	20 pts	Tues, 4/9

C. Class Participation	30 points	Semester
a. Primary Literature Questions		
b. Biodiversity Class Notes		
c. Engaged Discussion		

Other Dates:

- **February 17th – last day to drop classes without record**
- **March 25th – last day to drop classes with a W**

Biology Reflections: Throughout the course, we will be discussing our experiences in the biology program at Southwestern, what we have learned, what we liked, what we disliked, what was fun, and what was memorable. Drawing from these discussions, each student will write reflection essay on their personal biology experience. You will have the opportunity to share your thoughts with our external reviewer, Dr. Barbara Lom from Davidson College.

Paideia Connections Essay: Each student must discuss in a written essay insightful and meaningful connections among concepts from the cellular/molecular, ecology, evolution and population courses they have taken while at Southwestern. At least one of the connections discussed must be between the areas of cell/molecular biology and population/ecology/evolutionary biology.

Participation: To foster quality participation and provide early incentives for students to contribute thoughtfully in class, participate in activities and work effectively in groups, you can earn 10 points towards the total course grade for the Capstone. You will provide a reflective self-evaluation for this part of the course to which Dr. Burks will adjust if necessary based on classroom observations. The following serves as a guideline:

9 – 10 pts: No unexcused absences, nearly always on time, impromptu valuable contributions made to class routinely, prepared for and engaged for class activities including questions of primary literature papers, exhibits enthusiasm for learning.

7 – 8 pts: No more than 1 unexcused absence, usually on time, sometimes makes valuable contributions impromptu to class (~once every 2 weeks), positive attitude, completes average contribution to group and shows effort in class.

6 or below: More than one unexcused absence, often late, infrequent contributions to class (1-2 per course), does not contribute 100% to group, unengaged; seems to lack focus.

Course Grading Scale

100-99 =	A+	83-86 =	B	70-72 =	C-	59-0 =	F
93-98 =	A	80-82 =	B-	67-69 =	D+		
90-92 =	A-	77-79 =	C+	63-66 =	D		
87-89 =	B+	73-76 =	C	60-62 =	D-		

GENERAL POLICIES:

Accessibility, Academic Success, Student Distress:

All of us learn in slightly different ways and I try to design my courses so that there are multiple means of accessing class information, multiple ways to take part in class activities, and multiple avenues for being assessed on class work. If there are circumstances that may affect your performance in this class, please let me know as soon as possible so that we can work together to develop strategies for adapting assignments to meet both your needs and the requirements of the course. If you have documented disabilities, please see paragraph below.

It is Southwestern University policy to make reasonable accommodations for students with documented disabilities. To arrange accommodations students should contact the Assistant Director of Academic Success within the Center for Academic Success and Records (CASAR in the Prothro Center room 120; phone 863-1286). Students seeking accommodations should notify the Assistant Director of Academic Success at least two weeks before needed. It is the student's responsibility to discuss any necessary accommodations with the appropriate faculty member. Please take advantage of the CASAR workshops and resources tailored to the first-year experience that might help you. In addition, any student who has any life difficulties (it happens) and believes this may affect their performance in the course, is urged to contact any director in the division of Student Life for support.

Honor Code: All work in this course needs to adhere to the Honor Code, which the Student Handbook describes in detail. Please pay special attention to the discussion of plagiarism. I encourage group work and discussion among you all, but do independent work on your own (feel free to discuss the topic with classmates, etc., but when you sit down to write, you should do that on your own). You will also need to be careful with how you use your research sources—summarizing and/or paraphrasing an author's ideas requires citation. The Honor Pledge, which you will write on exams, quizzes, essays and other work you submit for grades for all of your coursework at Southwestern (unless otherwise indicated by your professor) is: **"I have acted with honesty and integrity in producing this work and am unaware of anyone who has not."** For electronic assignments, students can put it in the header and initial.

Our Classroom as Community:

Treat all class members with professionalism and respect. Be fully present in class (i.e.):

- a. Turn off and put away all cell phones, beepers, and laptops when you enter the classroom. Volumes of research shows that student academic success is greater when they do NOT use laptops, etc. in classes, but use paper and pen/pencil instead to take notes. If disability accommodations include your use of a laptop, please obtain the required approval forms and let me know.
- b. **Bring printed out copies of readings or your writing when I specify you should do so.**
- c. Listen and participate when your peers lead the group
- d. Leave your other work outside our classroom. Do not aim to complete assignments for other classes. Engage in class discussion and activities.

Religious Observances:

Southwestern University recognizes that it has students from a variety of religious and cultural traditions that have special days of observance or celebration that may take students out of their regular activities

on certain days during the school year. Since the academic calendar does not always coincide with these days, adhere to this policy to facilitate student absences due to cultural and religious observances.

- As far in advance as possible, the student is expected to notify the professor(s) or instructor(s) of the class(es) to be missed.
- The student is expected to learn what assignments or exams are due or will be assigned on those dates and negotiate with the professor(s) or instructor(s) alternate times for fulfilling those requirements. Students should be prepared to fulfill the requirements prior to the class(es) to be missed.

Writing Center:

An invaluable resource is the **Writing Center**; Writing Center staff are available to assist you in conceptualizing papers, in helping you create an outline, in reviewing drafts of your papers for the logic and coherence of your argument, the effectiveness of your evidence, etc... The Writing Center requires students to sign into an on-line system. You can do so here: mywco.com/dewc. Check out [website](#), which includes online writing resources, including some new additions!

Attendance: Class attendance is mandatory. One unexcused absence does not count as a penalty (I realize life happens sometimes). However, any additional unexcused absences will result in the loss of two percentage points for each absence from your final grade for the course. If you need to miss class or class-related activities/assignments for religious observance reasons, school-sponsored athletic events, or other potentially excusable reasons, you must let me know (email) prior to your absence. Attendance is also required at Biology seminars.

Participation: Your active engagement with class materials (readings, films) and in class activities (discussions, etc.) are critical to the success of this course. Participation will thus be a portion of your grade.

Moodle: Southwestern uses an interactive course management system called Moodle. You will use Moodle to submit assignments, keep track of your grades, and download additional readings. Your username and password is your regular SU-electronic ID (same as your email). With any new technological application, sometimes things can go awry. Melanie Hoag (hoagm@southwestern.edu or x1644) can be of assistance with any Moodle difficulty.

Submitting Assignments: Moodle/Google Drive. I cannot open “.pages” documents on Moodle. **Please make sure to always make your documents open-able by MS Word or Adobe PDF on a PC platform.** Save them with .doc or .docx extensions, ideally. I may ask you to submit/share some assignments as Google Docs so that I can easily comment on them.

Late Work: 10% penalty per class day. One “Had a Bad Day” extension.

After class: I teach Ecology directly after Capstone. Therefore, we must end class on time and I will not be available for questions immediately after class. Please feel free to catch me in office hours, by appointment or other random times in my office. I’m teaching only Tuesday and Thursday mornings and Wednesday afternoon (Ecology lab), but am otherwise reasonably flexible.

Food/Beverage in class: I do not mind if you consume small “snacks/breakfast” during class with the limit that your food or beverage must not make noticeable noise or attract attention (i.e. avoid potato chips, slurping straws, etc...). We will have a few days of class where we will have breakfast together.

Facebook/Social Media Policy: All official class information goes through Moodle or myself to your SU email. Most students seem to have a Facebook or Instagram account. I'm happy to be "A Friend" with SU students with the knowledge that I am a faculty member at Southwestern first and take that seriously. If I see something that worries me, I will follow up. I believe in better safe than sorry. At the same time, I'm certainly not in the habit of checking up on students but cannot help but read updates when posted. My Profile page is all-inclusive for my friends, family and some students. I do not post anything there that I am not willing to publicly share (this is good advice). So, if you would like to request to be my friend, I will certainly accept but I do not want to compel people. As another social media alternative, you can follow me on Twitter @ProfRomi. I originally started a Twitter account to keep up with the chocolate world and find it an excellent resource. You can also check out my own experiences at www.profromi.com

Moodle Syllabus Statement: After reading the syllabus, please mark important dates on calendars (exam, drop date, presentation) and COMPLETE THE SYLLABUS CHECK by typing in "I have read the syllabus and understand the expectations." By entering this, I know that you understand:

1. The expectations for success in Biology Capstone are abundantly clear.
2. Students can make an appointment with Dr. Burks if times conflict.
3. All your questions about the syllabus have been answered.
4. Students will first consult syllabus and then clarify with Dr. Burks.

About PROFROMI – also see www.profromi.com

- Twitter @ProfRomi
- Current Biology Department Chair
- Aquatic molecular ecologist that studies large freshwater snails patterns of diversity/distribution
- Teaches about chocolate across many disciplines
- Part of Environmental Studies at SU
- Owned by one fuzzy bichon - Twinkie
- Excited for year 17 in the Department of Biology
- Lives in Georgetown, avid reader, loves sushi
- Very much available to answer student questions and help.



	Topic & Activities (Reading Assignments, Writing Assignments & Other Announcements)
Tuesday, January 14th Seminar: Wed 994 & 991 Both	INTRODUCTION <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> • <i>What do I Want Out of Biology Capstone?</i> • <i>Syllabus Review</i> <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: COMPLETE BACKGROUND WORK ASSIGNED FROM CLASS:</i> <p>A) TYPES OF BIODIVERSITY; B) LEVELS OF BIODIVERSITY; C) MEASUREMENTS OF BIODIVERSITY</p> READ: DELONG 1996
Thursday, January 16th 994 & 991 Both	BIODIVERSITY 101 <i>HOW TO PREP FOR CLASS:</i> Bring notes on DeLong 1996 <i>CLASS ACTIVITIES/PLAN:</i> DEFINITION & VOCABULARY REVIEW <ul style="list-style-type: none"> • <i>Start Class Notes</i> <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: READ MCGILL ET AL. 2015</i>

<p>Tuesday, January 21st</p> <p>994 & 991 Both</p>	<p>CONCEPT MAPPING</p> <p><i>HOW TO PREP FOR CLASS:</i> Reread DeLong 1996 and compare with McGill et al. 2015</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Develop Biodiversity framework and language</i> • <i>Review concept mapping</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> READ: REESE & DUNN 2018</p>
<p>Thursday, January 23rd</p> <p>994 & 991 Both</p>	<p>ELEMENTS OF A QUALITY LITERATURE REVIEW</p> <p><i>HOW TO PREP FOR CLASS:</i> Bring examples of “diversity” that might have been covered in other courses and be ready to describe; Bring Concept Map</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Dissect Reese & Dunn 2018 – identify elements of a literature review</i> • <i>Sign up for Primary Literature Days – 994 ONLY</i> • <i>Sign up for ETS MFT Activity Days – 994/991 BOTH</i> • <i>Sign up for Breakfast Days (Biology pays; students arrange)-994/991 BOTH</i> <p><i>ANNOUNCEMENTS:</i></p> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> TBD</p>
<p>Tuesday, January 28th</p> <p>994 only; AREA OF INTEREST DUE</p>	<p>BIODIVERSITY DISCUSSION</p> <p><i>HOW TO PREP FOR CLASS:</i> Have an area of interest in regards to biodiversity and explain how your system fits the conceptual framework or where modifications might be needed</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Discuss areas of interest</i> • <i>Search for primary literature</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> NONE</p>
<p>Thursday, January 30th</p> <p>994 Only</p>	<p>LIBRARY RESEARCH DAY – “FREE TIME” – NARROW DOWN QUESTION</p> <p><i>HOW TO PREP FOR CLASS:</i> Read feedback from Dr. Burks about question and consider comments from class discussion on where you might investigate further</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Spend time examining resources in the library</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> TBD</p>
<p>Tuesday, February 4th</p> <p>FOCUSED 994 QUESTION DUE</p> <p>PL 1 & 2 Choices</p> <p>991 also:</p> <p>MFT 9:15-9:45</p>	<p>CHARACTERISTICS OF GOOD WRITING</p> <p>MFT ACTIVITY 1</p> <p><i>HOW TO PREP FOR CLASS:</i> Come with focused question</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Topic sentences exercise for Introduction/Background</i> • <i>Major Field Test Activity 1</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i></p>
<p>Thursday, February 6th</p> <p>994 & 991 Both</p> <p>BREAKFAST DAY</p> <p>ALL - BIOLOGY REFLECTION DUE</p> <p>PL 3 & 4 Choices</p>	<p>45 MINUTES - MEET WITH EXTERNAL REVIEW DR. BARBARA LOM</p> <p><i>HOW TO PREP FOR CLASS:</i> Reflect on your Biology Experience</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Talk with Dr. Lom about the Biology Curriculum</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> READ 2 PRIMARY LITERATURE PAPERS FOR TUESDAY</p> <p>30 MINUTES – REVIEW PROPOSAL EXPECTATIONS</p>

<p>Tuesday, February 11th 994 Only PL 5 & 6 Choices</p>	<p>PRIMARY LITERATURE PRESENTATION 1 AND 2 <i>HOW TO PREP FOR CLASS:</i> Read the primary literature papers and prepare 2-3 quality questions about their content <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> Primary Literature Presentations <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> READ 2 PRIMARY LITERATURE PAPERS FOR THURSDAY AND WORK ON PROPOSAL</p>
<p>Thursday, February 13th 994 Only PL 7 & 8 Choices</p>	<p>PRIMARY LITERATURE PRESENTATION 3 AND 4 <i>HOW TO PREP FOR CLASS:</i> Read the primary literature papers and prepare 2-3 quality questions about their content <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> Primary Literature Presentations <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> READ 2 PRIMARY LITERATURE PAPERS FOR TUESDAY AND WORK ON PROPOSAL</p>
<p>Tuesday, February 18th 994 Only PL 9 Choice</p>	<p>PRIMARY LITERATURE PRESENTATION 5 AND 6 <i>HOW TO PREP FOR CLASS:</i> Read the primary literature papers and prepare 2-3 quality questions about their content <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> Primary Literature Presentations <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> READ 2 PRIMARY LITERATURE PAPERS FOR THURSDAY AND COMPLETE PROPOSAL</p>
<p>Thursday, February 20th 994 Only RESEARCH PROPOSAL DUE</p>	<p>PRIMARY LITERATURE PRESENTATION 7 AND 8 <i>HOW TO PREP FOR CLASS:</i> Read the primary literature paper and prepare 2-3 quality questions about their content <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> Primary Literature Presentations <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> READ 1 PRIMARY LITERATURE PAPERS FOR TUESDAY</p>
<p>Tuesday, February 25th 994 & 991 Both BREAKFAST DAY</p>	<p>MFT ACTIVITY 2 AND PRIMARY LITERATURE PRESENTATION 9 <i>HOW TO PREP FOR CLASS:</i> Complete bibliography <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> MFT Activity Primary Literature 9 Time in class to work on outline <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> REVIEW R BASICS (SEE MOODLE)</p>
<p>Thursday, February 27th 994 Only AB DUE</p>	<p>IN CLASS WORK - DATA ANALYSIS – BASIC SCRIPTS IN R USE OF BIOLOGY LAPTOPS</p>
<p>Tuesday, March 3rd OUTLINE DUE 991 also: MFT 9:15-9:45</p>	<p>MORE R... QUANTITATIVE ANALYSIS; PEER REVIEW OUTLINE MFT ACTIVITY 3 <i>CLASS ACTIVITIES/PLAN:</i> <ul style="list-style-type: none"> Peer Review MFT Activity <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i></p>

<p>Thursday, March 5th</p> <p>QUANTITATIVE ANALYSIS</p>	<p>DISCUSSION OF EFFECTIVE FIGURES <i>HOW TO PREP FOR CLASS:</i> Complete Quantitative Analysis <i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Present Figures</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: EXPAND ON OUTLINE.</i></p>
<p>Tuesday, March 10th</p> <p>DEVELOPED OUTLINE DUE</p> <p>991 also: MFT 9:15-9:45</p>	<p>MFT ACTIVITY 4 <i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Peer Review</i> • <i>MFT Activity</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: NOTHING – ENJOY SPRING BREAK</i></p>
<p>Thursday, March 12th 994 Only</p>	<p>IN CLASS - FREE WRITING TIME</p>
<p>Tuesday/Thursday March 17th/19th</p>	<p>SPRING BREAK</p>
<p>Tuesday, March 24th</p> <p>994 Only</p> <p>FULL FIRST DRAFT DUE</p>	<p>PEER REVIEW AND RESULTS DISCUSSION <i>HOW TO PREP FOR CLASS:</i> Be prepared to go over the Results of your study. Bring Up to 2 PowerPoint/Google Slides to explain your data collection and analysis. <i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>What makes a good peer review?</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: COMPLETE PEER REVIEW</i></p>
<p>Thursday, March 26th</p> <p>PEER REVIEW DUE</p>	<p>REVISION <i>HOW TO PREP FOR CLASS:</i> Bring peer reviews and comments from Dr. Burks to class <i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Learn how to respond to peer review and conduct revisions</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: PREPARE FOR MFT</i></p>
<p>Tuesday, March 31st</p> <p>994 & 991 Both</p>	<p>MAJOR FIELD EXAM – PART I – <i>HOW TO PREP FOR CLASS:</i> Before - Spend 1 hour/week reviewing general biology concepts. Get a good night's sleep. Eat breakfast. Be on time. <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: NONE</i></p>
<p>Thursday, April 2nd</p> <p>994 & 991 Both</p>	<p>MAJOR FIELD EXAM – PART II <i>HOW TO PREP FOR CLASS:</i> Before - Spend 1 hour/week reviewing general biology concepts. Get a good night's sleep. Eat breakfast. Be on time. <i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: COMPLETE 2ND DRAFT.</i></p>
<p>Tuesday, April 7th</p> <p>994 & 991 Both</p> <p>SECOND DRAFT AND REVISION REFLECTION DUE</p>	<p>TALK ABOUT PRESENTATIONS DAY AND PEER REVIEW <i>HOW TO PREP FOR CLASS:</i> Think about conceptual frameworks <i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • <i>Talk About Paideia Connections</i> • <i>Put together framework of talk - model</i> <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS: NONE</i></p>

<p>Thursday, April 9th</p> <p>994 & 991 Both</p> <p>PAIDEIA REFLECTION DUE</p>	<p>WORK ON SLIDES</p> <p><i>HOW TO PREP FOR CLASS:</i> Come prepared to put together presentation.</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • Working time <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i></p>
<p>Tuesday, April 14th</p>	<p>CREATIVE WORKS – NO CLASS</p>
<p>Thursday, April 16th</p> <p>994 & 991 Both</p> <p>BREAKFAST DAY</p>	<p>PRACTICE TALKS – START AT 8:00</p> <p><i>HOW TO PREP FOR CLASS:</i> Finish draft slides</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • Practice presentations – PEER REVIEW OF SLIDES <p><i>READINGS FOR NEXT CLASS AND OTHER ASSIGNMENTS:</i> NONE</p>
<p>Tuesday, April 21st</p> <p>994 & 991 Both</p> <p>991 INSPIRE TALKS</p> <p>994 FINAL PAPERS AND REVISION REFLECTION DUE</p>	<p>RESEARCH CAPSTONE 991 PRESENTATIONS</p>
<p>Thursday, April 23rd</p> <p>994 & 991 Both</p> <p>994 RESEARCH OR INSPIRE TALKS</p>	<p>LITERATURE REVIEW CAPSTONE PRESENTATIONS</p>
<p>Tuesday, April 28th</p> <p>994 & 991 Both</p> <p>994 RESEARCH OR INSPIRE TALKS</p>	<p>LITERATURE REVIEW CAPSTONE PRESENTATIONS AND LAST DAY CLASS WRAP-UP</p> <p><i>CLASS ACTIVITIES/PLAN:</i></p> <ul style="list-style-type: none"> • Course evaluations • Biology Exit Survey • Self-Evaluations
<p>Friday, May 1st</p> <p>12:00 PM</p> <p>994 & 991 Both</p> <p>TALKS AND RECEPTION</p>	<p>TENTATIVE - CAPSTONE PRESENTATIONS FOR PUBLIC</p>