

Senior Seminar (BSC 4931) Spring 2017

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Office Hours: Tuesdays: 1:45pm - 4:45pm & Thursdays: 3:30pm - 4:45pm

Course Description: The capstone seminar course for senior level biology and marine biology majors designed to help you integrate a variety of skills learned during your undergraduate studies. We will do this by conducting a thorough review of the literature and creating a professional scientific presentation in which to disseminate your research. Conducting scientific research (in this case a good review of the literature) and public speaking will help prepare you for graduate school and/or for succeeding in the professional world (i.e., a job!).

Course Objectives: To write a *clear* and *articulate* research paper that **synthesizes current scientific findings**, starting with choosing a topic to completing a properly cited paper. You will then share your findings with the class in the form of an **oral presentation** worthy of a scientific meeting or job talk. In addition, you will write, or improve upon, your Curriculum Vitae (*resume*).

Course Theme:

- Epigenetics: at the interface between environment and genetics (organism of your choice)

Learning Outcomes:

You will be able to:

1. Search the scientific literature to research a topic of interest.
2. Discern between original research, review papers and the popular press.
3. Merge experimental findings and scientific thought into a coherent and thoughtful review of the literature.
4. Give a professional presentation of the research and respond to questions raised by the audience.
5. Constructively critique oral presentations.
6. Write a more effective CV.

Textbook: none required, but I highly recommend you invest in one writing handbook. It will become a trusted and valued resource, for many (if not all your) years to come. Listed is a sampling for you to choose what fits you best.

Suggested resources:

- Jan Pechenik, *A Short Guide to Writing About Biology*, 7th ed., Pearson-Longman
- William Strunk, Jr. *The Elements of Style* (originally published in 1920, last published 2006)
- Diane Hacker and Nancy Sommers, *The Bedford Handbook*, 9th ed, Macmillan
- Kurt Schick and Laura Schubert, *So What? The Writer's Argument*, Oxford University Press

Grade Scheme: A: 90-100	C: 70-76
B+: 87-89	D: 60-69
B: 80-86	F: <59
C+: 77-79	

No curving, no rounding up. All assignments are due by class time on due date.

- Distribution:**
- I. Attendance - 12%
 - II. Curriculum Vitae - 5%
 - III. Seminar Attendance and Reflection – 5%
 - IV. Presentation - 30%
 - V. Research Paper - 40%
 - VI. ETS Major Field Test in Biology - 8%

I. Attendance (12%): Attendance, and being on time, is mandatory since this is a seminar course and both your presence and in-class contributions are important. 3% is deducted per class absence, with one excused absence permitted (save it for a real emergency).

II. Curriculum Vitae (5%): A well thought out CV will be submitted and reviewed in class (and privately, if desired). Corrections and resubmission as necessary.

III. Seminar Attendance and Reflection (5%): Due before you present your scientific talk: Attend two biology departmental seminars (Mondays, 3:00-4:00 in WC-130), the Glaser Seminar (week of Jan 30-Feb 3, details to follow) or another approved scientific talk. Write a 1-2 page reflection briefly discussing the science, and then focus on the speaker’s presentation style, including what engaged you, what didn’t. Discuss traits or techniques you would like to emulate, and what you would like to avoid. Reflections are due one week after the presentation (submit via email).

IV. Presentation (30%): This will be a 10-12 minute oral presentation of your research paper, with a 3-5 minute Q&A. Your peers will complete anonymous evaluations of your presentation and will assess areas such as content, effectiveness of delivery, visual aids, ability to answer questions, etc. These evaluations, in addition to my own will comprise your grade. Once you sign up for a date, it cannot be changed.

Participation points consist of your attention and asking thoughtful questions, of which you will need to ask a minimum of 5 over the course of the presentations.

Mandatory meeting to review presentation. Email me to set up an appointment. Your presentation must be complete for our meeting.

- Mandatory meeting.....can’t present without this
- Presentation.....25%
- Participation.....5%

V. Research Paper (40%): Write a 10-12 page research paper based on scientific literature using a minimum of 7 primary literature articles and possibly 2-3 review papers for deeper understanding, minimum 10 citations. Late submissions lose 5% per day it is late. Your final submission will include the paper (properly referenced within the text) and a list of references.

1. topic (2%)
2. general outline (1 page + 5 references; 5%)
3. detailed outline (2-3 pages, 5%) and list of references (3%)
4. Completed paper (25%): must turn in by due date in order to receive credit
5. Paper revision: must revise and incorporate feedback. With significant improvements, this will override the original grade.

Format references as follows:

Levine ME, Lu AT, Bennett DA, Horvath S. 2015. Epigenetic age of the pre-frontal cortex is associated with neuritic plaques, amyloid load, and Alzheimer's disease related cognitive functioning. *Aging* 7(12):1198-1211.

(NB: References are single spaced within the reference, double spaced between references.)

Format in-text citations as follows:

- For the citation listed above: (Levine et. al., 2015)
- For two authors, both last names are used: Fuster and Mahadeo, 2016.
- For one author: Garcia, 2015.

12pt font, 1.5 line-spaced, Turnitin submission and emailed to me by the beginning of class on the due date. Late submissions lose 5% per day it is late. ***You are by no means allowed to recycle a paper you wrote for another class. If you do, this will count as a zero. This is to be an original piece of work.*** If English is your second language, and you need help, please talk to me early in the semester. If you wait until the end of the semester, there is little we can do.

A review of the literature is a synthesis of what is known, or being investigated, about a topic. It is not a regurgitation of the information presented in the articles (e.g., a list) but rather an opportunity for you to read many articles, integrate the information and create your own review of current findings in your chosen area of research. The text of your paper must be properly referenced. At the end, you may deliver your own analysis, interpretation and insight regarding the topic. It is this synthesis of information and ideas that distinguishes an 'A' paper from a 'B' or 'C' paper. If you need help, please see me with enough advance notice to do a good job.

VI. ETS Major Field Test in Biology (8%): A nationally scored exit exam for Biology and Marine Biology majors. It is a two-hour, multiple choice, on-line test graded by the Educational Testing Service that allows you to see how you rank nationally against your peers. Scoring is as follows:

- 1-20%ile: 2pts
- 21-45%ile: 4pts
- >46%ile: 8pts

Links for more information:

[detailed description](#) and [sample test questions](#)

Laws of the Land:

Cell phone use - there is none. No calls, no texting, nothing. If you have some kind of emergency situation talk with me before class. Otherwise, no excuses. Turn it off.

No computers - unless we use it during class.

Be respectful - There are 19 of us in this room. Everyone deserves (and is encouraged) to participate in our discussions. Please do not have side conversations - if you have something important to say, I would like everyone to benefit from your wisdom or question. If it is not important, save it for when you are out of class. When tempted, imagine how you would feel if I was having a conversation with your neighbor during your presentation...

Academic Honesty - is of the utmost importance. This is an indicator of how you will behave as a professional, whether as a physician, dentist, scientist, preschool teacher, etc. We all value people who are honest and trustworthy. Be one.

Plagiarism - don't do it. I will check, and I am not forgiving. The University is also unforgiving. University policy states that the proper consequence for plagiarism is failure of the course. A complaint will be placed in your file and has the power to follow you. No graduate school, medical school, etc., will accept an applicant who waivers on their integrity. Why should they? And by the way, if someone cheats off of your paper you are implicated as well. If you need the specifics, please read the Academic Misconduct procedures and sanctions as outlined in the *Student Handbook*. (<http://academic.fiu.edu/polman/sec2web.htm> - two-forty-four)

Schedule

Mandatory meeting before or on the Monday prior to your presentation

DATE	WHAT'S HAPPENING	WHAT'S DUE
Jan 10 - 12	Introduction, Interests Discussion of research topics	
Jan 17 - 19	Reading and decoding a Review Paper 1 Topics discussed How to research your topic (as needed) Electronic/database resources	Topic ideas
Jan 24 - 26	How to read a research paper Reading and decoding Research paper 1	Topic title due w/2-5 sentences describing topic
Jan 31 Feb 2	Reading and decoding Review Paper 2 Presentation tips Writing a science paper	Select presentation date
Feb 7 - 9	Presentation tips Reading and decoding Research paper 2	Paper general outline + 5 references (properly formatted)
Feb 14 - 16	Writing a science paper Writing your curriculum vitae (CV) Info on ETS exam	Submit the research paper that you will present next week
Feb 21 - 23	3-minute talks on one of your selected articles Everyone presents!	Paper detailed outline + minimum 10 references (properly formatted & labeled 1 ^o , 2 ^o , 3 ^o)
Feb 28 Mar 2	Giving a science talk Mini-presentations	3 presentation slides (mechanism that is core of your talk)
Mar 7 - 9	Mini-presentations, con't. How to critique a science talk	Papers due
Mar 14 - 16	Spring Break!!	No class CV Due
Mar 21 - 23	Presentations (3) Prep for job interviews: Interview skills	
Mar 28 - 30	Presentations (5)	**Paper revision due week after presentation
Apr 4 - 6	Presentations (5)	**
Apr 11 - 13	Presentations (5)	**
Apr 18 - 20	This is water Reflections on the past and the future	**
Apr 25 - 27	ETS Major Field Test in Biology	9:45-11:45 in OE-309

Syllabus is subject to change at the discretion of the professor