Bio 291 (CRN 60213): Seminars in Biology
Fridays 10:00–12:05; EBS 210 or 309
Instructors:

Dr. Jennifer Maupin
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Office hours:
M 11:10-12:10;
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Dr. Michelle Paddack
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Office hours:
M 1:00-2:15; T 11:30-12:30;
W 1:00-2:30

Course overview: Biol 291 is a seminars-based course designed to provide students with exposure to a broad range of current research topics in biology while building research and presentation skills. The course has four main components:

- Seminars presented by successful researchers in various biological fields.
- A "journal club" style discussion of research papers published in scientific journals (mostly papers authored by seminar speakers).
- Tutorials on library and internet research tools available at both SBCC and UCSB. Students will use these tools to research a biology-related topic of their choosing.
- At the end of the semester, students will present a 15-20 minute seminar on their selected research topic.

Requirements and Expectations:

Attendance:

You are required to attend the regular class meeting (10:00 am to 12:05 pm) each week. A seminar-and discussion-based course requires full participation, so attendance is mandatory. Students missing two or more classes or seminars may be dropped from the course. If you must miss a class, please contact your instructor prior to your absence with an explanation. A sign-in sheet will be present at class meetings and seminars to record attendance.

General rules to help ensure a positive learning experience for everyone:

- Arrive to all class meetings on time, and do not leave early.
- No use of cell phones, ipods, MP3 players, non-course related computer distractions, text messaging, or pagers in class or seminars.
- Do not converse with your classmates (or yourself!) while the instructor, a fellow student, or an invited guest is addressing the class.

Course Communication:

Check your email regularly for course updates. We will use your Pipeline email address to communicate relevant information on assignments, class activities, field trips, etc.

Course website:

The course syllabus, seminar schedule, reading assignments, handouts, and links to relevant course information will be posted on the course webpage: http://www.biosbcc.net/bio291/

Class and Seminar schedule.

This schedule is subject to change by your instructors. Check email regularly for updates.

Week	Date	Class	Assignment
1	Aug. 29	Introduction; SBCC library tutorial on use of Google and Proquest for literature research	Read: *How to Read a Scientific Article* Read for discussion: *Zuk et al 2006*
2	Sept. 5	Tutorial: How to read & evaluate a scientific paper	Read for 9/12 discussion : Brewer et al. 2009 Biol. Conserv.
3	Sept. 12	**Guest Speaker: Michelle Paddack, PhD, SBCC/OnePeopleOneReef** *"Sustainable Oceans Through Local Initiative: Marine Management & Conservation on Ulithi Atoll"*	Write notes on speaker (due 9/19) Read for 9/19 discussion : Logan et al 2014 PLOS ONE
4	Sept. 19	**Guest Speaker: Corina Logan, PhD, UCSB** *Innovation and Cognition in Birds: Lessons from Grackles and New Caledonian Crows*	Turn in seminar notes from 9/12 Write speaker evaluation (due 9/26)
5	Sept. 26	Conducting & presenting scientific research Seminar topics discussion; Scientific paths	**Student seminar topics due** Turn in evaluation of 9/19 seminar
6	Oct. 3	Field Trip to UCSB Library; Tutorial on use of Web of Science as a research tool.	Read for 10/11 discussion:
7	Oct. 10	**Guest Speaker: Michelle Berman, MS, Channel Islands Cetacean Research Unit** *"Listening to the Ocean: What the Animals Tell Us"*	Read for 10/17 discussion : Write speaker evaluation (due 10/17)
8	Oct. 17	**Guest Speaker: Erin Calkins, MS, UCSB** *"RNA Tectonics: Building Nanostructures with RNA"*	Read for 10/24 discussion : Van Buskirk & Sternberg 2007 Nature Neuroscience Write speaker evaluation (due 10/24)
9	Oct. 24	**Guest Speaker: Cheryl Van Buskirk, PhD, CSU Northridge** *"Why do we sleep? A clue from the nematode C. elegans"*	Write your seminar Abstract Write speaker evaluation (due 10/31)
10	Oct. 31	Scientific paths & presentation skills	**Student Seminar Abstracts Due** Read for 11/7 discussion: Stern 2013 *Genetic Causes of Convergent Evolution*
11	Nov. 7	**Guest Speaker: Thomas Turner, PhD, UCSB** *"Investigating how genetic variation affects behavior in Drosophila"*	Write annotated bibliographies Read for 11/14 discussion:
12	Nov. 14	**Guest Speaker: Melanie Matheu, PhD, UC San Francisco** *How the immune system is organized through motility and environmental sensing*	**Annotated Bibliographies Due**
13	Nov. 21	**Student Seminars**	
14	Nov. 28	**Thanksgiving Holiday**	
15	Dec. 5	**Student Seminars**	
Finals Week	Dec. 13	Final Exam; EBS 301; 11 am–1 pm **Student Seminars** will be scheduled if needed	

Grade Assessment:

Assignment	# of & points per item	Total points	% of course grade
Class participation	15 meetings @ 13 points each	200	20%
Reading worksheets	6 @ 25 points each	150	15%
Seminar responses	5 @ 30 points each	150	15%
Student seminar abstract	1 @ 100 points	100	10%
Annotated bibliography	1 @ 150 points	150	15%
Student Seminar	1 @ 250 points	250	25%
Total		**1000**	**100%**

Grading Scale:

The following are minimum guarantees for students who attend all classes and complete all assignments:

90-100%	of possible points	A
80-89%	of possible points	B
70-79%	of possible points	C
55-69%	of possible points	D
< 55%	of possible points	F

Participation:

Students are expected to attend and actively participate in every class meeting. A 13 pt participation grade will be given for each class. If you arrive late or leave early from a class or seminar, points will be deducted from your participation grade. **Arrive on time**.

Speaker Evaluations:

Students will be asked to provide written seminar notes and/or evaluations of seminars presented by guest speakers. Evaluations are due at the beginning of class the following week. These should be approximately 1- page in length, and do not have to be typed as long as your handwriting is neat and legible.

You should evaluate the seminars on **content** (were the topics/questions addressed interesting and of scientific merit?), **presentation style** (were visual aids or other media used effectively?, was the speaker's style engaging?), and **overall quality** (did you learn something from this talk? was information effectively communicated?). You might want to identify specific things about the seminar that you thought worked well or did not work well. It is our hope that, by evaluating others' seminars, you will identify aspects of these seminars that you would like to either emulate or avoid when coming up with your own seminar style.

Student seminar abstracts, annotated bibliographies, and seminar presentations:

- Early in the course, each student will choose a research topic relevant to the course (see section below on "Choosing a Topic").
- In the last 4 weeks of the semester, each student will present a 15-20 minute seminar on that topic to the class.
- A one-page seminar abstract describing why the topic was chosen/why it is a current topic of interest to biologists, questions asked during the research, and results from literature research is due Oct. 31.
- Students will also submit an annotated bibliography of five **peer-reviewed primary research or review** articles used in their research.
- Guidelines for abstracts, presentations, and annotated bibliographies will be distributed in the coming weeks.

Students may work singly or in groups of two or three to conduct research and organize their seminars. Students that choose to work in groups should choose a common broad topic, but each group member must turn in separate and unique seminar abstracts and annotated bibliographies, and must present their own 15-20 minute seminar addressing one aspect of the topic. A group of three, for example, would have a block of three consecutive 15-20 minute periods during which they each would present their research.

Academic honesty:

Academic dishonesty (including plagiarism) will not be tolerated in this course. Refer to SBCC's academic honesty statement for standards of conduct and penalties. **All work submitted under your name must be your own.**

Students with Special Needs:

Students with disabilities who are requesting accommodation should use the following SBCC procedure: contact the DSPS office in SS160 (x2364), present documentation of disability for review by a disabilities specialist, discuss options for support through DSPS, and present a signed DSPS authorization for accommodation to your instructor.

Your Success:

This course should be a fun learning experience for you. You will learn from and with your classmates, and you will be exposed to some very cool topics in biology. Please email or come see us if you have any questions about or problems with the course, assignments, anything to do with your experience here at SBCC, or if you just want to chat about something. It is our job to help you succeed, as a student in this course, and as a biologist.

A note about guest seminars:

For class days on which a guest speaker is scheduled, we will meet in EBS 210 at 10:00 am. We will discuss the assigned paper(s) as a class and then move into EBS 309 shortly before 11:00 am for the guest seminar. Most speakers will be taken to lunch immediately following their seminar. Students enrolled in this course can sign up to attend lunch with one seminar speaker, courtesy of SBCC. *We strongly encourage you to sign up for a lunch* - It is a great opportunity to talk with the speaker, your instructors, and classmates all while eating some delicious food!

Choosing a Research Topic:

Each student is expected to choose a research topic, pose a question related to that topic, and use scientific literature to find evidence in support of an answer to that question. You will present the topic and the results of this research in your seminar.

Criteria for research topics:

- Your topic should be of personal interest to you.
- Your topic should be of scientific interest, and relevant to current advances in the biological sciences.

Students may choose a topic that they are **currently** researching for another course or project, provided it meets the criteria above. Because this course is designed to teach research skills as well as presentation skills, material used for student research may not be a duplication of research or a paper topic done for a class taken prior to this semester.

Tips for choosing a research topic:

- Choose a topic that lends itself to a question, so that you have a goal for your research.
- Be careful not to choose a topic that is too broad. Focusing your topic will help you target your research.
- Make sure that there is sufficient current information available to address your topic.
- You can get ideas for research topics by perusing current scientific journals and/or magazines held in the library. The following titles are held in print at SBCC's Luria Library:

  American Scientist*
  Biological Bulletin
  Biological Reviews
  Bioscience
  Integrative and Comparative Biology
  Nature
  Science
  Science News
  Scientific American*

  * These journals are good "secondary sources", meaning that their articles often provide a review or evaluation of research that has been published. Articles found in these sources often highlight topics of much current scientific interest.

Examples of possible research topics:

- Potential use of embryonic and/or adult stem cells to treat disease
- Recent advances in understanding cancer
- Effects of Global Climate Change on species diversity or ecosystems
- Effects of invasive species on native species diversity
- Genetically Modified Organisms (GMOs)

Biology 291: Seminars in Biology

- Bio 291 Syllabus
- Reading and evaluating a scientific paper
- Annotated Bibliography guidelines
- Seminar Abstract guidelines
- Seminar Presentation guidelines

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Our Raccoon will bring you home