BISC 580: Readings in Marine and Environmental Biology
Units: 2
Fall 2024—Tuesday 10-11:30 AM

Location: AHF 259

Instructors:
Professor Eric Webb
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Office Hours: By appointment
Contact Info: eawebb@usc.edu

Assistant Professor Julia Schwartzman
Office: AHF 33
Office Hours: By appointment
Contact Info: julias21@usc.edu

Course Description
This course is designed to (1) hone your critical reading and reviewing skills, and (2) develop the art of giving a great scientific presentation. We’ll focus on key papers that have shaped Marine and Environmental Biology (MEB). This course consists of one part journal club and reviewing and one part presentation: We will read papers in MEB and critique them to discuss the art of science presentation. Everyone will provide a review of each paper. This review will aid in the discussion during class. You will hone the art of distilling a scientific paper by leading a journal club presentation for one paper.

Learning Objectives
After this course, you will be able to:
• Put work in MEB into a global perspective of the fields we work in by reading foundational papers.
• Distill a paper to its “essence” quickly.
• Constructively critique papers, scientific writing and data presentation
• Recognize the general elements of effective figures in science manuscripts and presentations.
• Lead a journal club and interact with the data you are presenting.
• Identify key components of good papers from the literature.
• Provide a good ad hoc review for a manuscript.

Required Readings and Supplementary Materials
The readings for this course will come from the primary literature and will be developed annually in consultation with the faculty in MEB. Readings will be in the form of eBooks and PDFs freely available via the USC library webpage. While many of the new papers will change annually, we’ll read these classics every year:

• Bobay L-M, Ochman H. Biological Species Are Universal across Life’s Domains. Genome Biology and


Description and Assessment of Assignments
You will lead at least one journal club presentation and provide a short one-page review for all papers assigned. There will also be select in-class assignments linked to your participation grade- see below.

Grading Breakdown

<table>
<thead>
<tr>
<th>Assessment Tool (assignments)</th>
<th>Points</th>
<th>% of Grade</th>
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</thead>
<tbody>
<tr>
<td>Presentations (1)</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Paper reviews (12)</td>
<td>48 (4 ea.)</td>
<td>48</td>
</tr>
<tr>
<td>Participation</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
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Participation credits
This portion of the class points will be calculated based on small group activities submitted/presented/performed by the end of class, and peer evaluations.

Assignment Submission Policy
Assignments will be submitted on Blackboard before each class.

Grading Timeline
After the first week overview and expectations class, reviews of papers will be due before each class and the grading will be discussed in the next class.

Course-Specific Policies

1. It may be necessary to make some adjustments in the syllabus during the semester.

2. Disability: Students requesting academic accommodations based on a disability are required to register with the Office of Student Accessibility Services (OSAS) each semester. A letter of verification for approved accommodations can be obtained from OSAS when adequate documentation is filed. Please be sure the letter is delivered to Drs. Schwartzman and Webb as early in the semester as possible. OSAS is open Mon-Fri, 8:30-5:00. The office is in Student Union 301 and their phone number is 213 740-0776

3. Class attendance: Graduate school is a busy time! We understand that you have experiments, travel, and other commitments. Please send an email at least 48 h in advance about absences to Dr. Webb or Dr. Schwartzman, or no credit/makeup assignments will be possible. Please don’t be late to class. We’ll have a 5-minute grace period, but then to be fair to everyone we will impose a penalty on your class participation for the day. Grading related to in-class activities and participation will be decreased by 50% of possible points for being more than 5 min late to class.

4. Late assignments: Please notify the instructors 48 h in advance if you need to submit an assignment after the due date. Reasonable accommodations will be made if you tell us with at least 48 h notice. If you submit an assignment after the due date, we will give you half of points possible. Example: if your grade is
8/10 you will receive 4/10. Submissions made more than 24 h after the start of class will receive zero credit unless arranged in advance.

**Academic Integrity**
The University of Southern California is foremost a learning community committed to fostering successful scholars and researchers dedicated to the pursuit of knowledge and the transmission of ideas. Academic misconduct contrasts with the university’s mission to educate students through a broad array of first-rank academic, professional, and extracurricular programs and includes any act of dishonesty in the submission of academic work (either in draft or final form).

This course will follow the expectations for academic integrity as stated in the USC Student Handbook. All students are expected to submit assignments that are original work and prepared specifically for the course/section in this academic term. You may not submit work written by others or “recycle” work prepared for other courses without obtaining written permission from the instructor(s). Students suspected of engaging in academic misconduct will be reported to the Office of Academic Integrity.

Other examples of academic misconduct include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see the student handbook or the Office of Academic Integrity’s website, and university policies on Research and Scholarship Misconduct.

**Course Content Distribution and Synchronous Session Recordings Policies**
USC has policies that prohibit recording and distribution of any synchronous and asynchronous course content outside of the learning environment.

Recording a university class without the express permission of the instructor and announcement to the class, or unless conducted pursuant to an Office of Student Accessibility Services (OSAS) accommodation. Recording can inhibit free discussion in the future, and thus infringe on the academic freedom of other students as well as the instructor. (Living our Unifying Values: The USC Student Handbook, page 13).

Distribution or use of notes, recordings, exams, or other intellectual property, based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study. This includes but is not limited to providing materials for distribution by services publishing course materials. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the internet, or via any other media. (Living our Unifying Values: The USC Student Handbook, page 13).

**Course Evaluations**
Course evaluation occurs at the end of the semester university wide. These are implemented by USC. We take your comments seriously. So, in addition to this standard review, we will have a midsemester evaluation for this course. The input collect from you will be invaluable for “correcting” directions in the course and optimizing your educational experience. Detail will be provided in class in week 7.

**Course Schedule (tentative- topics subject to change before the start of the semester)**
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics/Daily Activities</th>
<th>Readings/Preparation</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intro expectations</td>
<td>none</td>
<td>Expectations for the class and rubrics Determine order for paper presentations</td>
</tr>
<tr>
<td>2</td>
<td>Life on Earth</td>
<td>Woese CR. On the evolution of cells. <em>Proc National Acad Sci</em> 2002; 99: 8742–8747</td>
<td>Paper Presentation for one student and review due before class for all</td>
</tr>
<tr>
<td>5</td>
<td>Redfield Ratio</td>
<td>Redfield AC. The Biological Control of Chemical Factors in the Environment. <em>American Scientist</em> 1958; <strong>46</strong>: 230A–221.</td>
<td>Paper Presentation for one student and review due before class for all</td>
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<tr>
<td>8</td>
<td>Fall recess</td>
<td>No assignments</td>
<td>No assignments</td>
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<tr>
<td>Week 11</td>
<td>Competition and coexistence</td>
<td>Hutchinson GE. The Paradox of the Plankton. <em>Am Nat</em> 1961; <em>95</em>: 137–145.</td>
<td>Paper Presentation for one student and review due before class for all</td>
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<tr>
<td>Week 12</td>
<td>Tropical Fish and Climate change</td>
<td>Morgan R, et al Low potential for evolutionary rescue from climate change in a tropical fish. <em>Proceedings of the National Academy of Sciences</em> 2020; <em>117</em>: 33365–33372.</td>
<td>Paper Presentation for one student and review due before class for all</td>
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<tr>
<td>Week 14</td>
<td>Thanksgiving Break</td>
<td>No assignments</td>
<td>No assignments</td>
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