

## **Biology 343 Chemical Ecology Spring 2008**

**Lecture Time:** MWF 12:30pm - 1:20pm  
**Location:** HS G59

**Instructor:** Dr. Cynthia Kicklighter  
**Office:** HS G36  
**Email:** [cynthia.kicklighter@goucher.edu](mailto:cynthia.kicklighter@goucher.edu)  
**Phone:** 410-337-6579

### **Required Text:**

There is no required text. Instead, you will be assigned reviews and primary literature to read. You should be prepared to discuss readings in class.

**Attendance:** Regular attendance is expected and is to your advantage.

**Cell Phones:** Please make sure to turn off your cell phone before entering class.

**Web Resources:** Lecture materials (powerpoint files, pdfs, etc.) will be posted to the course BlackBoard web site.

**Examinations:** There will be three examinations and a final exam (see details below).

**Missed Examinations:** An unexcused absence will result in a score of 0. If, for some (*important*) reason, you must miss an exam, you must talk to me to make other arrangements.

**Academic Honor Code:** Suspected violations of the Honor Code will be referred to the Academic Honor Board. For a full description of the code and what constitutes a violation of the code, refer to the Goucher Handbook or online at [www.goucher.edu/x1292.xml](http://www.goucher.edu/x1292.xml)

**Group Presentation:** Working in small groups, you will choose a primary literature paper to present to the class and lead a discussion. Everyone (not just those giving the presentation) will read the paper beforehand and should be prepared to ask questions and participate in discussion. Specific details will be provided later.

**Review paper:** \*Due 14 March. Choose one of the following options: (1) review the use of chemical signaling in a particular species that interacts with its environment in at least three ways with chemical signals, detailing how the species uses chemicals to meet some of its basic needs; (2) review a particular topic in marine ecology, detailing the state of the field—what’s known, the ecological relevance of the research, future directions of the field (what’s lacking?), etc.; (3) review the more recent “cutting” edge techniques being used in the field of chemical ecology (e.g., genomics, metabolomics, RNAi, etc.).

No matter which option you choose, the paper should be at least five pages (excluding a title page and references) double-spaced, 12 point Times New Roman font, and one-inch margins. You must cite at least 15 references, 12 of which must be primary literature sources. Cite references in the style of articles in the journals *Ecology*, *Journal of*

*Experimental Marine Biology and Ecology*, or *Marine Ecology Progress Series*. It doesn't matter which format you use, as long as you are consistent.

**Grades:**

Exams: the two top scores will be weighted 20%; the lowest of the three scores will be weighted 10%

Group presentation: 10%

Paper: 15%

Class participation: 10%

Final exam: 15%

<b>Date</b>	<b>Lecture Topic</b>	<b>Reminders</b>
30 Jan	Introduction to the course; intro to chemical signaling	
1 Feb	Intro to chemical signalling	
4 Feb	Competition via allelopathy	
6 Feb	Allelopathy	
8 Feb	Allelopathy discussion	
11 Feb	Finding prey	
13 Feb	Finding prey	
15 Feb	Defending against predators	
18 Feb	Defending against predators	<b>Paper topic due</b>
20 Feb	How prey defenses affect predators	
22 Feb	Predator/prey interactions discussion	
<b>25 Feb</b>	<b>EXAM I</b>	
27 Feb	Allocation of predator defenses	
29 Feb	Induced defenses	
3 Mar	Alarm cues	
5 Mar	Alarm cues discussion	
7 Mar	Community-level affects of prey defenses	
10 Mar	Community-level affects discussion	
12 Mar	Finding a mate via sex pheromones	
14 Mar	Finding a mate	<b>**Paper due</b>
24 Mar	Finding a mate discussion	
<b>26 Mar</b>	<b>EXAM II</b>	
28 Mar	Finding a home via settlement cues	
31 Mar	Antifouling: preventing settlement	
2 Apr	Human pheromones	
4 Apr	Human pheromones	
7 Apr	Human pheromones discussion	
9 Apr	Other pheromones	
<b>11 Apr</b>	<b>NO CLASS</b>	
14 Apr	Symbiosis	
16 Apr	Symbiosis	
18 Apr	Other functions of chemical signals	
21 Apr	Environmental aspects of chemical ecology	
23 Apr	Applications of chemical ecology	
<b>25 Apr</b>	<b>EXAM III</b>	
28 Apr	TBD	
30 Apr	Group Presentations	
2 May	Group Presentations	
5 May	Group Presentations	
7 May	Group Presentations	