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Textbook: A well-written, accessible, and complete textbook on this topic is absent. Thus, we will be reading the primary scientific literature throughout this course.

Course description: Ecology of chemical signals involved in organismal interactions in aquatic and terrestrial ecosystems. Focal organisms range from plankton to megafauna. Emphasis on the history of chemical ecology studies and needed experiments to address missing knowledge.

Goals:

1. Develop a broad understanding of the ecological functions of chemicals produced by organisms.
2. Understand the "state of the field" of chemical ecology by careful criticism of foundational and recent papers in the field. In other words, what's known and what's next
3. Recognize the techniques that have been used previously in the field and what techniques and experiments will be needed in the future to fill in the gaps of our knowledge.

Grading (NO LATE ASSIGNMENTS ACCEPTED):

Item	Value (%)
Exams (20, 20, and 25%)	65
Quizzes	9
Abstract Writing (3 @ 7% each)	21
Participation	5
TOTAL=	100

Exams: There will be three exams. Exams will consist of a written portion based on lecture and reading topics. Material covered in readings but not covered in lectures are fair game for exam questions.

Quizzes: I will give pop quizzes to encourage completion of assigned readings.

Abstract writing exercises: In our course, you will submit written abstracts for papers whose abstracts have been removed (see attached for more information).

Participation: You are expected to participate fully and actively in all components of this course. Asking questions about the readings and lectures AND working well with your classmates and teammates are strongly encouraged.

Date	Lecture Topic	Deadlines, exams, etc.	Reading
9/1	Introduction		
9/3	Introduction		Hay 2009
9/8	Introduction - Source of compounds		Dumbacher et al. 2004, Lopanik et al. 2004, Cimino et al. 1983
9/10	How to write an abstract	Distribute paper for Abstract #1	
9/15	Ecological Relevance		Stabell et al. 1999, Wassersug 1971
9/17	Interspecific-CP-Foraging		Weissburg and Zimmer-Faust 1993, Weissburg et al. 2002
9/22	Interspecific-CP-Feeding cues/Defense		Long and Hay 2006, Hay 1986
9/24	Interspecific-CP-Feeding cues/Defense		Kicklighter et al. 2004,
9/29	Interspecific-CP-Feeding cues/Defense - phlorotannins	Abstract #1 Due	Deal et al. 2003, Kubanek et al. 2004,
10/1		<i>Guest Lecture – Dr. Patrick Krug (CSULA)</i>	Riffell et al. 2004, Botello and Krug 2006
10/6	Interspecific-CP-Consequences of consumption		Baldwin 1988, Bernays 1991, Miralto et al. 1999
10/8		EXAM 1	
10/13	Interspecific-CP-Toxin-mediated prey capture		RitsonWilliams et al 2006, Terlau et al 1996
10/15	Interspecific-CP-Detecting consumers	Distribute paper for Abstract #2	Toth and Pavia 2000, Long et al. 2007
10/20	Interspecific-CP-Detecting consumers		Trussell et al. 2002, Raimondi et al. 2000
10/22	Interspecific-Allelopathy		Keating 1977, Jonssonetal 2009
10/27	Interspecific-Microbe-Macrobe signaling		Spoel et al. 2007, Burkepile et al. 2006
10/29	Intraspecific – Finding a mate	Abstract #2 Due	Wedekind et al. 1995
11/3	Intraspecific – Finding a mate		Vickers 2000, Lawson et al. 1996
11/5		<i>Guest Lecture – Dr. Richard Zimmer (UCLA)</i>	Zimmer and Ferrer 2007
11/10	Intraspecific – Quorum Sensing	Bassler TED lecture, Distribute paper for Abstract #3	Waters and Bassler 2006, Manefield et al. 2002
11/12	Intraspecific – Competitive hierarchy	WSN	Moore and Bergman 2005
11/17	Intraspecific – Synchronizing reproduction		Hardege and Bentley 1997
11/19		EXAM 2	
11/24		<i>Guest Lecture – Dr. Paul Jensen (SIO)</i>	Kubanek et al. 2003, Engel et al. 2002
11/26	Environment - Homing		Scholz et al. 1976, Munday et al. 2009
12/1	Environment-Settlement		Toth and Lindeborg 2008, Boetcher and Targett 1998
12/3	Ecosystem-wide effects	Abstract #3 Due	Flewelling et al. 2005, Nevitt et al. 1995
12/8	Pfiesteria		Vogelbein et al. 2002, Berry et al. 2002
12/10	Applied Uses		Ferrari and Targett 2003
12/15		FINAL EXAM	