

**Art of Writing Seminar: Introduction to scientific writing
(Intro Sci Writing)
Integrative Biology 101
4 units**

Instructor: TBD

Course goals/description: This course will introduce students to concepts and techniques for effective communication of scientific findings, both within the scientific community and to the general public. Students will gain experience with a wide variety of science communication, including systematic observations in field journals, proposals, conference presentations, seminars, journal articles, popular science writing, and interviews. Students can expect to gain a sense of confidence in writing and public speaking about research. Direct language is valued in scientific writing, but creative approaches to style and structure will be emphasized.

Format (Seminar): Limited to 15 students. Weekly discussions will dissect the form and technique of published scientific works of various formats. Students will complete written assignments outside of class, which will be improved by peer review during class. Instructor led field trips towards the beginning of the semester will introduce the approach to systematic observations important for field journaling and research projects. Students will develop their curiosity and research skills by conducting group research projects. Students will gain experience writing natural history, scientific reports, environmental opinion and advocacy pieces.

Course enhancements: This course will include two field trips to local ecosystems that will introduce students to the natural history and ecology of California. Students will be given a field journal for the course and encouraged to write by hand through free write opportunities. In the second trip, students will participate in a mentored group research project.

Grade Breakdown: Alternative method of final assessment (final paper).

- 40% weekly journal writing
- 25% midterm 5-page paper
- 35% 10 page final paper

Course Activities and Readings

Week 1: Natural History: Field journals. Students learn to make a Systematic, formulaic record of observations.

Readings: Writing Natural History Notes by Benjamin Carter (unpublished).

Week 2: Natural History: Field trip to local California ecosystem to learn to make direct observations in their notebooks.

Week 3: Natural History: Entry point for both scientific research as well as commentary on human-nature interactions.

Readings: David Raines Wallace, (2015), Aldo Leopold, Sand County Almanac.

Week 4: Natural History: foundation for scientific research.

Readings: Dan Janzen (1979).

Week 5: Field trip to conduct mentored group research.

Readings:

Weeks 6-7: Scientific Writing: proposals, presentations, abstracts.

Readings: Greene 2013.

Week 8-9: S Scientific Writing Reports: introduction, methods, results, discussion.

Readings: Greene 2013.

Week 10-11: Scientific Writing: concept pieces and review papers.

Readings: Coley et al. 1985, Wiens and Donoghue 2004.

Week 12: Scientific Journalism and Advocacy: Letters to the Editor, Op/Ed pieces.

Week 13-14: Scientific Journalism and Advocacy: Essays and appeals.

Readings: Edward Abbey, 1968, McKibben 2008.

Week 15: Peer Review. Presentations of final papers.

Sample Reading List:

Abbey, Edward. 1968. *Desert Solitaire*. McGraw-Hill.

Baldwin, Bruce G. 2014. Origins of Plant Diversity in the California Floristic Province. *Annual Review of Ecology, Evolution and Systematics* 45: 347-369.

Coley, P.D., J.P. Bryant, F.S. Chapin, III. 1985. Resource availability and plant anti-herbivore defense. *Science*. 230:895-899.

Greene, Anne E. 2013. *Writing Science in Plain English*. University of Chicago Press.

Janzen, D.H. 1979. How to be a fig. *Annual Review of Ecology and Systematics*. 13-51.

Leopold, Aldo. 1949. *A Sand County Almanac*. Oxford.

McKibben, Bill (Editor). 2008. *American Earth: Environmental Writing Since Thoreau*. Library of America.

Wallace, David Rains 2015. *Mountains and Marshes: exploring the Bay Area's Natural History*. Counterpoint.

Wiens, J.J., and M.D. Donoghue. 2004. Historical biogeography, ecology, and species richness. *Trends in Ecology and Evolution* 19: 639-644.