

Course number:	<b>Bio299</b>
Title:	<i>Writing in Biology</i>
Instructor(s):	<b>Julie Reynolds</b> has a Ph.D. from the University of California at Berkeley in Integrative Biology, a M.S. from the University of California at Davis in Ecology (with an emphasis on Conservation Biology and Ecological Economics) and a B.A. from Pomona College in Environmental Policy Analysis. Although most of her research interests have been focused on marine fisheries population dynamics, she is currently conducting research on the how science students learn through writing. Dr. Reynolds has been teaching academic and professional writing courses at Duke since 2002. Email: <a href="mailto:julie.a.reynolds@duke.edu">julie.a.reynolds@duke.edu</a> , Office: 136 BioSci, Phone: 681-6899
Office hours:	Wednesdays noon – 2 PM, and by appointment
Semesters offered:	Spring 2011 Wednesdays 2:50 – 5:20 PM in BioSci 144
Prerequisites:	None, although most students have completed at least one semester of Independent Studies prior to enrolling.
Targeted students:	This course is particularly appropriate for undergraduates working on a thesis or major research paper, and is recommended, but not required, for all candidates for Graduation with Distinction.
Content covered:	Effective writing is essential for the communication of scientific knowledge, yet few biologists have any formal training in how to write a scientific paper. This course teaches students how to become more effective writers by demystifying the writing process. We will work throughout the semester on students' research papers: we will work from outlines and rough drafts; we will review and critique each other's writing in class, in conferences, and in small peer groups; and we will revise each section of these papers several times before the final drafts are completed. By the end of the semester, students will have a better understand of the conventions of scientific writing and of readers' expectations. Additionally, students will learn how to solicit high-quality feedback – from faculty and their peers – and how to respond to feedback in thoughtful and deliberate ways when revising.
Course codes:	The course is writing intensive and carries a “W” designation.

Course philosophy	The guiding philosophy of the course is that by teaching students to engage effectively in scientific peer review – the same process of self-regulation and evaluation used by professional scientists to improve quality and uphold standards – they will have an authentic learning experience that they are more likely to transfer beyond the context of the course.																		
Learning objectives (w/Blooms levels):	By the end of the semester, students will be able to: <ul style="list-style-type: none"> <li>• Write a scientific paper in accordance with the conventions of writing in biology,</li> <li>• Anticipate readers’ expectations, and communicate in a clear and concise manner,</li> <li>• Solicit high-quality feedback from faculty and peers, and respond to feedback in thoughtful and deliberate ways when revising.</li> </ul>																		
Types and frequency of assessments:	<p>The criteria I use for grading will be included with each assignment you receive. I provide these criteria so you have the greatest opportunity for success. Also, my criteria will change as your writing matures throughout the semester. Here is a summary of the assignments you will have this semester, and the distribution of points.</p> <table border="1"> <thead> <tr> <th><u>Item</u></th> <th><u>Percent of total grade</u></th> </tr> </thead> <tbody> <tr> <td>Initial concept maps</td> <td>7%</td> </tr> <tr> <td>Peer reviews</td> <td>20%</td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>• Introductions</li> <li>• Methods</li> <li>• Results</li> <li>• Discussion</li> </ul> </td> <td></td> </tr> <tr> <td>1<sup>st</sup> draft of research paper</td> <td>10%</td> </tr> <tr> <td>Final draft of research paper</td> <td>40%</td> </tr> <tr> <td>Poster plus final presentation</td> <td>10%</td> </tr> <tr> <td>Final concept maps</td> <td>7%</td> </tr> <tr> <td>Participation</td> <td>6%</td> </tr> </tbody> </table>	<u>Item</u>	<u>Percent of total grade</u>	Initial concept maps	7%	Peer reviews	20%	<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Methods</li> <li>• Results</li> <li>• Discussion</li> </ul>		1 <sup>st</sup> draft of research paper	10%	Final draft of research paper	40%	Poster plus final presentation	10%	Final concept maps	7%	Participation	6%
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Required Texts:	<p>Pechenik, J.A. 2004. <i>A short guide to writing about biology</i> (6<sup>th</sup> edition). Pearson-Longman, NY. pp. 66-120, 244-251.</p> <p>Day, R. 1998. <i>How to Write and Publish a Scientific Paper</i>, (6<sup>th</sup> edition) Oryx Press, Phoenix.</p>																		
Optional text:	Strunk, W. and E.B. White 2000. <i>Elements of Style</i> . Longman, NY.																		
Course policies and procedures:	<b>Attendance and Due Dates:</b> Attendance is essential for each student to contribute to and benefit from class. If you know in advance that you will miss a class (due to a religious holiday, athletic commitment, etc.), email me at the beginning of the semester. Due dates are posted on the schedule and, unless																		

otherwise specified, are due at the beginning of class.

**Using Blackboard and issues of format:** You will be required to post many of your writing assignments to the course website, so you must become familiar with the computer software "Blackboard." Feel free to email me if you run into any problems.

- Put your name, assignment number, draft, and date on the first page of each of your writings.
- Think of a strong title for your writing and put that on the first page as well. Many readers will be reviewing your writing, so the title gives us a context in which to begin our reading.
- Be sure to number your pages.
- Keep an electronic copy of each draft you write for this course. This means you will need to form the habit of duplicating a document and then making changes to the new copy.
- Back-up your writing, either onto a flashdrive (or whatever device you have to back-up your work) or to your personal space on the Duke servers.

**Proofreading and Editing:** Students in this class are expected to be able to write reasonably correct prose. This means you are responsible for making sure that your work is presented with care and thought. While I am willing to help you with any questions you may have about points of style, usage, or grammar, I should not be the first reader of your work and I will not accept any writing that strikes me as hurriedly or carelessly prepared. Make sure to review, edit, and proofread all the work you do for this course before you turn it in. Use a spell-checker but don't rely on it. Get a good college dictionary (either in print or online) and writer's handbook (such as Strunk and White's *The Elements of Style*)—and learn how to use them. I encourage you to work with a tutor at the Writing Studio – those who take this advice are always glad they did. Finally, feel free to ask friends or roommates to look over your work—and thank them in your acknowledgments for their help!

**Citing references, and avoiding plagiarism:** When you quote, paraphrase, respond to, or in any other way draw on the work of others in your writing—as you will surely do in this course—you need to acknowledge that you are doing so. This is the case whether your sources are published authors, fellow students, teachers, or friends. The Duke Library has posted guides to documenting sources at <http://www.lib.duke.edu/libguide/citing>

To present someone else's work as your own is to plagiarize. The Library also has posted guidelines on avoiding plagiarism at: <http://www.lib.duke.edu/libguide/plagiarism>.

The more interesting question has to do with how to note influences on your writing in order to make the position you are taking more clear, to show how

you are trying to extend, counter, or redirect the work of others. In any case, though, following the conventions of citation is not always a simple or mechanical process; it can sometimes be hard, for instance, to draw the line between what is common knowledge or not, or between a graceful allusion and a buried source, or between making use of the advice of readers and appropriating their ideas. If you have any questions about if or how you should document your use of a text or idea, play it safe and ask me.

**The Writing Studio and E-tutor:** The main offices of the Writing Studio are located on the second floor of the Academic Advising Center on East Campus. (There are also satellite locations at Perkins and Lilly Libraries.) You can go to the Studio for free one-on-one help with drafting, revising, or editing any writing project you are doing for a course at Duke, or you can work online with a tutor. The tutors at the Studio are trained professionals; they are willing to work with you on a one-time basis, or you can set up a regular appointment throughout the term. You can schedule an appointment online at <http://uwp.aas.duke.edu/wstudio/>. When you visit the Studio, bring the draft you are working on with you, as well as **a copy of the assignment** and/or **reader's feedback** that you are responding to. I encourage you to let me know if you work with a tutor at the Studio; it shows that you are serious about your writing.

Last updated:

December 2010

# *Writing in Biology Schedule*

Dr Julie A. Reynolds, Bio 299, Spring 2011. Readings are from Day & Gastel's 6<sup>th</sup> edition and Pechenik 6<sup>th</sup> edition. Dates written in **bold** are biology department deadlines, applicable only to students in the Graduation with Distinctions program.

<b>date</b>	<b>Topic</b>	<b>Read Before Class</b>	<b>Work due</b>
Jan 19	<ul style="list-style-type: none"> <li>• Pre-course survey</li> <li>• What the best writers do</li> <li>• Valuing feedback/criticism</li> <li>• About the course</li> <li>• <i>How to create a concept map</i></li> </ul>	<ul style="list-style-type: none"> <li>• Skim table of contents of all texts</li> <li>• Read syllabus</li> </ul>	
Jan 26	<ul style="list-style-type: none"> <li>• <i>Endnote and library database tutorial</i></li> </ul>	How to write a thesis: <ul style="list-style-type: none"> <li>• Day Ch 35</li> </ul> Scientific writing: <ul style="list-style-type: none"> <li>• Day Ch 1-4</li> </ul>	
Feb 2	<ul style="list-style-type: none"> <li>• Workshop: concept maps</li> <li>• <b>Break</b></li> <li>• <i>What does your research tell you? Creating a narrative for your writing. (Dickinson's presentation re: results)</i></li> <li>• Creating effective graphics (BioTAP 9)</li> </ul>	Writing & presenting Results <ul style="list-style-type: none"> <li>• Day Ch 12, 16-18</li> <li>• Pechenik p166-198</li> </ul>	<ul style="list-style-type: none"> <li>• Concept maps</li> </ul>
Feb 9	<ul style="list-style-type: none"> <li>• Audience-centered writing (BioTAP 1)</li> <li>• How to review scientific literature and write clear, compelling summaries of scientific articles (BioTAP 2)</li> <li>• <b>Break</b></li> <li>• Workshop of concept maps, figures and legends</li> </ul>	Writing an Intro <ul style="list-style-type: none"> <li>• Day Ch 10</li> <li>• Pechenik p206-213</li> </ul>	<ul style="list-style-type: none"> <li>• Revised concept map</li> <li>• 1<sup>st</sup> draft of visual elements of Results</li> </ul>
<b>Friday, Feb 11, 2011 - Last date to meet with Biology Faculty Reader. (see <a href="http://www.biology.duke.edu/undergrad/distinction/application.html">http://www.biology.duke.edu/undergrad/distinction/application.html</a>)</b>			
Feb 16	<ul style="list-style-type: none"> <li>• How to write a compelling research statement (BioTAP 3)</li> <li>• How to cite sources (BioTAP 8)</li> <li>• <b>Break</b></li> <li>• Writing workshop – intros</li> </ul>	Citing sources, etc <ul style="list-style-type: none"> <li>• Day Ch 15</li> <li>• Pechenik Ch 5</li> </ul>	<ul style="list-style-type: none"> <li>• Upload 1<sup>st</sup> draft of Introduction to Discussion Board (in Blackboard) by 9am</li> </ul>
Feb 23	<ul style="list-style-type: none"> <li>• Writing workshop: methods</li> <li>• <b>Break</b></li> <li>• How to analyze your results</li> </ul>	Writing Methods <ul style="list-style-type: none"> <li>• Day Ch 11</li> <li>• Pechenik p 160-</li> </ul>	<ul style="list-style-type: none"> <li>• Peer review of Introductions</li> <li>• 1<sup>st</sup> draft of Methods</li> </ul>

	(BioTAP 4-5)	166	
Mar 2	<ul style="list-style-type: none"> <li>Conferences</li> </ul>		<ul style="list-style-type: none"> <li>Peer review of Methods</li> <li>bring 3 copies of revised introduction to the conference</li> </ul>
<b>Friday, March 4, 2011 - Submit first draft of your Introduction to your Biology Faculty Reader.</b>			
<b>Spring Break</b>			
Mar 16	<ul style="list-style-type: none"> <li><i>The art of revision</i></li> <li><i>Break</i></li> <li><i>Writing workshop: results</i></li> </ul>	Revising <ul style="list-style-type: none"> <li>Pechenik Ch 6</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> draft of results</li> </ul>
	<ul style="list-style-type: none"> <li>Writing workshop: discussion</li> <li><b>Break</b></li> <li><i>Workshop of titles</i></li> </ul>	Writing Discussion <ul style="list-style-type: none"> <li>Day Ch. 13</li> <li>Pechenik p199-205</li> </ul>	<ul style="list-style-type: none"> <li>Peer review of results</li> <li>1<sup>st</sup> draft of discussion</li> </ul>
Mar 23	<ul style="list-style-type: none"> <li>What makes a good scientific abstract?</li> <li><b>Break</b></li> <li><i>Writing workshop: students' choice</i></li> </ul>	Writing an abstract and title <ul style="list-style-type: none"> <li>Day Ch 7, 9</li> <li>Pechenik p213-218</li> </ul>	<ul style="list-style-type: none"> <li>Peer review of discussion</li> <li>1<sup>st</sup> drafts due by Friday March 25</li> </ul>
<b>Friday, March 25, 2011 - Submit first draft of the entire thesis to your Biology Faculty Reader.</b>			
Mar 30	<ul style="list-style-type: none"> <li>Creating effective posters (and giving poster presentations)</li> <li><b>Break</b></li> <li>Writing workshop: abstracts</li> </ul>	Preparing a poster <ul style="list-style-type: none"> <li>Day, Ch 28</li> <li>Pechenik Ch 12</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> draft of abstracts</li> </ul>
Apr 6	<ul style="list-style-type: none"> <li>Writing workshop: posters</li> </ul>	Presenting a poster <ul style="list-style-type: none"> <li>Day Ch 27</li> <li>Pechenik Ch 14</li> </ul>	<ul style="list-style-type: none"> <li>1<sup>st</sup> draft of posters</li> </ul>
Apr 13	<ul style="list-style-type: none"> <li>Poster presentations</li> </ul>	Writing acknowledgements <ul style="list-style-type: none"> <li>Day Ch 14</li> </ul>	<ul style="list-style-type: none"> <li>Final title and abstract due April 15<sup>th</sup></li> </ul>
<b>Friday, April 15, 2011 - Electronic Submission of Thesis Title &amp; Abstract</b>			
Apr 20	<ul style="list-style-type: none"> <li><i>Writing workshops: students' choice</i></li> </ul>		<ul style="list-style-type: none"> <li>Final poster due April 22<sup>nd</sup></li> </ul>
<b>Friday, April 22, 2011- Present research results and conclusions as a poster (3:00-5:00 pm)</b>			
<b>Monday, April 25, 2011 - Submit final copy to DUS-Biology Office by 12:00 pm.</b>			
Apr 27	<ul style="list-style-type: none"> <li>Evaluations and end-of-course survey</li> <li>Rethinking concept maps (in-class exercise)</li> <li><b>Break</b></li> <li>Peer reviews of concept maps</li> </ul>	Writing job letters <ul style="list-style-type: none"> <li>Pechenik Ch15</li> </ul>	<ul style="list-style-type: none"> <li>Final draft due Monday April 25<sup>th</sup></li> </ul>

