

Course Name: SciComm: Exploring Effective Communication Methods in the Life Sciences

Time: Tuesday/ Thursday 9:30-10:50am

Location: SSC 121

Quarter: Fall 2021

Discussion sections: 021 (CRN 27959) F 12:00-12:50 and 022 (CRN 27961) F 1:00-1:50

Writing workshops: ENGL 007 Section 009 (CRN 29088)

Instructor:

Dr. Erin Rankin

124 Entomology Building

erin.rankin@ucr.edu

Teaching Assistants:

Discussion: Stephanie Castillo

Writing workshops: Clare O'Brien

Office hours:

Erin Rankin

Stephanie Castillo

Clare O'Brien

Course Overview:

This course explores the art of writing about science research for general audiences. Our activities will focus on using narratives (stories) to communicate the excitement and importance of research to non-scientists. You will learn how to use storytelling to translate complex ideas into accessible prose through readings and writing exercises. Development of your writing style and abilities will take place through extensive peer-review of written work by your classmates. You will become part of a writing community as you work together to become effective science communicators in a world of high-speed, web-based media.

Lectures will be held at the scheduled course time (usually the first 30-35 minutes) followed by in-class activities and active discussion (~40 minutes). Participation in lecture and activities (including peer review) represents 40% of your grade *and* will enhance learning. *All peer reviews will be conducted on CANVAS.*

For the major course assignment, you will propose at least three ideas for a substantive story (up to 2500 words) about a research project at UCR or a nearby institution. You will interview the scientists involved in person or via Skype and produce several drafts of your story. Each one will go through a peer review process involving classmates and the instructor. At the end of the course, your final story may appear on the research team's website, *The Press Enterprise*, *UCR Today*, or another appropriate venue. In preparation for this assignment, you will complete several smaller writing assignments and peer review exercises alongside readings and in-class activities to hone your scientific communication skills. We will also discuss the ways we record methods and data in science, scientific ethics and plagiarism, controversies in science, conflicts that arise in science communication, and how you can get involved in amateur and professional science writing.

EXPECTATIONS: You should be prepared to participate in every class. This is a four-credit course with three hours of in-class lecture per week (Tuesday/Thursday 1.5 hours per class) and one hour of discussion per week, as well as participation throughout the quarter in three 1-hr workshops at the writing center. Two hours of external, independent work (writing) are expected each week as an accompaniment to our in-class time.

Course goals:

In this class, we seek to demystify the writing process and engage students in the creative process of communicating science. Students will participate in a diversity of writing, editing and peer review activities to achieve the Learning Objectives and Learning Outcomes below. This course is appropriate for both beginning and experienced scientists and students who need to communicate effectively with other students, professionals, policymakers, or the broader public. Course content is relevant to students, scientists and researchers in any life science field.

1. Become a storyteller

Learning outcomes:

- A. identify the features of narrative structure in research articles and popular science articles*
- B. deconstruct and reconstruct narratives about scientific material to emphasize –its value and relevance*
- C. develop an advanced ability to communicate scientific material clearly, accurately, and effectively to a diverse audience by applying narrative structure*

2. Become proficient in assessing and interpreting research articles

Learning outcomes:

- A. explain connections between writing and analytical thinking*
- B. clearly communicate scientific concepts to peers and the general public*
- C. identify key structural elements of research articles*
- D. improve science literacy and comfort with primary literature*

3. Incorporate genre features into your writing to increase proximity of the reader to the written content

Learning outcomes:

- A. communicate uncertainty in a way that your audience (peers/public) can understand*
- B. communicate excitement, interest, and motivation about science content and develop attitudes supportive of effective science communication*
- C. successfully interpret statistics as appropriate (e.g. likelihood, uncertainty) and place in context of everyday comparisons*

Writing workshops: You must also register for the ENGL 007, Section 009 (registration number: 29088) writing workshop and attend three workshops over the course of the quarter. Workshops will align with assignments and the schedule will be posted on Canvas. During workshops you will get additional opportunities for feedback from a writing center TA and

engage in more peer-editing exercises. ENTM 060W also fulfills the ENGL 1C requirement if a student receives a course grade of C or higher.

Required Texts: You can find the course reserves here

(https://search.library.ucr.edu/discovery/search?query=any,contains.entm%20060w&tab=CourseReserves&search_scope=CourseReserves&vid=01CDL_RIV_INST:UCR&offset=0) or for each text separately

below.

1. *Houston, We Have a Narrative: Why Science Needs a Story* (2015)

Author: Randy Olson, ISBN-13: 978-0226270845

Course reserve link:

https://ucr.primo.exlibrisgroup.com/permalink/01CDL_RIV_INST/18blg5g/alma991033552528304706

2. *The Scientist's Guide to Writing: How to Write More Easily and Effectively throughout Your Scientific Career* (2016)

Author: Stephen B. Heard, ISBN-13: 978-0691170220

Course reserve link:

https://ucr.primo.exlibrisgroup.com/permalink/01CDL_RIV_INST/18blg5g/alma991033552528204706

Other texts we will consult (materials provided by instructors or at the links provided):

1. *Calling Bullshit* (2020) Authors: Carl Bergstrom and Jevin West, ISBN-13: 978-0525509189

If you read no other book this year, read this one. A survival guide to navigating the internet.

Library link: https://ucr.primo.exlibrisgroup.com/permalink/01CDL_RIV_INST/1jkon0k/alma991033564548104706

2. *The Science of Scientific Writing* Authors: George Gopen and Judith Swan

<https://www.americanscientist.org/blog/the-long-view/the-science-of-scientific-writing>

Periodic handouts explaining writing tools, recent science stories, articles, and materials from our guest speakers will be provided on Canvas (eLearn.ucr.edu).

Grades:

We will use a grading strategy known as “specifications grading” for this course. Grades will be based on mastery of the material (performance in each assessment category). We will provide feedback on assignments and monitor participation. Letter grades for each assignment and/or assessment category will be determined according to the table below. You can **revise the final draft of each assignment once** to address feedback and increase mastery. Revised assignments are due **one week after receiving feedback (final grade) except for Assignment 4 whose Revisions are due Friday of Finals Week.**

Assessment category	Percent of grade	To earn “A”	To earn “B”	To earn “C”	To earn “D”
Participation (lecture activities documented in your writing journal)	20%	Miss no more than 1 lecture activity (synchronous or asynchronous)	Miss no more than 3 lecture activities (synchronous or asynchronous)	Miss no more than 5 lecture activities (synchronous or asynchronous)	Miss no more than 7 lecture activities (synchronous or asynchronous)
Participation	10%	Participate in all 3 workshops (make-	Participate in at least 2 workshops	Participate in at least 2 workshops	Participate in at least 1 workshop

(workshops)		up arranged with TA counts) <i>NOTE: attendance at all 3 workshops required for ENGL 001C credit!</i>	(make-up arranged with TA counts) <i>NOTE: attendance at all 3 workshops required for ENGL 001C credit!</i>	(make-up arranged with TA counts) <i>NOTE: attendance at all 3 workshops required for ENGL 001C credit!</i>	<i>NOTE: attendance at all 3 workshops required for ENGL 001C credit!</i>
Participation (peer review activities)	10%	Participate in at least 5/6 peer review sessions	Participate in at least 4/6 peer review sessions	Participate in at least 3/6 peer review sessions	Participate in fewer than 3 peer review sessions
Assignments (see individual assignment rubrics for details)	35%	High pass on both assign. 3 & 4. High pass on at least one of the following: assign. 1 & 2	High pass on at least one major assignment (3 or 4) with low pass on the other major assignment; and high pass on at least one of the following: assign. 1 & 2	High pass on at least one major assignment (3 or 4). At least low pass on both of the smaller assignments (assign. 1 & 2)	Low pass on at least one major assignment and one smaller assignment
Discussion section (see discussion syllabus)	25%	Meet discussion syllabus criteria for "A" grade	Meet discussion syllabus criteria for "B" grade	Meet discussion syllabus criteria for "C" grade	Meet discussion syllabus criteria for "D" grade

Final grade calculations

Meet all criteria = that letter grade

Meet all but one = that letter grade (-)

Meet all criteria and exceed criteria in at least 2 assessment categories = that letter grade (+)

ANY documented instance of plagiarism from a published article or source that is not yourself will result in automatic failure on that assignment. Plagiarism is defined as the practice of taking another's writing or ideas and submitting them as one's own (for example, copying and pasting from a source or website). Repeated instances of plagiarism will result in failure of the course and/or reporting to Student Conduct & Academic Integrity Programs. For a full description of academic integrity standards, please see: https://studentdocs.ucr.edu/conduct/uc-riverside_scaip_academic-integrity-student-guide.pdf and the Academic Integrity Policy at the end of this syllabus.

Writing assignments and deadlines (full assignment descriptions/rubrics on Canvas)

Assignment 1: Jargon translation exercise (max 500 words)

Pre-work: Submit on Canvas before class on **Oct 6**

Draft 1: Submit on Canvas before class on **Oct 11**

Final draft: Submit on Canvas before class on **Oct 18**

Assignment 2: Three ideas for popular science story (three short blurbs of 150-200 words each; 450-600 words total)

Pre-work: Submit on Canvas before class on **Oct 20**

Draft 1: Submit on Canvas before class on **Oct 25**

Final draft: Submit on Canvas before class on **Oct 27**

Assignment 3: Short-form popular science story (max 1000 words)

Pre-work (Part 1): Submit on Canvas before class on **Nov 1**

Draft 1 (Part 2): Submit on Canvas before class on **Nov 8**

Final draft: Submit on Canvas before class on **Nov 10**

Assignment 4: Long-form popular science story (max 2500 words)

Pre-work (Part 1): Submit on Canvas before class on **Nov 15**

Draft 1 (Part 2): Submit on Canvas before class on **Nov 22**

Final draft: Submit on Canvas by 11:59pm on **Dec 2 (Fri of Week 10)**

Schedule of Lecture Classes, Readings, and Assignments

Date	Class content	Due by start of class
Sept 22 (Week 0)	1. Introduction to the course, assignments and schedule Writing self-assessment Asynchronous in-class exercise (submit before next class): Lecture comment; Writing self-assessment; writing exercise	Reading due: Heard: Ch 1
Sept 27 (Week 1)	2. Introduction to the structure and interpretation of research articles Comparison of research articles with popular science articles using Hyland's concept of proximity Have handy: Handout 1 Asynchronous in-class exercise (submit before next class): Olson reading comment; Proximity and structure analysis of popular science article	Reading due: Olson: Sections I (Introduction) and II (Thesis), Heard: Ch 8. Read assigned popular science article (Canvas) Writing due: Writing self-assessment (submitted on Canvas)
Sept 29	3. How to deal with jargon and translate a scientific paper into a news release and story for the general public. Have handy: Handout 1 Asynchronous in-class exercise (submit before next class): Lecture comment; Proximity and structure analysis of research article with jargon analysis	Reading due: Purugganan et al. (Canvas). Research paper that was the basis of your popular science article (Canvas) Writing due: Filled out template from Purugganan et al. based on your assigned research article (put in writing journal) <u>(included in Lecture activities participation)</u>
Oct 4 (Week 2)	4. Writing with the reader in mind, use of narrative structure. Have handy: Handout 2 (Canvas)	Reading due: Olson: Section III (Antithesis) Ch 5-7, Appendix 1; Heard: Ch 7

	<p>Asynchronous in-class exercise (submit before next class): Comment on lecture/Olson reading; Narrative spectrum analysis activity</p>	<p>Writing due: none</p>
Oct 6	<p>5. Topic sentences: how to identify them and how to craft effective ones;</p> <p>Asynchronous in-class exercise (submit before next class): Lecture comment; Topic sentence activity; Peer review of Assignment 1 pre-work</p>	<p>Reading due: Heard: Ch 5</p> <p>Writing due: Assignment 1 Pre-work (parts 1-3); submit before class starts)</p>
Oct 11 (Week 3)	<p>6. Detecting “bullshit” Part I. Introduction to peer review</p> <p>Asynchronous in-class exercise (submit before next class): Lecture comment; Peer review of Assignment 1 draft 1</p>	<p>Reading due: Heard: Ch 21-22; Peer review videos</p> <p>Writing due: Assignment 1, Draft 1 (Part 4)</p>
Oct 13	<p>7. Interviewing: asking scientists about their work. Guests: TBA</p> <p>Asynchronous in-class exercise (submit before next class): Written analysis of the in-class interview of a campus scientist</p>	<p>Reading due: Article by guest (Canvas)</p> <p>Writing due: - Three questions for guest (submit on Canvas before class)</p>
Oct 18 (Week 4)	<p>8. Talking to experts. Discuss what worked well and what we can improve upon when interviewing experts. What prompted your questions to the guest speaker? Review and discuss changes between your drafts.</p> <p>Asynchronous in-class exercise (submit before next class): Panel comment; Review final draft of Assignment 1 and discuss changes.</p>	<p>Reading due: Anxiety blog post, Meghan Duffy on the Dynamic Ecology Blog (Canvas).</p> <p>Writing due: Assignment 1 final draft (submit on Canvas before class)</p>
Oct 20	<p>9. Interviewing: asking scientists about their work. Guest: TBA.</p> <p>Asynchronous in-class exercise (submit before next class): Written analysis of the in-class interview of a campus scientist</p>	<p>Reading due: A paper written by the guest, which is provided on Canvas.</p> <p>Writing due: Assignment 2 Pre-work; 3 questions for the guest (submit on Canvas before class)</p>
Oct 25 (Week 5)	<p>10. Story leads, narrative structure, capturing the reader’s attention; Peer review of Assignment 2 draft 1</p> <p>Asynchronous in-class exercise (submit before next class): Lecture comment; Story lead activity and discussion; Peer review of Assignment 2, draft 1</p>	<p>Reading due: Weigel & Berman excerpt</p> <p>Writing due: Assignment 2, draft 1 (submit on Canvas before class)</p>
Oct 27	<p>11. Writing and time management. Setting realistic goals.</p> <p>Asynchronous in-class exercise (submit before next class): Lecture comment, time management exercises.</p>	<p>Reading due: Heard: Ch 4</p> <p>Writing due: Assignment 2 final draft (submit on Canvas before class)</p>
Nov 1 VOTE! (Week 6)	<p>12. Long form vs. short form science journalism</p> <p>Asynchronous in-class exercise (submit before next class): Lecture comment; Long vs short form</p>	<p>Reading due: Example long and short format pieces provided on Canvas. Heard: Ch 17</p>

	comparisons	Writing due: Assignment 3 Pre-work (submit on Canvas before class)
Nov 3	13. Revising for brevity, impact, and style while maintaining a good flow. Guided self-review of Assignment 3 Draft 1 Asynchronous in-class exercise (submit before next class): Lecture comment; Guided self-review Assignment 3 rough draft	Reading due: Gopen and Swan blog article (Canvas) Heard: Ch 18-20 Writing due: Assignment 3, draft 1 (submit on Canvas before class)
Nov 8 (Week 7)	14. Detecting “bullshit” Part II. Asynchronous in-class exercise (submit before next class): Lecture comment;	Reading due: Heard Ch 9-13 Writing due: None
Nov 10	15. Use and creation of infographics. Detecting “bullshit” in data visualizations. Asynchronous in-class exercise (submit before next class): Lecture comment;	Reading due: None Writing due: Assignment 3, Final Draft (submit on Canvas before class)
Nov 15 (Week 8)	16. Identifying and avoiding our common writing pitfalls Asynchronous in-class exercise (submit before next class): Lecture comment; Peer editing of Assignment 4 pre-work; background information activity	Reading due: Writing due: Assignment 4, pre-work (submit on Canvas before class)
Nov 17	17. Overcoming obstacles in long-form: strategies to overcome Writer’s Block and strategies to conduct background research. How to find answers to your questions about your paper? Asynchronous in-class exercise (submit before next class): Lecture comment;	Reading due: Murray 2014 Writing due: None
Nov 22 (Week 9)	18. Publication bias and predatory publishing. Asynchronous in-class exercise (submit before next class): Lecture comment; Peer review of Assignment 4, draft 1	Reading due: None Writing due: Assignment 4, draft 1 (submit on Canvas before class)
<i>Nov 24</i>	<i>NO CLASS for THANKSGIVING HOLIDAY</i>	
Nov 29 (Week 10)	19. Scientific misconduct and its impacts on science Asynchronous in-class exercise (submit before next class): Lecture and case study comment; Reading comment; guided self-review of Assignment 4, draft 1	Reading due: Kearns et al 2016 Writing due: Bring your Assignment 4 in progress
Dec 1	20. Closing class: summary of accomplishments, post-assessment, and science writing after ENTM 60W	Reading due: Olson: Section IV (Synthesis); Heard: Ch 6

	Asynchronous in-class exercise (submit within two days): Lecture comment; post-assessment	Writing due: Assignment 4, final draft due tomorrow!
Dec 2 (FRIDAY)		Writing due: Assignment 4, final draft (submit on Canvas by 11:59pm)

Assignment Formatting Policy

All papers should be 1.5-spaced with no cover page and written in Times New Roman 12 pt or similar font with one-inch margins and no extra space between paragraphs. **Your name and the assignment name should appear in the header on the upper right-hand corner of each page along with a page number.** Any sources must be properly cited in the text and in a work cited at the end of your paper. When citing sources, use APA guidelines:

In text citation basics

https://owl.purdue.edu/owl/research_and_citation/apa6_style/apa_formatting_and_style_guide/in_text_citations_the_basics.html

In text citations: Author/Authors

https://owl.purdue.edu/owl/research_and_citation/apa6_style/apa_formatting_and_style_guide/in_text_citations_author_authors.html

Reference lists: Basics

https://owl.purdue.edu/owl/research_and_citation/apa6_style/apa_formatting_and_style_guide/reference_list_basic_rules.html

Attendance Policy and COVID-19 or other illnesses:

Participation in lecture and activities represents 40% of your grade *and* will enhance learning. However, we understand that illnesses or exposure to COVID-19 will likely occur. **If you are sick or suspect you may have been exposed to COVID-19, please do not come to class.** If you are not able to attend lecture due to illness or suspected COVID-19 exposure, you will need to **listen to the lecture later** and **complete the asynchronous lecture response activity** (usually a brief commentary or short worksheet) **plus** the **in-class activity that followed the lecture**. In-class activities will also be posted as a worksheet or rubric that can be completed in MS word and submitted via Canvas. *I will post audio recordings of the lectures and the accompanying lecture slides shortly after class, usually within 3 hours.* To make sure you keep up with the class, these activities will be **due by the start of the next class**. If you are doing a **peer review** asynchronously, this should be done within 24 hours of the missed class so that your peer (and yourself) can get that feedback quickly. Consult the detailed schedule on this document for exact due dates of asynchronous materials.

Late Assignment Policy

You should make every effort to turn in **DRAFTS** of your work on time. This is because the drafts will usually be peer-reviewed on the day they are turned in. If you don't turn it in, you will miss the opportunity for this feedback and will not be able to participate in a peer-review swap to practice evaluating other writing and giving feedback. **DRAFTS** do not have to be perfect and they do not even have to be very good or entirely complete. Turn in what you have so it can be workshopped. Because the state of the world is bordering on dumpster fire territory and everyone is having more bad days than good, you will get **two free passes to turn in a DRAFT**

by the next class after the due date without penalty. *If you turn in a late **draft** then you will have to complete a **self-review** in lieu of a peer review.* You will also get **one free pass to turn in a FINAL DRAFT one day after the due date without penalty.** After you use up your free passes, you will incur a 10% reduction in your grade due to submission of a late draft or final draft (assuming you get it in by the next class after the due date). If something catastrophic happens in your life that is going to impact work progress for an extended period, please **contact the instructor** so we can work something out. My goal here is to help you **learn the material** and **develop the skills you need for science writing**, not to be punitive.

Academic Integrity Policy

Honesty and integrity are fundamental values that guide and inform us as individuals and as a community at UCR. In this class we expect that students will take responsibility for their own learning and that they will familiarize themselves with the Principles of Academic Integrity as formulated by the Academic Senate of the University of California. Academic misconduct is any act that does or could improperly distort student grades or other student academic records. This includes cheating, fabrication, plagiarism, facilitating academic dishonesty, unauthorized collaboration, interference, and sabotage. Students found guilty of any academic misconduct will receive a reduced final course grade. For additional information please refer to the academic senate guidelines:

(http://senate.ucr.edu/bylaws/?action=read_bylaws&code=app§ion=06%20)

Student Accommodations

UC Riverside is committed to providing equal access to learning opportunities to students with documented disabilities. To ensure access to this class, and your program, please contact the Student Disability Resource Center (SDRC) to engage in a confidential conversation about the process for requesting accommodations in the classroom. More information can be found on sdrc.ucr.edu. If you are a student registered with the SDRC, please ensure you request your quarterly accommodations through rability.ucr.edu.

ITS is supporting a hotspot loan program for students. Here is more information as well as an application form: <https://its.ucr.edu/loan2learn>. Laptops with built in webcams are available for loan through ITS loan2learn website: <https://its.ucr.edu/loan2learn>