

Environmental Health Sciences/Environment M413

Advanced Technical Writing: Writing a Scientific Paper

Spring 2018

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Class meeting: Tues 12:15-2:15 pm
Location: TBD
Office hours: By appointment

Course website: <https://ccle.ucla.edu/course/view/18S-ENVIRONM413-1>

Overview: The goal of this course is to teach the fundamentals of writing a scientific paper. Students will complete a manuscript that is ready to submit for publication in a peer-reviewed journal by the end of the quarter. The exercises will focus on the student's own research results, and thus this course is best taken when all data for a paper has been collected and the student is ready to prepare a complete manuscript. Although there may be instances where data collected has not been completed (for example, for ESE students during their Problems Course), all students must prepare all sections of a manuscript, using "example" data and analyses if necessary. Specific aspects of manuscript preparation will be reviewed and discussed. Each section of the manuscript will undergo peer review and this process will be discussed. The manuscripts will then be revised to respond to the reviewers' comments and re-submitted for evaluation.

This course is designed for doctoral students in Environmental Health Sciences and Environmental Science and Engineering. Master's students in EHS and doctoral students from other departments should only register for the course after consultation with the course instructor. Students should only take the course if they are at a point in their graduate careers when they have made sufficient progress to be ready to write a peer-reviewed publication.

Text:

Required: Writing Science: How to write papers that get cited and proposals that get funded – Joshua Schimel (ISBN 978-0-19-976024-4)

Read relevant section before each class meeting.

Course Structure: The class meets two hours per week and is in the format of an interactive discussion. Students must complete the writing assignment and read all required reading prior to coming to each class so that they can participate in the small group writing discussions in class. Reading assignments are listed in the course schedule; any updates will be posted on the course website.

Assignments:

Writing assignments for the sections of your manuscript are to be submitted to the entire class via email. The due dates are noted in the schedule. In general, a draft is due two days before class. Two students will be assigned as "peer reviewers" for each student's manuscript. They must submit their reviews via email – to the author and the entire class – before the class meeting so they can be discussed in class.

Schimmel’s book has useful exercises for each chapter. These exercises are designed to help you practice the lessons from the chapter and improve your writing. The exercises are not required, but it is highly recommended that you complete them, especially the exercises for Chapters 2-9.

Note about file names: Do not name your files with a generic name such as “Introduction.docx”. There may be files from many different students named the same! Your file names should include your last name, a descriptive title, and often the date (to keep track of versions), such as “Smith Introduction 4-17-16.docx”.

Course Learning Objectives

Upon completion of this course, you should be able to demonstrate the skills listed as “Course Learning Objectives” below. These learning objectives were selected to help you build competencies required for the MS and PhD programs (see <http://ph.ucla.edu/current-students/programmatic-competencies>). Note: the listed competencies have been developed to identify the competencies MS and PhD students in Environmental Health Sciences should have developed by the time they graduate; they have no direct relevance to students in other graduate programs, although of course many would be useful for any environmental researcher.

Course Learning Objectives
1. Tailor written communications so they are appropriate to the target audience.
2. Demonstrate effective scientific writing skills by preparing a manuscript for a peer-reviewed journal.
3. Critically evaluate the style and substance of a manuscript.
4. Provide constructive feedback in the form of peer review of a manuscript.

How These Learning Objectives Align with Competencies for Specific Degree Programs	
<i>EHS MS Competencies</i>	<i>EHS PhD Competencies</i>
A1. Retrieve and organize literature; synthesize and critically evaluate scientific literature in environmental health, public health and other relevant fields.	A1. Judge, critique and interpret reports of individual environmental health studies; evaluate strengths and limitations of environmental health reports.
C1. Use computer systems and analytic software packages.	D2. Deduce environmental and public health implications of research results and propose subsequent studies.
C2. Produce working tables, statistical summaries, and effective figures to summarize data.	D3. Make appropriate policy recommendations on the basis of research results and interpretation.
D1. Make reasonable inferences from results of analysis of observational and analytical studies.	E1. Gauge the cultural background, knowledge base and skills of an audience to appropriately customize communications for the target audience.
E3. Explain and interpret research findings for students, professionals, the public, and media.	E3. Write a publishable manuscript.

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Course Schedule
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Date	Lecture topic	Reading	Assignment
Tues 4/3 12:15 PM	Course Overview Elements of a scientific paper Using Microsoft Word Preparing to write: Results, tables and figures	Chap 1-2	Meet with advisor; select journal and obtain Instructions to Authors
Tues 4/10 12:15 PM	Conceptualizing the paper Writing fundamentals	Chap 3-4	Title Page and outline Due 4/17 before class
Tues 4/17 12:15 PM	Peer reviewing Methods section	Chap 8	Methods section due Sunday 4/22 Peer reviews due 4/24 before class
Tues 4/24 12:15 PM	<i>Class discussion: Methods</i> Results section	Chap 10-16	Results section due Sunday 4/29 Peer reviews due 5/1 before class
Tues 5/1 12:15 PM	<i>Class discussion: Results</i> Introduction	Chap 5-7	Introduction due Sunday 5/6 Peer reviews due 5/8 before class
Tues 5/8 12:15 PM	<i>Class discussion: Introduction</i> Discussion section	Chap 9, 18	Discussion section due Sunday 5/13 Peer reviews due 5/15 before class
Tues 5/15 12:15 PM	<i>Class discussion: Discussion</i> Revising Abstract and Conclusions; Acknowledgments; References	Chap 17	
Tues 5/22 12:15 PM	Peer reviewing	Nicholas and Gordon 2011	Draft Manuscript due Sunday 5/27 Peer review due 5/29 before class
Tues 5/29 12:15 PM	<i>Class discussion: peer review comments</i>		
Tues 6/5 12:15 PM	Final discussion Writing a dissertation		Complete All Editing and Polishing of Manuscript Final Manuscript Due Friday 6/15