THE UNIVERSITY OF WISCONSIN-MILWAUKEE Fall 2021 9/4/2021
Scientific Writing BioSci-750 2 cr.
Instructor: Dr. Mark McBride Office: Lapham Hall N307 Teams Phone: 414-251-7849 email: mcbride@uwm.edu
Class hours: M 11:00-12:40 AM Lapham 260 Office Hrs: Wed 10-11 or by appointment
Text: How to write and publish a scientific paper. Barbara Gastel and Robert A. Day. 2016. 8th ed. Greenwood, paperback. (or 7th or 6th ed. if you are on a tight budget. The 4th edition (1995) is available inexpensively as a pdf. The 4th ed. is extremely out of date, but if you cannot afford a more recent edition it is acceptable.)

Course Description: Writing and communication in the sciences. Writing and editing research proposals, scientific papers, and theses. Preparing and presenting seminars and posters. 2 hrs lecture (includes writing exercises and other activities).

Course prerequisites: Graduate student at University of WI-Milwaukee (any Department, School, or College).

Date	Week	Lecture Topic/Activity	Reading
	1	**Assignment 1 due Fri. Sept 10 on Canvas (not to be graded):** **Brief introduction to yourself**	
Sept 13	2	**Lecture 1: 'Basics of Scientific Writing'** Discuss Main Semester Writing Assignment (proposal, paper section, thesis chapter) **Assignment 2: edit an abstract (turn in on canvas Sat Sept 18)** Discuss Assignment 3- one-page outline of semester writing project Discuss Assignment 4- Seminar presentations	**Ch 1-4**
20	3	**Lecture 2: 'Preparing an Oral Presentation'** **Lecture 3: 'Writing a Research Proposal'**	**Ch 27** **Ch 37**
27	4	**Lecture 3 (continued): 'Writing a Research Proposal'** **Lecture 4: Writing a Research Paper** **Assignment 3 due Sept 27: One-page outline of writing project for the semester**	**Ch 37** **Ch 7, 9, 10, 11, 12, 13, 15, 23**
Oct. 4	5	**Assignment 4: Seminar presentations and critiques** **Lecture 4 (continued): Writing a Research Paper**	
11	6	**Assignment 4: Seminar presentations and critiques**	
18	7	**Assignment 4: Seminar presentations and critiques**	
25	8	**Lecture 4 (continued): Writing a Research Paper** **Assignment 5: 1st draft of main writing assignment due Oct 25**	
Nov. 1	9	Instructor returns first draft with suggestions One-on-one discussions of suggested improvements (times for each student will be arranged; not necessarily during normal class time)	
8	10	**Lecture 5: Preparing Figures and Tables**	**Ch 16-18**
15	11	In-Class Activity: Misused words **Lecture 6: Jargon and Misused Words**	**Ch 30, 31** **Appendix 2**
22	12	**Assignment 6: 2nd draft of main writing assignment due Nov 22** **Lecture 7: Writing a Thesis** **Lecture 8: Preparing a Poster**	**Ch 35** **Ch 28**
29	13	**Lecture 9: Submitting manuscripts for publication and the review process** **Lecture 10: Editing your own work (and checklists)** **Assignment 7: review 2nd draft for 1 classmate; due Sunday Dec 5, 5:00 PM**	**Ch 40, 41** **Ch 6, Ch 20-22**
Dec 6	14	In class discussion of writing assignment. Times will be arranged for each pair of students, and separate times for each student to meet with me.	
13	15	**Lecture 11: Ethical conduct in science** **Lecture 12: Misc. scientific writing: CV, recommendation letter, Scientific communication careers.** Fill out class evaluation online **Assignment 8: Final version of writing assignment due Tues Dec 14 (study day)**	**Ch 5** **Ch 26, 36, 38** **Ch 42**

Assignment due week/date in bold red above
Reading to be completed before the class date listed (Ch. numbers are from 8th ed of Gastel & Day)
Grades will be based on your main writing project (60%), seminar presentation (20%), other small assignments (10%), and other class participation (10%).

More detailed breakdown of points:

Assignment	**Points (out of 100)** (The 60 points from 'main writing project' are shown in blue)
Assignment 1: Introduction	0
Assignment 2: Edit Abstract	5
Assignment 3: Outline	5
Assignment 4: Seminar	20
Assignment 5: First Draft of Main Project	15
Assignment 6: Second Draft of Main Project	20
Assignment 7: Review of student writing	5
Assignment 8: Final Version of Main Project	20
Class Participation	10

This class is being held in person unless Covid-19 unexpectedly forces us on-line again. One-on-one editing sessions are a big part of the second half of the semester. These will be conducted in my office (Lapham N307), or via collaborate ultra for those who prefer to conduct these remotely.

You will need to select a writing project for this course. Many PhD students and thesis MS students work on their research proposals as this project. Others work on a paper for publication (or part of one), or on a chapter of their planned thesis. Non-thesis MS students often write a review article on a scientific topic of interest to them, and others may also select this option. I am open to other possibilities. There are many options.

Chapters from 'How to write and publish a scientific paper', 8th ed., B. Gastel and R. A. Day, (Greenwood).
(These are listed to help those using an earlier edition find the appropriate chapters for each reading assignment)

1) What is Scientific Writing?	23) How to Write a Review Paper
2) Historical Perspectives	24) How to Write Opinion
3) Approaching a Writing Project	25) How to Write a Book Chapter or a Book
4) What is a Scientific Paper?	26) How to Write for the Public
5) Ethics in Scientific Publishing	27) How to Present a Paper Orally
6) Where to Submit Your Manuscript	28) How to Prepare a Poster
7) How to Prepare the Title	29) How to Write a Conference Report
8) How to list the Authors and Addresses	30) Use and Misuse of English
9) How to Prepare the Abstract	31)Avoiding Jargon
10) How to Write the Introduction	32) How and When to Use Abbreviations
11) How to Write the Materials and Methods Section	33) Writing Clearly Across Cultures and Media
12) How to Write the Results	34) How to Write Science in English as a Foreign Language
13) How to Write the Discussion	35) How to Write a Thesis
14) How to State the Acknowledgements	36) How to Prepare a Curriculum Vitae, Cover Letter, ec.
15) How to Cite the References	37) How to Prepare Grant Proposals and Progress Reports
16) How to Design Effective Tables	38) How to Write a Recommendation Letter
17) How to Prepare Effective Graphs	39) How to Work with the Media
18) How to Prepare Effective Photographs	40) How to Provide Peer Review
19) Rights and Permissions	41) How to Edit Your Own Work
20) How to Submit the Manuscript	42) How to Seek a Scientific-Communication Career
21) The Review Process	Appendix 2) Words and Expressions to Avoid
22) The Publishing Process	

Other Useful Resources (not required):
1) Writing Science. Joshua Schimel. 2012. Oxford University Press.

2) The elements of style. William Strunk and E. B. White. Brief but useful text for all authors (scientific or otherwise). The original was published in 1959. Its shorter predecessor was published over 100 years ago (1918) by Strunk. Good writing has not changed much in the last century.

3) Grammar Girl (on the web with videos, or in bookstores) https://www.quickanddirtytips.com/grammar-girl