updated 5/11/26

CHEM 8801 Syllabus

Writing Effective Research Proposals and Manuscripts
1 Credit
Wednesdays, 5:00 – 5:50 pm, CoC 101

Instructor Information

- M.G. Finn – mgfinn@gatech.edu
- other faculty will assist through the semester

General Information

This is a one-credit, letter-grade course that meets once per week. It is primarily intended for Chemistry and Biochemistry graduate students in the fall of their 3rd year; 4th and 5th year students are also welcome.

The course will provide training and experience in general good writing practices, the organization and writing of scientific publications, and the construction of scientific proposals.

Recommended Book

"Writing Science" by Joshua Schimel – pdf version provided, but you are encouraged to purchase a volume of this delightful book.

Course Goals

By the end of the course, students will be able to:

- Write clear and persuasive prose in styles appropriate for scientific publications and research proposals
- Critically evaluate your own and others' writing
- Edit scientific documents for length, clarity, and effectiveness
- Identify and analyze different strategies and elements of the writing process as applicable to scientific writing
- Apply the rules and analytical skills developed here to their own reading of the scientific literature

Course Format

The course will include a number of assignments, most of which will deal with various aspects of a proposal that you will write throughout the semester. This proposal can be on your current scientific research, but you are strongly encouraged to focus instead on your own ideas for different research than you are working on for your Ph.D. We will therefore start the semester with an assignment (see the schedule below).

Generative Artificial Intelligence

AI is a fact of our lives, and it would be foolish to discard this tool altogether. We will therefore incorporate AI into our workflow, but keep the following facts in mind: (a) What you input into generative AI immediately leaves your control and ownership. (b) AI systems generally write adequately but not well. You will find them very useful in avoiding big or simple mistakes, but you generally cannot count on them to be logically or stylistically creative: they will rob you of an authentic voice. And, as I hope you will see, having such a voice is very important in writing persuasively.

Grading will be entirely based on participation. Assignments will be assessed for grading purposes only for the level of effort you demonstrate. (You will of course receive lots of other feedback about writing.)

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Put in the work, you'll get an A; failure to provide evidence of sufficient effort on more than 20% of the assignments will earn a grade of C or worse.

Schedule (subject to change at any time – check frequently to make sure you have the most up-to-date version)

Week	Topic	Assignment
0 (8/19)	Identify the topic of your proposal	Due 8/27: draft 1-page Specific Aims page of your proposal.
1 (8/26)	Introduction: rules of grammar and composition, do's and don't's. The beginnings of how to write effectively.	Read selected sections of *The Elements of Style*
2 (9/2)	Components of a grant proposal, and organization thereof.	Assignments 02 and 03, due 9/3.
3 (9/9)		
4 (9/16)	Writing critiques	Introduction and Significance first draft
5 (9/23)		Revised Specific Aims
6 (9/30)	Do's and don'ts for figure-making	Background/Preliminary Results first draft
7 (10/7)	No class	
8 (10/14)	Writing critiques	Revised Introduction and Significance
9 (10/21)		Research Strategy / Proposed Studies first draft
10 (10/28)	Writing critiques	
11 (11/4)	Revising (often shortening): the essence of good proposal-writing	Optional: submit sections for help
12 (11/11)	Figure-making workshop	Share your problematic figures and get help
13 (11/18)	How to review grant applications	
Mon., 11/23		Final grants due
14 (12/1)	Humans vs. AI: Admirable features of good papers vs. ChatGPT	
15 (12/8)	Panel reviews to be scheduled around this time	