

MCB5801: Scientific Writing and Project Development for MCB Graduate Students

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Mondays 12:20pm-1:10pm, BPB 131. Webex: <https://uconn-cmr.webex.com/uconn-cmr/j.php?MTID=m04709de0aadbcadc46d5610e4eeb253b> Submit assignments via HuskyCT

Course Philosophy:

Welcome everyone to MCB5801, scientific writing and professional development for MCB graduate students! This course is motivated by three facts: (i) you are ultimately responsible for designing and executing your thesis research, from start to finish; (ii) your successfully completing your degree and taking the next step in your career depends on decisions that you make and disciplined patterns that you establish NOW, at the start of your graduate program; and (iii) your future career requires more than just research excellence (although this is important). It is my objective to help you continue transitioning from undergraduate-level recipients of knowledge to creative and independent scientists in each of these areas.

Writing effectively is an especially crucial scientific skill in which many graduate students lack formal training. Besides crafting your thesis and publications, effective writing is especially important inside and outside of academia to apply for research funding. Writing is also an important means to codify your ideas, which is especially important when you are designing a new project. We will therefore work together to craft specific aims for your research projects, anticipating that they will form the backbone of your first committee presentation at the end of this semester, and be amplified for second-year review and prospectus in year 2 or 3 of your PhD program, respectively. We will practice peer editing with a focus on both scientific content and writing clarity, refining your aims into a cohesive and marketable unit. You will use these aims as a mechanism to get early feedback from members of your committee, providing a mechanism for you to assemble this committee early in your PhD career and meet your PhD program milestones with their assistance. Finally, we will apply these aims to create first-class applications for the NSF GRFP fellowship. It is fully expected that these will be ready for the fall 2021 competition.

A second function of writing a full GRFP proposal is to highlight your personal narrative in science and discover ways that you can further your broader career prospects aside from your core research activities. We will highlight the diversity of scientific research project types, and the diverse contexts in which they occur. The nature of the NSF GRFP fellowship also highlights the intersection between science and society, and so we will discuss different such intersections occur and how to leverage them to build your future career.

Evaluation: Full GRFP proposal – 40%; Specific aims – 20%; Peer reviews – 30%; Class participation – 10%.

Late penalties: Completing assignments on time is critical so that you are respectful of your colleagues' time. All late assignments and reviews will be penalized by losing 20% of the marks for that assignment per late day, with the first day counted from 12:20 pm of the due date for that assignment. The reality is that funding agencies are less generous than this – PLAN AHEAD!! Class participation includes on-time submission of both graded and non-graded work.

Attendance and Conduct: Because this is a discussion-based course in which you are expected to always actively participate, I require that you attend as many of the classes as possible, either online or in person. I expect that you will fully engage in all discussions, and I commit to honestly answering ALL of your questions no matter how difficult (short of personally denigrating my colleagues). I also expect you to complete any pre-class readings and submit any questions or

feedback that is requested. If you have to miss a class, please let me know in advance and recognize that you will still be responsible for completing that day's assignment on your own. I recognize that the current COVID-19 outbreak poses special challenges and am very willing to entertain reasonable accommodations should they be needed. If you need an accommodation, please discuss (broadly) your situation with me so that we can come up with an appropriate plan of action.

All of your conduct in this course is governed by the established UConn Community Standards – see www.community.uconn.edu and/or ask me for further details.

Modality: UConn's guidelines permitting, we will meet in person in BPB 131 each Monday 12:20-1:10 pm. As in the previous semester, you are expected to protect yourself and others by maintaining social distance and wearing a mask at all times while at UConn. Following UConn's guidelines, the first two classes (Jan 25 and Feb 1) will be held online only at the WebEx address listed above. This address will also be used throughout the semester should UConn require all classes to move to an online modality. To the extent that we are able, we will stream or record all in person classes. **Do not attend in person classes if you are experiencing COVID-19 symptoms or have been instructed to quarantine.**

Course Outline:

- Week 1 (Jan 25) Discussion: course introduction; PhD milestones – **Online only**
- Week 2 (Feb 1) Discussion: shaping a document - sections, paragraphs, sentences; submit your current personal statement draft to HuskyCT (at least 1.5 pages – not for edits) – **Online only**
- Week 3 (Feb 8) Discussion: in-class assignment: “biggest loser” (writing concisely); submit your current personal statement draft to HuskyCT (3 pages – not for edits)
- Week 4 (Feb 15) Discussion: discovery-based vs. hypothesis-based research; submit personal statement to HuskyCT and your peer reviewers
- Week 5 (Feb 22) Discussion: crafting project outlines; submit reviews to HuskyCT and your personal statement authors.
- Week 6 (Mar 1) Discussion: momentum and overcoming writers block; submit specific aims to HuskyCT and your peer reviewers
- Week 7 (Mar 8) Discussion: funding agencies, broader impacts; submit reviews to HuskyCT and your specific aim authors.
- Week 8 (Mar 15) Discussion: funding and your PhD; submit aims to HuskyCT for grading
- Week 9 (Mar 22) Discussion: jargon, ambiguity, and other things that hinder readers; receive graded aims
- Week 10 (Mar 29) Discussion: finalizing documents – software, figures, and references; submit research plans to HuskyCT and your peer reviewers
- Week 11 (Apr 5) In-class assignment: study section reviews of research plans – **Please block off an extra hour for this class if you are able**; submit reviews to HuskyCT and your research plan authors.
- Week 12 (Apr 12) Spring break: submit full proposal to HuskyCT and your reviewers
- Week 13 (Apr 19) Discussion: the publication process; submit reviews to HuskyCT and your full proposal authors.
- Week 14 (Apr 26) Assignment due: submit final proposal to HuskyCT, schedule committee meetings (cc Jonathan) – **No class**