

## **MCB5801: Scientific Writing and Project Development for MCB Graduate Students**

**Dr. Jonathan Klassen – [jonathan.klassen@uconn.edu](mailto:jonathan.klassen@uconn.edu)**

**Mondays 12:20pm-1:10pm, Webex: <https://uconn-cmr.webex.com/uconn-cmr/j.php?MTID=m5eb46167fc65b9c9b93ab0a6471c4e62>**

### **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 and be amplified for your prospectus defense in year 2 or 3 of your PhD program. 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 potential members of your committee. This also serves as a mechanism for you to assemble this committee early in your PhD career and facilitate meeting 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 are submission-ready for the fall 2019 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. Besides writing, this course will include readings and discussions concerning various aspects of scientific professional development. The intention of these discussions is for you to understand what a scientific career looks like, the path to achieving such a career, and your role and responsibilities within this process. I expect that you will fully engage in these discussions, and I commit to honestly answering ALL of your questions no matter how difficult (short of personally denigrating my colleagues). I firmly believe that having sober career goals and a concrete plan to achieve them is crucial for you to succeed in your graduate program and obtain the best career possible.

**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 12:20pm of the due date for that assignment. I also reserve the right to include chronic lateness in my evaluation of class participation. The reality is that funding agencies are less generous than this – PLAN AHEAD!!

**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 online classes as possible. 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](http://www.community.uconn.edu) and/or ask me for further details.

### **Course Outline:**

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| Week 1 (Jan 27)  | Discussion: course introduction; funding and your PhD  |
| Week 2 (Feb 3)   | Discussion: funding agencies; email Jonathan your current personal statement draft (at least 1.5 pages – not for edits)  |
| Week 3 (Feb 10)  | Discussion: introduction to scientific writing; in-class assignment: “biggest loser” (writing concisely); email Jonathan your current personal statement draft (3 pages – not for edits) |
| Week 4 (Feb 17)  | Discovery-based vs. hypothesis-based research; personal statement sent for peer review   |
| Week 5 (Feb 24)  | Discussion: crafting project outlines; receive personal statement reviews  |
| Week 6 (Mar 2)   | Discussion: academic and non-academic career paths; specific aims sent for peer review   |
| Week 7 (Mar 9)   | Discussion: reading and searching the scientific literature; receive specific aims reviews   |
| Week 8 (Mar 16)  | Spring break; send aims to Jonathan for grading by Mar 13  |
| Week 9 (Mar 23)  | Discussion: graduate school in the time of COVID-19; receive graded aims   |
| Week 10 (Mar 30) | Discussion: time management; research plans due, sent to peer reviewers  |
| Week 11 (Apr 6)  | In-class assignment: study section reviews of research plans   |
| Week 12 (Apr 13) | Discussion: networking; full proposal sent for peer review   |
| Week 13 (Apr 20) | Discussion: the publication process; receive full proposal reviews   |
| Week 14 (Apr 27) | Assignment due: final proposal, schedule committee meetings  |

### **Textbook:**

Many of our discussions will have required readings that I will assign before the class, including papers and secondary literature, e.g., blog posts and magazine articles. You will be held responsible for reading these materials as part of your “Class participation” portion of your grade. I will also periodically forward other material that is related to our course discussions as it arises, but your reading these will not be evaluated as part of your course grade.