

IB 514 SCIENTIFIC WRITING

Meeting Times & Location

MW 12pm-1:20pm in Cordley Hall 2406

Course Description

Develops skills and strategies for producing clear, effective scientific manuscripts and professional documents. Covers the full writing process, including writing habits, workflow management, journal selection, and the peer review and publication process. Explores best practices for integrating literature, using reference managers, and adopting alternative writing and word-processing tools. Emphasizes practical, hands-on experience through real-world scientific writing, peer feedback, and collaborative accountability. *3 credits*

Prerequisites

Officially, only graduate standing (or instructor approval). Unofficially, students must be ready to start writing a scientific manuscript the first week of the term. What does “be ready” mean? That’s for you and your advisor(s) to decide. That said, being ready does not mean being 100% done with your analyses or having all your final figures drafted. (A key lesson of the course is that writing can and should start much earlier than that.) However, you do need to be far enough along to know what your paper’s main story arc and primary message will be. (Feel free to contact me if you’re unsure.)

Learning Outcomes

After successful completion of this course, you should be able to:

- Design and implement a sustainable writing workflow that includes goal-setting, time management, journal selection, and navigation of the peer review and publication process. *Verified through: Writing plans, workflow reflections, journal targeting assignments, and participation in structured writing/accountability activities.*
- Integrate and synthesize primary literature effectively by selecting relevant sources, accurately representing prior work, and managing citations using a reference manager. *Verified through: Annotated drafts, reference library checks, and citation accuracy in the final manuscript.*
- Critically revise their own and others’ scientific writing by diagnosing problems in clarity, argumentation, organization, and style, and by implementing substantive revisions in response to peer and instructor feedback. *Verified through: Peer-review assignments, revision memos, and comparison of early and revised drafts.*
- Produce a complete, submission-ready scientific manuscript that is clearly written, logically structured, and aligned with the conventions and audience expectations of a target journal. *Verified through: Drafts and final manuscript submission.*

Instructor & Office Hours

Mark Novak

Office: Cordley 5323

Email: mark.novak@oregonstate.edu

I am happy to meet by appointment, or please feel free to stop by my office anytime.

Course Materials & Schedule

See <https://github.com/ScientificWriting>.

Course Work

There will be no exams, tests, or quizzes. I will not grade your work because there won’t be “correct” answers to the problems you will solve. In fact, my goal is for you to not have almost no “homework”

(besides readings and making progress on your manuscript writing). However, the course *will* require a significant allocation of time for thought and reflection outside of class. There *will* also be readings for in-class discussion to be read before class (see Schedule on GitHub repository). Finally, you will need to complete all assigned in-class work, ideally by the end of the week in which the topic is covered but definitely before the end of Week 10.

Collaboration

My hope is for you to make a tremendous amount of progress on your manuscript during this course. Your work will therefore, almost by definition and necessity, be your own. That said, I *strongly* encourage everyone to work as a team in whatever ways are possible! That's because what this course is all about is to provide you with tools. Tools have to be learned and practiced. Moreover, there's nothing better for learning to understand something than (successfully) explaining how you think about it to someone else. Therefore, you are *strongly* encouraged to collaborate. This will be emphasized throughout the quarter by getting you to work or discuss your work in pairs or teams.

Student Learning Experience Survey

The online Student Learning Experience surveys will open to you the Wednesday of week 9 and close the Sunday before Finals Week. You will receive notification, instructions, and the link through your ONID email. You may also log into the survey via MyOregonState or directly at <https://beav.es/Student-Learning-Survey>.

Survey results are extremely important to how my department values this course. They also help me improve the course and the learning experience of future students.

Responses are anonymous (unless you choose to “sign” your comments, agreeing to relinquish anonymity of written comments) and are not available to instructors until after grades have been posted. I've been told that the results of scaled (quantitative) questions and signed comments go to me and the Head of my department. Anonymous (unsigned) comments go only to me.

Evaluation of Student Performance

Grading (A-F) will be based on your participation, your project presentations and the completion of the various in-class tasks assigned throughout the quarter. Writing assignments will be graded on *writing as a professional scientific practice*, not just prose quality. Strong performance reflects clarity, revision, strategic decision-making, and engagement with the full publication process. Accommodations for missed classes (e.g., due to fieldwork or conference attendance) are of course okay if we can identify a path to your having fully engaged in the course. Please discuss your specific situation with me during Week 1. Everyone who puts the effort into the class will get a grade that will make them happy (if you, as a graduate student, still care about grades).

Schema: A = 91 %+, B = 81–90 %, C = 71–80 %, D = 61–70 %, F = 0–60 %.

Across all assignments, grading emphasizes four recurring dimensions:

- **Clarity & Structure**
Writing is logically organized, well signposted, and appropriate for the target audience. Manuscripts follow conventions of the intended format (e.g., IMRaD, review, data paper).
- **Revision & Process**
Evidence of *substantive revision*, not just copy-editing. Feedback is incorporated thoughtfully and revisions are justified.
- **Scholarly Practice**
Literature is synthesized (not listed), citations are accurate and managed with a reference manager, and figures communicate ideas clearly and professionally.
- **Professionalism**
Work aligns with journal expectations, peer reviews are constructive and specific, and collaboration, authorship, and AI use are handled transparently.

Performance Levels

Level	Description
Exemplary	Publication-oriented work; clear, strategic, and polished; strong evidence of revision and intentional decision-making.
Satisfactory	Solid graduate-level work with minor weaknesses or inconsistencies.
Needs Improvement	Incomplete, unclear, poorly revised, or misaligned with assignment expectations.

Assignment Weights & Focus

Assignment	Weight	Primary Focus
Writing Workflow & Habits Portfolio	15%	Sustainable writing practices
Project Proposal & Journal Targeting	15%	Scope, audience, planning
Annotated Manuscript Drafts	30%	Drafting, structure, revision
Peer Review & Collaboration Portfolio	15%	Feedback and ethics
Final Manuscript & Reflection	25%	Submission-ready writing

What “Submission-Ready” Means

A submission-ready manuscript is formatted for a specific journal, has a clear narrative and audience awareness, uses figures effectively, meets word limits strategically, and could realistically be submitted after this course. Perfection is **not** required, but professionalism is.

Policies

Academic Calendar

All students are subject to the registration and refund deadlines as stated in the Academic Calendar: <https://registrar.oregonstate.edu/osu-academic-calendar>

Equity, Justice and Inclusion

Oregon State University, and the Department of Integrative Biology, have a lot of work to do on improving the level of equity, justice and inclusion in our community. I will take responsibility for creating an welcoming and supportive climate for everyone in the course. If you have concerns or suggestions related to these issues as they pertain to the course, please do not hesitate to contact me and/or the Office for Institutional Diversity (<https://diversity.oregonstate.edu/>).

Student Conduct Expectations

See <https://beav.es/codeofconduct>.

Student Bill of Rights

OSU has twelve established student rights. They include due process in all university disciplinary processes, an equal opportunity to learn, and grading in accordance with the course syllabus: <https://asosu.oregonstate.edu/advocacy/rights>.

Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained official approval, please contact DAS at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Reach Out for Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about resources that assist with wellness and academic success at <http://oregonstate.edu/ReachOut>. If you are in immediate crisis, please call or text the Suicide & Crisis Lifeline at 988. For financial hardship: Any student whose academic performance is impacted by financial stress or the inability to afford groceries, housing or other necessities, for any reason, is urged to contact the Office of Student Care (541-737-8748). To find even more resources, check out the Student Resources Guide for additional support services and guidance.

Religious Holidays

Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me as soon as you can so that we can make alternative arrangements.