

This syllabus is a general representation of the course as previously offered and is subject to change.

BIOL 548I – Advanced Topics in Biology: Scientific Writing

General Course Syllabus (as of July 2019)

About the Course:

Course Description: This 1 credit course provides practical instruction on the writing of scientific journal articles and research proposals in zoology. The emphasis of the course is on choosing and justifying research questions, developing hypotheses, structuring manuscripts, providing and using peer evaluation, and improving writing style. Students will be evaluated on their ability to apply the concepts learnt during lectures to the development of their own research proposal or manuscript.

Course Format: Lecture. Class meets twice a week for a total of 7-8 workshops of 1.5 hours each.

Credits: 1

Prerequisites: restricted to students in GRAD faculty

Course Learning Objectives:

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

- Frame, select and justify research questions.
- Analyze the structure of logical arguments in science.
- Develop and justify hypotheses.
- Apply tools for outlining the structure of manuscripts (such as the use of topic sentences and abstracts), and writing a paper “inside out.”
- Apply techniques for writing simply and smoothly.
- Evaluate the use of passive versus active voice.
- Identify and revise common grammatical and stylistic mistakes.
- Effectively evaluate their peer’s writing.

Textbooks and Additional Resources:

No textbook; students will be provided in advance with lecture notes. Suggested readings are posted on the course Canvas site (canvas.ubc.ca).

Evaluation:

Late penalty: -3% per day including weekends and holidays.

Assessment	Weight
Final proposal	50%
Writing assignments (3)	25%
Peer evaluations (2)	20%
Participation in group activities and class discussions	5%

DETAILS ON ASSESSMENTS

Final proposal

Students will work progressively on writing a 5 page abstract and introduction to their research proposal or, if they have already conducted some research, one of their chapters of a scientific manuscript. Students that wish to complete a longer or different piece of writing might also be accommodated on a case-by-case basis. Final, revised version of full abstract and introduction is due to the instructor at the end of term.

Writing assignments

Students will complete three assignments in which they write sections of their final proposal or manuscript (abstract, topic sentences, and Introduction). Students will develop their writing skills as they complete assignments each week related to the development of their proposal/chapter, and based on the concepts introduced in that week's workshops. The instructor will also provide detailed feedback on draft versions of proposals/chapters at the midpoint of the course, so that students have the opportunity to improve the structure of their proposals/chapters before the final version is evaluated.

Peer evaluations

Students will do two rounds of peer evaluations, where they provide constructive criticism on assignments by two other students assigned at random (instructions for the peer review will be provided).. Students will grade the assignment using the guidelines and evaluation rubric provided. Peer reviews of the assignment will be graded by the instructor, and students' grading of assignments will be checked by the instructor.

Schedule of Topics

Workshop	Topic
1	Big questions and abstracts <ul style="list-style-type: none"> - what makes a research question important, and how to convincingly frame a question. - the art to writing an abstract that both summarizes the paper and generates further interest in it.

2	Hypotheses and predictions <ul style="list-style-type: none"> - differentiating hypotheses and predictions in scientific context - how to provide useful peer review
3	Structuring before writing <ul style="list-style-type: none"> - writing an outline and tools for structuring your writing - topic sentences, logical arguments, and logical fallacies
4	Coherent arguments in Introduction and Discussion <ul style="list-style-type: none"> - how to connect ideas within and between paragraphs - how to structure an Introduction and Discussion section
5	Structuring paragraphs in Methods and Results <ul style="list-style-type: none"> - parallel structure in paragraphs - ways to keep the Methods and Results sections lively - active and passive voice
6	Stylish sentences <ul style="list-style-type: none"> - rules and tips to make conscious choices in writing style
7	Understanding misunderstandings <ul style="list-style-type: none"> - common problems in writing (e.g. freight-training nouns, multiple synonyms, overly long sentences, mistakes in punctuation)
7 or 8	Authorship ethics <ul style="list-style-type: none"> - discussion of topics such as: Who should be co-author? What are the responsibilities of an author? What is the liability in being a corresponding author?

Each workshop consists of formal lectures punctuated by small group activities lasting about 10 minutes, with the philosophy that learning is best achieved when students immediately practice and explore concepts as they are being introduced by the instructor. At the conclusion of each small group activity there will be a short class discussion of the outcomes of the small group activity, before the lecture embarks on the next concept.

University Policies:

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence.

UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom.

UBC provides appropriate accommodation for students with disabilities and for religious, spiritual and cultural observances.

UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).