

COURSE INFORMATION**Credit Hours:** 3

Course Description: Overview of scientific communication in biology with the focus on the researching, critiquing, and synthesizing of primary scientific literature. Other activities may include, but are not limited to writing grant proposals, presenting research, creating scientific posters, participating in peer review, and engaging in professional development to help further students' careers in biology.

Course Prerequisites: Graduate standing in Biology

Meeting times: Wednesdays, 5:40 – 8:30 pm in BBH 356

FACULTY INFORMATION**Instructor:** Dr. Elyse Bolterstein**Office Location:** BBH-352A**E-mail:** e-bolterstein@neiu.edu**Phone extension:** (773) 442-5742

Office Hours: 1-2 pm Mondays/Wednesday, 10:30 – 12:30 pm Thursdays and by appointment

E-mail is the easiest and fastest way to contact me. Please plan ahead and allow time for a reply. On regular business days I can usually reply within 24 hours. On weekends and holidays I may need to reply on the next business day. **You must use your NEIU e-mail for all e-mail communication. Include a subject or it may go to junk mail.**

COURSE MATERIALS**Required Text:**

Davis, M., K. Davis, and M. Dunagan. 2012, *Scientific Papers and Presentations*, 3rd ed. Academic Press, New York, NY.

Recommended Text:

English Dictionary, other writers guides such as the CBE style manual, 5th edition.

Kuchner, Marc. 2012, *Marketing for Scientists*. Island Press, Washington DC

COURSE GOALS:

- To introduce students to the types of professional communication used in biological careers.
- To help students gain skills in finding, reading, discussing, evaluating, and synthesizing published biological literature
- To assist students with incorporating knowledge of scientific writing process and principles into their own writing
- To aid students in developing oral communication skills through group interaction in discussions, projects, and presentations
- To guide students in the process of formal peer-review in science by introducing the peer-review process, conducting peer-reviews, and responding to reviews conducted by others.

LEARNING OBJECTIVES:

After completing this course, students will be able to:

- Identify how writing is integral to a career in the biological sciences and to the student's individual career specifically
- Distinguish among types of written and oral communication, peer-reviewed and non-peer-reviewed literature, sections of scientific papers and the components of each, and steps of the writing process
- Apply essential components of style, organization and grammar in written and oral communication
- Critique manuscripts of research and review papers written by scientists, classmates, and apply it to the student's own writing
- Synthesize scientific resources to write effectively in a variety of formats and forums.

STUDENT ASSIGNMENTS

Personal Statement

What are your career goals and what is your rationale for obtaining an MS in Biology. How will completion of the degree advance your career goals.

Curriculum Vitae (CV) or Résumé

Properly formatted document for distribution should include your educational background, relevant work experience, and relevant volunteer experience

Educational Plan / Road Map (EP)

Your Educational Plan will outline a general schedule for completion of the MS degree requirements, and will include the number of courses/credits you plan to complete each semester. You do not need to list specific courses since we do not know in advance what courses will be offered in a particular semester, just how fast do you plan to progress. HERE you will also state which track you plan to follow, i.e., non-thesis, library thesis, or research thesis. If you plan to pursue one of the thesis tracks, you should also indicate whether you have lined up a thesis advisor, whether you have an initial idea of your thesis topic, and when you plan to begin working on the thesis research.

Critique of a Published Paper

The main assignment this semester will be for you to prepare two summary critiques. Learning to critically read and evaluate scientific literature and synthesize that information in writing is an essential skill for all scientists, but particularly for beginning graduate students. This assignment will be based on the Paper Summary Critique Guidelines for the Biology MS portfolio with more information provided in class. You will be graded on several writing and editing steps on your way to completing your summary critiques. These steps include writing an annotated bibliography, drafts and peer reviews of other students' drafts. Using comments and critiques from the peer reviewer and the instructor, each of you will revise your summary critiques with an expectation that updated drafts have been modified to address the reviewer's comments.

Editing and Review

In this class, you will participate in both informal and formal reviewing of your peers' writing. We will have several in-class activities where you provide feedback on early writing stages of assignments. Your goal is to make relevant editorial comments on the manuscript that will help the author prepare an improved revised draft. You will also be encouraged to work with a writing tutor to further improve your writing. Further information will be provided in class.

Oral Presentation

Each of you will present your paper selected for Summary Critique #2 orally to the class. Each presentation will be about 15 minutes long with an additional 5 minutes for questions and discussion. The oral presentation must be accompanied by informative and attractive power point slides. I will give you more information in class about how the presentations should be constructed and how they will be graded.

Grant Proposal

You will work in groups to write a research proposal to submit for graduate funding to an organization such as Sigma Xi. You will identify a question of interest to your group in which the answer is currently unknown. You will search background literature, summarize it in a way that highlights the importance/significance of your proposed work, propose a way of answering your question, and suggest reasonable outcomes of the proposed work. You must also provide a well-reasoned budget for your work. Proposals will be reviewed and critiqued by classmates.

COURSE POLICIES

Academic Integrity Policy: I expect professional conduct from each member of the class. Our classroom will function best in an atmosphere of mutual trust and respect. You can do your part in establishing such an atmosphere by treating others with the dignity and respect you would like for yourself.

By enrolling in this course, you are bound by the NEIU Student Code of Conduct:

<http://www.neiu.edu/university-life/student-rights-and-responsibilities/student-code-conduct>. I believe that all of us know how to conduct ourselves with honesty and integrity, and that we will do so to the best of our ability.

ADA Statement: Northeastern Illinois University (NEIU) complies with the Americans with Disabilities Act (ADA) in making reasonable accommodations for qualified students with disabilities. To request accommodations, students with special needs should make arrangements with the Student Disability Services (SDS) office, located on the main campus in room D104. Contact SDS via (773) 442-4595 or <http://www.neiu.edu/university-life/student-disability-services>.

Assignments: All assignments will be due at the beginning of class unless otherwise stated. Work will be considered late if it is received after the specified deadline. A grade for an assignment will be penalized 10% for each calendar day it is late. Assignments turned in more than a week past the due date will not be graded.

Attendance and punctuality: You are expected to respect your classmates by arriving on time for each class period. Several times during the semester, points will be awarded for in-class activities and informal peer-reviews. These points cannot be made up if you miss class.

Campus Safety: Web links to Campus Safety: Emergency Procedures and Safety Information can be found on NEIUport on the MyNEIU tab or as follows:
http://homepages.neiu.edu/~neiuemp/Emergency_Procedures/MainCampus/.

Cheating/Plagiarism: You are expected to adhere to the University Student Code of Conduct (<http://www.neiu.edu/university-life/sites/neiu.edu.university-life/files/documents/tfneumei/conductCode.pdf>) Cheating and plagiarism can result in getting zero for the assignment /exam, failing the entire course or being referred to the Chair of the Department of Biology and/or the Office of the Student Rights & Responsibilities depending upon the individual case. The instructor reserves the right to use any means necessary to detect cheating and/or plagiarism including, but not limited to, electronic means.

Course Communication: The University requests that instructors contact students at their NEIU e-mail addresses. You must regularly check your NEIU e-mail account (or set the account to forward mail to an account that you do check regularly). Communication between the instructor and students via personal e-mail accounts (e.g., @gmail.com or @yahoo.com) will not occur.

Course activities and written assignments will be submitted electronically via D2L or a hard copy in class. Any student file submitted electronically that does not meet the requirements listed will not be graded. Please ensure that files are

- appropriately named (last name-Document title),
- submitted in Microsoft-Office format (e.g., .docx, .xlsx., .pptx),* and
- submitted to the corresponding Dropbox folder.

While you are not required to use Microsoft Office products, please ensure your productivity applications are able to import/export into the compatible file formats

Incompletes:

An Incomplete (“I”) grade is temporary and exceptional, and can be given only to students whose completed coursework has been qualitatively satisfactory but who have been unable to complete all course requirements because of illness or other circumstances beyond their control. An “I” grade is not to be awarded in place of a failing grade and is not a means for the student to raise his/her grade by doing additional work. Students will have two semesters (including Summer) after the incomplete grade has been assigned to remove the incomplete. Incompletes that have not been removed within two semesters will be changed to an “F” grade. This policy does not apply to Thesis Seminars or master’s project seminars.

Grading

| Topic | Assignment | Points |
|---------------------------------------|------------------------|------------|
| Personal Statement | Draft | 10 |
| | Final | 20 |
| Educational Plan | | 20 |
| Resume/CV | Draft | 10 |
| | Final | 20 |
| Summary critique #1 | Annotated bibliography | 10 |
| | Draft | 10 |
| | Final | 50 |
| Summary critique #2 | Annotated bibliography | 10 |
| | Draft | 10 |
| | Final | 70 |
| Oral Presentation | | 50 |
| Grant proposal | Draft | 10 |
| | Peer review | 10 |
| | Final proposal | 30 |
| Participation and in-class activities | | 50 |
| Session with LSC writing tutors | | 10 |
| Total | | 400 |

90-100% = A, 80-89.9% = B, 70-79.9% = C, 60-69.9% = D

I will usually return graded material within one week after the assignment was due. I will not reconsider the assigned grade after one week of the posted date. No assignments will be accepted after the due date of the final paper. Please note that your grade at the end of the class will be based solely on the assignments and exams turned in up to and including the final. No extra projects, no re-submissions, no re-takes or no extra credit will be given to raise a grade no matter how close you are to the next letter grade.

Learning Success Center: The Learning Success Center (LSC) provides peer-directed academic tutoring for reading and writing in graduate courses. Tutors are graduate and undergraduate students who are carefully selected on the basis of their own academic achievement by faculty and given supervision, training, and support to serve as tutors, mentors, and academic coaches. Appointments are strongly encouraged, and

students are welcome to drop in to discuss their individual academic support needs. For more information, visit the LSC website at www.neiu.edu/lsc or, to schedule an appointment with a tutor, call 773-442-4568. Tutors are available in person and via Nmail Hangouts Monday – Friday.

Make-ups: Make-ups will only be allowed in the case of excused absences such as a documented illness (doctor’s note required) or other documented emergency. If you need to be excused from class/lab due to a religious holiday, you MUST tell me the first week of class in order for the absence to be considered excused. If you have an excused absence, then I will do my best to see that you can make up an assignment, but beware that there is NO guarantee that you can make up in-class assignments. Make-ups will not be allowed after a week of the original due date. Absences that are not excused include (but are not limited to) car problems, public transportation issues, wedding/baby shower, sick without documentation, taking sister/friend/grandma to the dentist/doctor/mechanic, and going out of town/trips.

Withdrawing from the course: Students who wish to withdraw from the course must do so themselves through NEIUport or the Registration Office. Neither faculty nor staff is able to withdraw a student from a course. In other words, students who simply stop coming to class but do not withdraw will receive a grade for the class that is based on (1) whatever work they did before they stopped attending and (2) the 0’s they receive for all work not done after they stopped attending. In almost all cases this works out to be a grade on “F”. The final deadline for withdrawing from the class is November 2, 2018. Students withdrawing at that time will not receive any refunds. Withdrawals prior to that date may be eligible for refunds. Check the Schedule of Classes for a detailed listing of deadlines and refund policies.

Course Outline: Note that this schedule or lecture material may change depending on our progress.

| Week | Date | Class topics and activities | Due |
|------|-------|--|---|
| 1 | 8/29 | Introductions and course expectations Telling your personal story <i>Chap 1, 2</i> | |
| 2 | 9/4 | Peer Review of Personal Statement Reading Scientific Literature <i>Chap 4</i> | Draft of Personal Statement (in class, 2 copies) |
| 3 | 9/11 | Educational Plan Graduate Students Question and Answer | Final personal statement (D2L) |
| 4 | 9/18 | Performing Literature Searches Selection of Summary Critique Paper Annotated Bibliography <i>Chap 3</i> | Educational Plan (D2L) |
| 5 | 9/25 | CV/Resume Workshop with Shreya Patel | Paper #1 for Summary Critique Approved (D2L) |
| 6 | 10/2 | SIP research at Northwestern Peer Review of CV Writing a summary critique | Draft CV/Resume (in class, 2 copies) Annotated Bibliography #1 due (D2L) |
| 7 | 10/9 | Peer Review of Summary Critique Professional networking <i>Chap 13, 14</i> | Draft of Summary Critique #1 (in class, 2 copies) Resume/CV (D2L) |
| 8 | 10/16 | Peer Review of Summary Critique Style and Accuracy in the final draft <i>Chap 8, 9</i> | Second Draft of Summary Critique #1 (in class, 2 copies) Annotated Bibliography #2 (D2L) |
| 9 | 10/23 | Funding of research and writing proposals Grant Proposal Group Discussions <i>Chp 18</i> | Summary Critique #1 (D2L) |
| 10* | 10/30 | Peer Review of Summary Critique Giving and evaluating oral presentations <i>Chap 9, 14-16</i> | Draft of Summary Critique #2 (in class, 2 copies) |
| 11 | 11/6 | Oral Presentations Grant Proposal Group Discussions | Student Evaluation of Presentations (end of class) |
| 12 | 11/13 | Oral Presentations Grant Proposal Group Discussions | Student Evaluation of Presentations (end of class) |
| 13 | 11/20 | Oral Presentations Grant Proposal Group Discussions | Student Evaluation of Presentations (end of class) |
| 14 | 11/27 | <i>No class – read and evaluate proposals</i> | Summary Critique #2 Due (D2L) Draft proposal (D2L) |
| 15 | 12/4 | Grant review panel | Peer review of proposals |
| 16 | 12/11 | Final grant proposal due (D2L) by midnight | |

* November 1 is the last day to drop a class and receive a “W” (withdrawn) grade. (No refund/credit of tuition and fees.)

