BIOL 4114-002 Scientific Communication I Fall 2025

Meeting time: Wednesday 8:00 – 8:55 AM
Meeting classroom: Fine Arts Complex Rm 00112

Instructor: Matthew Greenwold, Ph.D., Assistant Professor of Biology
Office: HPR 117
Office Hours: Tuesday and Thursday 10:00 AM – 12:00 PM or by appointment.
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Course Description: Current topics in biology. Reports on research published in professional journals. Oral presentation required.

In this course, I want you to learn how to use online resources to find primary research articles on a science topic of your choice and then be able to effectively communicate this scientific research to the general public. We will focus on written communication and oral communication geared toward the general public.

Scientific Communication II (Spring semester) will focus on communicating research to peers/scientists.

Course Learning Objectives: By the end of the course, students should be able to:

- Search and retrieve peer-reviewed research articles.
- Comprehend and summarize peer-reviewed research articles
- Formulate intelligent questions when presented scientific research.
- Effectively communicate peer-reviewed research to the public.

Required Course Materials: No required textbook.

Grading: Your grade will be based on four assignments and attendance. The grade distribution is:

Assignment 1 = 20%
Assignment 2 = 20%
Assignment 3 = 25%
Assignment 4 = 25%
Attendance =   10%
Total   100%

All late assignments will incur a 10% per day penalty.

Grading	
Percentage	Grade
90-100%	A
80-90%	B
70-79%	C
60-69%	D

< 59%	F

Assignment 1: DUE Sept. 21ˢᵗ 11:59 PM. Pick a topic in any field of biology and find and download **three** peer-reviewed primary research articles. At least one of the articles must have been published in the past three years (2023-2025). Write a brief summary (250-300 words) on your topic that includes why you are interested in the topic and how each of your chosen articles relate to that topic. Please include in-text citations as well as a References or Works Cited section. Submit your summary and research articles (as **FOUR** PDFs) via Canvas. This will be your podcast topic, therefore, make sure you are interested in the topic.

How do I select a good topic? I suggest you visit a couple of the major journal websites and read recent titles/abstracts and see if one of them sounds interesting. Here are a few of my favorite journals:

Science (https://science.sciencemag.org/),
Nature (https://www.nature.com/nature/research),
Evolution (https://onlinelibrary.wiley.com/journal/15585646),
Ecology (https://esajournals.onlinelibrary.wiley.com/journal/19399170),
BMC Biology (https://bmcbiol.biomedcentral.com),
Molecular Biology and Evolution (https://academic.oup.com/mbe).

Assignment 2: DUE Oct. 12ᵗʰ 11:59 PM. Write a "news" article on your most recently published article from assignment 1. This "news" article (500-700 words) should relate the significance of the results to the general public. It should be formatted to appear like a news article and include at least one image or figure from the research article. Here are some questions to consider: What are the broader implications of this research to the public? How does this article further our knowledge in its research field?

You should **NOT use AI or Grammarly** for this assignment. I want you to develop your writing skills for public scientific communication.

Assignment 3: DUE Nov. 9ᵗʰ 11:59 PM. First Podcast due. This will be the first part of the overall assignment. Each pair of students will be assessed on their performance as a 1) host (interviewer) and 2) expert guest (interviewee). I will assign groups and the order you will perform each role will be based on your last name. The person with the last name that appears first alphabetically will host the first podcast and then will be the "expert" in the second podcast due Nov. 30ᵗʰ. The host will introduce the expert guest and ask questions. The expert guest will present and answer questions on their topic and research article/s from Assignments 1. Please see the podcast rubric for more information on grading.

There are several ways to record your podcasts. Students can use Zoom to record the podcast if they want to be able to show a figure or simply a cover slide (you are NOT required to appear in the Zoom video). I will discuss other software that you can use to create and improve your podcast as well as specific elements important to a podcast in lecture. Please make sure the file is in either the mp4 (Zoom produces mp4 files) or mov format. Your podcast should have an extension such as Smith_podcast_Assignment3.mp4. Regardless of the recording method, you will upload your completed podcasts to Canvas under the respective assignment.

Assignment 4: DUE Nov. 30ᵗʰ 11:59 PM. Part two of the podcast project.

Attendance: Attendance is worth 10% of your grade. You may miss **ONE** lecture without losing points. Attendance will be checked during each class meeting. I am required to provide attendance data for Financial Aid, midterm, and final grades submissions; therefore, it is critical that you attend our class meetings. If you cannot attend for reasons of Illness or other acceptable situations, please contact me to determine the best course of action.

Course Schedule

Day	Topic
Aug. 27th	Introduction to course – Overview of Literature
Sept. 3rd	* Dr. Glavy – "Types of Talks & Strategies: Seminars, conferences, job, and elevator talks"
Sept. 10th	* Dr. Glavy – Zoom Microscope Talk: "Early Design of the Single & Compound Microscopes"
Sept. 17th	Literature Comprehension
Sept. 24th	Who is your audience? / How to effectively communicate to the public - writing
Oct. 1st	* Dr. Holmquist – Biotechnology MS program overview How to effectively communicate to the public - verbal
Oct. 8th	Podcasts / meet your partner
Oct. 15th	* Dr. Beaver – UT Tyler School of Medicine presentation and Q&A
Oct. 22nd	* Career Success Coach – Job/Internship search strategies via Handshake
Oct. 29th	Podcast tips / meet with your partner
Nov. 5th	Podcasts / meet with your partner
Nov. 12th	Formulating thought provoking questions
Nov. 19th	Sci Comm and social media / meet with your partner
Nov. 26th	*No Classes* – Thanksgiving Holiday
Dec. 3rd	Scientific communication after a pandemic

* Guest lecturers
Census Date: September 8th.

Artificial Intelligence Statement

UT Tyler is committed to exploring and using artificial intelligence (AI) tools as appropriate for the discipline and task undertaken. We encourage discussing AI tools' ethical, societal, philosophical, and disciplinary implications. All uses of AI should be acknowledged as this aligns with our commitment to honor and integrity, as noted in UT Tyler's Honor Code. Faculty and students must not use protected information, data, or copyrighted materials when using any AI tool. Additionally, users should be aware that AI tools rely on predictive models to generate content that may appear correct but is sometimes shown to be incomplete, inaccurate, taken without attribution from other sources, and/or biased. Consequently, an AI tool should not be considered a substitute for traditional approaches to research. You are ultimately responsible for the quality and content of the information you submit. Misusing AI tools that violate the guidelines specified for this course (see below) is considered a breach of academic

integrity. The student will be subject to disciplinary actions as outlined in UT Tyler's Academic Integrity Policy.

In this course, AI is permitted only for specific assignments or situations, and appropriate acknowledgment is required. This course has specific assignments where artificial intelligence (AI) tools (such as ChatGPT or Copilot) are permitted and encouraged. When AI use is permissible, it will be clearly stated in the assignment directions, and all use of AI must be appropriately acknowledged and cited. Otherwise, the default is that AI is not allowed during any stage of an assignment.