BIOL 4115 Scientific Communication II
Spring 2025

Meeting time: Wednesday 12:20 – 1:15 PM
Meeting classroom: Herrington Patriot Ctr. 02255

Instructor: Matthew Greenwold, Ph.D., Assistant Professor of Biology
Office: HPR 117
Office Hours: Tuesday/Wednesday/Thursday 11:00 AM – 12:00 PM
Email: mgreenwold@uttyler.edu
Phone: 903.566.6303

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 effectively communicate scientific research to other scientists and professionals (peers). This will include using online resources to find primary research articles on a topic of your choice and then presenting that material in a format appropriate for scientific conferences.

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

- Search and find peer-reviewed research articles.
- Comprehend and summarize peer-reviewed research articles.
- Effectively communicate scientific research in an "one on one" setting.
- Effectively communicate scientific research to an audience of peer scientists.

Required Course Materials: No required textbook.

Grading: Your grade will be based on four assignments and attendance. For Biology Seniors, this also includes a biology competency exam. The grade distribution is:

Biology Seniors	
Assignment 1 =	15
Assignment 2 =	15
Assignment 3 =	25
Assignment 4 =	25
Attendance =	10
Competency Exam =	10
Total	100

All others	
Assignment 1 =	15
Assignment 2 =	15
Assignment 3 =	25
Assignment 4 =	25
Attendance =	10
Total	90

- Your letter grade will either be calculated as 100 out of 100 = 100% (Seniors) or 90 out of 90 = 100% (Non-Seniors) and based on the below grading scale.

- 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 January 26th by 11:59 PM. Record an elevator pitch for a scientist/doctor/dentist/professor. It should be based on your experiences and be 30 - 60 seconds. It should include courses, research, work, or internships relevant to your future career. When submitting the recording, please write a sentence (as a comment) detailing who (scientist, dentist, MD, etc.) you are addressing and the target position (MS, Ph.D., internship, etc.) of the interaction in the comments section on Canvas. Please make sure the file is in either the MP3 or WAV format (It will have that extension such as Smith_elevator_pitch.MP3).

Assignment 2: DUE February 16th by 11:59 PM. Pick a topic in the field of Biology and find and download at least **THREE peer-reviewed primary research articles**. At least one of the articles must have been published in the past three years (2022-2025). Write a brief summary (250-300 words) on your topic and how your chosen articles relate to that topic. The summary must be your own words and **NOT** AI generated. AI generated summaries will automatically receive a zero for the assignment.

Submit your summary and the research articles (all as .PDF files) via Canvas (4 total documents). This will be your presentation topic (Assignment 4) therefore make sure you are interested in the topic. If you were in Sci Comm I, please state whether you're reusing articles and if or how your topic has changed. You must add ONE new primary research article if you want to keep the same topic from Sci Comm I.

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 3: DUE March 16th by 11:59 PM. Design a poster based on one of your peer-reviewed primary research articles from Assignment two. It should include an introduction/background, methods/materials, results, conclusion/summary/discussion, and references. The poster should be 24" x 36" and submitted as a PDF on Canvas along with the

article/s (.PDF files) that are the basis for the poster. Please see the poster rubric on Canvas under this assignment.

Assignment 4: DUE April 20th by 11:59 PM. Record a scientific presentation based on 1 or more of the primary articles you chose from Assignment 2. It should be between 10-12 minutes in duration and be a PowerPoint presentation. Please make sure your file format is either .MP4 or .MOV. Please see presentation rubric on Canvas under this assignment.

Competency Exam: **TBD**. Each year, seniors majoring in biology take an exam to evaluate the effectiveness of teaching at UT Tyler based on the knowledge of out-going seniors. The exam is called ETS (Educational Testing Service) Major Field Test Biology. Your performance on the exam will not affect your course grade or be shared with anyone outside of the biology department. You do not need to study for the exam, but I encourage you to focus on the exam and give it your best effort. If you are NOT a Senior Biology Major then you will not take the exam and your final grade will be calculated accordingly (See above). We will pick a time for the exam based on room availability. The exam will occur outside of class time one weekday evening.

Attendance: Attendance is worth 10% of your grade. You may miss **ONE** lecture without losing points. Attendance will be checked each class day. I am required to provide attendance data for Financial Aid, midterm, and final grades submissions; therefore, it is critical that you attend 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**
Jan. 15th	Introduction to course
Jan. 22nd	Elevator speeches
Jan. 29th	Guest Speaker – Dr. Joseph Glavy
Feb. 5th	Scientific communication to peers (written)
Feb. 12th	Literature comprehension
Feb. 19th	Science conferences
Feb. 26th	Asking questions at conferences
Mar. 5th	Poster Presentations I
Mar. 12th	Poster Presentations II
Mar. 19th	Spring Break, **No classes**
Mar. 26th	Academic career path and recommendation letters
Apr. 2nd	Peer Review
Apr. 9th	Creating an oral presentation
Apr. 16th	Considerations for presenting oral presentations
Apr. 23th	Etiquette at science conferences

Census Date is January 27th.

Late Work: Part of learning to be a scientist is learning time management. When you are in a job or working on research grants - deadlines are final! If you miss a deadline in this course, you will incur at 10% penalty per day; therefore, after 4 days you will receive an F for the assignment. Please turn in assignments on time.

Use of Artificial Intelligence in this course: During some class exercises, we may leverage AI tools to support your learning, allow you to explore how AI tools can be used, and/or better understand their benefits and limitations. Learning how to use AI is an emerging skill, and we will work through the limitations of these evolving systems together. However, AI will be limited to exercises where AI is a critical component of the learning activity. I will always indicate when and where the use of AI tools for this course is appropriate.