

Syllabus

BINF 739 | BIOL 691 | BIOS 710 | NEUR 689

The Craft of Scientific Writing and Presentations: A Project-Centered Course

Spring Semester 2024

Weekly schedule: Each week runs from Monday (12:01 am) to Sunday (11:59 pm) starting on January 16th, 2024.

Instructor: [Frank Krueger, Ph.D.](#)

Department: [School of Systems Biology](#)

Phone: 703-993-4358

Email: fkueger@gmu.edu (preferred)

Office Hours: By appointment (via Zoom)

Course Description

In this course, students will learn how to write a research paper, give a conference talk, and present a conference poster based on their own research data. Moreover, students will learn to conduct a literature review using a reference software tool and create text, tables, references, illustrations, and figures using word, spreadsheet, and presentation software tools. Finally, students will experience practicing research ethics related to plagiarism, provide constructive peer feedback to their fellow students related to their work, and apply fundamental principles of research methods bringing theory and data together.

Prerequisite

Prerequisites have one's research data that will be used for the development of a research paper, a conference talk, and a conference poster. Further prerequisites are the completion or concurrent enrollment in all other required general education courses or permission of the instructor.

Course Materials

Required Texts:

- **Gastel B. & Day R.A.** *How to Write and Publish a Scientific Paper*. Greenwood.
- **Alley M.** *The Craft of Scientific Presentations: Critical Steps to Succeed and Critical Errors to Avoid*. Springer.

Course Logistics

This course will use a distance learning format (i.e., synchronous mode, asynchronous mode); the primary meeting space will be on Blackboard; and we will use other means of keeping in touch such as: email, telephone, and Blackboard Collaborate Ultra. This is a rigorous course—in a typical week, we will cover one to two topics and you will:

- read about 20-40 pages and discuss the material with your classmates;
- accomplish online/offline activities and respond to weekly requirements; and
- work on assignments to be submitted according to the assignment schedule.

Though the delivery method is different, it should take you the same amount of time as a typical full-semester course. You should expect to spend **approximately 9 hours** on coursework each week (this includes the time you would have spent in a classroom). I will provide a weekly module each week to specify required activities and assignments.

Course Policies

It is critical to keep up with weekly requirements and to complete all work on schedule, but if there are extenuating circumstances—such as sickness, family issues, or religious observances that conflict with our schedule— please let me know as soon as possible. Note that a doctor's note for illness or service leaflet for a death in the family is required for missed activities.

Missed work will not be accepted late. No extensions will be made on assignments, and late work will not be accepted for a grade. All work must be submitted or receive a zero grade.

It is your responsibility to be sure you are using a stable Internet connection before the course begins. Since "my computer crashed" cannot be documented or verified, I cannot accept this excuse for missing or not completing an assignment. If Blackboard shuts down, take a screenshot of Blackboard with a time stamp, email courses@gmu.edu (Blackboard help desk) immediately and cc me, and ask the help desk to use "reply all" when answering your query.

Blackboard (Available on January 16th, 2024)

We will use Blackboard for the course. Additional guidance on individual assignments and discussion questions will be posted there. All assignments will be submitted through Blackboard for grading. Please visit our Blackboard site regularly.

Access Blackboard by following these steps:

1. Go to <http://mymason.gmu.edu>,
2. Log in using your NETID and password,
3. Click on the 'Courses' tab, and
4. Click on 'Scientific Writing (BIOS-710 | NEUR-689 | BINF-739 | BIOL-691 | Spring 2024)' under the 'Course List' heading.

Instructor-Student Communication

I will respond to your emails from Monday (9 am) through Friday (6 pm) within 24 hours. If I am away from email for more than two days, I will post an announcement in the Blackboard course folder.

Before sending an email with questions, please check the following (available on your Blackboard course menu) **unless the email is of a personal nature**:

1. Syllabus,
2. Ask the Professor (Feel free to respond to other students in the Help forum if you know the answer.),
3. Blackboard Tutorials on how to use Blackboard features,
4. Blackboard Q&A (resources specific to Mason), and
5. Technology Requirements.

Mason EMAIL

- Mason requires that Mason email be used for all courses. I will be sending messages to your Mason email, and you are responsible for making sure you have access to these messages.
- You may forward your Mason email to other accounts but always use your Mason e-mail when communicating with me to allow verification of your identity.
- You are required to check your Mason email account regularly and to keep your mailbox maintained so that messages are not rejected for being over quota.
- When you email me, you can expect a response within 24 hours (*Monday through Friday*). If I am going to be away from email for more than two days, I will send an announcement to the class.
- When you email me, be sure to include **'SCI Writing'** at the beginning of the subject heading to alert me that I have received a message from one of my online students.

Participation

Netiquette for Online Discussions [1]: Our discussion should be collaborative, not combative; you are creating a learning environment, sharing information and learning from one another. Respectful communication is essential to your success in this course and as a professional. Please re-read your responses carefully before you post them so others will not take them out of context or as personal attacks. Be positive to others and diplomatic with your words and I will try my best to do the same. Be careful when using sarcasm and humor. Without face-to-face communications, your joke may be viewed as criticism. Experience shows that even an innocent remark in the online environment can be easily misconstrued.

[1] *Netiquette prepared by Charlene Douglas, Associate Professor, College of Health & Human Services, GMU.*

Technology Requirements

Technology requirements for the course are:

- Internet connection (DSL, LAN, or cable connection desirable);
- PC desktop/ laptop with microphone headset;
- Supported Web browser (e.g., Internet Explorer, Chrome, Safari) to use Blackboard Collaborate Ultra for Live Class Sessions; and
- Software tool packages: [Zotero](#) (Reference software tool) and MS Office 365 ProPlus (Word, Excel, PowerPoint software tool packages) provided at no cost via the [Microsoft Student Advantage Program](#) (Access is tied to your @masonlive.gmu.edu email address).

Student Responsibilities

MasonLive/Email:

Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. For accessibility and privacy, the university, school, and program will send communications to students solely through their Mason email account—students should respond accordingly ([Masonlive login information](#)).

Patriot Pass

Once you sign up for your Patriot Pass, your passwords will be synchronized, and you will use your Patriot Pass username and password to log in to the following systems: Blackboard, University Libraries, MasonLive, myMason, Patriot Web, Virtual Computing Lab, and WEMS. (See [password](#)).

Students with Disabilities

Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester ([Office of Disability Services](#)).

Academic Integrity

Students must be responsible for their work, and students and faculty must take on the responsibility of dealing explicitly with violations. The tenet must be a foundation of our university culture ([Office of Academic Integrity](#)).

Honor Code and Virtual Classroom Conduct:

Students must adhere to the guidelines of the George Mason University Honor Code ([Honor Code](#)).

We value critical thinking and; therefore, it is imperative that students read the assigned books and articles before the class with a critical eye. Active thought, quality of inputs, and a conflict resolution attitude should be your guiding principles.

The principle of academic integrity is taken very seriously, and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form.

Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

Plagiarism is the equivalent of intellectual robbery and cannot be tolerated in the academic setting. If you have any doubts about what constitutes plagiarism, please see me.

University Policies

Students must follow the university policies ([University Policies](#)).

Responsible Use of Computing

Students must follow the university policy for Responsible Use of Computing ([Responsible User of Computing](#)).

University Calendar

Details regarding the current Academic Calendar ([Calendar](#)).

University Catalog

The current university catalog ([University Catalog](#)).

Student Services

Writing Center

The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing ([Writing Center](#)). ESL Help: The program was designed specifically for students whose first language is not English who feel they might benefit from additional, targeted support over the course of an entire semester ([Writing Center](#)).

University Libraries

University Libraries provides resources for distance students ([Library](#)).

Counseling and Psychological Services

The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance ([CAPS](#)).

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act of 1974 (FERPA), also known as the "Buckley Amendment," is a federal law that gives protection to student educational records and provides students with certain rights ([FERPA](#)).

Major Assignment Components, Descriptions, and Grading

Major Assignment Components

The course has four major assignment components: software tools, research paper, conference talk, and conference poster. For each of those components, students will provide peer feedback to their fellow students and receive comments from the instructor.

Major Assignment Descriptions

1. Students will apply **Software Tools** (Part A – D) to create elements of a research paper, a conference talk, and a conference poster:
 - **Part A – Zotero Software Tool** (e.g., references)
 - **Part B – Word Software Tool** (e.g., tables)
 - **Part C – PowerPoint Software Tool** (e.g., figures)
 - **Part D – Excel Software Tool** (e.g., graphs)
2. Students will write a **Research Paper** (Part A – H) that meets the submission criteria of a peer-reviewed publication:
 - **Part A – Journal Selection**
 - **Part B – Introduction Section**
 - **Part C – Methods Section**
 - **Part D – Results Section**
 - **Part E – Discussion Section**

- **Part F – Abstract**
 - **Part G – Cover Letter**
 - **Part H – Final Research Paper Submission**
3. Students will create a **Conference Talk** (Part A – C) that meets the submission criteria of a conference talk:
- **Part A – Structure**
 - **Part B – Content**
 - **Part C – Conference Talk and Q & A Session**
4. Students will create a **Conference Poster** (Part A – C) that meets the submission criteria of a conference talk:
- **Part A – Structure**
 - **Part B – Content**
 - **Part C – Poster Presentation and Q & A Session**

Learning outcomes

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

1. use software tools to conduct a literature review, write a research paper, deliver a conference talk, and present a conference poster;
2. design, write, and publish a research paper that meets the submission criteria of one peer-reviewed publication;
3. design, produce, and present a conference talk that meets design and time limits criteria of a scientific conference; and
4. design, produce, and submit a conference poster that meets design and time limits criteria of a scientific conference.

Course Schedule and Major Assignment Grading

The table below lists the weekly schedule, major activities, major assignment, points, and due dates for this course. Final grades will be based on the total number of points earned in the course.

<u>Weeks</u>	<u>Major Activities (include readings, mini-lectures, videos, websites to review, etc. that are content-related)</u>	<u>Assignments (graded)</u>	<u>Points</u>	<u>Due Date</u>
Week 1 Monday, Jan. 15 — Sunday, Jan. 21	Software Tools – Part A: Learning about the Zotero Software Package Research Paper – Part A: Choosing an Appropriate Journal	Introduce Yourself Orientation Quiz Tools: Submit References Paper: Submit Journal Selection	5 5 10 5	Sunday, Jan. 21
Week 2 Monday, Jan. 22 — Sunday, Jan. 28	Software Tools – Part B: Learning about the Word Software Package Research Paper – Part B: Writing the Introduction Section	Tools: Submit Word Template Paper: Submit Introduction	10 15	Thursday, Jan. 25 Sunday, Jan. 28
Week 3 Monday, Jan. 29 — Sunday, Feb. 4	Research Paper – Part B: Providing Peer Feedback for Introduction Section Revising the Introduction Section	Paper: Submit Feedback Paper: Submit Revision	5 10	Thursday, Feb. 1 Sunday, Feb. 4
Week 4 Monday, Feb. 5 — Sunday, Feb. 11	Software Tools – Part C: Learning about the PowerPoint Software Package Research Paper – Part C: Writing the Methods Section	Tools: Submit Illustration(s) Paper: Submit Methods	10 15	Thursday, Feb. 8 Sunday, Feb. 11
Week 5 Monday, Feb. 12 — Sunday, Feb. 18	Research Paper – Part C: Providing Peer Feedback for Methods Section Revising the Methods Section	Paper: Submit Feedback Paper: Submit Revision	5 10	Thursday, Feb. 15 Sunday, Feb. 18
Week 6 Monday, Feb. 19 — Sunday, Feb. 25	Software Tools – Part D: Learning about the Excel Software Package Research Paper – Part D: Writing the Results Section Conference Talk – Part A: Structuring the Conference Talk	Tools: Submit Figure(s) Paper: Submit Results Talk: Submit Structure	10 15 15	Thursdays, Feb. 22 Sunday, Feb. 25 Thursday, Feb. 22
Week 7 Monday, Feb. 26 — Sunday, Mar. 3	Research Paper – Part C: Providing Peer Feedback for Results Section Revising the Results Section Conference Talk – Part A: Providing Peer Feedback for Conference Talk Revising the Conference Talk	Paper: Submit Feedback Paper: Submit Revision Talk: Submit Feedback Talk: Submit Revision	5 10 5 10	Thursday, Feb. 29 Sunday, Mar. 3 Thursday, Feb. 29 Sunday, Mar. 3
Monday, Mar. 4 — Sunday, Mar. 10	Spring Recess (no classes)			
Week 8 Monday, Mar. 11 — Sunday, Mar. 17	Research Paper – Part E: Writing the Discussion Section	Paper: Submit Discussion	15	Sunday, Mar. 17

Week 9 Monday, Mar. 18 — Sunday, Mar. 24	Research Paper – Part E: Conference Talk – Part B:	Providing Peer Feedback for Discussion Section Revising the Results Section Creating the Conference Talk	Paper: Submit Feedback Paper: Submit Revision Talk: Submit Content	5 10 15	Thursday, Mar. 21 Sunday, Mar. 24 Thursday, Mar. 21
Week 10 Monday, Mar. 25 — Sunday, Mar. 31	Research Paper – Part F: Conference Talk – Part B:	Writing the Abstract Providing Peer Feedback for Conference Talk Revising the Conference Talk	Paper: Submit Abstract Talk: Submit Feedback Talk: Submit Revision	15 5 10	Sunday, Mar. 31 Thursday, Mar. 28 Sunday, Mar. 31
Week 11 Monday, Apr. 1 — Sunday, Apr. 7	Research Paper – Part F: Conference Poster – Part A:	Providing Peer Feedback for Abstract Section Revising the Abstract Structuring the Conference Poster	Paper: Submit Feedback Paper: Submit Revision Poster: Submit Structure	5 10 15	Thursday, Apr. 4 Sunday, Apr. 7 Thursday, Apr. 4
Week 12 Monday, Apr. 8 — Sunday, Apr. 14	Research Paper – Part G: Conference Poster – Part A:	Writing the Cover Letter Providing Peer Feedback for Conference Poster Revising the Conference Poster	Paper: Submit Cover Letter Poster: Submit Feedback Poster: Submit Revision	15 5 10	Sunday, Apr. 14 Thursday, Apr. 11 Sunday, Apr. 14
Week 13 Monday, Apr. 15 — Sunday, Apr. 21	Research Paper – Part G: Conference Poster – Part B: Course Evaluation:	Providing Peer Feedback for Cover Letter Revising the Cover Letter Creating the Conference Poster Online Course Evaluation	Paper: Submit Feedback Paper: Submit Revision Poster: Submit Content Course: Evaluation	5 10 15 10	Thursday, Apr. 18 Sunday, Apr. 21
Week 14 Monday, Apr. 22 — Sunday, May 5	Research Paper – Part H: Conference Talk – Part C: Conference Poster – Part C:	Final Revision of Paper Giving the Conference Talk Providing Peer Feedback for Final Talk Providing Peer Feedback for Poster Revising the Conference Poster	Paper: Final Submission Talk: Presentation Talk: Evaluation Poster: Submit Feedback Poster: Final Submission	60 60 15 5 10	Sunday, May 5 Sunday, Apr. 28 Thursday, Apr. 25 Thursday, May 2 Sunday, May 5
				Total 500	

Grading Scale (points)

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

Letter Grade	Percentage	Points	Performance
A ⁺	98-100%	490-500	Superb Work
A	93-97%	465-485	Excellent Work
A ⁻	90-92%	450-460	Nearly Excellent Work
B ⁺	87-89%	435-445	Very Good Work
B	83-86%	415-430	Good Work
B ⁻	80-82%	400-410	Mostly Good Work
N/A	<80%	<400	Failing Work