

CAMB 695: Scientific Writing
2026 Course Syllabus

Course Overview

This 7-week course is designed to introduce students to basic scientific writing skills and is ideal for second year graduate students preparing for qualifying examinations. Participants will review the general principles of clear, persuasive writing, and will apply these principles to writing for a scientific audience. Particular emphasis will be placed on conveying the significance of your research, outlining the aims, and discussing the results for scientific papers and grant proposals. The course will also provide an overview of the structure and style of research grant proposals and scientific manuscripts. While this is not a prelim preparatory course, applying the principles of this course will help improve your prelim writing and your scientific writing in general. Classes are highly interactive, and the majority of class time will be spent discussing student scientific writing. The goal of the course is to encourage active and open interaction among students. Ideal endpoints include improved self-editing, and development of effective strategies for offering and receiving concise editorial recommendations among peers. Note that, in order to focus on the techniques of scientific writing, in-class discussion and critiques will not address scientific methodology or interpretations of results. **Please also note that there will be a writing assignment (Specific Aims – 1st draft) due for all students the first week of class.**

All homework assignments are limited to 1 page only!

Course Directors:

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Required (*) or Recommended Reading Materials:

1. The course syllabus, including Five Principles of Clear Writing*
The syllabus will be distributed at the first session, as will other short reading materials.
2. *"The Science of Scientific Writing"* by George D. Gopen and Judith A. Swan, *American Scientist* (1990) vol 78: 550-558 (distributed with class materials).
3. J.M. Williams, *Style: The Basics of Clarity and Grace*. Recommended. For a more in-depth book, try J.M. Williams, *Style: Lessons in Clarity and Grace*. These books can be obtained from Amazon.
4. *How to write and Publish a Scientific Paper* by R.A. Day and B. Gastel. Recommended.

Class Organization:

The whole class will meet on **Wednesday, January 7 at 1:45 pm in 252 BRB** for a discussion about class organization and an introduction to principles of clear writing. Small groups will start the following week on Wednesday, Thursday, or Friday from 1:45-3:15 pm. Two instructors will lead each group.

Specific Writing Assignments:

Writing assignments will be designated within each section. Students should put writing assignments in PennBox in advance of class (due dates tabulated below), allowing instructors and students to read them in advance of the in-class critique. All students are expected to read all writing assignments that are scheduled to be discussed in class that week and prepare 6 bullet points (3 positive, 3 areas for improvement) for each. Students whose samples are not discussed in a particular week will be read and critiqued by instructors only. Students can also arrange to meet with instructors individually to discuss their writing.

Section meeting day	Assignment Due date
Wednesday	Sunday, 3 PM
Thursday	Monday, 3 PM
Friday	Tuesday, 3 PM

Grading Policy: Grades are based on attendance, on-time completion of assignments, and participation in class, **not on the quality of the writing itself.** While most students receive an A in this course, grade

decrements will certainly result from 1) failure to meet due dates and times, 2) lateness to class by more than 20 min., 3) failure to participate in class or 4) missed class, without prior approval of instructors.

2026 Course Overview

Introductory Lecture

- Large group meeting – January 7, 1:45-2:45 pm in 252 BRB
 - Discuss Course goals
 - Weekly topics
 - Logistics (required reading, assignment deadlines, grading policy)
 - Introduce key terms that students will encounter in first assignment
- Homework assignment for next week
 - Read “Five Principles of Clear Scientific Writing” in syllabus
 - Read “*The Science of Scientific Writing*” by Gopen and Swan
 - Rewriting exercises from syllabus – will not be discussed in class unless questions arise (suggested revisions are included at the end of the syllabus)
 - “Problematic” abstract and specific aims page from syllabus using “Five Principles of Clear Scientific Writing” – will not be discussed in class unless questions arise (comments are included at the end of the syllabus)
 - Read “How to Give and Receive Effective Critiques”
 - Read “Parts of a Grant Proposal – Specific Aims and Research Design” with examples in syllabus.
 - **Write a Specific Aims page describing your research (due for discussion next week for all students).**

Small Groups:

Week 1: Principles of Clear Scientific Writing - Specific Aims – Group 1

- Small group session – January 14-16, 1:45-3:15 pm
 - Address any questions arising from rewriting exercises.
 - Discuss any questions arising from “problematic” abstract and specific aims page.
 - Discuss Specific Aims from first group of 3 students.
- Homework assignment for next week
 - Read “How to write Approach (grants) and Discussion (papers) in syllabus.

Week 2: Parts of a Grant Proposal – Specific Aims – Group 2

- Small group sessions – January 21-23, 1:45-3:15 pm
 - Address questions regarding “Parts of a Grant Proposal – Specific Aims, Research Design”.
 - Discuss Specific Aims from second group of 3 students.
- Homework assignment for next week
 - Read “Parts of a Grant Proposal and Significance and Innovation”, with examples in syllabus.

Week 3: Parts of a Grant Proposal – Specific Aims – Group 3

- Small group sessions – January 28-30, 1:45-3:15 pm
 - Discuss Specific Aims from third group of 4 students.
 - Introduce next week’s writing assignment – **Significance**.
- Homework assignment for next week
 - Write a one-page narrative on the **Significance** of your proposal and a **Title** placing your research in context.

Week 4: Parts of a Grant Proposal – Significance – Group 1

- Small group session – February 4-6, 1:45-3:15 pm
 - Discuss “Significance” write-ups for first group of 5 students.
- Homework assignment for next week
 - Read “Parts of a Grant Proposal – “Preliminary Data (for grants) Results” in syllabus.

Week 5: Parts of a Grant Proposal – Significance – Group 2

- Small group session – February 11-13, 1:45-3:15 pm
 - Discuss “Significance” write-ups for second group of 5 students.
 - Introduce next week’s assignment – **Specific Aims – Revisions.**
- Homework assignment for next week
 - Read “How to write an Abstract (grants and papers) and Putting It All Together (grants)” in syllabus.
 - Prepare brief (~5 min) presentation on prior critiques of and final revisions to Specific Aims.

Week 6: Parts of a Grant Proposal – Specific Aims – Revisions

- Small group sessions – February 18-20, 1:45-3:15 pm
 - Discuss revised Specific Aims for all students.
 - Summary of class and faculty discussion of grant writing and reviewing.

Section Leaders

Section 001 Wednesday 1:45-3:15 pm 205 CRB
Roddy O’Connor - roconnorr@pennmedicine.upenn.edu
Andrew Wells - adwells@pennmedicine.upenn.edu

Section 002 Wednesday 1:45-3:15 pm 104 SCL
Kimberly Christian - kchristi@pennmedicine.upenn.edu
Matt Good - mattgood@pennmedicine.upenn.edu

Section 003 Thursday 1:45-3:15 pm 204 SCL
Jonathan Katz - jkatz@pennmedicine.upenn.edu
Struan Grant - grants@chop.edu

Section 004 Thursday 1:45-3:15 pm 301 SCL
Alessandra Chesi - alessandra.chesi@pennmedicine.upenn.edu
Nicole Marino - ndmarino@vet.upenn.edu

Section 005 Friday 1:45-3:15 pm 501 SCL
Krithika Lingappan - lingappank@chop.edu
Friederike Herbst-Nowrouzi - friederike.herbst-nowrouzi@pennmedicine.upenn.edu

Section 006 Friday 1:45-3:15 pm 601 SCL
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Brian Capell - brian.capell@pennmedicine.upenn.edu

N.B. – emails need to conform to a xxxx@upenn.edu format in order for Pennbox invites to work properly