CAMB 695: Scientific Writing  
2021 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.

All homework assignments are limited to 1 page only!

Course Directors:
Jonathan Katz      Sparky Lok  
Dept. of Medicine/Gastroenterology Division  Dept. of Pathobiology  
913 BRBII/III      212 Rosenthal  
Phone:  215-746-7780    Phone:  215-898-7892  
Email:  jpkatz@pennmedicine.upenn.edu  Email: jlok@vet.upenn.edu

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.
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.

Class Organization:
The whole class will meet on **Wednesday, January 6 at 1 pm via Bluejeans** https://bluejeans.com/4140334748 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 – 2:30 pm. Each group will be led by two instructors

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.

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<thead>
<tr>
<th>Section meeting day</th>
<th>Assignment Due date</th>
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<tr>
<td>Wednesday</td>
<td>Sunday, 3 PM</td>
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<td>Thursday</td>
<td>Monday, 3 PM</td>
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<td>Friday</td>
<td>Tuesday, 3 PM</td>
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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.

2021 Course Overview

Introductory Lecture
Large group meeting – January 6, 1 – 2:30 pm via Bluejeans  https://bluejeans.com/4140334748

- 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 in the faculty syllabus and are on pages 36-37 of the student syllabus)
- Revise “problematic” abstract and specific aims page from syllabus using “Five Principles of Clear Scientific Writing”

Small Groups:

Week 1: Principles of Clear Scientific Writing
- Small group session – January 13-15, 1 – 2:30 pm
  - Address any questions arising from rewriting exercises
  - Discuss revisions of “problematic” abstract and specific aims page
  - Introduce next week’s writing assignment - Specific Aims

  Homework assignment for next week
- Read “Parts of a Grant Proposal – Specific Aims and Research Design” with examples in syllabus.
- Write a Specific Aims page describing your research (due by next week for all students).

Week 2: Parts of a Grant Proposal – Specific Aims – Group 1
- Small group sessions – January 20-22, 1 – 2:30 pm
  - Address questions regarding “Parts of a Grant Proposal – Specific Aims, Research Design”
  - Discuss Specific Aims from first group of four students

  Homework assignment for next week
- Read “How to write Approach (grants) and Discussion (papers) in syllabus.

Week 3: Parts of a Grant Proposal – Specific Aims – Group 2
- Small group sessions – January 27-29, 1 – 2:30 pm
  - Discuss Specific Aims from second group of four students

  Homework assignment for next week
- Read “Parts of a Grant Proposal and Significance and Innovation”, with examples in syllabus.
- 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
- Small group session – February 3-5, 1 – 2:30 pm
  - Discuss “Significance” write-ups
  - Introduce next week’s writing assignment – Results/Preliminary Data

  Homework assignment for next week
- Read “Parts of a Grant Proposal – “Preliminary Data (for grants) Results” in syllabus.
- Write 1-2 paragraphs (1 page, max) of Preliminary Data text with an accompanying Figure and Legend. You can use your data, a colleague's data, or made-up data. Use a QERA structure and
include sufficient introductory material to make the figure understandable to the reader. Again, include a title.

Week 5: Parts of a Grant Proposal – Preliminary Data
- **Small group session – February 10-12, 1- 2:30 pm**
  - Discuss Results text, Figures and Legend
  - Discuss questions regarding “Parts of a Grant Proposal - Preliminary Data”
  - 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 approx) presentation on prior critiques of and final revisions to Specific Aims.

Week 3: Parts of a Grant Proposal – Specific Aims – Revisions
- **Small group sessions – February 17-19, 1 – 2:30 pm**
  - Discuss revised Specific Aims for all students
  - Summary of class and faculty discussion of grant writing and reviewing

**Section Leaders**

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<tr>
<th>Section 001</th>
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<tr>
<td>Andrew Wells</td>
<td><a href="mailto:adwells@pennmedicine.upenn.edu">adwells@pennmedicine.upenn.edu</a></td>
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<tr>
<td>Ling Qin</td>
<td><a href="mailto:qinling@pennmedicine.upenn.edu">qinling@pennmedicine.upenn.edu</a></td>
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<tr>
<td>Chris Lengner</td>
<td><a href="mailto:lengner@vet.upenn.edu">lengner@vet.upenn.edu</a></td>
<td></td>
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</tr>
<tr>
<td>Erica Golemis</td>
<td><a href="mailto:golemis@upenn.edu">golemis@upenn.edu</a></td>
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<tr>
<td>Struan Grant</td>
<td><a href="mailto:grants@pennmedicine.upenn.edu">grants@pennmedicine.upenn.edu</a></td>
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<td></td>
</tr>
<tr>
<td>Diana Stanescu</td>
<td><a href="mailto:stanescu@upenn.edu">stanescu@upenn.edu</a></td>
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<tr>
<td>Akhilesh Reddy</td>
<td><a href="mailto:Akhilesh.Reddy@pennmedicine.upenn.edu">Akhilesh.Reddy@pennmedicine.upenn.edu</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maya Capelson</td>
<td><a href="mailto:capelson@pennmedicine.upenn.edu">capelson@pennmedicine.upenn.edu</a></td>
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<tr>
<td>Harvey Friedman</td>
<td><a href="mailto:hfriedma@pennmedicine.upenn.edu">hfriedma@pennmedicine.upenn.edu</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aime Franco</td>
<td><a href="mailto:francoa@upenn.edu">francoa@upenn.edu</a></td>
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<tbody>
<tr>
<td>Jonathan Katz</td>
<td><a href="mailto:jpkatz@pennmedicine.upenn.edu">jpkatz@pennmedicine.upenn.edu</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sparky Lok</td>
<td><a href="mailto:jlok@vet.upenn.edu">jlok@vet.upenn.edu</a></td>
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