Overview
Medical educators and researchers must be able to present their work clearly and effectively in oral and written forms. However, important educational material and research data are sometimes poorly communicated or even obscured by poorly delivered presentations or ineffectively written abstracts, manuscripts, slides, and posters. The main objective of this course is to help students develop excellent medical writing and presentation skills. This objective will be achieved through a combination of videos, readings, individual assignments, and team projects in which students will practice specific skills. Students will craft an abstract, write a discussion section of a manuscript, practice methods of disseminating their science to the lay public, create a poster, construct a table or figure, and develop a PowerPoint presentation and record themselves delivering a 10-minute talk.

Objectives
At the conclusion of this course, you should be able to:
1. Identify common errors in medical writing and explain how adhering to specific elements of writing style promotes effective communication
2. Write a clear, concise, well-organized abstract for a scientific meeting or manuscript
3. Identify the forms and functions of the four key sections of a scientific manuscript (i.e., introduction, methods, results, and discussion)
4. Using empirically derived data, create a table and figure that is well-designed and effectively communicates important research findings.
5. Characterize and apply the “golden rules” for being a good peer reviewer of scientific manuscripts, and describe the steps involved in the peer review process
6. Create a letter of response to a journal editor that addresses peer reviewer comments on a scientific manuscript
7. Create an effective poster that adheres to accepted best practices
8. Communicate your science to a lay audience
9. Prepare and deliver a 10-minute scientific oral presentation with accompanying slides

Target Audience
The course is for students who have limited experience writing, critiquing, and presenting papers.

Books, Videos, and Other Materials
Links to readings and videos are provided in each module.


Many of the videos used in this course were created by Dr. Kristin Sainani, an associate professor at Stanford University. She generously gave us permission to use her videos. One caveat: she created them
for several courses that she teaches, so when she refers to “the previous assignment,” or “last Module’s video,” you should disregard those statements. They do not apply to this course.

All course information, announcements, and homework assignments are available at http://courseweb.pitt.edu.

**Modality**

This is a fully online course. You are not required to attend in-person class sessions, which will give you considerable flexibility. But to paraphrase Spidey’s Uncle Ben, with great flexibility comes great responsibility: online courses require time management and self-discipline that traditional courses do not. Without class sessions to organize your academic life, you will need to develop your own schedule for completing module requirements—and sometimes you will have to take the schedules of your teammates into account. Instructors will check in with you regularly, participate in online discussions, and provide feedback in a timely manner, but the responsibility will be yours to stay on track and ask for help when you need it.

**Course Requirements**

Each weekly module is designed to require approximately 6 hours of work, including readings, videos, discussion boards, and assignment. This is an average—some may take a little longer, others may take less time. Because there is no in-class component, it is up to you to decide when you complete the coursework, as long as the assignments are submitted by the due date. The exception to this is the team assignments, which require coordination with others and advance planning.

**Collaboration: Tools**

At several points in this course, you’ll be asked to meet in teams. If you can meet in person, great. If you can’t, use the opportunity to practice working on a distributed team (increasingly common in medical research) and using the many free tools available for communication and collaboration. Please choose whatever methods and tools you prefer but here are some we recommend:

- **Google Docs**: Share files with team members, provide feedback, and edit collaboratively.
- **Google Plus**: Create teams, communicate asynchronously, and share images and links.
- **Google Hangouts**: Engage in real-time video/audio/chat-enabled meetings with your team.
- **Skype for Business**: Engage in real-time video/audio/chat-enabled meetings with your team, including the ability to share slides and screens. Skype for Business is provided free of charge to all those with a Pitt username and password.

**Collaboration: Roles**

When you meet in teams, consider assigning one person the role of leader, another the role of time-keeper, and another the role of recorder.

- **Leader**: Calls the meeting to order, reviews the agenda, ensures that objectives are met
- **Time-keeper**: Ensures that the meeting moves along and everyone contributes
- **Recorder**: Records questions and key insights that emerge and brings them to the instructor’s attention

**Assignments**

There are 20 short, required assignments for this course, including both assignments and discussion boards. Each assignment is designed to give you practice with a different real-world writing task. Some of these assignments involve an individual and team component and a few may require some advance planning, so I recommend reading through all of them at the start of the course. This is especially true for Module 8, in which you must record yourself making a presentation. The University of Pittsburgh makes Panopto available to everyone.
but you can choose a different method: the important thing is you must upload a file of you presenting a 10-minute talk, accompanied by slides. It is a good idea to begin familiarizing yourself with Panopto during some of the less time-consuming modules, so that your learning curve is not steep when Module 8 rolls around.

This may sound like a lot of work for a 1-credit course, but remember that these readings, videos, and activities serve as the pre-class preparation time, class time, in-class exercises, and homework time that you would expect to encounter in a face-to-face course.

For simplicity, all assignments are weighted equally and will be scored out of 100 points. In many cases, we will provide you with a rubric in advance so that you have a clear understanding of our expectations.

Assignments should be turned in by the date and time indicated. Our “class week” begins on a Monday and ends on the following Sunday. Late assignments will receive a 10% deduction per day late. You should upload all assignments to CourseWeb unless otherwise instructed. Please include your name at the top of the document, and use this file naming convention: Surname_assignment number.

Discussion Board Participation:
Because this course is online, there is no "attendance requirement" in the traditional sense of the word. That is one reason why your participation in discussion boards is so critical—as a matter of fact, it's required. Active participation by everyone, including you, your instructors, increases the probability that we will achieve the course objectives. To that end, please be prepared for active engagement! Come to the discussion board with a solid understanding of the assigned materials, or whatever resources you will need to participate fully in the discussions. Postings are required by the date and time indicated in each module. Late postings will receive a 10% deduction per day late. Discussion boards will be graded using the following 100-point scale:

- Up to 40 points for original thought / contribution (perspective not previously posted)
- Up to 40 points for development of thought (full explanation, detail, insight; this usually requires a couple of paragraphs or more to accomplish)
- Up to 20 points for responding to posting of others

(Scale adapted from https://www.uis.edu/colrs/teaching/assessment-and-feedback/rubrics/)

Additionally, we’ve set up an ungraded “General Discussion” board. This discussion board is for any and all question or comments about the course AS A WHOLE. Feel free to ask about requirements, logistics, assignments, or general questions about writing, or to pass along good advice you’ve gotten about writing and publishing. We will check it regularly and try to respond within 48 hours. Feel free to go ahead and respond to one another, too. Remember: many modules have graded discussion boards. This “General Discussion” board is distinct from the graded discussions, so please make sure you’re posting in the right place!

Office Hours
Online office hours will be determined based upon the “Getting to Know You” form you and your classmates will complete prior to the start of class, and will be offered based upon the level of interest. At the prescribed date and time, you can log on to Skype for Business by clicking on the link embedded in the Outlook invitation we’ll be sending. We’ll be available for informal chats about your writing, as
well as any questions or concerns you have about the class and the assignments. Attending office hours is not required.

**Summary of Sessions**

Beginning with Module 1, your initial discussion board posting for each week is due **by 5 pm on Thursday of each week. The exceptions are Modules 2 and 4, which can’t be completed until the assignments are done. These discussion boards are due by 10 pm on the Sunday of the week in which they occur—the same as the assignments.**

Beginning with Module 1, each week’s assignment(s) (individual and/or team) must be uploaded to CourseWeb **by 10 pm on the Sunday of each week.**

So, for example, in Module 1, your initial discussion board posting is due by 5 pm on January 17, and your assignment is due by 10 pm on January 20.

<table>
<thead>
<tr>
<th>Module</th>
<th>Focus</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>Module 0</td>
<td>Introduction, Housekeeping</td>
<td>1. Getting to Know You form –</td>
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<tr>
<td>Module 1</td>
<td>Improving Your Writing</td>
<td>1. Discussion Board 2. Assignment 1</td>
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<td>Module 2</td>
<td>Writing a Concrete Abstract</td>
<td>1. Discussion Board 2. Assignment 2A 3. Assignment 2B</td>
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<td>Module 3</td>
<td>Dissecting the Anatomy of a Manuscript</td>
<td>1. Discussion Board 2. Assignment 3</td>
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<td>Module 4</td>
<td>Creating Tables and Figures</td>
<td>1. Discussion Board 2. Assignment 4A 3. Assignment 4B</td>
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<td>Module 5</td>
<td>Understanding Peer Review and Responding to Peer Review</td>
<td>1. Discussion Board 2. Assignment 5A 3. Assignment 5B</td>
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<td>Module 6</td>
<td>Designing Compelling Posters</td>
<td>1. Discussion Board 2. Assignment 6</td>
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<td>Modules 7</td>
<td>Communicating Your Science to a Lay Audience</td>
<td>1. Discussion Board 2. Assignment 7A 3. Assignment 7B</td>
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<td>Module 8</td>
<td>Presenting Your Science to Scientists</td>
<td>1. Assignment 8A 2. Assignment 8B</td>
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Grading
Your letter grade for this course will be based on:

- Discussion Boards (7) 100 points per board (700 total)
- Homework Assignments (13) 100 points each (1300 total)

Total Possible Points 2000

Grading Scale
We will use the following percentage grading scale for the computation of the final course grade, as well as for the course assignments.

- 98–100 = A+
- 86–89 = B+
- 76–79 = C+
- 60–69 = D
- 92–97 = A
- 82–85 = B
- 70–75 = C
- <60 = F

Academic Integrity
As a student in this course, you are expected to comply with the University of Pittsburgh’s Policy on Academic Integrity (http://www.provost.pitt.edu/info/ai1.html). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.

ICRE Core Competencies Addressed, by Module

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<thead>
<tr>
<th>Competency</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
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<th>M6</th>
<th>M7</th>
<th>M8</th>
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<tbody>
<tr>
<td>Ethics and Professional Norms: Provide examples of the norms of professional integrity with regard to designing and conducting research including: data collection, sharing and protection; and reporting of findings.</td>
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<td>Multidisciplinary Teamwork: Demonstrate behaviors necessary to be an effective member of a multidisciplinary team including: generating multiple points of view; contributing to the development of new ideas; and demonstrating conflict management skills.</td>
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<td>Oral Communication: Prepare and deliver oral presentations of research at a variety of stages to a range of audiences, and respond to constructive criticism and questions.</td>
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<td>Oral Communication: Prepare critiques of oral presentations.</td>
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<td>Written Communication: Prepare written presentations of research at a variety of stages to a range of audiences, technical and non-technical, and respond to constructive criticism and questions.</td>
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<td>Written Communication: Prepare critiques of written presentation following the appropriate guidelines.</td>
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<td>Written Communication: Organize and report statistical results.</td>
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