Scientific Writing & Communication
BMI 570/670
Syllabus

Spring 2016 Online 3 credit hours

PREREQUISITES
None. Enrollment is limited to admitted biomedical informatics students.

COURSE DESCRIPTION
The focus of this course is scientific writing and communication. Students will prepare abstracts, papers and slides as well as learn about writing theses and capstones, scientific journal articles, and grant proposals. Topics will also include bibliographic database searching and presentations and posters for scientific meetings.

INSTRUCTOR
Kathryn L. Pyle, AMLS, MA
Assistant Professor, Medical Informatics & Clinical Epidemiology
BICC 505, 503-494-6058, pylek@ohsu.edu
Office Hours: By phone (by appointment) or email response usually within 24 hours

Guest Lecturer: Andrew Hamilton, MLS, MS, Reference Librarian, OHSU Library

REQUIRED TEXTBOOK(S)

RELEVANT LITERATURE AND RESOURCES
In addition to the textbooks, you will receive a bibliography of relevant writing and communications book, journal articles and Web sites. This bibliography is located in the Course Materials section of BMI 570/670 on Sakai under Introduction and Technical Requirements.

COURSE OBJECTIVES
• Become more proficient in scientific writing and presentations.
• Know the basic requirements for preparing thesis and capstone proposals and final documents; writing biomedical journal articles; and preparing biomedical grant proposals.
• Understand the basics of MEDLINE searching and reference management software.
• Using the principles learned in the class, prepare and revise a term paper on a biomedical informatics topic of your choice as well as prepare a presentation on the same topic.

COURSE COORDINATION
The course will be a mix of online lectures, textbook and other readings, written assignments, online discussions, and short writing exercises. Students are expected to participate in the weekly discussions in the Forum section of Sakai and in the brief writing exercises. There is also a series of written assignments that lead to production of a term paper and then a slide presentation on the term paper topic.
EVALUATION/GRADING SCALE
This is a Pass/Fail course. Each written assignment or presentation will be awarded points, with a minimum of 70 points out of a possible 100 to pass. Written work that does not conform to the instructions may not receive full points. Late work will be marked down by 10% per week.

There are three types of graded assignments. Weekly assignments related to a biomedical informatics/bioinformatics research topic of your choice for which you will prepare a term paper and slide presentation are worth between 5 and 15 points each. Participation in the weekly discussions in the Forum section of Sakai is worth 1 point per week. It is expected that students will contribute to the discussions at a minimum of once per week to receive the full 10 points for the term. Submission of short writing or grammar exercises throughout the term is worth up to 15 points in total.

Graduate Studies in the OHSU School of Medicine is committed to providing grades to students in a timely manner. Course instructors will provide students with information in writing at the beginning of each course that describes the grading policies and procedures including but not limited to evaluation criteria, expected time needed to grade individual student examinations and type of feedback they will provide.

Class grades are due to the Registrar by the Friday following the week of finals. However, on those occasions when a grade has not been submitted by the deadline, the following procedure shall be followed:

1) The Department\(^1\)/Program Coordinator\(^2\) will immediately contact the Instructor requesting the missing grade, with a copy to the Program Director and Registrar.
2) If the grade is still overdue by the end of next week, the Department\(^1\)/Program Coordinator\(^2\) will email the Department Chair directly, with a copy to the Instructor and Program Director requesting resolution of the missing grade.
3) If, after an additional week the grade is still outstanding, the student or Department\(^1\)/Program Coordinator\(^2\) may petition the Office of Graduate students for final resolution.

\(^1\) For courses that are run by a specific department.
\(^2\) For the conjoined courses (course number is preceded by CON that are run by Graduate Studies.

COURSE SCHEDULE/ASSIGNMENTS
The material for each session will be posted by Wednesday at 5:00 am Pacific time at the latest. Each week, in the Course Materials section of Sakai, there will be a PowerPoint lecture to watch as well as readings, short exercises, and Forum discussion topics. The writing exercises are writing or grammar exercises that would normally be completed during a class session for an on campus course. There is also a written assignment most weeks, one that relates to the preparation of your term paper and slide presentation on your research topic.

The writing exercises and Forum discussion topics will be posted in the Course Materials area for that week as well as in the Submissions and Forum sections, respectively. The written assignments are described in detail below and are also described in detail in the Submissions section of Sakai. All written work and Forum discussion posts for a session must be submitted by 11:55 pm Pacific time on the due date to receive full credit. It is expected that you will submit at least one Forum discussion post per session. Written work should be submitted via the Submissions tool in Sakai. If you have difficulties submitting work through Sakai, you may email your assignment to me at pylek@ohsu.edu.

The primary written assignments in this course follow the iterative process of writing. Each assignment is an installment -- you will think up a fascinating biomedical informatics or bioinformatics topic, outline your structure, write an abstract, draft the first round, edit, finalize, et voila -- a seven-to-ten page formal paper.
Please select a topic related in some way to biomedical informatics or bioinformatics and is a topic that you are not researching, developing, or writing about for another BMI course. Also, revising a paper previously submitted in another course is not allowed.

**Basic Homework Requirements:** Please name your homework file with the following convention: LastnameSessionAssignment.doc Example: SmithSession3References.docx or Jones Session5Exercise.docx. Please put your name and the date at the top of all written assignments. Once I download and print out an assignment for grading, I can’t tell whose it is without a name on it. For most assignments, you can use either single or double spacing. For the draft term paper and final version of the term paper, please use 1.5 or double spacing.

**Session One – March 30-April 6, 2016**

Principles of Good Writing I

Posted by March 30th - Due by April 6th

PowerPoint Lecture: General Principles of Scientific Writing I

Writing Exercise: Gunning Fog Index, 1 point

Forum Topic: Language goals in scientific writing, 1 point

Readings: Alley Craft of Scientific Writing textbook, chapters 1-3

Written Assignment: Analysis of Constraints Exercise, due April 6th, 5 points

Select a recent healthcare research study (findings released within the last three years) and find both the original study published in a biomedical journal and another (non-academic) article written about the study findings (for example, a news article in the New York Times or on BBC News on the Web).

For each document, identify the following constraints:

- **Audience:** Who is the audience? Why would they be reading the article?
- **Purpose:** Why was the article published?
- **Occasion:** What kind of language was used in the article? How formal is the language?
- **Comparison:** How do the constraints differ? How do you think the writing process differed for each document?

Please discuss the original research study first.

**Session Two – April 6-13, 2916**

Principles of Good Writing II

Posted by April 6th – Due by April 13th

PowerPoint Lecture: General Principles of Scientific Writing II

Writing Exercise: Sentences openers, 2 points

Forum Topic: Being familiar, 1 point

Readings: Alley Craft of Scientific Writing textbook, chapters 4-7

Written Assignment: Summary of Paper Topic, due April 13th, 5 points

Write a paragraph or two explaining the proposed topic of your term paper. Include the draft title and some proposed sources. You can also say why you selected this particular topic, which should be related to biomedical informatics or bioinformatics in some way. Please select a topic that can be covered appropriately in a 7-10 page paper. I realize this is early in the term, and you may end up modifying your topic. This assignment gives you a chance to get started on your topic and gives me an opportunity to learn more about your interests and your writing style.

**Session Three – April 13-20, 2016**

Bibliographic Database Searching And Citation Management Software

Posted by April 13 - Due by April 20th

PowerPoint Lecture: Searching and Organizing the Literature by Andrew Hamilton

Writing Exercise: Avoiding ambiguity, 2 points

Forum Topic: Writing concisely, 1 point
Readings: Alley Craft of Scientific Writing textbook, ch. 8-9; Using References in Papers
Written Assignment: Reference List, due by April 20th, 5 points

Using Vancouver style, create a list of 6-12 references that you might use for your term paper. You should include at least three different types of sources (for example, books, journals, and Web sites). The primary purpose of the assignment is for you to learn how to use Vancouver style, also known as Uniform Requirements for Manuscripts from the International Committee of Medical Journal Editors. An ancillary purpose is for you to start finding source material for your term paper. If you are not familiar with Vancouver style, which is used by many biomedical journals, please see the National Library of Medicine Web site: https://www.nlm.nih.gov/bsd/uniform_requirements.html

Session Four – April 20-27, 2016
Outlining/Writing Abstracts
Posted by April 20th - Due by April 27th
PowerPoint Lecture: Outlines, Titles, and Abstracts
Writing Exercise: Preparing an abstract, 2 points
Forum Topic: Getting ready to write, 1 point
Readings: Alley Craft of Scientific Writing textbook, ch. 16-17
Written Assignment: Outline of Paper, due by April 27th, 5 points

Please submit a one-to-two-page, logically organized outline for your paper. You may choose the style of outline (based on those presented in the lecture). Provide enough detail so that the major sections and structure of your term paper are clear.

Session Five – April 27-May 4, 2016
Writing Thesis and Capstone Documents
Posted by April 27th - Due by May 4th
PowerPoint Lecture: Thesis and Capstone Documents
Writing Exercise: Misplaced and Dangling Modifiers, 1 point
Forum Topic: Review of thesis proposals, 1 point
Readings: Shapiro and Betzing thesis proposals
Written Assignment: Abstract of Paper, due May 4th, 10 points

Please prepare a draft abstract of your paper, including a title. Your abstract should not exceed 250 words. You may use a descriptive, informative or structured (if applicable) abstract format.

Session Six – May 4-11, 2016
Writing Journal Articles
Posted by May 4th - Due by May 11th
PowerPoint Lectures: Preparing Journal Articles and Peer Review
Writing Exercise: Gender neutral language, 1 point
Forum Topic: Critique of biomedical journal article, 1 point
Readings: Welch paper on preparing manuscripts for submission to medical journals
Written Assignment: None – work on your draft paper

Week Seven – May 11-18, 2016
Presentations and Posters
Posted by May 11th - Due by May 18th
PowerPoint Lecture: Designing Posters
Writing Exercise: None
Forum Topic: Presentation style of DMICE thesis defense, 1 point
Readings: Alley Craft of Scientific Presentations, chapters 1, 2, 5; BMJ article: How Not to Give a Presentation; The Scientist: Poster Perfect; CMAJ: Effect of colour coordination of attire with poster presentation on poster popularity
Written Assignment: Draft paper due by May 18th - 15 points – give copy to assigned peer reviewer
The first draft of your paper is due. The paper should be a minimum of seven pages and a maximum of ten pages, 1.5 or double-spaced (not counting the title page, abstract, or references). The draft should be complete (no missing sections) and include a title page, abstract and reference list. Please include page numbers on your paper.

Please create a title page with the title of your paper, your name, and the date. The title page does not count as one of the 7-10 pages of your paper.

The first item on the next page should be your abstract. An abstract is a summary of the contents of the paper: it is not a substitution for an introduction section in the paper. You should not have any content in the abstract that is not in the paper (although the wording does not have to be identical). Also, abstracts do not contain references; you should not begin citing reference numbers until the beginning of the paper itself. The abstract included in the draft paper should be revised from the one submitted in Session Five, based on feedback from the instructor.

Please use section headings in your paper.

Please use Vancouver style for your references. References should be numbered in the order they appear in the paper. Each reference keeps the same number, no matter how many times it is cited in your paper. Please use superscript numbers for your reference numbers in the body of the paper. When using the superscript reference numbers, the number goes after a period or comma, not before. So if the reference number is at the end of a sentence, for example, it should look like: …according to Brown et al.\(^\text{15}\) If you have a semi-colon, the reference number would be before the semi-colon.

The reference list at the end of the paper should list the references in the order they were cited in the paper. It is fine to use reference management software but please proof your list to make sure there are no errors.

You might want to take a look at one of these JAMIA papers to see how their references are formatted. However, please list 6 authors before “et al” instead of just 3. Also, I like periods with e.g. and i.e.

JAMIA bioinformatics paper sample (for formatting): ‘N-of-1-pathways’ unveils personal deregulated mechanisms from a single pair of RNA-Seq samples: towards precision medicine
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4215042/

JAMIA clinical informatics paper sample (for formatting): A qualitative study of the activities performed by people involved in clinical decision support: recommended practices for success
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3994853/

Session Eight – May 18-25, 2016

Presentation Slides
Posted by May 18th - Due by May 25th
PowerPoint Lecture: Faulty Parallelism, 1 point
Writing Exercise: Faulty Parallelism, 1 point
Forum Topic: Evaluating the writing process for the draft term paper, 1 point
Readings: Alley Craft of Scientific Presentations, chapters 3-4
Written Assignment: Review of another paper, due by May 25th, 5 points

You will exchange draft papers with another student and provide a peer review of that person’s paper, using a peer review form. Reviewer assignments will be made by the instructor partway through the term. The credit for this assignment is for you doing a review of another person’s paper. A copy of the completed peer review form must be sent to both the author of the paper and to the instructor.

Session Nine – May 25-June 2, 2016

Grant Proposals
Posted by May 25th - Due by June 2nd
PowerPoint Lecture: Grant Proposals
Writing Exercise: Review of grant proposal, 2 points
Forum Topic: Research topic, 1 point
Readings: Alley Craft of Scientific Writing textbook, ch. 13
Written Assignment: PowerPoint slides – due Thursday, June 2nd by 5pm Pacific time, 15 points

Using Echo360, prepare an oral presentation with voiceover on your paper topic, using the Alley format
presented in class (sentence headlines, images, no bullets). You should prepare enough slides for a 7-10 minute talk, as if you were presenting at an American Medical Informatics Association meeting, and your talk should have a beginning, middle and end (summary). More information on preparing the slides will be provided later in the term. The slides will be posted in Sakai and you will be asked to critique other students’ presentations. Instructions for using Echo 360 are found in Course Materials.

Session Ten – June 1-10, 2016
Student Presentations
Posted by June 1st - Due by June 10th
View Student PowerPoint Slides
Writing Exercise: Critique of other students’ slides
Forum Topic: How has your communication changed, 1 point
Written Assignment: Final Paper due by Friday, June 10th, 10 points

Based on the feedback from both Kathryn and your peer reviewer, please revise your draft paper and submit it by 11:55 p.m. Pacific time on Friday, March 18th. Remember to include a title, the abstract, and references (in Vancouver style) and number your pages.

SUMMARY OF POINTS PER SESSION

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<td>Gunning Fog Index 1 point</td>
<td>Alley’s goals of scientific writing 1 point</td>
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<td>2</td>
<td>Summary of Research Paper Topic 5 points</td>
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<td>Dangling and Misplaced Modifiers 1 point</td>
<td>Writing in thesis proposals 1 point</td>
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<td>No written assignment, work on draft paper</td>
<td>Gender Neutral Language 1 point</td>
<td>Critique of draft journal article 1 point</td>
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<td>7</td>
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<td>None, due to draft term paper assignment</td>
<td>Discussion of Thesis Presentation 1 point</td>
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<td>PowerPoint Presentation 15 points</td>
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<td>Final Version of Term Paper 10 points</td>
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<td>Total Points 100</td>
<td>75 points</td>
<td>15 points</td>
<td>10 points</td>
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ACADEMIC HONESTY
Course participants are expected to maintain academic honesty in their course work. Participants should refrain from seeking past published solutions to any assignments. Literature and resources (including Internet resources) employed in fulfilling assignments must be cited. See http://www.ohsu.edu/xd/education/library/research-assistance/plagiarism.cfm?WT_rank=1# for information on
code of conduct for OHSU and
http://www.ohsu.edu/xd/education/teaching-and-learning-center/for-students/index.cfm for more information on citing sources and recognizing plagiarism.

In an effort to uphold the principles and practice of academic honesty, faculty members at OHSU may use originality checking systems such as Turnitin to compare a student’s submitted work against multiple sources.

To protect student privacy in this process, it will be necessary to remove all personal information, i.e., student name, email address, student u-number, or any other personal information, from documents BEFORE submission.

STUDENT ACCESS
OHSU is committed to providing equal access to qualified students who experience a disability in compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the ADA Amendments Act (ADA-AA) of 2008. If you have a disability or think you may have a disability (physical, sensory, chronic health, psychological or learning) please contact the Office for Student Access at (503) 494-0082 or studentaccess@ohsu.edu to discuss eligibility for academic accommodations. Information is also available at www.ohsu.edu/student-access. Because accommodations may take time to implement and cannot be applied retroactively, it is important to have this discussion as soon as possible. All information regarding a student’s disability is kept in accordance with relevant state and federal laws.

COPYRIGHT INFORMATION
Every reasonable effort has been made to protect the copyright requirements of materials used in this course. Class participants are warned not to copy, audiotape, or videotape in violation of copyright laws. Journal articles will be kept on reserve at the library or online for student access. Copyright law does allow for making one personal copy of each article from the original article. This limit also applies to electronic sources.

To comply with the fair use doctrine of the US copyright law, Sakai course sites close three weeks after grades are posted with the Registrar. Please be sure to download all course material you wish to keep before this time as you will have no further access to your courses.

DMICE COMMUNICATION POLICY
1. If the syllabus directs the student to contact the teaching assistant (TA) before contacting the instructor, the student should do so. Otherwise, the student should contact the instructor and allow 2 business days (not including weekends) for a response.
2. If the student does not receive a response from the instructor within 2 business days, s/he should contact the TA (if there is one). When contacting the TA, s/he should cc the instructor and Diane Doctor at doctord@ohsu.edu.
3. If a student does not receive a response from the TA within 1 business day (not including weekends), s/he should contact Diane Doctor at doctord@ohsu.edu and cc the instructor and the TA.
4. If Diane does not reply within 1 business day (not including weekends), the student should contact Andrea Ilg at ilgan@ohsu.edu.
5. Students having difficulties with Sakai should contact the Sakai Help Desk at sakai@ohsu.edu or at (877) 972-5249. Sakai help is available M-F from 8am to 10pm and weekends from noon to 5pm. Do not contact the instructor.
USE OF SAKAI
This course will have an online component, which can be accessed through Sakai, OHSU’s online course management system. For any technical questions or if you need help logging in, please contact the Sakai Help Desk.

Hours: Sakai Help Desk is available Mon – Fri, 8 am – 9 pm, and weekends, 12 pm – 5 pm, Pacific Time.
Contact Information:
Phone (toll-free): 877-972-5249
Web: http://atech.ohsu.edu/help
Email: sakai@ohsu.edu

NOTE
This syllabus and class schedule are subject to changes by the instructor. Changes will be made with as much advance notice as possible.