COLLEGE OF CHARLESTON  
School of Education Health and Human Performance  
Department of Health and Human Performance  

Course: EXSC444: Scientific Writing and Data Analysis in Exercise Science

Instructor: Michael G. Flynn  
Office: Silcox 105 (Department office)  
Office hours: MW 9-10 F 11-12 or by appointment  
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Email: mickflyn@cofc.edu

Course meeting: Lecture: MW 2-3:15  
Silcox 146

Prerequisite courses: Senior standing

Course Description: A study of general principles of scientific writing and research related to better understanding the literature in exercise science. The class will be focused on writing effectively and efficiently. Students will write abstracts, research proposals, and selected parts of a manuscript, including the writing of a clear and effective: introduction, materials and methods, results, discussion, conclusions. Students will also be introduced to a variety of writing techniques, techniques for overcoming barriers to writing, and will have considerable practice writing and editing during class. They will be introduced to reference management software, techniques for proper referencing, and plagiarism prevention.

Student Learning Outcomes: Upon successful completion of the course, the student should be able to:

1. Recognize commonly used research designs in exercise science, health, and medicine and understand the difference between original research and review.
2. Be able to identify keys points, strengths and weaknesses in a research article.
   a. Write an effective abstract suitable for submission to a professional meeting in exercise science.
3. Understand the cogent aspects of the introduction in exercise science.
4. Understand the mechanics of and write an effective materials and methods section
5. Be able to effectively present the results of a research project in table and graphic form.
6. Use available literature to write an effective review to support the results of a research project
7. Write the conclusion/summary with salient points
8. Effectively write and format the referencing style for journals typically used in exercise science.
9. Understand the information transfer from research article, to press release, to newspaper or magazine article.
10. Document a substantial improvement in writing skills over the course of a semester
11. Be an effective “editor” for writing completed by a student peer.
12. Learn to communicate your work in poster or oral presentation format.
Course Texts:
Lindsay, David, Scientific Writing = Thinking in Words. CSIRO Publishing, Collingwood, Victoria, Australia, 2011. Available on you laptop or kindle device from Amazon.

Other readings as assigned.

_Tell me and I will forget. show me and I might remember... involve me and I will learn._
Chinese Proverb

This is a writing class. Writing improves with practice. Your instructor will provide a considerable amount of class time during which you will be involved in writing, critiquing, editing and rewriting your work. At selected times during the semester, such as at the end of a class period, students will be randomly assigned to submit their work to the OAKS dropbox for grading. Thus, each of the in class writing exercises must be taken seriously.

General class rule…
Don’t write anything that you are not willing to share with me or your classmates.

Evaluation:
Newspaper Article/Press Release/Article Assignment 100 (dates drawn at random)
Abstract 1 100 (due September 18)
Abstract 2 100 (due October 7)
Introduction 100 (due September 25)
Brief Review 100 (November 20th )
In class writing assignment-1 50 (random selection)
In class writing assignment-2 50 (random selection)
In class writing assignments- bonus 50 (random selection)
Editorial skill 100 (Edit Brief Review 1st draft due November 13th)
Oral Presentation (Final Exam Time) 150
Final Paper 200 (November 25)
Total 1100

Article-to-press release-to-newspaper article Assignment- For this assignment, students will be randomly assigned to give a short (5-10 min) presentation to illustrate the sometimes twisted flow of information that occurs when a research article about exercise or health makes its way to a newspaper article or news report. You may find the conclusions from the research article are not translated well as the information moves from press release to newspaper article. Your assignment…work backward. Find a recent newspaper article about a new finding (research article) in exercise science, fitness, or health. The article should list the university or hospital name and the name of the lead researcher. Use this information to go back to the marketing and communication (or similar department at the institution and find the press release). Finally, go to pubmed.com and find the research article.

Get the full copy of the article. Now work forward. Figure out what the researchers did and what their primary conclusions were. Next, determine how well the university folks did in their interview/interpretation when they wrote the press release (give them a grade A-F). Finally, determine how well the newspaper reporter(s) did in interpreting the press release or the interviews they may have done with the researchers or other leading researchers in the area (give them a grade). Caution: not all articles will have all three elements. It may take a few tries to get a hit on all three. Pass in a copy of the paper, press release, and newspaper article. Present a summary of your findings to your classmates; supplemented by a one page summary of your findings (each student should get a copy before you present). Include your summary of the article findings, the grades, the quality of the
translation from article to news item, and what factors seemed to influence the translation quality (e.g., poorly written article, great press release and interpretation of article, “sensationalized” news article that focused on items not part of main findings).

Abstract 1 - Your professor will provide you with information from a research article (intro, methods, results, discussion) with the abstract, authors’ names, and other identifying information removed. You will use the information provided to write an abstract. The abstract should provide a clear summary of the article such that the reader understands the purpose, basic methodology, key findings, summary and conclusions. You must adhere to a strict word limit (250 words).

Abstract 2 - You will write an abstract from a poster in the Silcox hallway.

Introduction - Write a one-page introduction using the G.W.W.H. mnemonic presented in lecture. Your introduction should include at least five references. The topic for your introduction must be approved by the instructor and will be a different topic from EXSC 433.

Brief Review - Write a two-page review article, using the instructions presented in lecture (and on OAKS). This review will be stylistically different from the introduction, but will be on the same topic.

In class writing assignment 1 - There will be several in-class writing assignments during the course of the semester. In an effort to get your full effort and attention, names will be selected at random. Those selected will submit a pdf of that day’s assignment to dropbox (typically by the end of class). The student will receive feedback and a grade on these assignments.

In class writing assignment 2 - Same as above

In class writing assignments bonus - Same as above (an opportunity to improve your grade).

Editorial Skill - Becoming an effective editor is an important skill to develop. Since writing styles and quality differ, you also have the opportunity to learn and develop your own writing skills as you peruse the work of others. In general, students tend to be “gentle” editors. I want to train you to be what might be called a “pencil-whipper.” That is, provide a thorough review that also allows the writer to accept or disregard your comments when there are differences in style or simple disagreements about suggested changes. As an editor your job is to do your best to improve the work of the writer. As the writer, your job is to assess the comments of the editor, make the changes that will improve the document, and ignore the suggestions that will not result in improvement or take the document in a different direction from what you, the writer, intended. I will provide you with 1) A writing sample that needs work, 2) Some of my own writing, and 3) A writing sample of a classmate—at different points of the semester. These will all be double-spaced with wide margins to allow plenty of space for editorial comments. The instructor will provide some standard proofreader comments and abbreviations to facilitate this process.

Oral Presentation (Final Exam Time) - Using the guidelines presented in class and information from your textbook, give a 10 minute (timing is important) presentation. Since the quality of the presentation and incorporation of selected elements is most important, the same topic as your review paper will be used. Rubric will be posted in OAKS.

Final Paper - You will combine the introduction, methods, results and discussion that you wrote, edited, rewrote in class. This will be about five-to-ten pages and will be well referenced.

Grading Scale:
Make up policy- Work submitted after the due date/time will be marked down one letter grade. If you must miss class due to an emergency situation, the emergency must be documented. Your instructor will determine a schedule for any allowed make-up work.

If you miss a class you are responsible for getting the material from another student. The instructor will not provide handouts or lecture information for those who are absent.

Attendance- Attendance will be taken daily. If you are late, you will be marked absent. Students are expected to attend class. Two points will be deducted from your final grade for each absence after three. No excuses will be considered for absences.

Seating- Your seat location will be rotated throughout the semester to allow you to work with and learn from a range of student peers.

Policies

College of Charleston Student Handbook: This is a guide to your responsibilities and rights as a student. If you are not familiar with this document, please take the time to review the information contained within the handbook. www.cofc.edu/studentaffairs/general_info/studenthandbook.html.

Academic Honesty- Please refer to the current College of Charleston Student Handbook for the definition of academic dishonesty and the subsequent penalties. Faculty members are required to report violations of the Honor Code to the Office of Student Affairs. If you are found guilty of an honor code violation your grade in the class will be XF and will be so indicated on your transcript. Students at College of Charleston are expected to be at all times in compliance with the Honor Code. Scholastic dishonesty will not be tolerated in this course. Examples of cheating include: plagiarism, giving or receiving aid during examinations, using any type of crib sheet, copying from or looking to another exam, or submitting another’s work as your own.

Classroom Behavior- Students at the College of Charleston are expected to be at all times in compliance with the Honor Code. Failure to abide with this code will not be tolerated in this course. Examples of inappropriate classroom behavior include behaviors that disrupt instruction by the professor and/or learning of classmates and behaviors that threaten, harass, or discriminate against others. Students who engage in inappropriate classroom behavior will be asked to leave the classroom, will receive no credit for attendance and in-class activities for that day, and must meet with the instructor prior to returning to the next class meeting. Severe cases of inappropriate behavior will be referred to the Dean of Students for appropriate disciplinary action. Please take a moment to use the bathroom before the start of class.
Students leaving class can be disrupting.

Electronic Device Policy- Please bring your laptop to every class. We will use them for writing, research, and other uses. Texting or talking on a cell phone is not permitted during class. Please turn your phone to silent and put it away during class. **There will be times when you are allowed to use your phones for class projects (e.g., problem solving), but phones should be stowed and set to silent all other times.**

Disability- In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to “reasonable accommodations.” Please notify the instructor during the first week of class of any accommodations needed for the course.

**Tentative Class Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Chapter (pages)</th>
<th>Topics</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>August 21</td>
<td>--</td>
<td>Syllabus, Course Policies, etc. Writing Exercises</td>
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<tr>
<td>Week 2</td>
<td>August 26/28</td>
<td>Preface</td>
<td>Writing barriers/overcoming barriers, Writing exercises Data collection</td>
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<tr>
<td>Week 3</td>
<td>September 2/4</td>
<td>Page 16, 49</td>
<td>How to read a research article Titles hypotheses Data collection</td>
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<tr>
<td>Week 4</td>
<td>September 9/11</td>
<td>Page 49</td>
<td>Abstracts Writing exercises</td>
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<td>Week 5</td>
<td>September 16/18</td>
<td>Page 20</td>
<td>Introduction and hypotheses (cont.)</td>
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<tr>
<td>Week 6</td>
<td>September 23/25</td>
<td>Page 28</td>
<td>Methodology (Materials and Methods) Methodology Descriptive Data Tables</td>
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<tr>
<td>Week 7</td>
<td>September 30/Oct 2</td>
<td>Page 30</td>
<td>Results: Dry as a bone Results (cont.) Tables and Figures</td>
</tr>
<tr>
<td>Week 8</td>
<td>October 7/9</td>
<td>Page 38, 39</td>
<td>Statistics, Discussion Writing Exercises</td>
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<tr>
<td>Week 9</td>
<td>October 14 fall break/16</td>
<td>Page 55</td>
<td>PBL Plagiarism, Falsification of Data, Editing, Proofing, Reading aloud.</td>
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<tr>
<td>Week 10</td>
<td>October 14 21/23</td>
<td>Page 89</td>
<td>Referencing, citations, impact factors Poster Presentations</td>
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<td>Week</td>
<td>Date(s)</td>
<td>Page(s)</td>
<td>Topic(s)</td>
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<tr>
<td>Week 11</td>
<td>October 28/30</td>
<td>95</td>
<td>Writing a review</td>
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<td>Writing exercises</td>
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<td>Week 12</td>
<td>Nov 4/6</td>
<td>77</td>
<td>Types of oral presentations</td>
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<td>Speaking exercises</td>
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<tr>
<td>Week 13</td>
<td>November 11/13</td>
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<td>Speaking exercises (cont.)</td>
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<tr>
<td>Week 14</td>
<td>November 18/20</td>
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<td>Scientific writing for the masses</td>
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<td>Explore science writers</td>
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<tr>
<td>Week 15</td>
<td>November 25/27</td>
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<td>Final paper due</td>
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<td></td>
<td>(Thanksgiving break)</td>
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<tr>
<td>Week 16</td>
<td>December 2</td>
<td></td>
<td>Prep for final… Catch up</td>
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**Final Exam**
Monday December 9th 2 p.m.