Biological Literature and Communication (WAC)
BIOL 4700 Section 2
Spring 2013

Meets: Tu, Th 2-3:15 PM
Wolfe Hall 1240

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Office Hours: M W 1:30 - 3:30 PM, or by appointment

What this course is about: Science is a specific method used to explore and understand the nature of the world around us. Scientific assertions of fact are based on experimental and observational evidence, and these assertions are typically first presented in peer-reviewed or open scientific forums where the data that supports the claims are shown. Published articles that present this primary data are known as the primary literature. There is also a large secondary literature that includes articles providing overviews of the primary literature, and evaluating and connecting the factual conclusions made in the original publications. Eventually discoveries may make their way into the popular press and textbooks. Scientists also communicate their findings at meetings and give seminars on their research work to other specialists in their field. Finally biologists write many additional types of documents in their professional lives.

In this course, we will read and discuss a number of articles from the primary biological literature. We will briefly look at some of the other types of writing that professional biologists carry out during their careers, and you will attend and report back on one scientific seminar. Since this is a WAC ("Writing Across the Curriculum") course, a major component will be short written exercises, both in class and as outside work. You will also write a concise review article based on the primary literature ("term paper") and you will present a short oral presentation on the same specific topic.

Class attendance and participation: We will read a number of primary literature papers on specific topic(s) and discuss them in class. Attending class and participating in the discussion are essential, since your contributions to the class discussion are a major way of showing that you have read and understand the papers. If you are unable to attend a specific class meeting, please provide a written excuse, in advance if at all possible. In addition, participation will include your critical comments on the short writing assignments of other students in the class.

Short Written Assignments: There will be 4 short written assignments over the course of the semester. You will need to post your completed short writing assignment to your course blog page by the due date. Your peers will then have 3-4 days to post helpful critical comments, and you will have the opportunity to revise and repost your assignment in response to your peers comments. One week after the original due date the revised (i.e the most recently posted) version of the assignment will be graded.

Term paper: The term paper is a 7-12 page review article (excluding references) on some biologically relevant topic of interest that you have selected after consulting with the instructor. You should not select a topic that you have already written up as a paper for another class! The paper (and all drafts) must be typewritten, double-spaced, using 10-12 point font with 1 inch or smaller margins. References must be in a standard format. Topics are due February 5. An outline draft will be due February 26, a written draft due March 26, and the final version due no later than April 26 (last Friday of the term). A more detailed guide/rubric will be provided by Feb 5th. The final paper will adhere to all of the following criteria:

1) Your paper needs to analyze and discuss the outcomes of a scientific study ("focus paper") from the recent primary literature, with the scientific advance in the focus paper clearly identified and analyzed.

2) Your paper contains a concise, informative introduction that creates interest in what is to follow. Sufficient relevant background is given that the motivation for studies in the focus paper is clear. The hypothesis being tested in the focus paper studies is explicitly identified.

3) Your paper contains a discussion that evaluates the results of the focus paper, notes any shortcomings of confounding issues with the results, and evaluates whether the results support or reject the hypothesis being tested. You should also include how the results contribute to the field and what the logical next steps are.

4) There should be a concise, clear concluding paragraph.

5) Your paper is well written, with clear sentences and organized paragraphs in a logical order. The writing should be at an appropriate level for the audience (namely: your peers), with a lack of jargon, and all terms and acronyms defined. The paper should be proofed with spelling and grammar mistakes absent. All formatting standards should be followed in terms of length, etc.

6) Citations and credit given where appropriate. A minimum of 7 peer-reviewed /3 primary citations, used appropriately in the text and correctly referenced should be provided. Un-cited lifting of material (i.e. plagiarism) or excessive used of quoted material will result in a grade deduction, or, in egregious cases, a failing grade on the paper.

Final Presentation: In addition to the paper you will give a short (12 minute) oral presentation near the end of the term on your topic. Your presentation should be in PowerPoint. At the end of the presentation about 5 minutes will be set aside for questions from the class about your topic. A more detailed guide/rubric will be provided by March 12th. A successful presentation will adhere to all of the following criteria:

1) The presentation will describe and evaluate a specific scientific advance ("focus study": this should be the same as the focus paper in your term paper). You give a clear introduction to the topic and the hypothesis, with sufficient relevant background to allow the audience to follow the logic of your presentation, and why this study is important. You include selected pertinent data from “focus study” with the logical conclusions and impact of the study on the field discussed. You also identify what the next logical steps in the field are.

2) The presentation is presented at level appropriate for the audience (i.e. other students in the class). For clarity, all specialized terms are defined and used correctly. You should also be able to completely answer questions from the audience.

3) Your presentation will be 11-13 minutes in length, well organized, in a logical and interesting order that engages the audience. You are clearly prepared and rehearsed. You may have notes available, but you do not need to read from them or refer to them excessively. You speak clearly, at the right pace and to the audience (not the board). Your slides are clear, well organized and add to understanding the topic, there are not an excessive number of slides or extraneous slides. Non-original material on the slides (e.g. photos or figures) is cited.
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Seminar Attendance: One way in which biologists communicate with each other is through formal oral presentations of their research work. These talks can be as part of a seminar series, a conference, or a symposium. As part of this course you attend one formal oral presentation and write up a short report on the talk that you attended. *It is strongly suggested that you plan to attend more than one talk, since some seminars may difficult to follow for any of a number of reasons.* In your report you should be sure to "cover" the following questions:

1) Who was the speaker and what was the topic of the talk? When and where was the talk given and who was the audience for the talk (i.e. other scientists, general public, etc.)?

2) What specific scientific issue was the speaker trying to explore? Why was this issue of importance? Was a specific hypothesis (or several hypotheses) mentioned?

3) Were experimental results shown? What were they? What conclusion(s) did the speaker come to as a result of the experimental results?

4) Are there any practical applications of the reported work to the more general importance of the topic you noted in 1? If not you should mention this as well.

5) Finally you should note how effective the speaker was in terms of biological communication. Did the speaker do an effective job of communicating to the audience? Was the talk well organized and clear? Was it at the correct level of specialization for the audience? Was it convincing?

Grades: Your grade will be based on:

25% Class Participation
25% Term paper (including outline and draft)
20% Final Presentation
10% Seminar Report.
20% Other written assignments

Your final grade will be assigned based on the percentage of the total points you earned: 90% or better is an A, 80% to 89% a B, 70 to 80% a C, 60% - 70% a D. In the case of borderline scores (3 % points above/below the cutoff) I will give + or - grades.

Withdrawals and incompletes: The last day to withdraw from this course is March 22. A grade of IN will be given only under exceptional circumstances in which you can provide a documented emergency reason for being unable to complete the course during this semester.

Cell Phones and laptops: Cell phones are not to be used in class for either calls or texts. They should be off and placed out of sight and access. Please let me know if you are expecting an

emergency call. Laptops may be used for note taking or other class related uses, inappropriate use will be considered evidence of non-participation in the class.

Academic Accommodations: Any student who feels s/he may need academic accommodations based on the impact of a disability may speak with me and/or should contact the Office of Accessibility directly at 419-530-4981.

Academic Honesty: The Department of Biological Sciences and the University of Toledo have specific policies regarding academic dishonesty. Please read the attached Biological Sciences Department's Statement of Academic Dishonesty. The University of Toledo's policies on Academic Honesty can be found in the University Catalog under general policies.

STATEMENT ON ACADEMIC DISHONESTY
Department of Biological Sciences

Academic dishonesty by students enrolled in undergraduate or graduate courses and programs offered by the Department of Biological Science will not be tolerated. Academic dishonesty includes, but is not limited to:

1. Obtaining assistance from another individual during an examination.

2. Giving assistance to another individual during an examination.

3. The unauthorized use of study material or textbooks during an examination.

4. Changing answers on an examination after it has been returned and then submitting it for regrading.

5. Plagiarizing written assignments. Plagiarizing includes: (a) copying laboratory reports from previous years, (b) copying or paraphrasing reports, term papers, or theses prepared by other students, (c) unauthorized collaboration in the preparation of reports, term papers, or theses, and (d) use of another author's materials without appropriate acknowledgment through quotation and citation.

6. Attempting to bribe or otherwise induce an instructor to alter either a grade or examination score.

7. Obtaining or attempting to obtain a copy of an examination prior to its administration.

In accordance with policy outlined in the Student Handbook and the University Catalog, instructors have the responsibility and right to bring cases of alleged dishonesty to departmental, college, and university administrative units. Students involved in academic dishonesty may expect to receive a grade of F on specific assignments as well as in the course where the assignment was made. In addition, disciplinary action may be recommended through appropriate college and university disciplinary committees.