

BIOM*4220

Current Health Sciences Research

Winter Semester 2011

Class location and meeting times:

Scheduled lectures and tutorials are not a component of this course. However students are required to attend 3 class meetings, and are assigned participation marks for this.

Coordinators:

Dr. Matt Vickaryous, Department of Biomedical Sciences
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I. Rationale:

The research seminar is a major communication tool extensively employed in the sciences and health professions. Optimally, a seminar will be presented by a knowledgeable and engaging investigator to an audience that is mentally prepared and motivated to learn, evoking new ideas and raising new questions.

II. Course Aims and Objectives:

The general aim of this course is to increase the intellectual value of research seminars by encouraging students to take a more active, scholarly approach. Students will meet with speakers following their presentations to gain a better understanding of the challenges faced and the methods used to overcome these during the research process.

Specific Learning Objectives:

By the end of this course students will:

- gain exposure to various research seminar styles and be able to describe the features of a good scientific oral presentation
- be able to write a concise, lucid summary of the research presented in a high-level scholarly presentation
- be able to formulate searchable scientific questions stemming from research seminars
- be able to locate state-of-knowledge scientific literature related to a scientific question and provide a concise, lucid written synthesis
- gain experience in the peer-review process

III. Format and Procedures:

(a) Research Questions

Students will attend a minimum of five (5) high-level scholarly presentations of their choosing during the semester. The first presentation is to be attended during the first week of classes and

the last no later than week 11. To qualify, presentations must be given by one of the investigators, must be broadly related to the health sciences, and may include:

- Research seminars presented by faculty members or graduate students from a science department at the University of Guelph
- Research seminars presented by faculty members or graduate students from a science department at another university or research institution

Students **must contact the speaker prior to the seminar** to request a short meeting following the talk. This meeting is intended to allow the student to further explore various details of the research project, such as its conception, design, methodology, data analysis, difficulties encountered and methods devised to overcome these, implications, etc. Students **MUST** provide evidence that they met with a speaker, either in the form of questions asked and answered at that meeting, and/or submitting the correspondence emails with follow-up questions.

For each of the presentations attended, students will prepare a written report approximately 1,000-1,500 words that includes:

- The date, time, location and title of the talk.
- The speaker's name and affiliation and degree level.
- A synthesis of the current literature putting the research presentation into context. This will form an introduction to the topic but should be **researched by the student** and draw upon sources not referenced or cited in the presentation.
- A concise, lucid summary of the research presented including the hypothesis, objectives, methods (as necessary but try to be brief), results (data), and discussion (interpretations).
- A searchable scientific question, related to the talk, that the student wants answered but which was not answered during the oral presentation.
- A reference list must be included but does NOT count towards the word limit of the contribution.

Reports are due approximately 12 days following the seminar's scheduled time (e.g. for a seminar scheduled for noon on the first day of the month, the report is due at noon on the 13th. If the due date falls on a weekend, the report is to be submitted the following Monday before 10 am.

Course coordinators will not track down students missing reports. If they are not handed in on time and the student will receive a mark of "0" for that assignment. It is the responsibility of the student to contact the course coordinators if they missed handing in something and have a valid reason (medical certificate). It is also the responsibility of the student to notify the course coordinators if they did not receive documents to peer review on the anticipated day, or had any other email difficulties.

(b) Peer Reviews

Students will provide constructive critical reviews of their peers' written work. Five peer reviews will be randomly assigned to each student, to be returned to the course coordinator no later than one week from the date and time of assignment (e.g. a review assigned at noon on Monday must be completed and returned before noon the following Monday). Student peer reviews and the instructor's assessment will be used to determine the grade for each written report. Each review should consist of an honest assessment of the quality of the report, including an explicit statement of its major strengths and weaknesses. As is the case in the actual scientific peer-review process, the identity of student reviewers will be known only to the instructor.

Confidentiality

"Manuscripts should be reviewed with due respect for authors' confidentiality. In submitting their manuscripts for review, authors entrust editors with the results of their scientific work and creative effort, on which their reputation and career may depend. Authors' rights may be violated by disclosure of the confidential details of the review of their manuscript. Reviewers also have rights to confidentiality, which must be respected by the editor. Confidentiality may have to be breached if dishonesty or fraud is alleged but otherwise must be honored.

Editors should not disclose information about manuscripts (including their receipt, their content, their status in the reviewing process, their criticism by reviewers, or their ultimate fate) to anyone other than the authors themselves and reviewers.

Editors should make clear to their reviewers that manuscripts sent for review are privileged communications and are the private property of the authors. Therefore, reviewers and members of the editorial staff should respect the authors' rights by not publicly discussing the authors' work or appropriating their ideas before the manuscript is published. Reviewers should not be allowed to make copies of the manuscript for their files and should be prohibited from sharing it with others, except with the permission of the editor. Editors should not keep copies of rejected manuscripts.

Opinions differ on whether reviewers should remain anonymous. Some editors require their reviewers to sign the comments returned to authors, but most either request that reviewers' comments not be signed or leave the choice to the reviewer. When comments are not signed the reviewers' identity must not be revealed to the author or anyone else." – from the Vancouver Protocol

(c) Introductory Essay

Students will prepare one short essay, a minimum of one page and a maximum of two pages long. Either 1) a discussion of the strengths and weaknesses of the scientific peer-review process, OR 2) a discussion of the strengths and weaknesses of the features of a good scientific research seminar. These will be graded for content and for English usage. Students may be directed to the Learning Commons for help with English skills depending on the quality of these reports. Reports are due on February 1, 2011. Please email the report to tmartino@uoquelph.ca by the deadline stated.

Introductory Essay format: line spacing: single; font: Times New Roman 12 point or Arial 11 point; margins: 2.5 cm; paper: standard letter size; paper colour: white; length: minimum of one page, maximum of two pages. Grammar, spelling, sentence and paragraph structure, and punctuation will be assessed. Ideas should be expressed in a concise and lucid manner. Disorganization and verbosity will be penalized. Please include your name, student number, and which essay you have chosen.

(d) Agreement

Students will provide the course coordinator with a signed paper copy of the agreement form (attached to this course outline) prior to registering in the course. Students who do not abide by the agreement may be required to submit additional work or withdraw from the course.

IV. Course Resources:

(a) TBA

V. Calculation of Course Grades

Research questions: 5 reports each worth 12%: 60% of course grade

Peer reviews: 5 reviews each worth 5%: 25% of course grade

Introductory essays: 1 essay each worth 5%: 5% of course grade

Participation: 10% of course grade

VI. Academic Integrity

The University of Guelph takes a very serious view of Academic Misconduct. Included in this category are activities such as plagiarism, misrepresentation, and submitting the same material in two different courses without written permission. Students are expected to be familiar with the section on Academic Misconduct in the Graduate Calendar and should be aware that expulsion from the University is a possible penalty.

VII. Accommodations for students with disabilities

In compliance with university policy, I am available to discuss appropriate academic accommodations that may be required for students with disabilities. Requests for academic accommodations are to be made on the first day of classes so that arrangements can be made. Students should register with the Centre for Students with Disabilities to verify their eligibility for appropriate accommodations.

Additional Resource Readings

- Vancouver protocol for scientific manuscripts