BIOB90 - Biology Integrative Research Poster Project

Course Syllabus – Fall 2020

Course Coordinators

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Project Goals and Learning Outcomes

For this project, you will develop a number of important skills while working with a group of 5 to 6 peers to create an informative scientific poster that you will present to faculty and graduate students, as well as staff and librarians, in a virtual poster session. (Ordinarily, you would present your poster in-person; however, due to physical distancing requirements resulting from COVID-19, poster presentations will be held remotely this semester).

Overall, this poster project has four major pedagogical objectives:

1. learn to communicate scientific concepts and ideas effectively in both oral and written forms;
2. develop a capacity to work collaboratively with diverse peers by managing workload, time, and group dynamics;
3. acquire information literacy skills (such as searching, evaluating, and critically reading scientific sources) and academic skills (such as taking detailed notes, thinking critically and creatively, and respecting academic integrity); and
4. integrate knowledge across various biological disciplines.

A major goal of this project is to recognize and highlight the links between different fields of study in the biological sciences. Your poster will explore a topic in biology for which insight can be gained by considering empirical research from at least two different fields of study (represented by the B-level core courses in the Department of Biological Sciences at UTSC). Successful posters will engage the interest of the audience in the topic, clearly and concisely outline understanding gained from the primary literature in (at least) two different fields, and discuss how understanding of the topic is enhanced by integrating knowledge from these fields.

The effective communication of information to an intelligent, but naïve, audience is a critical skill in many professions. Professional communication may take many forms, from an informal presentation of ideas in a group engaged in problem-solving tasks, to a formal oral presentation at board or executive meetings, to the creation and presentation of a written report, to the presentation of a poster at conferences and elsewhere. Professional communication also demands that the ideas being presented are supported by evidence, as, in many cases, the audience receiving the information will demand such evidence so that they can properly assess the merit of the ideas.

While a list of possible topics, as well as links to resources to help you begin exploring your topic, will be provided, it is expected that you will conduct a small survey of the primary scientific literature (i.e., peer-reviewed scientific publications, for example, *Journal of Experimental Biology* or *Molecular and Cellular Biology*) and make reference to at least **six** primary published papers, equally divided among each field of study through which you are examining your topic. For example, if you are examining your topic from

the perspective of both Physiology (BIOB34) and Ecology (BIOB50), then you should have (at least) **three** references to published studies for each of these perspectives. If you would like to study your topic from all three perspectives (BIOB10, BIOB34 and BIOB50), you would need (at least) **two** references for each course, for a total of six references.

The group of peers that you will work with to complete this project will be chosen at random. It has been demonstrated that, when students are permitted to choose their own groups, they select to work with people who are similar to them, in terms of sex, race, etc; however, studies have shown that heterogenous groups are usually more successful than homogenous ones because they consider a wider variety of perspectives and ideas. Moreover, in most professional settings, individuals will not have an opportunity to select their co-workers, so learning to successfully complete projects with a random subset of the population is a valuable, job-related skill.

Project Support
Due to physical distancing requirements related to COVID-19, no components of this course will be held in-person; rather, all components of this course will be delivered, conducted, and submitted remotely through the dedicated project-specific Quercus course page (from which you accessed this document). Please ensure that you check this site as regularly as any of your course sites.

Later in this document, you will find that we have built in various tasks and mini-deadlines for you to complete over the course of this semester in order to help you effectively learn the skills necessary to successfully progress through this project. The Course Coordinators are dedicated to helping you through this project and will be your main point of contact for these tasks and mini-deadlines. The Course Coordinators can be contacted via email at bioposterhelp@utsc.utoronto.ca. In addition, the Course Coordinators will hold office hours (via BB Collaborate; times to be determined) where you can get your questions answered in person.

Your final poster presentation will be evaluated by faculty, graduate students, staff, and/or biology liaison librarians. **Your entire grade for this project will be based solely on this evaluation.**

Please note: While the course instructors for the B-level biology courses value your learning in this project and may be willing to answer your questions, the Course Coordinators should be your main point of contact for all communications and support for this project. Note that office hours held by individual course instructors cannot be used as project support sessions, as this would limit the quality of instructor help you would receive for each courses' exams and assignments.

Evaluation
This project constitutes **10% of your final grade in <u>each</u> of the three core courses for which you are registered** in the Fall term. [E.g., a student enrolled in both BIOB10H3 and BIOB50H3 in the Fall will have their poster project grade count towards 10% of their final grade in BIOB10H3 *and* in BIOB50H3].

The grade for this research poster project will be based on your poster presentation in Week 11 of the semester. Due to physical distancing requirements, this poster presentation will take place remotely via BB Collaborate (link available on Quercus course page), and we will work with you to find a suitable presentation day/time that fits within your schedule. At least two judges will evaluate your poster presentation. The grading rubric that they will use will be posted on the project-specific Quercus course page so you will clearly understand the criteria for assessment. You are advised to consult this rubric before getting too far along in the process of designing your poster and scripting your oral presentation.

You will be required to complete multiple tasks during the semester leading up to the poster presentation. These tasks and mini-deadlines are detailed in the *Project Timeline and Mini-Deadlines* section below. Please note that you will receive a penalty of 1% of your final grade in **each** course for **every** task that you do not complete by a given deadline. For example, if you fail to complete the tasks assigned to mini-deadlines 1 and 2, then you can achieve at most 8% of the 10% grade allotted for this poster project in each of the three courses; that is to say, if your poster receives a grade of 8.5/10, you would receive only 0.85 x 8 = 6.8% towards your final grade in each participating course you are enrolled in. This penalty reflects the importance of these tasks and mini-deadlines as they help to reinforce the learning objectives for this project (see above) and guide you through the process of researching your topic, and designing and presenting your poster.

Please note that some of these mini-deadlines are individual-based (i.e., each individual student must complete them separately, and only individuals who do not complete them are subject to penalty), whereas some of these mini-deadlines are group-based (i.e., each group, as a whole, must complete them together, and the entire group receives a penalty for lack of timely completion). Please also note that no extensions will be granted for the completion of these tasks and mini-deadlines for any reason, so you are strongly encouraged not to wait until the last minute to complete them. We will endeavor to send out reminders throughout the semester, but, ultimately, you are responsible for meeting these mini-deadlines.

Project Timeline and Mini-Deadlines for Fall 2020

Week 1
No project-related activities.

Week 2
1. **Mini-Deadline 1 (to be completed by September 18ᵗʰ at 5pm; individual):** Complete the Pre-Course Survey. This survey is available via a separate Quercus course page called "BIOB90 Survey Page" that should be present on your Quercus Dashboard.

Week 3
1. Project groups will be assigned on Tuesday, September 22ⁿᵈ (i.e., the day after the last day to add courses). Groups will consist of 6-7 students and will be randomly assigned. Attempts will be made to ensure that each group contains at least one student from each of the three participating courses (BIOB10, BIOB34, and BIOB50) as this will assist you with examining your topic from an integrative perspective. You should be able to see and contact your group members by going to **q.utoronto.ca/groups** and clicking on "Poster Group x". Use the "Discussions" tab to make initial contact with your group members. You can continue to use the "Discussions" tab for all group communications, or you can arrange to use another platform (e.g., Facebook group chat). If you are unable to contact any of your group members, please let the Course Coordinators know immediately.

2. **Mini-Deadline 2 (to be completed by September 25ᵗʰ at 5pm; group):** Complete the personality test individually (link available via Quercus), then determine your group's dominant personality and post the results (link available via Quercus).

3. **Mini-Deadline 3 (to be completed by September 25ᵗʰ at 5pm; individual):** Watch the video on Strategies for Successful Collaboration and complete the associated quiz.

1. **Mini-Deadline 4 (to be completed by October 2ⁿᵈ at 5pm; group):** As a group, examine the list of available topics (link available on Quercus) and submit your top 5 choices, in order, via Quercus. The Course Coordinators will review your group's choices and notify you about which topic you have been assigned. Each topic will only be assigned to one group.

2. **Mini-Deadline 5 (to be completed by October 2ⁿᵈ by 5pm; individual):** Watch the videos on searching, reading, and evaluating scientific sources, and complete the associated quiz.

Week 5
1. **Mini-Deadline 6 (to be completed by October 9ᵗʰ at 5pm; individual):** Watch the video on Effective Team Communication and complete the associated quiz.

Week 6
1. **Mini-Deadline 7 (to be completed by October 23ʳᵈ by 5pm; individual):** Watch the video on Poster Design and Presentation and complete the associated quiz.

2. **Mini-Deadline 8 (to be completed by October 23ʳᵈ by 5pm; individual):** Complete the group health-check questionnaire (link available on Quercus). This questionnaire provides everyone with an opportunity to report any issues with the functionality of their group. Please note that any groups reporting significant problems will be contacted by the Course Coordinators to set up a meeting during Week 7 where group issues will be discussed in hopes of getting the group back on track for successful project completion. Your honest feedback on this questionnaire is crucial to helping us assist so that everyone in this course has the benefit of working as part of an engaged team.

Week 7
1. If the group health-check (completed in Week 6) reveals any problems with your group's progress, communication, and/or member contribution, then you will be contacted by the Course Coordinators in order to arrange a group intervention meeting. Please be aware that failure to attend this meeting may result in a grade deduction for your poster project at the discretion of the Course Coordinators.

Week 8
1. **Mini-Deadline 9 (to be completed by Nov. 6ᵗʰ; group):** Submit your poster draft via Quercus. You must submit your poster as a PDF file. Submitted poster drafts will receive written feedback (within one week) from the Course Coordinators and/or graduate students in order to help you improve your work. You are strongly encouraged to incorporate the feedback received into your final poster. Please note that your poster will be processed via Turnitin in order to ensure that there are no plagiarism issues. By submitting posters via Turnitin, students are allowing their posters to be included as source documents in the Turitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site:

http://www.utoronto.ca/ota/turnitin/ConditionsofUse.html.

Turnitin.com is most effective when it is used by all students; however, when students object to its use on principle, the Course Coordinators will offer a reasonable alternative.

3. **Mini-Deadline 10 (to be completed by Nov. 6ᵗʰ; group):** Submit a Declaration of Approval, signed by all group members. By signing this declaration form, you are acknowledging that you approve of the poster draft that has been submitted by your group. Please note that any groups where at least one member refuses to sign the Declaration of Approval will be contacted by the Course Coordinators to set up a meeting during Week 9 where group issues will be discussed in hopes of getting the group back on track for successful project completion. Even if some members refuse to sign the Declaration of Approval, it must still be submitted to avoid a penalty for missing this mini-deadline.

Week 9
1. If any member of your group refused to sign the Declaration of Approval (submitted in Week 8), you will be contacted by the Course Coordinators in order to arrange a group intervention meeting. Please be aware that failure to attend this meeting may result in a grade deduction for your poster project at the discretion of the Course Coordinators.

Week 10
1. Peer feedback on poster presentation. Based on your group's availability, you will be partnered with another group so that you can present your poster and receive feedback. (You will also listen to the other group's poster presentation to provide feedback.) These presentations will take place remotely via BB Collaborate. This will give you an opportunity to get accustomed to presenting via BB Collaborate, which is the same platform that you will use to deliver your presentation to the judges in Week 11. To present your poster, one member of your group should share the PDF file. Familiarize yourself with the presentation tools (zoom, pointer, etc.). *It is strongly recommended that everyone has a microphone to use for presenting.*

2. **Mini-Deadline 11 (to be completed during the poster presentation rehearsal; group):** Fill out a copy of the poster rubric, including comments, in order to provide feedback to group that you were partnered with about their poster and their presentation.

Week 11,
1. **POSTER PRESENTATION WEEK!** Based on your group's availability, you will be assigned two scheduled times to present your poster to two different judges. Each scheduled time slot will be 20 minutes, during which time you must present your poster while leaving adequate time for questions/discussions. To present your poster, one member of your group should share the PDF file. (This should be done about 5-10 minutes prior to your allotted presentation time in order to ensure that you are ready to begin presenting once the judge joins the session.) *It is strongly recommended that everyone has a microphone to use for presenting.*

Week 12
1. **Mini-Deadline 12 (to be completed by Dec. 4ᵗʰ at 5pm):** Complete the Post-Course Survey. This survey is available via a separate Quercus course page called "BIOB90 Survey Page" that should be present on your Quercus Dashboard.