



IBIO*6630 Scientific Communication

Fall 2022

Section(s): 01

Department of Integrative Biology

Credit Weight: 0.50

Version 1.00 - September 02, 2022

1 Course Details

1.1 Calendar Description

This course involves development and refinement of the skills of scientific communication, with emphasis on writing skills, in the context of developing a thesis proposal. This course is mandatory for MSc AND DIRECT ENTRY PhD students in the Department of Integrative Biology.

1.2 Course Description

IBIO*6630 is a required course for all incoming MSc students (and also is available to all new PhD students) in the Department of Integrative Biology. This course is designed to help prepare new students for successful research at the graduate level.

Many students initially think of the development of a "thesis" as the product of their successful graduate education, rather than a key part of its genesis. A thesis is a conjecture, or a proposition supported by evidence. But how do you get started? What makes one thesis more successful than others? What are the relationships among a thesis, a hypothesis, and a research question? Knowing early on what a student's research questions and/or hypotheses is key to efficient literature searching, organizing background material and writing an effective proposal.

This course will explore the different methods of science, critical thinking, and make use of tools to search literature. Key communication skills also will be developed in this course, and will include a working knowledge of the methods of science such that students can think and converse competently in the language of science. Learning objectives will be met through practice in scientific writing, peer review, oral presentations, and discussions. Class meetings will comprise of facilitated discussions and debates arising from the readings (posted on CourseLink) and group exercises. For each student, the final product of this course is a complete first draft of a Thesis Research Proposal ready for circulation to their Thesis

Advisory Committee.

1.3 Timetable

Class schedule: Wed 8:30-11:20 am

Please note the proposed course format, schedule or location for the Fall 2021 semester may change up to the first day of classes due to personnel, resource, and public health circumstances and if conditions cannot be met to ensure the safety of our students and instructors. Continue to watch the Student Planning website as format information could be updated until the first day of classes.

I will teach the class in person if all students are in Guelph (and within the public health restrictions, of course). If some students are not in Guelph, I will pivot to synchronous remote meetings through either Zoom or Teams.

1.4 Final Exam

There is no final exam for this course.

2 Instructional Support

2.1 Instructional Support Team

Instructor:	Dr. Karl Cottenie
Email:	cottenie@uoguelph.ca
Telephone:	519-824-4120 x 52554
Office:	SSC 2470

3 Learning Resources

4 Learning Outcomes

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. By focusing on the process of scientific research, the learning objectives of this course are to:
 - 1) Develop and refine skills in communication of scientific knowledge (broadly defined to include the ability to be conversant in the methods of science), and competency in oral presentation and technical writing of proposals;

- 2) Learn to give, receive and value criticism in the form of peer review; and
- 3) Share in the wide diversity of ongoing research topics across the breadth of biological study represented in IB.

To meet the learning objectives, students successful in this class will:

- attend all class meetings,
- attend departmental seminars, for purposes of gaining a broader understanding of and appreciation for different methods of science and to complete the seminar assignment. Departmental seminars are listed at <http://www.uoguelph.ca/ib/seminars.shtml>. In the case of conflict with teaching assignments, students may attend any other scientific seminars offered at the university. See the full write-up of the 'Seminar Assignment' for more details,
- read all assigned articles prior to each class meeting (located on CourseLink),
- come prepared to class with a list of points to ensure participation in discussions,
- be respectful of others' opinions and work, and work towards building a rigorous, challenging, but always courteous atmosphere in and out of the classroom.

The learning objectives of the course are closely aligned to the Learning Outcomes of the MSc Program in Integrative Biology.

https://www.uoguelph.ca/ib/graduate_learning_outcomes Specifically:

- 1) Scientific methodology: The student is able to identify and describe the different methods of science.
- 2) Communication: A student effectively communicates disciplinary knowledge to the scientific community and broader public.
- 3) Professionalism: An MSc graduate is expected to demonstrate initiative, personal responsibility, respect for others and accountability.
- 4) Advancement of science: A student seeks to discover new information within a discipline that is distinct from and builds upon past scientific advancement.

5 Teaching and Learning Activities

5.1 Lecture

Individual Development Plan for graduate students

Topics: We will use the IDP developed by the University of Guelph to help you align your personal and professional goals with your academic expectations and responsibilities. This document will be augmented with class discussions led by different experts in their fields on topics such as mental health; equity, diversity, and inclusivity; and advice from senior graduate students.

Development of your research proposal

Topics: Throughout the semester, we will guide the development of your research proposal from identifying appropriate research questions, to literature search and review, research methods and ethics, peer review, and feedback from your advisor.

Oral presentation skills

Topics: Finally, we will work on improving your oral presentation skills by providing an evidence-based template for presentations, starting with your own short presentation, critiquing seminar speakers, and culminating with your own research proposal presentation.

6 Assessments

6.1 Assessment Details

Individual Development Plan for graduate students (30%)

Date: Throughout the semester

A grading ladder that consists of a combination of Achieved/Not-Achieved activities that differentiate between Acceptable, Good, and Excellent performances. These activities can consist of:

- keeping track of activities in the IDP booklet
- actively participating in the different workshops
- writing reflection pieces on the workshops

Development of your research proposal (40%)

Date: Throughout the semester

A grading ladder that consists of a combination of Achieved/Not-Achieved activities that differentiate between Acceptable, Good, and Excellent performances. These activities can consist of:

- participation to class discussions
- literature review
- peer reviewing other proposal drafts
- final research proposal

Oral presentation skills (30%)

Date: Throughout the semester

A grading ladder that consists of a combination of Achieved/Not-Achieved activities that differentiate between Acceptable, Good, and Excellent performances. These activities can consist of:

- participation to class discussions
- short oral presentation
- summarizing seminar speaker presentations
- discussing seminar speakers
- critiquing peer presentations
- final research presentation

7 Department of Integrative Biology Statements

7.1 Academic Advisors

If you are concerned about any aspect of your academic program:

- Make an appointment with a program counsellor in your degree program. [B.Sc. Academic Advising](#) or [Program Counsellors](#)

7.2 Academic Support

If you are struggling to succeed academically:

- Learning Commons: There are numerous academic resources offered by the Learning Commons including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills. You can also set up individualized appointments with a

learning specialist. <http://www.learningcommons.uoguelph.ca/>

- Science Commons: Located in the library, the Science Commons provides support for physics, mathematic/statistics, and chemistry. Details on their hours of operations can be found at: <http://www.lib.uoguelph.ca/get-assistance/studying/chemistry-physics-help> and <http://www.lib.uoguelph.ca/get-assistance/studying/math-stats-help>

7.3 Wellness

If you are struggling with personal or health issues:

- Counselling services offers individualized appointments to help students work through personal struggles that may be impacting their academic performance. <https://www.uoguelph.ca/counselling/>
- Student Health Services is located on campus and is available to provide medical attention. <https://www.uoguelph.ca/studenthealthservices/clinic>
- For support related to stress and anxiety, besides Health Services and Counselling Services, Kathy Somers runs training workshops and one-on-one sessions related to stress management and high performance situations. <http://www.selfregulationskills.ca/>

7.4 Personal information

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <http://www.e-laws.gov.on.ca/index.html>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes.

For more information regarding the Collection, Use and Disclosure of Personal Information policies please see the Undergraduate Calendar. (<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/intro/index.shtml>)

7.5 Course Offering Information Disclaimer

Please note that course delivery format (face-to-face vs online) is subject to change up to the first-class day depending on requirements placed on the University and its employees by public health bodies, and local, provincial and federal governments. Any changes to course format prior to the first class will be posted on WebAdvisor/Student Planning as they become available.

8 University Statements

8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-regchg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared

responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student,

or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars

<https://www.uoguelph.ca/academics/calendars>

8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

8.10 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).

8.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- <https://news.uoguelph.ca/return-to-campusess/how-u-of-g-is-preparing-for-your-safe-return/>
- <https://news.uoguelph.ca/return-to-campusess/spaces/#ClassroomSpaces>

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.
