University of Guelph - Department of Molecular and Cellular Biology
MCB*6500 M.Sc. Research Topics in MCB [1.0] and
MCB*7500 Ph.D. Research Topics in MCB [1.0]

Course Outline – Summer 2018

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The course will be taught by Drs. Marc Coppolino, David Josephy and Chris Whitfield

Welcome to the graduate program in Molecular and Cellular Biology! One of the degree requirements is completion of the two-semester course MCB*6500 (M.Sc.) or MCB*7500 (Ph.D.). In this course, you will prepare a written research proposal related to the development of your thesis project and present it to the department in a seminar. These tasks will help you to develop the writing and oral presentation skills upon which you will be relying, when you prepare and defend your thesis. This document serves as the Course Outline for both MCB*6500 and MCB*7500; the requirements are almost the same. Please read this outline carefully. If you have any questions, please ask the Course Coordinator.

Summary of your tasks:

In the first semester, you will write a **Research Proposal (RP)** describing your research plans. Students present their Research Proposals as departmental seminars at the Friday noon-hour "brown-bag" seminar series. In the first semester (Summer 2018), you will attend the seminar presentations given by the students who started their programs one semester before you (Winter 2018). In the second semester (Fall 2018), you will make your own oral presentation and you will attend the presentations given by your classmates.

The final grade for the course will be weighted as follows:

Research Proposal (RP)	50%
"Brown-bag" Seminar	50%
Total	**100%**

Grading rubrics:

The grading rubrics for all of the components of the course are posted at:
https://www.uoguelph.ca/mcb/seminar-series-defences/brown-bag-seminars-mcb6500-and-mcb7500

The faculty will use these rubrics to evaluate your performance. *You should review them; they provide a guide to the expectations for successful completion of each component of the course.*

Document Format:

RP documents should be prepared single-sided, double-spaced, using a standard 12-point font (*e.g.*, Times New Roman) and 1" margins. Please do not use extra-wide margins and do not leave blank lines between paragraphs. Use a cover page (not numbered). Number the pages.

***The Research Proposal (RP*):**

This component of the course provides you with an opportunity to develop and refine your skills in scientific communication. The emphasis is on writing skills in the context of developing a thesis proposal. You are not expected to present preliminary data from your thesis research.

The RP is prepared under the guidance of your Advisor and Advisory Committee members. The *literature review* section gives an introduction to your area of research, a detailed description of the significance of the research, and a discussion of relevant background literature, focused on the key experiments leading to your proposal. The *research proposal* section includes a clear, testable hypothesis; specific objectives; experimental approaches (including rationale for choice of the experimental systems and techniques); possible pitfalls or limitations (and how they might be circumvented); anticipated outcomes and how they will be interpreted.

For **MCB*6500**, the RP should be *15 pages* in length, consisting of ten pages of literature review and five pages of research proposal. For **MCB*7500**, the RP should be *25 pages* in length, consisting of 15 pages of literature review and ten pages of research proposal. (The title page, references, tables, and figures are not counted as part of the page-length.) Bibliography references must include article titles; please use the same format (*Molecular and Cellular Biology)* as is described for the LA.

Reproducing some tables and figures from the literature is acceptable, as long as the sources are clearly indicated; however, preparing your own figures is preferable, since that will allow you to focus on the specific message that you want to convey.

RP Submission and Grading:

Submit a **printed** copy of your RP to **each member of your Advisory Committee** + **two printed copies to the Course Coordinator**. Also deposit an electronic copy (.pdf format) in the Courselink Dropbox. Each member of your Advisory Committee will evaluate your RP independently and submit a grade to the Course Coordinator. These grades will be averaged (grade a). Two members from the faculty panel will submit grades (grades b and c). The three grades (a, b, and c) will be averaged to give the final grade. The RP evaluations will be returned to you two weeks before your brown-bag seminar.

The "Brown-bag" Seminar:

In the second semester, you will make your oral presentation ("brown-bag" seminar, based on your Research Proposal), providing you with the opportunity to develop your skills in scientific communication. You will prepare the seminar under the guidance and direction of your thesis advisor. Your seminar should be 30 min. long; **presentations which deviate more than 5 min from this timing will be penalized 5%.**

Prior to the start of the Fall 2018 semester, you must sign up for a seminar slot: The Graduate Program Assistant, Bertilla Moroni, will send an announcement by email when the sign-up period begins. Students should ensure that their Advisors and Advisory Committee members are available to attend, before confirming their seminar dates.

You must submit (electronically) your seminar title and an abstract (maximum, 250 words) to the Graduate Program Assistant by noon, Wednesday of the week before your seminar. **A 5% penalty will be applied for late submissions.**

Each member of your Advisory Committee will evaluate the seminar independently and submit a grade to the Course Coordinator. These grades will be averaged (grade a). Two members from the faculty

panel will each submit a grade (grades b and c). The three grades (a, b, and c) will be averaged to give the final grade.

The Roche Award (Roche Molecular Biochemical Award of Excellence)

This award is presented to the graduate student registered in the Department of Molecular and Cellular Biology who has presented the best graduate seminar during the academic year (S/F/W). The results of the student ballot will determine the winner of the Roche prize. Try to give written feedback to the presenters in the student ballot form. Students will appreciate constructive feedback so that they can improve their seminar presentations in the future.

Appendices.

1. Schedule and Checklist
2. Learning Outcomes
3. Prof. Josephy's Writing Tips; Common Grammatical Errors
4. Weaknesses that are sometimes seen in MCB*6500/7500 Research Proposals
5. Policies

Appendix 1. Schedule and Checklist

When?	What?	✓
Friday, May 11, noon **SSC 1511**	**First class meeting.** Room: SCIE 1511. All new graduate students are required to attend. *Advisors and second-semester graduate students are also welcome to attend.*	
Fridays, noon: SSC 1511 **May 25 (2 seminars)** **June 1 (2 seminars)** **June 8 (1 seminar)**	Attend the Friday noon "brown-bag" seminar presentations by the (five) Winter 2018-cohort students. The seminar notices will be distributed to MCB department members one week in advance. **All students are required to attend all of these seminar presentations**. **Attendance will be recorded. Any absenteeism should be reported to the course coordinator prior to the date, providing an appropriate reason. An incomplete grade will be assigned for undocumented absenteeism.**	
Later in the semester	The Graduate Program Assistant will contact students in the first semester to organize and schedule your seminar slot for next semester. **Remember to register again for the second semester of the course**.	
Tuesday, August 21; Noon	Submit **two printed copies** of your RP to the Coordinator. Deposit an electronic copy in the Courselink Dropbox. **You are also responsible for delivering a copy of your RP to each member of your Advisory Committee.** The graded RPs will normally be returned to you two weeks before your "brown-bag" seminar. **A penalty of 10% will be applied for any late submission.**	

Appendix 2. Learning Outcomes for MCB*6500 and MCB*7500

We are confident that you can already read and learn science; otherwise, you would not be in graduate school! Now, you are moving from passive to *active* involvement in your field. Instead of just learning what other scientists have done, you are now going to be creating new knowledge and putting your own ideas forward.

These courses are focused on the development of your *intellectual independence*. You will be learning how to study the literature: identifying important papers, reading them critically, summarizing them, and thinking about their significance. You will be learning how to *synthesize* what you have read: that is, rather than just reading specific papers or reviews one at a time, and repeating their conclusions, you will be trying to *integrate them into a coherent whole*, making a "mental map" of how they fit together. Perhaps you read a 1996 paper which hypothesized that one particular gene is regulated by another; and a 1999 paper that proved that this hypothesis is correct; but then a 2002 paper said, “No, it's not so”. Finally, a 2005 paper resolved the apparent contradiction, by showing that the hypothesis is correct in yeast, but is incorrect in mammals. What you have now assembled is a *narrative*: a sequence of contributions that fit together to make a story, advancing our knowledge of the subject. Making coherent sense out of these distinct facts is *integration*, and learning to do this is an important part of your maturation as a student. Based on your understanding of the state of the field, you will then explain the contribution that you hope to make. Finally, in the seminar, you will convey all these ideas to your audience.

Reading the scientific literature: A naive reader will take everything he or she reads “for granted”, as the plain truth. A sophisticated reader recognizes that each writer - even a scrupulously honest author - has a particular point of view, with biases, preconceptions, or misunderstandings that colour his or her work. Sorting out the true from the false, the brilliant from the mediocre, the innovative from the mundane - these are aspects of critical analysis. They are examples of the most general question that we all must grapple with: what is the nature of the “good”?

The understanding and wisdom you are developing as a graduate student will bring little reward unless you can express them in words that others can follow and understand. So, another key aspect of the course is development of your writing skills. Scientific writing is a specialized art: you need to learn the rules and practices of good general writing, and you also need to learn the disciplinary conventions. The skills you develop now will serve you throughout your career - when you write manuscripts, prepare your thesis, and, later, when you write grant applications, contract proposals, technical reports, and so on.

Originality: Your written and oral presentations for this course are understood to be *your own original creative work*. Putting your name on your presentations is a type of warranty, certifying that you are the author of the work and are responsible for its content. Scientists are deeply aware of the problem of plagiarism. This is because our most important outputs are our words, data, and drawings. Baseball players can point to their home runs; contractors can show off the houses they have built; but most scientists can only list their publications - their *ideas*. If someone else takes credit for those ideas, the real author feels violated. A person who advances his or her career by presenting other peoples’ ideas as his

own is cheating - gaining an undeserved advantage over his or her peers.

Plagiarism can be defined as “using others’ work and misrepresenting that work as your own”. The strategy for steering clear of accusations of plagiarism is the same as the strategy for productive studying. If you have studied a paper carefully and achieved a deep understanding of what you have read, then you should be able to put the paper away, go to bed, and get up the next morning and write down, in your own words, the key ideas of the paper, without having to look at it again. If you can’t do that, then you did not read the paper thoroughly enough. Anybody can copy out passages of a published paper; that does not make you a scientist, any more than copying out a Shakespeare sonnet makes you a poet.

From time to time, you may wish to quote from another’s work. Perhaps you have read a statement or definition that was so apposite that you want to “show it off” to the reader. If so, put it in quotation marks. But this will be an occasional luxury, not a consistent pattern. *Even a single word* should be placed in quotation marks, *if it is a word that you would not normally have used yourself*, or if you wish to indicate a “coinage” - the introduction of a new expression into the language:

The philosophical theory known as“utilitarianism” was developed by John Stuart Mill.

In 1987, the Brundtland Commission of the United Nations put forward the concept of “sustainable development”.

The same considerations apply to visual material as apply to writing. You should avoid reproducing figures from other sources, and never do so without acknowledging the source. Almost always, you will find that the published figure is not exactly what you need for your presentation, in any case. If you draw your own figure, then you will draw *exactly what you want to show*, and you will not need to “mold” your presentation to fit someone else’s vision. In particular, if you take figures or slides from your advisor or your lab colleagues, this must be explicitly acknowledged.

When you discuss and analyze published work, you may need to reproduce figures from other sources. You could put a slide on the screen and say, for example, “Here is the dose-response curve measured by Higgins and colleagues in 1995. You can see that it is linear at low doses, and then drops off above 10 μmol.” This is simply an appropriate analysis of previous work. In contrast, if you show a slide illustrating the structure of the plant cell wall, and use it to illustrate your ideas, *without acknowledging that the slide was taken from a textbook*, then you are plagiarizing, just as if you had used someone else’s words.

The instructors will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration, or copying, as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

If you have any questions or concerns about the topics discussed here, please feel free to discuss them with the course instructors.

Appendix 3. Prof. Josephy's Writing Tips

Commonly misspelled words

derivative; electrophilic/ hydrophilic/ nucleophilic/ lipophilic (only one "l"); fluor, fluorescent ("u" before "o"); gauge; inoculate (only one "n"); innocuous (two "n" s); naphthalene ("h"s both before and after the "t"); occurs (single "r"); occurring, occurred (double "r"); parallel; phosphorus (element) vs. phosphorous (+3 oxidation state of phosphorus); separate.

"i" before "e", except after "c", or when sounded as "ay", as in *neighbour* and *weigh*:
yield; receipt; freight (but "protein" is an exception to this rule!)

The word "alot" does not exist.

"In close proximity" is redundant, because "proximate" means "close". Incorrect: "The arginine and glutamate residues are in close proximity". Correct: "The arginine and glutamate residues are in proximity" or "The arginine and glutamate residues are close to one another".

Frequently confused words

"its" = *possessive case of the pronoun it*; "it's" = *contraction of "it is"*

Compare: "Virtue is its own reward" *vs* "It's a nice day for a walk."

Note: Contractions ("it's", "don't", "can't", etc.) are best avoided altogether, in formal writing!

The nouns *affect* and *effect*:

An *effect* is a result or consequence. "The main effect of the recent recession was a rise in the unemployment rate." (There is also a noun *affect*, but it is rarely used, except in psychology or psychiatry; it means an emotion or mood: "Her affect was subdued because of chronic depression".)

The verbs *affect* and *effect*:

To *affect* means to influence: "The presence of contaminating proteins affected the yield of the ligation reaction."

To *effect* means to bring about, to accomplish: "The implementation of all of our standard operating procedures has now been effected."

(The verb "to affect" also has another meaning: to pretend: "The actor, although English, affected an Australian accent." This meaning is related to the noun "affectation"; you are unlikely to encounter this meaning in scientific writing.)

The nouns *dependent* and *dependant*:

A dependant (noun) is a person supported by another: "The tax credit is made available to the parent and his or her dependants." Dependent (adjective) means *influenced by*: "The rate of the reaction is dependent on substrate concentration."

The verbs *ensure* and *insure*:

To *insure* is to protect against loss: "I have insured my bicycle against theft." To *ensure* is to make certain: "I have ensured that all the campfires have been put out."

***Than* and *then*:**

than (conjunction used in comparisons) vs. ***then*** (adverb describing temporal order)
Correct: The incubator is warmer than room temperature.
Correct: The cells were lysed and then the lysate was centrifuged.

Numerals and units:

In English, we distinguish between things that can be counted (such as books and bricks) and things that cannot, such as a length of time or a weight of sand. The word "fewer" is used in the former case and the word "less" in the latter. Compare: "Our department hired fewer faculty in 2014 than in 2013." *vs* "My laptop uses less power than my desktop computer."

Counting numbers (integers) less than ten should be *written out as words*. "Our book club has 127 members. Seven members serve on the Board of Directors and three on the Newsletter Committee".

If a quantity is *not* a counting number, then it should be written as a numeral: "The temperature is 4℃"; not "The temperature is four℃". (After all, the temperature might be 4.14℃, and it would be absurd to write ""The temperature is four point one four℃"!)

A measure is singular, regardless of size. "1 mL of water was added." "12 mL of water was added." (If we write "12 mL of water were added", this would imply that we added 1 mL of water at a time, 12 times!)

The *best* practice is simply to avoid using measures and units as subjects. Instead, use the substance as the subject. Write: "Water (12 mL) was added" rather than "12 mL of water was added." This construction is simpler and it focuses attention where it belongs: on the subject (water) rather than on the measure and the units.

Common Latin abbreviations:

i.e. = id est = that is: "The test is mandatory; *i.e.*, it must be written."
e.g. = exempli gratia = for example: "Many different countries have hosted the football World Cup, *e.g.*, France, Japan, the U.S.A., and Brazil."
et al. = et alia = and others. "The authors of the paper are Wright, Wakabayashi, et al."

Note that "et" is *not* an abbreviation and is *not* followed by a period.

When writing these abbreviations (or other foreign-language terms), it is standard to use *italic* font.
When speaking, it is best to substitute the English equivalent.

Bibliographies

In your bibliographies, **capitalize only the first word of a title - even if different conventions are used in the journal itself** (some journals capitalize every major word of a title, when typesetting a paper). Include volume and page numbers but not issue numbers; do not include "doi" information.

Correct:

Poon, J.C., and Josephy, P.D., Hydrolysis of S-aryl-cysteinylglycine conjugates catalyzed by porcine kidney cortex membrane dipeptidase, Xenobiotica 42: 1178-1186, 2012.
Incorrect (in several ways):
Poon, J.C., and Josephy, PD, Hydrolysis of S-Aryl-cysteinylglycine Conjugates Catalyzed by Porcine Kidney Cortex Membrane Dipeptidase, Xenobiotica. 42(12): 1178-86, 2012.
doi: 10.3109/00498254.2012.700427.

In a title and at the beginning of a sentence, the first non-Greek letter after a lowercase Greek letter should be capitalized.

Correct: γ-Globulin from the same sample but containing no Cu salt served as copper control.
Incorrect: γ-globulin from the same sample but containing no Cu salt served as copper control.

The same rule applies to numerals:

Correct: 1-Naphthol 2-hydroxylase catalyzes the conversion of 1-naphthol to 1,2-dihydroxynaphthalene.
Incorrect: 1-naphthol 2-hydroxylase catalyzes the conversion of 1-naphthol to 1,2-dihydroxynaphthalene.

The most common grammatical errors that one sees in MCB*6500 papers.

1. Failure to use a comma where it is appropriate (especially after an introductory phrase or clause).

Correct: To start the assay, substrate is added to the enzyme at time t=0.
Incorrect: To start the assay substrate is added to the enzyme at time t=0.

Failure to use commas to set off a nonrestrictive phrase or clause:

Correct: Hemoglobin, which is the body's major reservoir of iron, can undergo autoxidation.
Incorrect: Hemoglobin which is the body's major reservoir of iron can undergo autoxidation.
(Note that, when reading these sentences, you would naturally pause at the comma. In most cases, the written comma corresponds to the pause in speech.)

2. **Unnecessary** (intruding) **commas**; *e.g.*, do not use a comma between a single subject and its verb.

Correct: The recombinant protein will be purified by IMAC.
Incorrect: The recombinant protein, will be purified by IMAC.

3. **Comma splice**: joining two independent clauses with a comma.

Correct: Use a semi-colon: "The enzyme assay was highly sensitive; fluorescence spectroscopy was used for detecting the product". Or, as a better solution, join the clauses with an appropriate conjunction: "The

enzyme assay was highly sensitive because fluorescence spectroscopy was used for detecting the product."
Incorrect: The enzyme assay was highly sensitive, fluorescence spectroscopy was used for detecting the product.

3. Failure of **subject-verb agreement**; most commonly, this causes difficulties when a phrase or clause comes between the subject and the predicate.

Correct: Misfolded intermediates of this protein cause cytotoxicity. (The subject is "intermediates" (plural), not "protein" (singular).

Incorrect: Misfolded intermediates of this protein causes cytotoxicity.

4. Failure to **hyphenate compound modifiers.** *Compound adjectives* are two or more words that together make an adjective. When they come directly before a noun, they're known as "compound modifiers" and are usually hyphenated: noise-canceling headphones; blunt-end ligation. The hyphen prevents confusion: would a "public school opening" be the opening of a public school, or the public ceremony opening some other type of school? "Public-school opening" makes it clear that we mean the former, not the latter. (I saw a headline recently that referred to an accident causing "non-life threatening injuries!).

Correct: I will need a wake-up call in the morning. *(Wake-up* is a compound modifier of *call*.)
Incorrect: I will need a wake up call in the morning.

Correct: I need to wake up at 6 a.m. (*Wake up* is a phrasal verb and should <u>not</u> be hyphenated.)
Incorrect: I need to wake-up at 6 a.m.

5. Use a **semicolon**, not a comma, to join two independent clauses separated by a conjunctive adverb. The conjunctive adverbs include **accordingly**, **consequently**, **hence**, **however**, **moreover**, **otherwise**, **therefore**, and **thus**.

Correct: The basement membrane does not contribute to selectivity; however, damage to this membrane leads to proteinuria.

Incorrect: The basement membrane does not contribute to selectivity, however damage to this membrane leads to proteinuria.

Note that each student who makes this particular error will be required to contribute $2 to Dr. Josephy's retirement fund.

Appendix 4. Weaknesses that are sometimes seen in MCB*6500/7500 Research Proposals

1. Conclusions from the published literature are simply stated as received facts, *without explaining the evidence on which they are based*, and *without critical analysis* of their limitations or possible alternative explanations.

A good way to provide an integrated overview of a body of literature is by construction of a "synoptic table", as illustrated below.

2. Findings based on studies of specific biological systems (e.g., particular organisms or cell lines) are presented *without identifying the system used*, and without considering whether the results obtained in that system are more generally applicable.

3. *Teleological* reasoning (see below) is invoked to explain biological phenomena; a sound argument should be grounded in an understanding of natural selection and evolution.

4. The hypothesis is weak; that is, *the hypothesis is almost certain to be true*, and so it does not provide new insight; e.g., "using shRNA to knock down expression of protein X will have an effect on the cell's behaviour" - without defining what the effect is predicted to be.

5. In the proposed experiments, particular experimental systems (e.g., particular organisms or cell lines) are chosen for study, without explaining *why* they were chosen and without considering possible *alternatives*.

6. In describing the proposed experiments, statistical issues are not considered. The proposal should indicate (at least in general terms) how many technical replicates and biological replicates of each experiment will be performed, and how the statistical significance of any effects will be assessed.

7. In the proposed experiments, the student has assumed that all of the techniques and measurements will work as planned; pitfalls and obstacles should be anticipated and possible "work-arounds" and alternatives considered.

8. The significance of the proposed work is exaggerated; unjustified claims are made; e.g. "These results will lead to development of a new form of cancer therapy".

9. The Proposal was not carefully proof-read; there are obvious spelling or typographical errors, missing text, etc.

10. The References were not carefully proof-read; there are missing article titles, journal titles, page numbers, etc.

Example - Use of a synoptic table to organize a literature review

(*excerpt from:* Poirier, M.C., Linking DNA adduct formation and human cancer risk in chemical carcinogenesis, *Environ. Mol. Mutagen.* 57: 499-507, 2016)

Table: Representative Molecular Dosimetry Studies Documenting DNA Adduct Formation in Humans

Type of study	**Cohort**	**Assay**	**Reference**
High versus Low Exposure: Cigarettes	Nonsmokers vs smokers	ELISA + ^{32}P-Postlabeling	Santella et al., 1992
High versus Low Exposure: Coke Oven	Workers, nonsmokers vs workers, smokers	^{32}P-Postlabeling	Rojas et al., 1995
Precise Dosimetry: Procarbazine/ Dacarbazine Chemotherapy	Leukemia/ melanoma patients	ELISA	Farmer et al., 1996
Precise Dosimetry: Cisplatin/ Carboplatin Chemotherapy	Ovarian cancer patients	ELISA	Reed et al., 1986

The fallacy of teleology (explanations based on purpose)

(excerpt from: Gregory, T.R., Understanding natural selection: essential concepts and common misconceptions, *Evo. Edu. Outreach* 2: 156-175, 2009).

Much of human experience involves overcoming obstacles, achieving goals, and fulfilling needs. Not surprisingly, human psychology includes a powerful bias toward thoughts about the "purpose" or "function" of objects and behaviors - what Kelemen and Rosset (2009) dub the "human function compunction."...

A related conceptual bias to teleology is anthropomorphism, in which human-like conscious intent is ascribed either to the objects of natural selection or to the process itself. The penchant for seeing conscious intent is often sufficiently strong that it is applied not only to nonhuman vertebrates ... but also to plants and even to single-celled organisms. Thus, adaptations in any taxon may be described as "innovations," "inventions," or "solutions" ... Even the evolution of antibiotic resistance is characterized as a process whereby bacteria "learn" to "outsmart" antibiotics, with frustrating regularity. Anthropomorphism with an emphasis on forethought is also behind the common misconception that *organisms behave as they do in order to enhance the long-term well-being of their species*. Once again, a consideration of the actual mechanics of natural selection should reveal why this is fallacious.

This tendency toward explanations based on purpose ("teleology") runs very deep ... Consider this particularly egregious example from a website maintained by the National Institutes of Health:

"As microbes evolve, they adapt to their environment. If something stops them from growing and spreading - such as an antimicrobial - they evolve new mechanisms to resist the antimicrobials by changing their genetic structure. Changing the genetic structure ensures that the offspring of the resistant microbes are also resistant."

Fundamentally inaccurate descriptions such as this are alarmingly common. As a corrective, it is a useful exercise to translate such faulty characterizations into accurate language. For example, the antimicrobial-resistance explanation could read:

"Bacteria that cause disease exist in large populations, and not all individuals are alike. If some individuals happen to possess genetic characteristics that make them resistant to antibiotics, these individuals will survive the treatment, while the rest gradually are killed off. As a result of their greater survival, the resistant individuals will leave more offspring than susceptible individuals, such that the proportion of resistant individuals will increase each time a new generation is produced. When only the descendants of the resistant individuals are left, the population of bacteria can be said to have evolved resistance to the antibiotics."

Appendix 5. Policies:

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

When You Cannot Meet a Course Requirement: If you are unable to meet an in-course requirement because of illness or compassionate reasons, please advise the Coordinator in writing, as soon as possible, giving your name, id#, and e-mail contact. See the Graduate Calendar for information on regulations and procedures for Academic Consideration.

Academic Misconduct: 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 discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. The Academic Misconduct Policy is detailed in the Graduate Calendar.

Recording: Presentations cannot be recorded without the prior written permission of the presenter (whether instructor, student, or guest lecturer.)

Resources: The University Graduate Calendar is the source of information about the University of Guelph's procedures, policies, and regulations, which apply to graduate programs.

Health and Wellness: The University has resources available to students who may experience personal problems, mental health issues, or the need to talk. The Graduate Student Association website has nicely outlined these resources here. https://www.uoguelph.ca/gsa/resources/health-and-wellness

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