Undergraduate thesis advisor plan for XXX

Welcome! When we start our advisor-undergraduate student relationship, it is important to outline my approach to advising undergraduate students, so you know what to expect.

My core advising principle is that you are a learner first.

You will help me in the development of my research program, but if there is ever a conflict between these two roles, the ultimate test is whether it will help you as a learner, or me as a researcher. Any decision that will harm you as a learner will trump my research goals. I have translated this principle into 5 core values: **Happiness, Accountability, Creativity, Individual needs, and Dialogue.**

The following text outlines how we will implement these core values together as a guide to your successful degree completion. These implementations are not set in stone, so if anything is unclear, missing, or you think we should change it for your situation, let's have the conversation.

You, and your individual background, strengths, goals, and challenges are the focus of your degree. This focus on your individuality will not only benefit your education, but also me, my research program, the university, science, the world, because **diversity leads to "smarter and more creative teams"**.

However, I want to be as consistent and transparent as possible in my advising to all my students, which means that I have to be careful in what I can change at a fundamental level just for you.

1. Happiness through self-managed day-time hours, vacations, absences, and time away from campus

Since your research project is part of an official course, all the normal requirements regarding attendance, accomodations, etc are at play. I also acknowledge that unexpected situations do occur. For these situations, my starting point is that you know yourself and your needs the best, and that you will make the best decisions for you. See this article for some context: Unlimited vacation time. Notifications of absences are optimally made as soon as possible during one of the weekly meetings. While I am flexible, extended absences might influence the quality of the research, and thus potentially the grade associated with the project. If you experience any challenges that cannot be solved together with your graduate mentor and me, you should also not forget that you are a student, and all the campus resources are still available to you, such as help from Student Accessibility Services etc.

2. Accountability through reviewing expectations

Your individual goals

The basis for this comes from the relevant course learning outcomes. We will use that as a starting point to plan and evaluate your weekly goals and accomplishments. We will create a new document with those learning outcomes, and we will add your own goals to the document.

S.M.A.R.T. (Specific, measurable, attainable, relevant, timely)

- **Short-, medium-, and long-term goals/milestones**. The exact time frames for each of those can vary but are determined by the course schedule associated with this research. They will form the major milestones within the semester, and we will create shorter ones on a weekly basis.
- Given the intense nature of a semester-long research project, it is important that we quickly realize what your workload is and how fast or slow certain components of the research plan get accomplished, so that we can quickly adjust and make better weekly S.M.A.R.T. goals. This is especially important because your course's credit rating is associated with an estimated number of hours spent on your project. My expectation is that we develop a workload that matches this as closely as possible, since you will have other courses and personal commitments that will need your time as well.
- I have had success with using an eNotebook, a fancy term for a Google doc where you keep track of the goals for that week, whether you accomplished them or not, and how much time you spent on them. This document will form the basis of your weekly meetings with your graduate mentor, and your biweekly meetings with me.

Expectations for data ownership and postgraduate work

- Due to the short nature of the research project, there is no expectation that your research should lead to a publication. However, I only present topics that could lead to a publication, potentially after some additional work. Often this is in the form of a follow-up study by another student. It is thus important that before the end of the project we have a discussion on co-authorship and the different scenarios (see later).
- Since most data come from different sources in my lab, we need to have a discussion about data ownership. However, I expect at least a copy of all the data you used and produced with necessary metadata before you finish your degree, and your analyses in reproducible format: see Statistical analysis in the Cottenie lab.
- Data integrity is also of utmost importance. I expect you to create a backup system that works for your workflow. I highly recommend that you backup all your degree-related files (data, analyses, writing, …) with a cloud-based service in addition to your local computer. The university supports Onedrive, but you can use other services (Google Drive, Dropbox, Amazon, iCloud, …).

The minimum you should expect from your graduate student mentor

I will try to pair you with a graduate student mentor, because often you will be working on their project and they are the experts in that area. Your expectations from a graduate student mentor are similar to your expectations from me, with the understanding that I am from the University's perspective the research project advisor. In addition to the weekly meetings between you and your graduate student mentor (see below), you can expect on average 2-3 hours per week of advising from them, too.

Review frequency of mentoring plan

This document is a living document, and will be formally revisited at least once at the halfway point of the semester. This review includes not only your progress, but also whether I or your graduate mentors helped you achieve your goals for that semester. We will thus evaluate all expectations outlined above.

I hope you will feel comfortable to discuss with me my shortcomings as a mentor/advisor/supervisor, or how I can help you better (and similarly for your graduate student mentor). If, however, you have serious concerns that you do not want to share with me directly, you can and should set up a meeting with for instance the Chair of the IB department, or any other faculty member you feel comfortable enough with to discuss these issues.

This review is important, but does not mean it will be the only meeting we will have. See the section below on Dialogue for more details on more frequent meetings to address issues in a timely fashion.

3. Creativity through publishing

As the name implies, this is where we discuss plans for what you will produce. This will at least be a scientific final report, but these products are not restricted to manuscripts. Depending on your individual learning outcomes, they might take multiple forms, for instance github code, an R package, etc. The degree of specificity will depend on the person's career stage. Unless data sharing or journal policies prohibit this, we will also publish all manuscripts also on a preprint server such as bioRxiv.

An important aspect of publishing is authorship. I have created a generic Co-author agreement document, that is the starting point for determining co-authorship. Every discussion around co-authorship will start from that document, and can cover who should be co-author on our combined manuscripts (e.g., advisory committee members), and whether I can be co-author on side projects you might pursue (as explicitly mentioned in the document). For the latter case, it is important, though, that I am aware of the collaboration because these types of side projects might have implications for your timely completion of your degree requirements. For the former, certain conditions for data usage might require co-authorship, which we can discuss in advance.

Research has shown that the most difficult elements according to graduate students in thesis writing are: finding time to write, planning and prewriting, translating ideas into written form, connecting sentences and paragraphs with effective transitions, revising major sections,

organizing and structuring chapters and sections. The least difficult elements are: editing and proofreading, crafting clear sentences, revising sentences, summarizing and paraphrasing, writing grammatically correct sentences. Or concept development and flow versus technical details. Since English is my second language, you are in luck because my focus on feedback will be more geared towards the former versus the latter. Providing feedback on concept development and flow, however, are much more effective if it occurs earlier in the writing process. To help you focus more on this important aspect of writing, mutually-agreed-upon writing deadlines will be hard: even if you did not finish something by the deadline, I will still provide my feedback after the deadline, and it is ok if there are unfinished sentences, bullet points, notes on what sections will be expanded, placeholders for ideas, questions to yourself (or me).

Steve Heard and Carly Ziter introduced the notion that editing is a caring conversation. My edits are not a reflection of the quality of your writing, but of how much I care about your work. And my edits are just a starting point: you can follow them, discuss why your original text was better, or oftentimes we come up with an even better alternative.

To also keep me accountable, you will write your manuscripts either directly in Google Docs or synced in a Google Drive folder that you will share with me. You should then see me working on your manuscript at the deadline. If I am not doing that, we should revise deadlines next time. This might be difficult for you (and me) at the start, but this will formalize the collaborative and facilitative process that writing should be.

4. Individual needs through these activities

Meetings/conferences

Because of the short and intense nature of a semester-long research project, there is probably no time for attending conferences. However, if there is the opportunity to present your research at a relevant conference, let me know and we can discuss the possibilities of your participation. Normally I pay for all conference registration, travel, and lodging.

Networking opportunities

As an advisor, I support my students being involved in activities in the University of Guelph community and the community at large while in my lab. You are encouraged and expected to try out seminar attendances, UGRU meetings, IB Pielou discussions, and the CBS graduate symposium, given the limitations of your semester schedule and interests.

5. Dialogue through lab and one-on-one meetings:

- Weekly meetings with your graduate student mentor (or if you don't have one, with me)
- (Bi-)weekly meetings with me
- Weekly lab check-ins with grads/undergrads
    - Paper discussion/presentation/lightning talk
    - Getting-to-know-the-lab presentations
    - Weekly successes

- Favorite papers discussion?

2. Appendix - Accountability for advisors

I have copied the relevant sections of the Graduate Calendar at the end, because there are no similar expectations for undergraduate advising. This does not mean that it is not important, you should definitely read this because it lays out what the advisor has to provide you with from the University's perspective. It is long, and I cannot link to it, but do read it. Everything above details my own personal advising philosophy, but it acts in addition to the below text. If there is anything that I do not do, you should let me, or the Graduate Program Coordinator, or the Chair of the department, know.

The minimum you should expect from me (modified from the Graduate Calendar):

- Facilitating the student's intellectual growth and contribution to a field of knowledge.
- Assisting in the development and execution of a research project.
- Being reasonably accessible to the student via telephone, electronic communication or in person for consultation and discussion of the student's academic progress and research problems. What constitutes "reasonable accessibility" may vary according to discipline, stage of research, etc. However, an Advisor must be in contact with the student frequently enough to be able to make an informed judgement on the student's progress on a semesterly basis.
- Thoroughly examining written material submitted by the student and making constructive suggestions for improvement. Informing the student of the approximate time it will take for submitted written material to be returned with comments. **Normally, comments should be returned to the student within two weeks,** although circumstances such as absences from campus or unusually heavy workload may require that the Advisor take longer than two weeks to review the student's work. Timing of submission and review should be negotiated between student and Advisor.
- Advising the student as to the acceptability of the draft thesis or research project prior to submission to the Advisory Committee.
- Assisting the student in learning about all appropriate deadline dates and regulations associated with thesis review, examination and submission, as specified in the relevant course outline.
- Giving ample notice of extended absences from campus such as research leaves, and making satisfactory arrangements for the advising of the student when the Advisor is on leave or on extended absence from the campus.
- Making reasonable arrangements, within the norms appropriate to the discipline and the limits of the material and human resources of the University, so that the research resources necessary for execution of the student's thesis or major paper research are available.

- Advising the student of regulations designed to provide them with a safe environment. These include relevant safety and/or workplace regulations as well as policies designed to protect individual rights and freedoms. Alerting the student to any personal risks that may be encountered in the course of the research and providing training, guidance and adequate equipment appropriate for those risks.
- Acknowledging, in accordance with University policies, the contributions of the student in presentations and in published material, for instance through joint authorship.
- Immediately disclosing to the Department Chair any conflict of interest that arises with the student. Conflicts of interest will arise when there are sexual, romantic, or familial ties between the Advisor and student or when there are irreconcilable interpersonal conflicts, and in such cases it is expected that the faculty member will withdraw from the role of Advisor. Conflicts of interest may also arise when i) the Advisor or student have a financial interest in the outcome of a research project (in these cases, the decision as to whether withdrawal is appropriate should be made in consultation with the Department Chair) and ii) the Advisor is the instructor of a graduate course in which their student(s) is/are the sole registrant(s) (in these cases, the Department Chair (or designate) should ensure that work for grading is also evaluated by a second Graduate Faculty member with appropriate expertise.)