Graduate Student Handbook:

Field of Nutrition: PhD Program

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PREFACE

This graduate student manual is intended to be used by the doctoral students and faculty in the Field of Nutrition. To prepare this manual we benefited from the excellent examples that were last developed by Eric Alani and Paul Soloway for the Field of Genetics, Genomics and Development and by Dave Lin for the Biochemistry, Molecular Biology and Cell Biology Field. We thank them for their efforts and for their willingness to share these templates with the Field of Nutrition.

This working manual will be continually updated and edited. If you have any suggestions to improve content or clarity, please email Ms. Doralee Knuppenberg (<u>dmw1@cornell.edu</u>).

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DOCTORAL PROGRAM OVERVIEW

ABOUT THE GRADUATE FIELD OF NUTRITION

Faculty in the Graduate Field of Nutrition study human nutrition at levels ranging from molecules to populations, drawing upon the chemical, biological, and social sciences to understand the complex relationships among human health, nutritional status, food and lifestyle patterns, and social and institutional environments. Understanding these relationships includes the study of the metabolic regulation and function of nutrients, nutrient requirements throughout the life span, role of diet in reducing risk of disease, nutritional quality of foods, and interventions and policies designed to promote nutritional health of individuals and populations.

We have four "concentrations" in the Graduate Field of Nutrition: (1) Molecular Nutrition, (2) Human Nutrition, (3) Community Nutrition and (4) International Nutrition. These concentrations refer broadly to the level of analysis at which the research question is investigated, i.e., at the molecular or mechanistic level (Molecular Nutrition), at the whole person or whole animal level (Human Nutrition), at the community level (Community Nutrition), and at the international level (International Nutrition). These concentrations should not, however, be viewed as "silos"; many faculty members align with more than one of these concentrations.

DIVERSITY AND INCLUSION VALUES

The Division of Nutritional Sciences (DNS) is committed to an inclusive environment that treats all individuals with fairness, dignity, and respect. We celebrate and value diversity in race, ethnicity, religious and spiritual beliefs, gender identity and expression, sexual orientation, socioeconomic status, age, mental and physical ability, and country of origin. Our pedagogy, scholarship and outreach are enriched and informed by the exchange of diverse perspectives and experiences. We uphold an environment free of racism, sexism, homophobia, transphobia, xenophobia, and systemic oppression in all its forms.

The members of the Division will lead efforts to support diversity, equity, and inclusion in our community of scholarship and in our discipline. We will engage with students, staff, and faculty to meet collective goals that are actionable and that reinforce our long-standing dedication to social justice. Our community will be strengthened by these efforts, which enhance the mission of the Division to improve nutrition and human health around the globe.

REGISTRATION

All students must register at the beginning of each term, including summer, unless he or she withdraws, is granted a leave of absence, or completes the degree. Course enrollment can be completed any time during the first three weeks of classes but should be done as soon as possible. Talk with your major professor, the Director of Graduate Studies (DGS), and committee members about which courses to enroll in. Before you register each term, your bursar's bill should acknowledge the receipt of your financial assistance. If not, check with the Graduate Field Assistant to rectify the situation. You must also register for the **summer semester** by the last Friday in May. This is necessary if you plan to use university facilities such as libraries, computer centers, and Cornell Health. Note that you cannot receive a paycheck unless you are registered for the summer semester. If you register after May 31, FICA taxes will be withdrawn from your paycheck. You can now register for the summer online at your <u>Student Center</u>.



CURRICULUM

Training within the Graduate Field of Nutrition is individualized. YOU are able to tailor your coursework to meet your individual interests and goals. The Field of Nutrition has few coursework requirements for students in the Ph.D. Program, as described below. In general, your coursework is decided based on discussions with the members of your special committee. During the first year, while you are deciding on your committee chair (your primary research mentor), the Director of Graduate Studies (DGS) serves as your temporary advisor, assisting you as needed in decisions about coursework and answering any questions that you may have about the program and your course of study.

SPECIAL COMMITTEES

Each graduate student in the Ph.D. program is required to form a special committee. This committee is responsible for guiding your graduate work. The committee advises on coursework, reviews your progress, and generally oversees all aspects of your graduate work. The special committee includes the Chair who is your research mentor and will supervise your dissertation research; two faculty members representing your two "minor" subjects or areas of study; and a field-appointed member representing the Field of Nutrition. The minor members represent the minor fields of study and provide expertise to strengthen your dissertation research and/or to provide you with training to support your career goals.

Your special committee Chair must be selected and approved no later than the end of your second semester after registration. Your chair is responsible for your financial support. Typically, the choice of minors and the selection of additional committee members involves discussions with your Chair. The Graduate School requires that your full committee be established by the end of the third semester of study. You may make changes to your committee after it is established; is it important to establish your committee early because the special committee guides your graduate work, including coursework.

You will need to meet with the DGS to discuss the selection of the Field-appointed member. This meeting will take place after you have selected your Chair and your two members representing your minors. The Field-appointed member must be a member of the Graduate Field of Nutrition; his/her role is to ensure that your training is sufficiently broad. Thus, this committee member typically has interests that complement the other members of your committee. For example, if you were study-ing zinc supplementation in population level interventions, your field-appointed member might be a molecular nutrition faculty member studying animal models of zinc nutrition. The Field-appointed member is typically NOT from the same concentration as your major advisor. Typically, students come up with two or three faculty members in the Field of Nutrition who are mutually acceptable to the student and the DGS, and then the DGS appoints one of them to serve in this capacity.

SELECTING A MENTOR DURING YOUR FIRST YEAR/ROTATIONS

The major goal in your first year is to select a primary research mentor, who serves as your special committee chair. Because the nature of research varies among our concentrations, this process differs by concentration. First-year students who are interested in working with human or molecular nutrition faculty with wet laboratory-based research programs will participate in "laboratory rotations." Students participating in rotations will spend three periods of 4-8 weeks each (depending on the nature of the project) working on projects in laboratories of interest. This allows incoming students to maximize their potential of finding the best fit for a "laboratory home" and to develop skills



in a variety of laboratory techniques. For other concentrations that do not utilize rotations, you can learn about and compare different research groups by attending the research meetings of different professors, and by talking with the potential mentors and their current students. In all four concentrations, the special committee chair must be selected by the end of the first academic year.

Your selection of a research mentor should be based on the research topic as well as on the mentoring style of the faculty member, thus keeping in mind the mentoring style that is most likely to support your success as a student. Another tip provided by current students is that what you study for your dissertation is unlikely to be what you study throughout your career. It is a good idea to keep in mind the type of training that you would like to prioritize for your doctoral training, understanding that all careers are built over time and the Ph.D. training is an important and key driver of your future.

SELECTING YOUR TWO MINORS

Ph.D. students in the Graduate Field of Nutrition choose two minor fields of study for their degree. Current students have selected minors in over 30 different graduate fields ranging from education to soil science to biophysics. Examples of minors that are frequently selected include Epidemiology, Genetics & Development, Biochemistry and Molecular Biology, Human Development, Pharmacology, Communications, Education, Food Science, Sociology, Economics, and Biostatistics. A list of all the graduate Fields at Cornell may be found on the Graduate School website: <u>https://gradschool.cornell.edu/admissions/degrees-fields/cugradfos/</u>. If you click on each Field, you will be provided with a list of faculty members in that field, and a brief description of their area of research.

Your two minor fields should support your dissertation research, but also be areas of knowledge that you feel will be valuable throughout your career. Remember that this may be the last opportunity to take courses – view this as an opportunity to identify areas in which you would like to be "an expert" and take coursework that would be needed to achieve this goal.

After you have selected each of your minor areas of study, you will select a faculty member to represent each of these two areas on your Special Committee. It's often useful to first ask your research mentor if she/he has advice on specific faculty members to represent each of these areas. Other graduate students can also be helpful in providing names of faculty members in these other areas. After you have a few names, it's useful to contact each of these faculty members, tell them that you are considering a minor in that area, and ask if you could meet with them to learn more about the specific courses that they would require for the minor, as well as discuss your research with them. In addition to learning what each faculty member requires for the minor, meeting with each potential member also provides an opportunity for you to get a sense of what it would be like to work with each person. Remember that these four faculty members will be the four individuals present at your A and B exams, and it's important that you feel that you can work well with each potential member, and that the five of you (you and the four faculty) will all work well together as a group.

REQUIRED COURSES

All incoming graduate students are required to take NS 7030, Seminar in Nutritional Sciences (attendance only, you do not present a seminar your first semester). Ph.D. students attend four additional semesters of NS 7030 and make three presentations (total 5 attendances and 3 presentations). Doctoral students have the option of replacing one presentation and one semester of attendance in NS 7030 with the successful completion of NS 7040, the Division of Nutritional Sciences' grant writing course. NS 7040 also serves as an opportunity to develop a proposal, which typically



contributes to important preparation for the A exam. Many of our graduate students elect to take macronutrients (NS6320), micronutrients (NS6310), and a biometry series (BTRY 6010 and 6020) in their first year. You may sign up for dissertation research credits any semester (NS 9990 Ph.D. Thesis). The number of credits is variable.

LABORATORY ROTATIONS

Laboratory Rotations (for students in molecular and human nutrition concentrations)

Laboratory rotations provide an opportunity to explore areas for possible Ph.D. thesis research. In addition, both students and faculty are able to test working relationships, allowing incoming students to maximize the potential of finding the best fit for a "laboratory home." Rotations also expose students to a variety of laboratory techniques and PIs/trainees from other GFN research groups. Only GFN PhD students interested in working with human or molecular nutrition faculty with wet laboratory-based research programs are encouraged to complete rotations (two or three), each of which lasts 4-8 weeks. The duration of the rotation is at the discretion of the faculty member. To arrange for laboratory rotations, students should discuss with individual faculty and arrange to rotate in the interested lab at a mutually agreed-upon time.

Students are encouraged to have clear and honest discussions with interested faculty about the possibility of joining his/her lab ahead of time. Usually by the end of the final rotation, you should have discussed with your rotation faculty the possibility of joining the laboratory for your dissertation research. All first-year students are strongly encouraged to identify a doctoral advisor, by one year after they have enrolled (i.e., by start of the next fall semester). Students with questions about this process or those that may need additional advice on lab rotations and selection of a doctoral advisor are encouraged to meet with the DGS to avoid unnecessary delays in their graduate program. Those who fail to identify a research lab prior to the beginning of the second year of matriculation and have not been working with the DGS to address this delay may risk being asked to withdraw from the program.

What is expected of the graduate student during the rotation?

While no one objects to a graduate student completing a project or contributing to a publication during a rotation, no one expects it either! What is expected is self-motivated and earnest effort, independent thinking, and the fullest participation possible in the intellectual life of the laboratory.

ANNUAL PROGRESS REPORT

The Student Progress Review (SPR) requirement was implemented by the Graduate School in 2017 at the request of students and faculty to support the regular exchange of constructive, written feedback between advisees and advisors. It codifies a process for research degree students and their Special Committees to have at least one formal conversation per year about academic progress and future plans. Using the SPR form, students are asked to reflect on their recent accomplishments, identify challenges, and set goals. Committee chairs then review their students' SPR forms and enter constructive feedback. Chairs indicate whether progress has been excellent, satisfactory, needs improvement, or is unsatisfactory. Feedback that is documented on the SPR will be made available to the student, all members of the student's special committee, and the DGS/GFA of the student's field. Additional information about the SPR form and the process may be found on the Graduate school website https://gradschool.cornell.edu/academic-progress/requirements-milestones/student-progress-review/.



ANNUAL MEETING REQUIREMENT

The legislation of the Graduate Field of Nutrition stipulates that all doctoral students must meet with their Special Committee at least once per year. Each Spring, the GFA will contact all students and their research advisors and asked to provide the date of that meeting.

VACATION AND HOLIDAY TIME OFF

Cornell firmly believes that graduate students can benefit from time devoted to rest, relaxation, and renewal, and affords graduate assistants' vacation and holiday time to do so. Some highlights are below, and details can be found in <u>University Policy 1.3, Graduate Assistantships</u>.

Managing assistantship duties and personal time away requires advance planning and communication between you and your committee chair and assistantship supervisor, if different than your chair. The Graduate School conveys:

"In the process of becoming an independent scholar, students pour immense amounts of effort into their studies and scholarship, following lines on inquiry in unexpected directions while pursuing new areas of knowledge. That's rarely a 9:00 am – 5:00 pm endeavor. Managing time will always require establishing clear expectations and goals with your advisor, keeping lines of communication open, meeting deadlines, and setting personal boundaries for when you need to step away from your studies and research. Those are all skills that students should actively develop and practice as a way to achieve work-life balance. The university policy on assistantships is designed to ensure that all students are afforded that time away while also providing enough flexibility to accommodate the different needs of students across 80+ fields of study." – J. Kahabka (Associate Dean of the Graduate School)

DNS PhD students are typically fully supported 12 months per year by assistantships (teaching or research) and/or research fellowships, and are, therefore, entitled to two weeks (ten weekdays) of annual vacation each 12-month period (August 21 through August 20). In addition, you are entitled to Cornell's 13 University holidays (see below). These days off must be taken annually and don't roll over or accumulate across multiple years.

In thinking about your vacation time, consider your assistantship and scholarship responsibilities. They may determine the number of vacation days that can be taken consecutively or the specific timing of vacations. Teaching assistant responsibilities normally begin just before classes and run through the grading period and sometimes through course breaks. On the other hand, your chair and supervisor may agree that taking vacation days during the course break works well with a gap in work that needs to be done. Graduate research assistant schedules can be affected by critical experimental, field, and study responsibilities. Other factors to consider include courses in which you are enrolled, and exam and dissertation needs. That said, you and your supervisor and chair can work together to identify mutually agreeable times for you to take vacation days while still meeting your responsibilities. Give your chair and supervisor plenty of advance notice of when you are considering taking some vacation time away. They will make efforts to accommodate your request whenever possible and work with you to identify alternatives if necessary.

University holidays are different than vacation days. They are when the university is officially closed and generally include 13 days: Martin Luther King Jr. Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Thanksgiving and the following day, and Winter Break (generally six working days



from December 25 through January 1). A graduate student appointed on an assistantship is not required to request time off for these holidays. If you are required to perform assistantship duties during university holidays (e.g., animal care, critical ongoing research projects) provisions must be made for equivalent time off on a non-holiday weekday.

Days on which classes are not in session but the university is open (e.g., institutionally-scheduled academic breaks in the fall and spring semesters, January intersession) aren't automatic vacation time nor holidays for graduate students appointed on assistantships; however, you may request in advance to take vacation time during such periods.

If you feel that you are being prevented or discouraged from taking reasonable time away from your studies, research, or assistantship, please, raise the issue respectfully with your chair or assistantship supervisor and see if you can reach an agreeable outcome. If you are unable to find agreement, consider consulting the Director of Graduate Studies (DGS). If you are still unable to find a resolution you can contact the graduate school associate dean for academic and student affairs, and they will assist you.

ADMISSION TO CANDIDACY EXAM (A EXAM)

To qualify as a Ph.D. candidate, each graduate student must pass an A exam. This exam has both **written** and **oral** components, and the members of the student's Special Committee serve as the examiners. The Graduate School requires that the A exam be completed before the beginning of the student's 7th semester, unless special permission is obtained by one of the Grad School Deans. If the exam is not scheduled by this date, your Special Committee Chair must write a letter of explanation to the DGS that includes a date for when the exam will be taken. It is best to contact the DGS well in advance of this date if there are issues with meeting the 7th semester deadline. More details on graduate exams are available through the Graduate School. You should have shown significant progress on course requirements for the major and both your minors by the time of the A exam. Occasionally, the student and the Special Committee may feel an additional course is useful or important after the A exam and this may be recommended or required by the Special Committee. Many students find it useful to review coursework quickly at the beginning of the exam or in a meeting with Special Committee members (as a whole or individually) in advance of the A exam.

PROCEDURAL DETAILS

You must file a <u>Schedule of A Exam Form 7 days</u> in advance with the Graduate School. This form must be signed electronically by all members of your Special Committee and the DGS. Following the exam, you must also file a <u>Result of Examination Form within 3 days of the exam.</u>

THE WRITTEN PROPOSAL

Your proposal will describe the research you intend to accomplish as a graduate student. It should be well-formulated and presented in sufficient detail so that it can be evaluated for its scientific merit. Include sufficient information to permit an effective review without readers having to refer to the literature. Brevity and clarity in the presentation will be considered indicative of an applicant's approach and ability to complete a successful project. The written proposal should be delivered electronically to the members of the Special Committee two weeks prior to the examination date.



More guidance on writing the proposal can be found in Appendix II.

ORAL COMPONENT OF THE A EXAM

The oral component is a defense of the written proposal, and you can expect that many of the questions you will be asked will be **directly related to your proposal and to areas that are considered closely related to it**. The Special Committee will likely ask you to explain, in more detail than the written format permits, background material and experimental protocols/study design. This portion of the exam also serves as an opportunity for your Special Committee to make suggestions that may contribute to your project.

The Special Committee may also ask broadly-based questions on basic concepts from nutrition and your minor fields of study. In addition, students are encouraged to rephrase questions in their own terms, to ensure that they have correctly interpreted the question and/or ask for clarification as needed.

Most students are asked to leave the room before the exam begins so that the mentor can review his/her progress with the Special Committee. This should be considered a standard procedure and not a cause for concern. At the end of the exam, the student will leave the room again so that the committee can briefly discuss the outcome and future directions (additional courses, etc.) for the student.

Possible outcomes

Some possible outcomes of the A exam are described below. While one of these outcomes will apply in most cases, it should be noted that the **final outcome is determined by the Special Committee** and they are not limited to the examples given below. Factors that are frequently evaluated during the A exam are:

- Importance of the problem chosen
- Command of the field
- Evidence of creativity in formulating experimental approaches
- Feasibility of the proposed experiments/studies
- Whether a range of different approaches are brought to bear on the problem
- Whether the scope of the proposed experiments is feasible within the student's graduation timeline
- Adequacy of controls in the study or experiment
- Clarity of the proposal
- Ability to deal with questions
- Communication / presentation skills
- Breadth of knowledge

1. Unqualified pass.

2. Conditional Pass. This option will be used when the committee judges that some aspect of the proposal / defense needs to be improved. In this case, the committee will specify the "condition" that must be reached, before the student can receive a pass.



3. Fail. The student can fail the exam because either the written proposal or the oral defense is judged inadequate. In that case, the committee will usually recommend one of two actions.

- A. If the committee has confidence in the overall ability of the student to complete the Ph.D. program, then they may recommend that the student retake the A exam. In this case, they will specify whether an entirely new proposal on a different topic is to be written or whether they expect a major rewriting of the original proposal. Note that the rules of the Graduate School specify that a second A exam cannot be scheduled earlier than 3 months after the first.
- B. If the committee has serious concern about the motivation or ability of the student to complete the Ph.D. program, it could recommend that the student complete a piece of research, write a Masters-level thesis based on that work, and then defend that thesis.
 - i. The student can choose to complete this Masters-level research and exit the program with a master's degree.
 - ii. If the student instead wants to continue for a Ph.D. degree, and his or her committee judges that the Masters-level work and thesis defense demonstrates qualification, then the thesis defense may be accepted in lieu of an A exam.
 - iii. In some cases, the Special Committee may specify that re-entering the Ph.D. program requires retaking the A exam.

What can I do to ensure that I pass my A exam?

Here are some suggestions to optimize A exam performance:

- 1. Discuss with your Special Committee the expectations (i.e. length, formatting, etc.) for the written proposal well in advance. If you have already taken Grant Writing (NS7040), your final proposal for that course might serve as a good starting point.
- 2. Read proposals written by former students in your concentration.
- 3. Read additional tips for proposal writing (Appendix II).
- 4. Conduct "A exam" practice runs with other students and/or post-docs. You should practice your presentation BOTH with individuals who are very familiar with your work and with those less familiar with the topic. Encourage them to interrupt you as you go, as is likely to happen during your A exam presentation.
- 5. Remember everyone in this field wants you to succeed.

DISSERTATION AND B EXAM

Defending a thesis successfully requires at a minimum that the student has obtained sufficient data to make a significant contribution to at least one research paper that has been submitted or published in a peer-reviewed journal. If the expectations are not met, the Special Committee Chair, with help from the Special Committee, must determine that circumstances beyond the student's control that prevented the student from meeting these expectations.

PROCEDURAL DETAILS

At least 7 days before the examination: 1) the <u>Schedule of Final Examination</u> form must be filed with the Graduate School and signed electronically by your Special Committee members and the DGS, and 2) your dissertation should be shared with your Special Committee. Following the exam, you must also file a <u>Result of Examination Form</u>.



You will also present a public dissertation seminar. The oral defense of the dissertation will take place with just the members of the Special Committee. The oral defense often immediately follows the public seminar, although this is not an absolute requirement. Some students present their dissertation seminars prior to the oral defense.

More information on <u>submission of the dissertation</u> is available from the Graduate School.

GRADUATE STUDENT LIFE: NGSO

The purpose of NGSO (Nutrition Graduate Student Organization) is to promote camaraderie among the diverse graduate student body in the Division of Nutritional Sciences (DNS). All graduate students in the Graduate Field of Nutrition are automatically members and no registration is necessary. Broadly speaking, while all the graduate students in our Field are all interested in nutrition, we focus on very different things academically, at all scales ranging from individual cells to entire communities - and everything in between. Moreover, our sense of unity is physically challenged by the Division's sprawl across multiple buildings on campus. To overcome these challenges, the NGSO sponsors events throughout the year, providing opportunities for our graduate students to interact with one another, and with faculty and staff from across the Division. A second purpose of the NGSO is to act as a liaison between graduate students and the faculty and administration. For example, Divisionwide faculty meetings always include a student representative from the NGSO. When necessary, NGSO also arranges meetings between the graduate students and faculty to address issues of concern for students that faculty can address, and vice versa. Finally, the NGSO strives to help new students in the Division make the transition into the program. The NGSO helps to plan and coordinate the orientation activities for prospective graduate students during the annual recruitment weekend. Additionally, all new students are invited to an annual NGSO-sponsored informal gathering to kick off the fall semester.

GRADUATE STUDENT LIFE: From the perspective of current graduate students

Life at Cornell varies for graduate students in Cornell's Division of Nutritional Sciences, but whether you are a parent or an international student or you worked for several years between degrees, one thing is certain: *there is a place for you here*. Instead of repeating information already provided in other parts of this handbook or other Cornell sources, we thought it would be best to paint you a chronological picture of what graduate student life may look like in the Division of Nutritional Sciences (DNS), provided by current Cornell graduate students.

FIRST YEAR:

As a first-year graduate student in DNS, you may initially spend some time familiarizing yourself with Cornell's beautiful campus. Places like Savage Hall, Martha Van Rensselaer Hall (or for short, "MVR"), the Human Metabolic Research Unit (HMRU), and the VET building will probably become a second home to you since it's where most DNS students conduct their research. Outside of Cornell and in the Ithaca community, you may spend a Saturday evening getting to know people in your cohort over good food and drinks at Argos or Liquid State Brewing Company. It may be the first time you experience the leaves change color or snow fall on your commute to campus whether it's by taking the



TCAT, the public transit system here, or by walking through Cascadilla Gorge which connects Downtown Ithaca to Collegetown and Cornell's campus. You'll probably attend lab meetings of potential mentors you want to work with (whose research topic interests you) and go through several rotations until you find a good fit. You might also explore some courses from other fields that are of interest to you and that may eventually become your minor. You'll probably seek out advice from other DNS graduate students about best places to eat in Ithaca or classes worth taking or how to manage work-life balance. In your first year, you will probably feel lost and uncertain about the direction you're headed, but that's completely normal.

SECOND YEAR:

In your second year, you've probably gotten the hang of things - both academically and socially. The place you live at, whether it's an apartment or house or a shared space, is starting to feel more like home. You probably have gotten used to the unpredictable weather in Ithaca. You may have found some local spots both on and off-campus to study and work at like Gimme Coffee at the intersection of Cayuga and Cascadilla. You've probably interacted with other graduate students and faculty from different fields, and you've most likely decided which advisor you want to work with. As a PhD student, maybe your priority is to finalize your minors and committee members while balancing all of your research responsibilities. All of this still comes with some uncertainty, but now the stress is more manageable. In your second year, you're most likely working on developing your professional identity and skills and that may be by presenting in NS 7030, by attending workshops through the Center for Teaching Innovation, by mentoring and training undergraduate students in your lab or teaching assistantship, or by leading a graduate student organization like NGSO. You probably now have a solid network of people you know you can rely on.

THIRD YEAR:

As a third-year graduate student in DNS, you have a sense of community, routine, and permanence. You've been to the Ithaca Farmer's Market several times. Maybe you decide to get a pet to keep you company while you work and study from home or a plant for your lab office. You have probably completed most of the DNS required or recommended courses by now and are instead taking classes suggested by your special committee. You're most likely looking forward to attending a couple of conferences in other parts of the country to present posters on the project you're spearheading in your lab. Maybe you've even co-authored a few grants and manuscripts. While managing all of your lab and teaching responsibilities, you're also preparing your written proposal for your A exam which may get pretty stressful. It could bring back feelings of uncertainty from your first couple of years in the program, so you try to manage that stress by talking to your closest peers, attending a counseling session at Cornell Health, or hiking up Taughannock Falls to clear your mind. It isn't until you pass that exam, that you feel proud and elated (as you should). Before you start conducting the study you proposed, you probably take several days off to celebrate such a wonderful accomplishment whether it's by taking the OurBus and spending time in NYC or by reuniting with your family wherever you call home.

FOURTH YEAR+:

At this point, you're 1 to 2 years away from the finish line. You feel more confident in conducting certain research methods or techniques, you have a solid relationship with your advisor, and you've mentored several undergraduate students already. You feel like you know Ithaca well to the point where if you have family and friends visiting, you know exactly what restaurants, wineries, and hikes to take them to. Most of your time spent in lab is focused on collecting data (out in the field or in a



wet lab), analyzing data, writing your dissertation, and preparing for your oral defense. When all you've thought about for the past couple of years was finishing your PhD, you might now think about what your next steps will be. It could be working in industry or the government, doing a post-doc, or even taking a break. Whatever it is, you're also taking some time to prepare for it. Maybe you decide to take a couple of workshops through the Graduate School on how to prepare your CV or resume for the job market post-PhD. Maybe you connect with former graduates of the program who are now working in an area that you're interested in. It may be the most stressful time of the entire program, but with hard work, self-compassion, and support, you end up with your PhD.

It's important to note that this depiction of graduate student life in DNS is *not the same* for every student since each student brings their own unique perspectives and experiences to the program. While there are certain requisites and milestones expected from the program and the graduate school, you as a graduate student ultimately get to choose the type of experience on and off-campus that work best for you and your goals. There will be periods of growth and disappointment, but you are well-supported and everyone, including DNS faculty and peers, want to see you succeed personally and professionally.

For related information on graduate student life, please refer to the following Appendices:

- Appendix 1: Advice from Current Students
- Appendix 4: Cornell Resources for Graduate Students
- Appendix 5: Things to Do in Ithaca

FINANCIAL INFORMATION

Ph.D. students admitted into the Graduate Field of Nutrition are guaranteed financial support from the Division of Nutritional Sciences (DNS) for 4.5 years (nine academic year semesters and four summers) on the condition that they maintain good academic standing, have a DNS faculty member serve as their Special Committee chair, and meet expectations in conducting their teaching and research responsibilities. The support consists of a twelve-month stipend, full academic year tuition, and coverage for the individual health insurance plan. Financial support may be in the form of teaching assistantships, graduate research assistantship, Cornell and DNS fellowships, external fellowships, traineeships, or other Cornell funding and may vary each semester. All graduate students in the Graduate Field of Nutrition are expected to serve as a teaching assistant for at least one semester.

"The university is committed to an equitable, supportive, and professional environment for graduate education. Assistantships help students develop academic rigor and creativity, independent judgment, intellectual honesty, and the ability to communicate their knowledge, while providing financial support."

-Cornell University Graduate Student Assistantships Policy

Teaching assistants (TA) are appointed to support teaching of a course and may assist in teaching a section, leading discussions and/or laboratory sections, and preparing and grading exams, among



other responsibilities. Because students funded through assistantships are expected to make progress towards their research degrees, assistantship hours for TA appointments are limited to 15 to 20 hours per week, averaging no more than 15 hours per week. Cornell is committed to helping students have a successful teaching experience and provides many exceptional <u>teaching resources</u>, <u>workshops</u>, and <u>training programs</u>.

TA assignments are made each semester by Cathy Long after taking into account the graduate student's course schedules, content area knowledge and course demands. Graduate students are notified of their teaching assignment and each semester are asked to sign a contract acknowledging the course they will support and the relevant TA obligations for this course.

When appointed on a graduate research assistantship (GRA), students focus on thesis or other degree-related research of a type that is required from all candidates for the degree. Because a student devotes considerable time to dissertation research, the time spent on research connected with the project is expected to be significant. GRAs are typically supported by grants obtained by their chair. Fellowships obtained by a student's chair or by the student also support students in pursuing their graduate studies and research. More information regarding assistantships can be found in Cornell's <u>Graduate Student Assistantships policy</u>.

ADDITIONAL FUNDING OPPORTUNITIES

Cornell University also provides additional competitive funding opportunities to support graduate students. You can explore <u>Cornell and external fellowships</u> for new and continuing graduate students <u>here</u>. The Graduate Field of Nutrition nominates incoming students for <u>Cornell and Diversity</u> <u>fellowships</u>.

Our students also successfully compete for a variety of Cornell-funded research awards, such as those from the Office of <u>Engagement Initiatives</u>, the <u>Genomics Scholars Program</u>, <u>Atkinson Center</u>, and the <u>Society for the Humanities</u>, to name a few. Students are also highly successful in receiving national and international research fellowships.

GRADUATE SCHOOL RESOURCES

The Office of Academic and Student Affairs works with graduate faculty and graduate students on academic policy and programs, academic integrity and misconduct, responsible conduct of research, petitions requesting exceptions to graduate school policy as outlines in the Graduate Faculty's Code of Legislation, and academic progress and students' status. The office also offers academic, writing and professional development programs, including proposal/thesis/dissertation writing boot camp, the Productive Writer email (Sign Up), Graduate Write-Ins, Productive Writing workshops, Fellow-ship Application Writing Workshops and Fellowship Listserv Tips, Productive Fellowship Writer Mailing List, Writing and Publishing Workshop Series, Three Minute Thesis Competition, and the Advising Guide for Research Students.

The <u>Office of Inclusion and Student Engagement</u> (OISE) supports an inclusive and welcoming environment for all graduate and postdoctoral scholars, but especially for those from marginalized communities and/or backgrounds historically excluded from and underrepresented in the academy. OISE supports systemic change and promotes a climate of diversity, belonging, equity, engagement, and achievement, which are integral components of graduate and postdoctoral education. OISE supports



scholar success through recruitment, diversity fellowships, mentoring, professional, leadership, and community development programming, and ongoing support.

Recognizing that health and academic performance are intimately linked, the <u>Office of Graduate Stu-</u> <u>dent Life</u> is a source of information, support, and advocacy that creates a more student-centered graduate student life experience. In addition to being a first point of contact for students who are struggling or experiencing any form of distress, the Office of Graduate Student Life serves as a coordinating hub with campus-partners that focus on promoting a healthy and holistic student experience. More information on available support is available: <u>https://gradschool.cornell.edu/student-</u> <u>experience/help-and-support/</u>

https://facultydevelopment.cornell.edu/faculty-resources/

https://gradschool.cornell.edu/diversity-inclusion/faculty-resources/



GRADUATE SCHOOL CONTACTS

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INFORMATION FOR FACULTY

APPLICATION FOR MEMBERSHIP TO THE GRADUATE FIELD OF NUTRITION General Information

The Graduate Field of Nutrition (GFN) welcomes faculty members who are strong scientists and are capable trainers of students, who do research and train in an area broadly relevant to Nutritional Sciences, and who are willingto commit time and effort to the field.

The GFN has its traditional and administrative home in the Division of Nutritional Sciences (DNS). The field is open to applicants from any department at Cornell. For applicants from outside of DNS, they will already have a "primary" field, and thus GFN would be a "secondary" field. Primary and secondary DNS members have exactly the same rights and responsibilities. All GFN faculty have equal access to recruiting GFN graduate students. All faculty are expected to participate equally in administrative activities, field committees, and graduate student recruitment and mentoring. Should a DNS student decide to work with a faculty member from another field, that person will be responsible for funding the student.

Training record

If potential members come from an academic background, senior faculty applicants to the Field are expected to have a record of training grad students and post docs who have been very successful in the next step in their careers.

Mechanism of application

Applicants should submit the following to the GFN Director of Graduate Studies: a letter of intent including research plans for the future, a current CV, and a letter of support from a GFN field faculty. The letter of intent and letter of support should discuss (a) the candidate's major scientific accomplishments and (b) how their research fits the DNS training program.

The GFN Academic Affairs Committee will review the application in an expeditious manner. If the committee judges the research area and qualifications of the applicant to be suitable, the DGS will arrange a Field or PIN seminar, and the CV will be circulated to all field members. Immediately after the seminar, the field will vote.



OTHER IMPORTANT INFORMATION

Building Security and Keys

Weill Hall: access to information about access to Weill Hall can be found on the following web page: https://blogs.cornell.edu/whfs/about-our-team/access-to-weill/

Savage / Kinzelburg and MVR: Send Cathy Long a request for a key (cel3@cornell.edu) and she will notify MVR facilities to have the key ordered.

Biotechnology Building: Requests for keys are obtained by filling out the form below.

Key Control / Authorization Record User Affiliation: Biotechnology Building
I. Authorization To Issue Keys:
Department: Biotech / Molecular Biology & Genetics / Microbiology / Nutrition
I Authorize to be issued Biotech
Building Access to the following areas:
Supervising Professor Or Manager Signature :
Date: / /
II. Receipt Of Keys:
I acknowledge receipt of the following keys:
ID #
I understand that:
a. key(s) are not to be loaned or given to others.
 c. key(s) are to be immediately returned to a Biotech Facilities Manager upon
termination of my affiliation with the department listed above. d. that there is a \$5.00 per key replacement fee.
Applicant: Date: _/_/_
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APPENDIX

APPENDIX 1 – Guidelines for NS 7030 Seminar

The NS 7030 seminar is designed to:

- A. Develop an understanding of the breadth of nutrition research which has been exploding over the last decade as more and more scientific methods and points of view are applied to nutrition. Nutrition research now ranges from the sub-molecular to policy sciences, includes qualitative and quantitative methods, and is applied with varied points of view from many disciplines.
- B. Develop the capacity to critically evaluate published studies in each of these diverse areas that comprise nutritional research.
- C. Develop the capacity to present nutritional research to a general audience. The background of the faculty and student audience of NS7030 is so broad that the only common denominator is undergraduate chemistry and biology. This common denominator is also that of many audiences that nutritional scientists and practitioners will later wish to impress and influence, including audiences of the National Academy of Sciences and the Institute of Medicine.

POLICIES FOR NS 7030: Please refer to these notes before giving your seminar

- 1. NS 7030 is offered as S/U grade ONLY. Credit will be given as follows:
 - Attendance at the seminar is required of all new graduate students during their first semester.
 - **Doctoral students** may meet the attendance and presentation requirements for NS7030 in one of two ways:

(a) 3 NS 7030 presentations and 5 semesters of NS 7030 attendance OR

(b) 2 NS 7030 presentations, 4 semesters of NS 7030 attendance, and successful completion of the one-semester course, NS 7040 - Grant Writing, taken preferably in the second year of graduate study. (In this option, doctoral students may substitute the grant writing course for 1 presentation and 1 semester of attendance of 7030.)

Thus, the presentations are to be given AFTER the first semester of attendance. An unsatisfactory presentation will not be counted towards fulfilling these requirements. If the student has completed a M.S. at Cornell, the 7030 seminars for the M.S. will be counted towards the total needed for the Ph.D.

2. The intention of the 7030 seminar is to offer DNS graduate students the opportunity to learn and practice giving professional seminars to an audience with knowledge at the level of a B.S. in Biological Sciences. In addition, students are expected to learn through seminar discussions how to critically evaluate published studies in the many diverse areas of inquiry that comprise nutritional research.



- 3. Students are required to read each article that will be presented and come to class prepared to ask a question of the speaker. If there is a lull in the questioning, a student may be called on to ask a question.
- 4. Students should fill out an electronic evaluation form following each seminar. Attendance will be deemed satisfactory if it encompasses the whole of the presentation and the student submits their evaluation form prior to the deadline for each presentation. If a student is unable to attend all the required presentations (e.g., due to illness), he/she should discuss the situation with Prof. Strupp. These absences must be made up by writing a critical review of the article that was presented at the missed class period.
- 5. There are exceptional circumstances when the student may wish to complete one semester of attendance over two semesters (e.g., due to travel necessitated by their dissertation research). These arrangements must be agreed upon in writing before the end of September for the Fall semester and before the end of February for the Spring semester.
- 6. The seminar speaker should present a recent paper from a peer reviewed journal <u>that has made</u> <u>a significant contribution to the field</u>. Students are encouraged to select papers for presentation within an area of expertise of a faculty member, either within or outside DNS, who will attend the seminar presentation and serve as the student's mentor for the presentation. The mentor must be a member of the Graduate Field of Nutrition. Students should consult a faculty mentor well in advance of the presentation date. It is generally recommended that the mentor be someone other than your thesis committee chairperson, but this is not mandatory. These seminars are not examinations of a student's competence in subject matter but are designed to be a learning experience in presenting research findings. The faculty mentor is expected to give advice on the choice of papers to be presented and on the format and content of the presentation.
- 7. Speakers should submit a signed faculty approval form to the course administrator, at least <u>THREE WEEKS</u> before the date of the seminar along with a copy of the article. The article will be posted on the NS 7030 website in Canvas. The presenter should send the course administrator a pdf of the article and a pdf of the presentation, which she will then post on Canvas.



APPENDIX 2 - Information on writing the A exam and the oral exam presentation

Scope of the proposal. The written A exam is usually presented in the form of a grant proposal. Again, if you have taken the Grant Writing Course (NS7040), the grant proposal you have written for the course often provides a good starting point. The proposed work should be limited in scope, so that it is something that the student could accomplish during in his/her remaining time in the program. Study sections that review grants are very critical of proposals that describe five times as much work as could be completed, even if very good descriptions of experiments are given. Once you have narrowed the topic, develop a few (say three) specific questions you want to answer. By being specific, the questions will keep your proposal focused on the topic. After you have come up with a few specific questions, sketch in outline form what experiments/studies you might do to answer them. Then work through the details to flesh your ideas out as a full proposal. Your proposal will be judged for its innovation, quality, and organization. Your thoughts should be developed logically and should represent some real insight in the field or substantially move the field forward. The exam is meant to challenge your thinking and provoke discussion between you and your examiners.

Preliminary data. An important section of all grant proposals is the progress report or preliminary data. However, this section is not a deciding element in the A exam, and students may not put off taking an A exam for want of more data. Preliminary data are useful in charting the future course of research; however, the A exam is not intended to judge research accomplishments, but to assess the prospects for research based on the student's ability to conceive, investigate, and defend a research proposal. Remember, your Special Committee is invested in helping you succeed in the program and should not be perceived merely as examiners. The A exam provides an excellent opportunity to hear their input on your proposed work.

Specific aims. This section states crisply the hypotheses you are testing, or the questions you will try to answer. It also provides a list of each separate approach (aim) you will use to reach the overall goal.

Research designs and methods. This is the body of your proposal and should be organized according to the specific aims and presented clearly. Critical experiments/studies should be described in enough detail that examiners can understand your goals and appreciate your mastery of the subject. Important controls and contingency plans should be fully described, as should statistical methods. For help with statistical issues, it can be useful to contact the <u>Cornell Statistical Consulting Unit</u> (CSCU) for technical consultation.

Figures and tables. Figures and tables are often included to highlight preliminary data or as a useful visual aid to the text. It is appropriate to reproduce figures from a review or other important article if they are cited appropriately.

Writing style. Finally, matters of writing style and impeccable grammar are absolutely essential for successful proposals. The A exam proposal is an exercise in meeting the highest standards of style and presentation. Good writing is an essential component in your ability to communicate your research findings in future publications and in your future quests for funding. In a well-written proposal, the eye of the reader moves down the page in an unbroken manner, from sentence to sentence and paragraph to paragraph. The logic of the presentation is so clear, and the writing so free of distractions, that he/she almost never has to read a sentence twice. This requires good use of transitions, between sentences and between paragraphs.



A particularly important principle of good writing that is often neglected is paragraph structure. Each paragraph should have a topic sentence (usually the first sentence) that tells what the paragraph is about. Another principle is to use uniform tense. Try to avoid overuse of the passive voice. **Keep in mind that a well-written proposal requires multiple revisions.** Each word and sentence should say exactly what you want to say—no more and no less. Again, having peers read and critique your proposal can be a great way to maximize its clarity and improve the overall quality of the proposal.

Time required to prepare the proposal. You should plan to spend about one month of full-time work to prepare your proposal, but the amount of time needed will vary. Some students can do the background research and then write a thoughtful proposal in three weeks, while some take six weeks or more to complete this. Reviewing the literature and beginning to write well in advance of the due date is strongly encouraged. Students should discuss the proposed timeline with their Special Committee chair.

Oral defense. Students generally prepare a PowerPoint presentation that walks the Special Committee through the background and the specific aims of the proposal. It is a good idea to practice the presentation of the oral defense with your peers (possibly more than once or in front individuals with varying expertise) and edit as necessary.



APPENDIX 3 - Advice from Current Students

Anonymous Advice from a Fellow Cornell Grad

Perfection is overrated. "Good enough" has to do it in some area of life, whether it be house cleaning and cooking or keeping in touch with distant friendships or being a perfect partner/parent/child or picking perfect language for what you are writing or designing your project. Choose options where you have the chance to learn and grow but you will also have a chance to complete them (with some pretense of timeliness) and sleep. Learn to say no if you aren't already skilled at it. If you are, learn to say yes. Try different conferences to network beyond who your advisor can connect you to. Don't forget to eat, actual real food. When you do, take a vacation, and get someone else to hand you food to eat.

Signed: Anonymous

A. FINDING A MENTOR:

- 1. Finding a mentor that you can connect with on a professional and personal level may help in fostering a productive and constructive relationship throughout your training.
- 2. Talk to potential mentors' current students regarding their mentoring styles and consider this along with what you know about the kind of mentoring that works best for your learning. You can also ask what the work/life balance is like and if you are expected to be on campus a certain number of hours per week.
- 3. Remember that when talking with potential mentors, you are interviewing them just as much as they are interviewing you! It should be a mutual good fit.
- 4. Choosing your mentor within the first two semesters will enable you to start discussing your ideas for minors and coursework right away, as they will likely have opinions on how your training should be structured.
- 5. Sometimes graduate students find themselves torn between two potential advisors. Just know that even though you decide to commit to one as your committee chair, it does not mean that the other faculty member can't support you. You can still build a professional and personal mentorship with this individual even though you will not work in their lab.

B. FORMING A COMMITTEE:

- 1. When selecting a minor/committee member, you may want to think about types of expertise that you would like represented at your two exams and committee meetings.
- 2. It may be helpful to have committee members with different academic ranks (e.g. assistant professor, associate professor) since those professors who have served in a lot of committees could provide insight to the whole process.
- 3. You should consider choosing committee members with skills and expertise you can gain that would be helpful in your career goals post graduate studies and not only because their work is relevant to your current research topic.
- 4. You should also consider what the individual is like as a person and what type of interpersonal dynamic they will create at the exams!
- 5. Have a close working relationship with most (if not all) of your minor/committee members. You learn so much from them and they are there to help round out your expertise.



6. If you need to extend your deadline to form a committee, you can fill out a petition.

C. CHOOSING MINORS:

- Start exploring your options during your first semester or early on so you can finish up coursework in your first few years. If there are departments that interest you, it's worth looking up the minor requirements now - some departments have no required courses for grad students, while others are much more structured and have several required courses. Classes for minors without any specified required courses can be negotiated with your minor committee advisor.
- 2. Know that it is okay to schedule meetings with faculty for the purpose of learning more about their work, what minors they can be mentors for, and whether the individual would help you to develop any skills or expertise in which you are interested.
- 3. There are several considerations in selecting a minor: 1) One consideration is to pick minors that support your research topic in terms of subject matter; there may also be the added benefit that some minor members related to your research may collaborate on your research and have laboratory equipment/expertise that would strengthen your dissertation but is/are not currently available for you to utilize; and 2) another consideration is to pick minors that correspond with areas of expertise that you wish to acquire for future jobs

D. YOUR DISSERTATION:

- Coming up with your dissertation aims takes time (it's normal!) and things can (and typically do) change as you go along. It's definitely possible to finalize your thesis topic and complete your A Exam by the end of second year, but that is by no means a requirement. It's more important to talk to your committee and figure out a timeline that makes the most sense for you. And older graduate students are a great resource for this as well :)
- 2. Your dissertation does not have to be what you propose in your A exam, although often it is; there is flexibility depending upon your committee.
- 3. Ask your PI, sometime after the time of your A exam, to see a copy of past students' dissertations to get a feel for what yours might look like.

E. TYPICAL COURSEWORK:

- 1. Plan accordingly with coursework because many graduate courses are not offered regularly due to professors' schedules/lack of enrollment numbers.
- 2. Once you form your committee and pick your minors you will have a better idea of what classes you need to take to fulfill your major and minor requirements. You can take courses S/U, for a grade, or audit, if your committee is okay with this.
- 3. By the time you present in NS 7030, you may have already chosen your committee. Inevitably, there will be someone in the Division that you would've liked to work with, but who couldn't be on your committee, didn't represent one of your preferred minors, came to Cornell after your committee was chosen, etc. Use 7030 as an opportunity to work with these individuals and to expand your mentoring team beyond your committee or use this as an experience to work with potential committee members.
- 4. You can present in NS7030 without enrolling in NS7030 if necessary. This is especially helpful if you have a class conflict but would like to get a presentation checked off the list. I found



the Fall semesters to be a good time to present (at least for your first one) because you have the summer to work on it.

F. GRADUATE STUDENT FUNDING:

1. Teaching Assistantships:

a. While TA-ships can be a lot of work, many grad students are strategic about which classes they request so that they can use it as an opportunity to "audit" a class they want to take (e.g., if you are a student looking to complete the DPD coursework) or bolster a specific area of expertise.

2. Internal Funding:

a. Some students are on training grants through DNS so it could be useful to reach out to the Division Director of Nutritional Sciences for more information on these grants.

3. Research & Travel Grants:

a. Consider skimming through the various email you'll get from the Division and the Graduate School! These emails contain opportunities for not only scholarship and grant funding, but also leadership opportunities, workshops, and much more. It is through these listservs, and the activities that I've become involved in because of them, that I've really fleshed out my CV and expanded my friend base to individuals both within and outside of the Division.

G. RESOURCES

1. Conferences

- 1. It'll be helpful to talk to your mentor and other students in your research group to get a better idea of other conferences that are specific to your area of research. Some examples of conferences include:
 - 1. Food and Nutrition Conference and Expo
 - 2. International Congress of Nutrition
 - 3. Folic Acid, Vitamin B12, and One Carbon Metabolism FASEB Science Research Conference
 - 4. ENDO Endocrine Society annual meeting
 - 5. Socidedad Latinoamericana de Nutrición (SLAN)
 - 6. Obesity Week The Obesity Society Annual Meeting
 - 7. International Conference on Global Food Security
 - 8. Agriculture, Nutrition, and Health (ANH) Academy Week
 - 9. Micronutrient Forum
- 2. It may be worth the time to figure out in advance when the conferences you're interested in attending or presenting at will take place so you can plan accordingly. Most abstracts for posters or oral presentations at these conferences may have early deadlines.

2. Writing



a. A great writing support for international students: <u>ELSO</u> (English Language Support Office) offers free writing tutoring services, courses that help students to start writing research papers, as well as courses to help students complete their thesis/dissertation (highly recommended).

3. Faculty & peer support

- a. If you have questions or concerns, or just want a sounding board, it can be useful to chat with the DGS (currently Barb Strupp), or with someone in Grad School Student services, such as Janna Lamey.
- b. If you have questions, don't hesitate to reach out to faculty or fellow grad students. Older grad students in particular have experienced many of the same things you have/will and are willing to offer helpful advice (as others did for them). Remember, we are all in this together and no one should have to figure things out on their own (nor are they expected to!)

4. Research & Teaching Resources

- a. Consider attending workshops/trainings from the following campus resources:
 - 1. <u>Cornell's Center for Teaching Innovation (CTI)</u> if you're interested in gaining skills relevant to teaching, you may find their workshops helpful
 - <u>Cornell's Statistical Consulting Unit (CSCU)</u> if you want extra assistance on statistics, a statistical software like R, and data analysis, attend a scheduled workshop at CSCU or set up a consulting appointment
 - 3. <u>Cornell Institute for Social and Economic Research (CISER)</u> provides remote computing resources for research and consultancy services for data management, acquisition, storage, reproducibility, etc. and holds workshops on both qualitative and quantitative software packages
 - 4. <u>Qualitative and Interpretive Research Institute (QUIRI)</u> hosts seminars for faculty and students interested in qualitative research and the social sciences
 - 5. <u>Cornell University Library</u> each library offers a variety of workshops for you to choose from. For example, if you are interested in identifying the best reference manager (software that is used to generate bibliographies, citations for papers, and generally keep track of all of the literature you find/read/are sent to read) such as Endnote, Mendeley, or Zotero, Mann Library occasionally has workshops that walk you through how to use each of them.
- b. Websites for Cornell trainings (e.g., BBP, IRB, Animal handling, etc.) that you may also find useful:
 - 1. CULearn: https://culearn.adminapps.cornell.edu
 - 2. IACUC/animal trainings: <u>https://www.iacuc.cornell.edu/training/</u>
- c. The Cornell Graduate School also hosts plenty and a variety of professional development events. You should be receiving weekly emails from them every Monday!
- d. Consider applying to other opportunities from other universities. For example, Syracuse University hosts a <u>Summer Institute for Qualitative and Multi-Method Research</u> in June which requires an application due usually by November/December of the preceding year and is a competitive process.



H. NON-ACADEMIC ADVICE:

1. Getting Social:

- 1. Consider joining a working group on campus! Not only could you use that space to bounce ideas off of students from other fields, but you may also develop friendships along the way!
- 2. Tell Grads It's Friday (TGIF): Come to the Big Red Barn on Fridays at 4 p.m. for \$1 beers and the opportunity to chat with fellow grads within and outside of our field! It may seem a bit trivial but the community built and informal conversations that come along with these have and I'm sure will continue to shape my graduate experience.
- 3. It wasn't until I started exploring the surrounding community and attended community events that Ithaca started feeling more like home. It may feel like a small town to those who come from larger places, but its size belies all that it has to offer beautiful hiking, community sports clubs, festivals, a variety of theaters showing new and old movies, plays, singers and comedians, shopping on the Commons, an amazing assortment of restaurants (many of which participate in 'restaurant weeks' throughout the year where you can try their fare at a discounted price), First Friday events, free concerts, and much more.
- 4. Cornell outdoors education has a lot of amazing opportunities for students (climbing, camping, kayaking, etc.). The Cornell Outings Club is an excellent listserv for anyone who wants to find people to go do things outside with.

2. Finding Housing

- a. I would recommend finding (and in some cases, potentially spending a little extra money on) a space in which you can truly feel 'at home'. We work long hours, so coming back to somewhere you can really relax, feel comfortable, and unwind is worth the money.
- b. Cornell has lots of resources for learning about how, where, and what to look for in housing: <u>https://gradschool.cornell.edu/admissions/admitted-students/living-in-ith-aca/housing/</u>.
- c. Most longer-term (1 year) rental opportunities in Ithaca can be found on Craigslist, and sublets are often best found through Cornell Housing Facebook groups, you can get a great deal if you're only going to be in Ithaca for a semester. For normal rentals, don't delay; most leases are signed by October or November a year before the lease starts!

3. Support for Families

- a. Cornell offers childcare grants as well as resources for partners (e.g., employment workshops and partner/spouse happy hours at the Big Red Barn): <u>https://stu-dentswithfamilies.cornell.edu/</u>.
- b. Graduate students are entitled to paid parental leave when they have or adopt a baby: <u>https://gradschool.cornell.edu/policies/maternity-and-paternity-options-parental-accommodation/</u>



APPENDIX 4 - Cornell Resources for Graduate Students

Cornell Graduate School

- Admissions
- Financial Support
- Diversity and Inclusion
- <u>Career and Professional Development</u>
- Graduate Student Communities
- Graduate Student Perks and Discounts

Mann Library Resources

- Mann Library
- <u>Consultation Services</u>
- <u>Evidence Synthesis Service for Systematic Reviews</u>
- Disciplinary Science Team

Center for Teaching Innovation Graduate Student Resources and Training

- <u>Center for Teaching Innovation</u>
- <u>TA Resources</u>
- TA Online Orientation
- Workshops and Webinars
- Graduate Student Training Programs
- Graduate Student GET SET program

Student Disability Services

<u>Student Disability Services</u>

Mental Health Resources

- <u>Cornell Health Mental Health Care</u>
- <u>24/7 Phone Consultation</u>
- EARS peer counseling
- HEAL peer to peer support in Mandarin

APPENDIX 5 - Things to do in Ithaca

Arts and Culture:

- Ithaca Farmers Market
- John Hartell Gallery
- <u>Museum of the Earth</u>
- <u>Ithaca College Theater</u>
- Ithaca Commons
- <u>Cornell University Schwartz Center for Performing Arts</u>
- <u>Cornell University- Herbert F. Johnson Museum of Art</u>



Local Festivals

- Apple Harvest Festival
- Ithaca Festival
- Gallery Night
- <u>Summer concert Series</u>
- Winter Lights and Bites
- <u>Chowder Cook off</u>
- <u>Chili Cook off</u>

Vineyards and Wine Tasting and Cideries:

- <u>General link to Cayuga Lake wineries and Cideries</u>
- Cayuga Lake Wine Trail
- Seneca Lake Wine Trail
- Keuka Lake Wine Trail

Local State Parks, Waterfalls and Walks

- Fillmore Glen
- Buttermilk Falls
- Robert H. Treman State Park
- <u>Taughannock Falls State Park</u>
- Black Diamond Trail
- Ithaca Falls

Local Fruit Picking and Farms;

- Indian Creek Farm
- Little tree Orchards
- Grisamore Farms
- Halls' Hill Blueberry Farm
- Hillberry Farms

Cornell Campus to Campus Bus Service – Trips to New York City

• <u>Campus to Camus Bus</u>

Nearby Airports

- <u>Ithaca International Airport</u>
- Elmira Airport
- <u>Syracuse Airport</u>
- <u>Rochester Airport</u>
- Buffalo Airport

Ithaca Restaurants:

Ithaca Bakery



- Purity Ice Cream
- Moosewood Restaurant
- Ithaca Beer Company
- MIX Kitchen and Bar
- <u>Mia Tapas Bar and Restaurant</u>
- <u>Agava</u>
- Saigon Kitchen
- Taste of Thai
- The Heights Café and grill
- Hound and Mare
- The Greenhouse Café and Cocktail Lounge
- <u>The Rook</u>
- <u>Tamarind</u>
- <u>Allechant</u>
- Bickering Twins Restaurant & Tequila Bar
- Thompson and Bleeker
- Franco's;
- <u>Kilpatrick's Publick House</u>
- <u>Kimchi</u>
- Spicy Asian
- <u>Hawi</u>
- New Delhi's Diamonds



APPENDIX 6 - CORE RESOURCES AVAILABLE TO DNS GRADUATE STUDENTS

Departmental Equipment:

Sable Systems Promethion Metabolic Screening System (16 individual units) used to quantify mouse movement, food/water intake, metabolism, and substrate (carbohydrate and lipid) utilization.

LightCycler 480 II Real-Time PCR (qPCR) is required for performing quantitative real-time PCR. **BioRad MyCycler Thermal Cycler** gradient-enabled thermal cycler used for conducting PCR.

NanoDrop 200C UV-Vis Spectrophotometer is required to precisely measure nucleic acids (DNA and RNA) and protein concentrations. This is a critical step for many downstream molecular biology applications such as PCR, molecular cloning, ELISA, western blotting, and others.

BeckmanCoulter Optima L-90K Ultracentrifuge is utilized for separation of subcellular fractions by high-speed centrifugation.

EMD Millipore Simplicity Ultrapure Water System distills and deionizes water. Ions in water often interfere with biochemical assays.

Sorvall RC-5C Plus Centrifuge is used for phase separation by centrifugation (fundamental for RNA, DNA, and protein extraction protocols).

Beckman Coulter Scintillation Counter is used for measuring radiolabeled tracers for cell growth and DNA synthesis assays.

Tecan Spectrafluor Plus Microplate Reader is used for conducting biochemical, enzymatic and ELISA assays for measurement of reactive oxygen species, apoptosis, and other enzymatic activities in cells/tissues. These assays could be colorimetric, fluorescent or luminescent. This plate reader capable of performing all three types of measurements.

Agilent Seahorse XFe24 Analyzer measures the rate of change of dissolved oxygen and pH in the media immediately surrounding living cells cultured in multi-well plates.

Nexcelom Celigo Imaging Cytometer for high throughput brightfield and fluorescent cell imaging of either live or fixed cells cultured in multi-well plates.

Protein Simple FluorChem E System detects chemiluminescence from Western Blots over a 5-log dynamic range using a high-resolution charge couple device (CCD) sensor

Shimadzu TQ8030 GC/MS-MS is a triple-quadrupole gas chromatograph/mass spectrometer capable of fragmenting analyzed masses for improved signal-to-noise and sensitivity in stable isotope tracer experiments and metabolomics measurements.

Leica CM1950 Cryostat is used for sectioning tissue.

Shared Resources Facilities and Research Interest Groups

Facilities:

<u>Cornell Institute of Biotechnology</u>—an umbrella for several campus-wide shared facilities including:

Bioinformatics facility: cloud computing and data storage

Flow Cytometry Facility: cell sorting and analysis

Genomics Facility: Sanger and "next-generation" sequencing and sample prep/QC

<u>Imaging Facility</u>: confocal microscopy, high-resolution X-ray Computed Tomography, high-resolution ultrasound, laser capture microdissection



<u>Proteomics and Metabolomics Facility</u>: targeted and non-targeted metabolomics, proteomics, useroperated HPLC and HPLC-MS

<u>Human Metabolic Research Unit (HMRU)</u>: infrastructure for investigators in the Division of Nutritional Sciences who conduct research involving human participants

Stem Cell and Transgenic Facility: design and production of transgenic mouse models

<u>Animal Telemetry/Surgery Core</u>: provides research labs with a resource for assistance with mouse surgical procedures

<u>Transcriptional Regulation & Expression Facility</u>: provides end-to-end genomics profiling services including RNAseq, small RNA sequencing, and ATACseq

Interest groups:

<u>Center for Vertebrate Genomics (VERGE)</u>: enhancement of research and education in vertebrate genetics and functional genomics at Cornell

<u>Cornell Stem Cell Program</u>: part of NYStem program fostering cross-disciplinary collaborations among laboratories studying stem cells

<u>Comparative Cancer Biology Program</u>: facilitates comprehensive interdisciplinary training and rigorous hypothesis-driven research in comparative cancer biology

<u>Cornell Center for Immunology</u>: builds synergistic collaborations to enhance research capacity and scientific discovery in immunologic sciences

<u>Cornell Neurotech Collaboration</u>: developing technologies and powerful new tools needed to reveal the inner workings of the brain, with a particular focus on how individual brain cells and complex neural circuits interact at the speed of though

Microbiome Supergroup

