Chapter 9

Essays
In this chapter, we present a few essays, most of which are written by engineering graduate students at Cornell. The essays written by students are collaborative effort and reflect many different perspectives. They contain information beyond that addressed in the previous chapters. EGSA is very interested in your opinions and would love to include even more essays in the next version of this handbook. Please contact us at egsa@cornell.edu with your contributions.

9.1 Understanding Cornell

There are a number of Cornell policies, rules, and administrative structures that you’ll encounter as a graduate student and unfortunately, there will be times when it seems that things are set up to be difficult for engineering graduate students. It’s sometimes easier to understand why Cornell operates the way it does if you have some background about the university.

As a graduate student, one of the important distinctions to understand is the role of the Graduate School as compared to the Engineering College. Cornell has two types of non-undergraduate students: graduate students and professional students. Professional students are enrolled in the Law School, the Johnson School of Management, the College of Veterinary Medicine, or in the New York City-based Medical School; they will receive a J.D, M.B.A., D.V.M., or M.D. respectively. Graduate students are pursuing a Ph.D. or a variety of Masters degree (M.S., M.Eng., M.A., etc.) Graduate students that are pursuing a Ph.D. or a M.S./M.A. are accepted into and enrolled in the Graduate School. M.Eng. students enrolled in the M.Eng. degree program run by the Professional Programs Office in the College of Engineering. Where you are enrolled affects how you register and sign up for classes — Ph.D. and M.S. students should do this through the Graduate School, not through the College of Engineering.

Within the College of Engineering there are a number of schools, departments, centers, and interdisciplinary programs, each of which employs faculty who can advise graduate degrees, though not all of these units offer all types of graduate degrees, and some graduate degrees are not specific to a particular unit. There are 13 M.Eng. “major fields” within the M.Eng. degree program. A major field is headed by an M.Eng. program director. There are 15 graduate fields that Ph.D. and M.S. students can be associated with. Graduate and major fields (we’ll just call them “fields” here...) are not the same as departments. Fields are made up of a collection of faculty who can chair committees for graduate students within that field. Some departments also have associated fields where all of the faculty in that department are also in the field, and some fields do not have any corresponding department and the faculty within the field are from a range of departments around the University.

Your graduate or major field sets more specific requirements than the University or the Graduate School do. The general requirements for receiving a Masters or Ph.D., such as the format for the thesis, the number of semesters you have to be enrolled to receive each degree, or the number of people on your committee, are set by the University and/or the Graduate School. These requirements are the same across all fields within that degree program. However, your field will also have specialized requirements. For example, it may require you to take qualifying exams, to have a member of your committee be from a particular department, or to complete an M.S. thesis before becoming a Ph.D. candidate. Your field will determine how many classes you need to take, of what types, and what grade you need to get for them to count. In general, your field’s requirements will be more specific than the University or Graduate School’s requirements. We have tried to describe most of the general requirements in Chapter 1 of this handbook. Your field should inform you of their specific requirements. If they don’t, you should talk to your Director of Graduate Studies or M.Eng. Program Director. It’s always a good idea to get a written copy of the requirements and to check in with your advisor once a year to verify that you’re on track and meeting the relevant requirements for your stage in the program. Fields change their requirements more often than the University or Graduate School, often with less publicity and sometimes without grandfathering in the changes.

Another point to keep in mind is that the largest group of students at Cornell is undergraduates. In
9.2 HOW TO SUCCEED IN GRADUATE SCHOOL

The fall of 1999, there were over 13,000 undergraduates enrolled at Cornell, and just under 4,000 graduate students. This means that when you go to an administrative office that deals with all students, they are going to be the most familiar with how to handle undergrads. Furthermore, while many undergraduates can be on full or partial financial aid, there are also a number of undergraduates whose tuition, room, and board are being paid by their parents, and whose parents are still taking an active role in their education.

How might this affect you? When you enroll at Cornell, you are asked for a local address, a summer address, and a permanent address. As a graduate student, you will probably have all three be the same. In fact, if you give as a permanent or “home” address your parents’ address, your bursar bill and grades will get sent there instead of to you. This is because many undergraduates have their parents pay their bursar bill and their parents expect to see their grades. Be particularly careful of this if you are an international student or else your bursar bills will get shipped out of the country and you might have a hard time paying them on time.

Another example is the dining plans that are offered. As is pointed out in section 7.2 of this handbook, even the debit-style eating plan that most graduate students would use is a bad financial deal when you consider that the convenience of charging your meals to a meal plan card aren’t any greater than charging them to your credit card. However, many undergrds have their bursar and/or dining debit cards paid by their parents while their credit cards would not be. Seen in this light, the dining plan may not be the cheapest plan, but it is a convenient way for parents to pay for food on campus and being sure that’s what it’s used for.

As a graduate student, there are a variety of ways your expenses might be paid: you may be paying them yourself, you may have a TAship, a fellowship, an RA, or an employer may be financing your graduate education. Depending on the situation you are in, the amount of your stipend, if any, and your tax situation will vary, and you may or may not have student activity fees, travel to conferences, or other expenses covered. Additionally, some fields may supplement outside funding sources, or provide field-specific travel grants. These are questions that your funding agency and/or field should be able to answer for you. You should not assume that the registrar or bursar’s offices have accurate information about your precise situation. For instance, the bursar assumes that RAs do not cover student activity fees, though some do.

It is inevitable that Cornell bureaucracy will trip you up some time during grad school. Having some perspective on the system might help you figure out how to handle it, and there are some general tips to keep in mind as well. If things are taking too long, or getting messed up, call the people handling your problem yourself rather than letting someone in your field act as the middleman. If you walk into an office in person, sometimes things get cleared up more quickly. And probably the best rule of thumb for getting through Cornell bureaucracy is to ask graduate students ahead of you in the program what they did.

9.2 How to Succeed in Graduate School

The EGSA held a panel discussion on October 27, 1999 focused on how to succeed in graduate school. A panel of consisting of graduate students in their last phase of Ph.D. or those who have graduated (with a Ph.D.) from Cornell in the recent past from a range of engineering departments answered questions about what it takes to get a Ph.D. at Cornell, from the start of the process, to writing up and doing a job search. Hopefully the following summary of the panel will give you some insights and help you avoid a few pitfalls.

What strategies do you have for coping with frustration?

Don’t hide from your advisor, even when things aren’t going well. It is important to talk to someone when you are frustrated, and your advisor is a logical choice. This can really help to get you back on the right track.

Have another outlet, such as running, to release your frustrations.
How did you pick an advisor and what advice do you have to give on picking an advisor? What should you look for in an advisor?

Take your time! TA for your first few semesters to have time to look around.

Talk to other grad students and see if they are disgruntled with their advisors; if they are, take this as a cue that there might be a problem with that advisor.

Spend a lot of time talking to faculty that you might want to work with. See if they would be open to working on what you want to work on.

Check if you can work with people outside of your department and consider that option as well.

Go with your instincts about an advisor and whether they are a good match or not.

How often did you have meetings with your advisor regarding progress? Did you arrange these meetings?

Some people schedule regular meetings with their advisors. I had regular group meetings each week and then individual meetings were scheduled at my initiative.

Make sure you are having meetings with your advisor. Twice a month is a good number to have.

Every two weeks is a good time schedule for individual meetings. There is enough time between meetings to accomplish something but they are close enough together to keep you on track.

Did you discuss funding issues with your advisor before choosing him/her as your chairperson?

Yes — I was assured of funding for the whole program when I selected my advisor. It’s important to sort this out.

Yes — with my first advisor there was no funding for my project but I had a fellowship. With my second advisor there also wasn’t money available, so we agreed that I would TA. It is good to straighten funding out early so that you know what is ahead of you when you begin.

How many different projects did you work on during your Ph.D. time? How did you get your thesis going?

I worked on two distinct projects — my thesis topic and what is now my current research. When I was about halfway done with the thesis I got stuck and worked on the other project. About 12 months before my thesis was finished I saw that the new project was actually key to the thesis problem. Working in this way was not a plan of action, but other research activities can have value.

I’m on my 8th research project now, having gotten stranded on the previous projects for various reasons. I wanted to cover a wide spectrum of topics in graduate school, and while it is frustrating to not have it all incorporated in my thesis, it is good overall to work on a few projects.

Two — the first for approximately a year and then I started my thesis the summer before my third year. I worked in spurts — on for 2 months, then off for a while.
How much sleep should we really be getting?

About 6 hours a night for the first year or two, and about 8 hours a night after that.

During your first year, you’ll never study “enough” so make sure you sleep some. After that, maybe 6 hours a night.

Yup, 6 sounds right.

I have joined a group already; if I found out now that that project I will be working on is not good for my future (career opportunities), what can I do?

Talk to people on projects that you are interested in and introduce yourself to their advisor.
Talk to the advisor and explain what you want in a project. Sell yourself and go looking for what you want, because it isn’t going to come find you.

Talk to different professors, and if you let them know you want to keep it between the two of you, they will.

If you don’t like the project, but you do like the advisor, you can sometimes renegotiate your project.

What do you wish you’d known coming into grad school? Do you have any advice for first year students specifically?

I wish I’d known how hard the first year is; brace yourself when you are starting.

I agree — you jump from your experiences in college where you succeeded so well and your expectations may be off. You can’t take as many classes at once. You need to be an analyst in grad school, not just a number cruncher.

I wish I’d known what I wanted to do. I came to grad school because I was excited by my undergrad research but didn’t know what I wanted to do afterwards. Start thinking now about your end goals so they can guide your grad school career. Go to company info sessions, conferences, etc.

In grad school everyone is good and the work is challenging. You can’t take 4–5 courses and do research as a graduate student. I came to grad school to do research as a “buffer” before work since I felt too young to start a job and wish I had looked at other options earlier.

How much have your career choices been influenced by your advisor’s advice?

My masters and undergrad advisor influenced my decision to go to grad school a great deal. My current advisor is also important. Your advisor affects your lifestyle and what your choices will be.

My advisor is laid back; I don’t have a picture of where I should go so it is fortunate that things are this way since some advisors try to spit out clones of themselves. You should look at what an advisor’s students have gone on to do and see if that is what you want.

I had thought I would do a postdoc and then teach, but my advisor has said, in my field, that academic jobs don’t look good on resumes and I shouldn’t apply for those jobs. Your advisor is your window to the outside world and a resource for you to use.
The decision to do a postdoc can depend on your thesis. My advisor suggested it since my thesis was largely theoretical and “old style”. Doing a postdoc gives me a marketable, practical aspect as well.

Your advisor, if you have a good relationship, is someone you can talk to about thoughts about your career, including the ethical and social issues surrounding your choices.

**How do you make a strong connection with your advisor?**

It’s a two-way street. You have to make meetings, but also get to know them as a person outside the academic setting. Advisors often invite students to dinner, have beer, etc. and these are good things to participate in since they allow for informal talk.

Your relationship with your advisor is important and has a lot of influence on your life. I sometimes resent that and try to separate out the professional side of the relationship and not mix in a personal relationship. I feel more comfortable having only a professional relationship with my advisor and having a separate life.

My first advisor was like a friend almost, and when I switched groups it was personally a problem. With my current advisor, our relationship is professional; this is something that my advisor promotes as well. It’s okay not to be comfortable socially with your advisor outside of Cornell.

**What experiences or techniques have you found to better your teaching ability?**

Taking part in the TA development program and being a TA fellow are good experiences. I enjoyed TAing because it gives you one-to-one interaction with students and practice talking in front of people. You can take ideas from other TAs and TA fellows.

Watch professors whose lectures you like, and practice.

Seek opportunities to teach and speak publicly. Volunteer to demonstrate experiments, etc. Expect criticism and bad days (it happens), but keep trying.

Steal other people’s techniques shamelessly.

Do outreach. Teaching undergrads is easy once you realize how hard it is to teach high school students. Cornell has a strong outreach program. [Editor’s note: see Section 3.6.3 for more information on Cornell’s outreach program.]

Even as a grad student you can be a lecturer for a low level math class. If you are interested in teaching, look into this. It makes a huge difference in comfort with speaking, including in research situations, and in writing applications for teaching jobs.

Know your students well, what their work is like, and monitor them.

Keep things in perspective, including the material that you are teaching to the students. Help them keep life in perspective.

*Do you ever get discouraged? How do you keep yourself motivated for n years? What happens if you just want to quit? Should I stay if I feel it is all for nothing?*
I have felt frustrated at points all along the way, and still have questions about where to go with my career. It is your choice whether to stay in your field or not.

If you are having fundamental doubts about your field, listen to that and talk to people, especially your advisor, about these issues. Also talk to people outside of your department/your field/Cornell. Address the problem from many points of view.

I get discouraged; I go in cycles of asking “Why am I here?”. It is often helpful to think about good things that are happening, such as the flexibility you have as a grad student, or about positive aspects of your social life. Think about why you are in grad school, your goals, and what the Ph.D. will let you achieve.

If grad school really isn’t for you, then leave. Don’t stay just to not have an unfinished Ph.D.

Just because you started, you don’t have to finish. Grad school might not be for you. It does take courage to quit, and is hard to do.

If you are offered a fellowship where you have to pay it back if you don’t finish and after your first year you aren’t certain, find another source of funding.

Which year did you begin research or working with your advisor? When did you really start working on the problem(s) that went into your thesis? Are you satisfied with the work that you have done for your Ph.D.? Were your expectations fulfilled?

I started research my first summer here, having arrived in the spring, which is rare. I’m fairly satisfied up to a point, though not with my pace through the program.

I started working with my advisor the summer after my first year and started my thesis work the summer after my second year; it took me five years to finish. I’m satisfied now, though I wasn’t during the process. Things came together when I was writing up.

I started my thesis research this past May [1999] and want to be finished summer 2000. I’m satisfied; I’m doing what I came into grad school wanting to do.

I did some research my first year, and started my thesis research three years ago. I’m not really satisfied with my work. I was naive when I began and my expectations were too high for what could be accomplished. Research is not my favorite thing. I’m writing up what I have since it’s time to finish. The compensation is that I’ve had a good time in grad school and met neat people.

I started my thesis work five years ago. I’m satisfied: neither ecstatic or disappointed. I maintained my initial vision for the project and it was well-written. One down-side is that I left enough for the end that there were critical questions that I only saw at the end. Writing is important even though it is hard since it makes you process your thoughts.

For more advice from Cornell grad students in their own words, check out the “Grads Speak” section of this handbook in Chapter 10.
9.3 Women in Science and Engineering

“Oh. Well, I bet you got your fellowship because you’re a woman.”

I heard those words from a fellow graduate student within two weeks of my arrival at Cornell. The question of funding came up, and this person, evidently feeling bitter because he had not received a NSF Graduate Fellowship himself, was compelled to offer this comment.

“You wouldn’t notice any of these gender issues if you weren’t looking for them.”

This sage bit of advice was offered by a senior faculty member in my department. Personally, I found this rather offensive, as I had had a wonderful undergraduate experience in which the question never came up. It was only upon arriving in graduate school that I began to see certain things. I certainly wasn’t looking for them!

I could offer more examples of pithy comments that I’ve heard over the years as a woman graduate student in Engineering, each of which did its part to tear at my sense of self, to make me feel like maybe I really didn’t belong here, and to chip away at my confidence. But that’s not the point of this essay. The point I would like to emphasize is that no matter what happens during the course of your graduate studies to tear down your self-esteem and your confidence, I’m telling you right now you need to resist. You may run into people who’ll make comments like the above. You may not; women’s experiences in the College of Engineering vary widely. If you do, however, keep in mind that you are not alone, and keep telling yourself that you really do belong here and that you will succeed.

There are several resources available for women in science and engineering. The Society of Women Engineers (SWE) is primarily an undergraduate organization, but they are always looking for more graduate student involvement. The office of the Women in Engineering Program is located in 167 Olin Hall (C5–6). And, of course, you can always contact the EGSA or any of its representatives, many of whom are women grad students. Whatever you do, don’t let yourself become isolated.

I’m still here and expect to complete my Ph.D. The fellow graduate student who made the comment I quoted at the beginning of this essay? He dropped out.

9.4 Teaching Assistantships

Most graduate students find themselves working as teaching assistants for a few semesters, and a few do practically every semester of their graduate careers. While many see it as a necessary burden to pay the bills, I think that’s too bad, since it is often a rewarding experience. Eventually, nearly all of us will have the chance to consider teaching as a career, and the best way to make such a decision is to try it out. But more simply, I have had a lot of fun as a TA, and hope that others will too.

Teaching assistantships generally come as “full time” which is 15 to 20 hours of work per week and pays tuition and stipend, or “half time” which is 7.5 to 10 hours per week, and pays tuition, or stipend, or half of both. M.Eng. students are only permitted half-time TAships, and are usually paid a stipend but not tuition. As with everything, exceptional cases arise and other arrangements are possible. Be aware that working as a “grader” is very different and is to be avoided. Graders are paid by the hour, at a wage comparable to flipping burgers at Wendy’s but without the free food. Do this only if the professor knows you’re doing her (or him) a BIG favor.

As a teaching assistant, you are responsible for making the class run as smoothly as possible, by working up to an average of 15–20 (or 7.5–10) hours per week, including the two weeks before classes start — even though most professors won’t ask to see you then. If the average time required of you runs over this, you are fully justified in asking the professor to change the situation. You may find it helpful to keep a log of hours worked. The duties of a TA vary widely depending on the class requirements, but generally involve...
a mix of running class sections and review sessions, supervising labs, giving an occasional lecture, holding office hours, grading, doing lab preparation, and answering student questions by email or when they drop by your office. Many of these are discussed in separate sections below. It is entirely up to you and the professor to decide what combination of these is needed and appropriate. For large classes with more than one TA, it is sometimes easiest to alternate duties, taking turns on grading lab reports for example.

**Grading**

There are as many ways of grading a stack of papers as there are TAs, so experiment and decide what works best for you. My own method is as follows. I work the entire assignment myself, carefully and completely, and then decide how many points to award for each concept required in each problem. Often I'll know particularly strong and weak students in the class, and I'll grade a few of their papers first to test my grading criteria, which I can then adjust as needed. The remainder of the grading should then be tedious but easy. I usually grade assignments in unsorted order to avoid consistent biases, such as being grumpy by the end of the alphabet. Finally, I'll regrade the first couple papers as a check to see if my criteria have drifted.

Assigning final letter grades is usually the job of the professor, but the TAs are often involved as well. One standard method is to compute a final numerical score for each student, from a weighted average of homework, test, and project grades. With luck, a histogram of the final scores will have notches between clumps of students. It is natural to assign tentative letter grades to each clump. The students near the boundaries of the clumps then need individual consideration, and this is the chance for some subjective input. If a student did unexpectedly badly on an exam, or was substantially assisted by his lab partner, this is the time to shift his grade up or down a little. This may mean that a student with a slightly lower numerical score than another may get a higher letter grade, and for this reason, I am generally not an advocate of posting final letter grades. While the decisions are justified and fair, it can only breed ill will among the students.

Also see the privacy section below for some concerns with grades, and Section 9.5 for some further reflection on these issues.

**Class Sections and Review Sessions**

While teaching assistants don’t often teach new material, we often find ourselves at the head of a classroom answering questions about homework assignments or reviewing material for an exam. Getting stuck on a problem with everyone watching is an embarrassment, and being thoroughly prepared is one’s only defense. I generally try to prepare a list of problems and solutions in advance, so when a student asks to review a concept, I have an example problem at hand that illustrates it.

But sometimes one does get into trouble at the blackboard. My only advice is not to bluff since the class can tell, and working against the students is a losing proposition; instead try to work with them, and ask the class to help identify the problem with you.

While there are perils to this job, sometimes when going over the same material for the third time, a student’s eyes will light up when they suddenly understand, and you know you’ve just created something of value. That is a very rewarding part of being a TA.

**Giving Lectures**

The moment of glory as a TA is when the professor is out of town and the class is yours. The professor will probably give you notes, or at least a solid idea of what he or she expects you to teach. But no matter how much written material you’re given, preparing a lecture takes a lot of time, easily four hours of preparation per hour of class time.
Office Hours

TAs are generally expected to schedule one or two office hours per week. Obviously they should be timed to be convenient for the students, but I’ve found it worth avoiding the evening before homework assignments are due. This is when frantic students come by simply because it’s easier to ask than to think, and that isn’t productive for anyone.

Often few students will stop in during the hour, and it’s natural to grade papers during that time. I try not to do that though, since when a student does come by, there’s an uncomfortable moment of shuffling papers to hide the grade book and visible scores. That’s hardly a good way to set a comfortable tone and begin a conversation.

Student Privacy

Be aware that privacy rules prevent making any student’s grade visible to others if the student can be identified. This obviously includes names, but it also includes the Cornell-assigned ID numbers, and arguably the handwriting too. Returning assignments by hand is preferable, but in large classes, that can be difficult. Often students pick a random number, identify their homework only with that, and then pull their assignments out of the stack of graded papers themselves. Similarly, if you wish to post scores, some identifier must be used other than name or student ID.

Another interesting concern involves keeping grades on computers. When using networked machines, be sure to disable read permission for others on such files; Unix for example generally defaults to making a file readable by everyone. Also be careful when using computers belonging to your research group, since security from other group members (who may actually be in the class you’re teaching) is often poorly controlled.

9.5 A Brief Philosophical Discussion of Grading

Grades serve two purposes: to judge and to motivate. Because judgment is a messy business and is unrelated to a university’s mission of education, it has often been suggested that grades should be abolished. However, the power of grades to motivate is truly stunning, and it is this that assures their place in academics.

As teaching assistants, grading becomes our business, often more than that of the professors we are working for. With the power of assigning grades comes responsibility. We must aim to maintain their value in motivation, which requires that they be perceived as fair. Grades are also a primary source of student stress, which we can try to alleviate by being forthright about grading policies and open to student questions. My own thoughts on how to achieve these goals follow, but opinions vary widely.

Perhaps the most common question is whether one grades “on a curve”, where one’s grade is assigned relative to those of his classmates, or on an absolute scale, where 90% is an A, 80% is a B, and so on. I don’t know anyone who so strongly advocates an absolute scale that he or she wouldn’t make the final exam easier if a class does badly on the prelim. Thus it really doesn’t make sense to claim to use an absolute scale. For a large class, grading on a curve is not statistically unreasonable. A small class, though, will sometimes be unusually strong or weak, and the best we can do is to base our judgment on experience in previous years. The professor, or TAs who have this experience, should be the ones determining the grading scale. It is worth noting that for grading purposes, the average score is meaningless and tells only whether the assignment itself is of an appropriate difficulty for the class. It is the variation in the scores that distinguishes students from one another. Statistically speaking, students come with a range of abilities, and each graded assignment is a measure of that ability, with the inevitable measurement error. A large number of different types of assignments provide a more accurate estimate, since the measurement errors should be uncorrelated. Moreover, statistics tells us that measurements with smaller variances should be
weighted more heavily in the final estimate. This is one reason why an exam might be weighted more than a homework assignment that actually takes longer to do, and is a point that deserves consideration when picking weights for class projects.

Reducing the unnecessary stress that grading imposes on students is primarily an art, but a few thoughts on the subject may be helpful. Numerical scores on homework assignments, and even on exams, have fewer of the emotional implications that letter grades have, and often are easier to assign and manipulate objectively. It is often easiest to keep all scores numerical until the end of the semester, when a final translation to transcript grades must be made. A method for doing this was mentioned in Section 9.4.

After an exam, it is inevitable that a few students will stop by with complaints about the grading, sometimes justified and sometimes not. Simple arithmetic errors in the grading are easily corrected, but other objections are more difficult. It is tempting to shoo the student away with a comment that a couple points won’t affect the final grade, which is probably true but not what the student wants to hear, but this is a mistake. In rare cases, the student will have a valid point; perhaps his work was ambiguous and misunderstood when graded. More often, the complaint is poorly founded. A patient and candid discussion about how the questions were graded demonstrates fairness, can be a learning experience for the student, and usually won’t change the score more than a point or two. Such a change in the score should not give the student any perceptible advantage over a student who did not complain; if it does, there is a much deeper flaw in the grading system.

9.6 Surviving an Ithaca Winter

I was raised in Tennessee. Whether or not that is part of the so-called “Deep South” is a matter of debate, but it’s definitely well south of Ithaca. Winters in Tennessee are mild. That is to say, it is easy to tell Winter and Summer apart — unlike some areas in Southern Florida or Southern California — so it wasn’t quite as much of a culture shock as it might have been. It even gets “cold” in the winter in Tennessee — sometimes staying below freezing for a few days at a time. I would even claim that I saw snow a few times in Tennessee. Two inches could shut down a city for a day or two, and the biggest Tennessee snow I ever saw — about 8 inches — kept us locked up in our house for nearly a week.

Needless to say, my first Ithaca winter was different from anything I’ve ever experienced before. The locals and long time graduate students say that it was a mild one, a very mild one. The Northeast climate center, however, reports that January was the second coldest of the last twelve years (although February was warmer than normal). The snowfall total for the whole season was only 3 inches less than the normal 67 inches. So, I’d say my winter experience was pretty typical for an Ithaca winter. In any case, if you come from a warmer climate, you still have a lot to learn. Nothing I say here will take the place of experience, but maybe I can give you a pointer or two to ease your way.

My first piece of advice is to dress warmly. Having survived my first winter, I feel that my body has largely adjusted to the cold. I now think that shorts are appropriate attire for 55 degree weather. (That’s about 13 degrees Celsius for those you not accustomed to the Fahrenheit scale.) You, too, will adjust, but in the meantime wear lots of layers and buy lots of warm things.

First, you need a heavy winter coat. As soon as my mother found out that I had decided to go to graduate school “up North,” she bought me the biggest, thickest winter coat that you have ever seen. Even when the rest of my clothing seemed inadequate (and it often did) my coat did wonders to keep me warm. It also provided padding in case of an occasional tumble on the ice, and I suspect that, if called upon, it might protect me from stray bullets.

Second, buy yourself a pair of snow boots. You may not need them terribly often, especially if you ride the bus or drive and park near the engineering quad, but when you have to traipse two miles uphill in the driving snow, you’ll be glad that you own them. If you are at a loss for where to find boots, L.L. Bean (<http://www.llbean.com>) makes a sturdy and inexpensive, if a bit old-fashioned, pair.
While I’m on the subject of boots, let me tell you a bit about walking in the snow and ice. Most of the sidewalks on the Cornell campus are cleared quickly and well whenever it snows; the same is true for most high-traffic pedestrian areas in Ithaca. They are safe and convenient to walk on, and you don’t even need snow boots most of the time. You need to be more cautious on sidewalks along city streets. In general, the residents along the street are responsible for clearing the sidewalk in front of their houses, and a few of them don’t take this responsibility very seriously. After the snow on a sidewalk has been packed by two or three days of people walking over it, it is almost as slippery as ice. Another thing that you should really watch out for is “black ice.” It should really be called “clear ice” because it is a thin layer of ice which sometimes results when water refreezes. It can be very difficult to spot and is extremely slippery. If you are having trouble finding a safe place to walk and you have snow boots, the snow is a good bet if it’s not too deep. It can take lots of effort to walk through the snow, but you usually won’t slip and slide as you would on ice.

Third, you really need a scarf. No matter what kind of coat you have, a scarf makes a world of difference. By preventing heat from escaping at the neck, a scarf keeps your jacket or coat toasty warm inside.

If you have a car, there are a variety of other things to consider. Many people in Ithaca own a set of four snow tires. They have these tires mounted on their cars each December, and then they take them off in April. I can’t really say much about snow tires, though, as I have never owned any. For the most part, my all season tires seemed to be fine in the winter, although I confess that I had a couple of terrifying moments sliding across an icy road. If you’re going to be driving in New York in the winter, review the things you were taught about skids when you were learning to drive. Pumping the brakes (unless you have antilock brakes) and turning your steering wheel in the direction that the back of the car is sliding are the two main things to keep in mind. Also, on icy days it is a very good idea to avoid some of Ithaca’s notoriously steep streets, for example Buffalo Street. Although the steep streets are usually the first to be cleared and salted, they can still be a little scary. On the same note, be careful when crossing these streets. Cars sliding down the hill always have the right of way.

There is one other thing you need to know about having a car in Ithaca during the winter. You need to know how to get your car out from under two feet of snow. If you have lived in a place where it rarely snowed more than two inches, then the main concern there was probably removing a layer of frost from the windshield of the car. For this purpose, you may own a small handheld plastic scraper. This is not the appropriate tool for removing snow from your car. Gloved hands also make very poor snow removal tools — you’ll end up with snow inside your gloves and will be rather uncomfortable. At the very least, you need a brush. These brushes are sold at Wegmans, Kmart, and countless other places starting in about November. The brush itself is usually about a foot long plus a handle. In addition to the brush, it may also include a scraper of the type you are used to. Use this brush to remove the snow from your car. In addition, you may need a snow shovel. Even if you park in a parking lot which is cleared of snow, there is a good chance that the snow will be piled behind your car. Remember, it is much easier to push the snow out of your way than to lift it. Finally, it’s a good idea to start your car and turn the heat on high before trying to scrape off the ice. It makes the job much easier. Be sure that the exhaust pipe is well clear of snow and ice before you attempt this, however; carbon monoxide is scary stuff.

Despite a few misadventures, the winter in Ithaca wasn’t so bad. On the whole, I enjoyed my weeks in a winter wonderland. You get used to the cold, and the snow is actually fun most of the time. For me, the worst part of the winter was its length. After being teased by a week with highs in the upper 50s in March, highs in the 40s remained the norm into early May. Eventually, however, Spring and Summer arrived.

My final piece of advice? If you arrive in August, then you should have several weeks before things really start to cool off. Make the most of it.
9.7 Students with Children

*Being a successful graduate student takes a lot of time.*

*Being a good parent takes a lot of time.*

Worse still, the amount of time that each activity demands is endless. Neither can be accomplished in 40 hours per week. There are always new journal articles to look at, more material to cover for that exam, another interesting lead to follow for your research. Wouldn’t your child like to be enrolled in tumbling classes, or to be taken swimming weekly? What about planning a special day out? This brings up some questions:

Why would anyone try to be both a graduate student and a parent at the same time?

There are lots of reasons for being a grad student and a parent at the same time. Some didn’t plan to be a parent, but are not willing to give up either their studies or their child. Others, myself included, already had children and didn’t want to wait until the children grew up to venture into a graduate degree. Actually, some would say that the best time to start a family is during graduate school. Really. For example, taking time off to have kids while you’re working (after graduation) can really derail your career. This situation is improving some places as employers (in this country, at least) are trying to become more “family-friendly”, but it is still a real concern in many places, for men as well as for women. Some would argue that in academia, the best time to have children is after you have tenure, but this could be a long time to wait, plus there’s a drive against granting tenure in this country. Before tenure, there’s often a tenure clock ticking which is more relentless than any biological clock.

Are there any benefits to having children while a grad student?

Absolutely! First, as mentioned above, you can start your family without derailing your career. In addition, the life of a graduate student can be very lonely and very stressful. Although children certainly add to one type of stress, the time crunch, there is nothing like the kind of unconditional love your child gives you to brighten up the day when your advisor forgets to show up for a long-planned meeting, your first publishable paper gets rejected, or you receive a lousy grade on an exam given by the professor you thought would write you the best recommendation letter. And during those inevitable days, weeks, or months when you seem to be making no progress on your research or project, instead of struggling with that worthless feeling, you can go home and feel important, appreciated, accomplished, and needed. It is then easier to believe that sooner or later you will become more productive at work, too.

How can I balance the time demands of school and family?

I certainly don’t have all the answers here. A supportive spouse is certainly very important (support is essential, if you don’t have a supportive spouse, find support elsewhere). Figure out what you spend time on, then choose some things you can live without (accept a messier house, pay for things that will give you a little more time, like babysitters/day care or prepared foods — Wegman’s has a nice selection, plus free child care while you shop). Take out a loan if you must. Find another family with children of similar ages to yours, and take turns watching the kids. In addition to having some time without your kids, it is often easier to get things accomplished when your child has a friend over to play with than when your child relies on you for entertainment. Give your child special treatment at other times which better suit your schedule. Grad students, and academics in general, have longer “vacations” than other employees and can use this freedom to plan special one-on-one days with each child. Personally,
I try to save Friday evenings as a special time I spend with my children, and school work just waits.

Also, time management skills are very important — so organize and prioritize your tasks. A friend tells me what works best for her is to decide with her husband what they need to accomplish the next day, and make sure that gets done. This requires them to focus on priorities, and also learn what is the reasonable maximum one can accomplish in a given day. If they don’t manage during the day time to fulfill their self-imposed tasks, they can then stay up later. But usually they don’t. They have also learned the importance of saying no, as in: no I can’t be part of this meeting, sorry. And, they’ve recognized the importance of taking a few hours off to relax without either children or work.

*I just had a baby and I’m female. I hear that breastfeeding is healthiest, but how can I find the time to do that?*

Actually, it takes less time to breastfeed than to bottlefeed since a bottle needs to be prepared and warmed. But, of course, no one else can do this for you. There are lots of choices here, limited only by your imagination. You can take a semester or two off, or go lightly on work/classes for a semester or two. You can breastfeed morning and night, and let your baby have formula during the day (your body will adjust to almost anything). You can bring your baby with you to school (they’re especially quiet while they’re eating). You can visit your child’s day care at feeding times. In my case, the director of my program found a private room where I could pump between classes. And in case you’re wondering, it’s OK to say “breastfeed” in public. In fact, in the state of New York, your right to breastfeed in public is explicitly protected by law. [Editor’s note: see Section 3.6.6 for more information about lactation rooms on campus.]

*I just had a baby and I’m male. I want to be actively involved in raising my child not only in the distant future after I graduate, but now. My wife is staying at home right now, but I know she needs some help, and a little time to relax, but how can I manage this while I’m a student?*

Like so much of the graduate student experience, that depends in part on your advisor and director. These days, more and more men want to be a daddy, not just a father. While a generation (or two) ago it was expected that busy new fathers would leave the child rearing to their wives, more and more people accept the fact that fathers are important as parents, too, and that it takes time to be a good father. FMLA (the Family and Medical Leave Act of 1993, which is not applicable to students) requires that both male and female employees be granted up to 12 weeks of unpaid leave to care for a child after birth or adoption. This is a reflection of the changing attitudes towards fathers and the importance of family in American society. Likewise, more and more faculty are supportive of students who want to take some time off or carry a smaller workload for a while. But like any other time you ask for “special” (nonstandard) accommodations, you’re most likely to work something out if you ask early, and come to the meeting prepared with a strategy of how everything you’re responsible for will get done.

Figure out who needs the most help when: if your wife is a morning person and gets tired at night, give her some time to get herself ready for bed early. Conversely, if she is not a morning person, and you do get a full night’s sleep, rise with your baby in the morning and let her sleep that extra blessed hour. It works wonders.

*Can you give me any tips to reduce the stress of balancing work and family, or ease the changes brought by my newborn?*
Give yourself the gifts of time and a clean house. Paying someone $20 – $50 a week or every other week to clean your house is one simple way to reduce friction over chores, and free up a few hours of time. If your parents ask what they can do to help, have them contribute to a housecleaning fund. Or, dig up a few hundred dollars from somewhere and treat yourself to a clean house. It will be worth it! And there will always be plenty of other chores to do: extra laundry, bottles, shopping, doctor’s visits; less and less time.

*Can you give me any tips to reduce the stress for my friend who is trying to balance children and graduate school?*

Cook some meals that can be used on those days when neither parent has the time or energy to prepare dinner. There’s a limit to how many times they’ll want a frozen pizza, and take-out gets expensive quickly.

*How do I find suitable child care?*

First, read the section in this handbook about child care in Ithaca (Section 4.8). Since you won’t be able to work effectively if you’re worried about your children, I suggest you talk to a lot of day care providers and/or centers, ask a lot of questions of each, and don’t settle until you find a place you’re comfortable with. There are some wonderfully caring, knowledgeable people in the field who will give your child all the love they need while stimulating your child’s physical and mental capabilities. Be sure to sign up early, especially for infant care, as spaces fill up quickly and many places have a long waiting list. You can also find students (high school or college) who love children to watch your children in your home while you get some work done at home.

*Who put the dog food in the broiler? (And why didn’t we notice it until after we put food in the oven?)*

We’re pretty sure it was our two-year-old (who else could it have been?), and we certainly didn’t make the second mistake again! If you are a student and a parent, or become one, you’ll have your own funny stories to tell.

Good luck!