



# Graduate Study Handbook

Updated 8.12.2014

Please use this *Graduate Study Handbook* as a tool to guide you through your program, but note that University, Graduate School, College, and Department policies and procedures are subject to change. Be sure to confirm your plans with your Special Committee, the Director of Graduate Studies (DGS), or the Graduate Field Assistant (GFA).

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## Field of Horticulture – Graduate Study Handbook

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Welcome to the field of Horticulture. The field offers qualified students the opportunity to obtain an advanced graduate degree in a Master of Science (M.S.) degree program to students with a B.S. degree and a Doctor of Philosophy (Ph.D.) degree program. A Master of Professional Studies degree (M.P.S. Ag.) is offered to those who want to obtain advanced training without a heavy focus on research or one with a Peace Corps option.

The Graduate School at Cornell is organized by “fields” rather than departments, so the Department of Horticulture at the Ithaca campus and the Department of Horticultural Sciences at the Geneva campus jointly cover the field of horticulture. Some faculty in other plant science related departments are also graduate faculty members of the field of horticulture. Although this may seem to be an unusual organizational structure, it allows faculty with similar interests in different departments to sponsor graduate students.

## Upon Arrival

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Newly admitted graduate students should correspond with the director of graduate studies in their field to clarify program details. Upon arrival to campus, students should report to their major advisor, the director of graduate studies, and the graduate field assistant. New graduate students should take the responsibility of meeting professors, other graduate students, office staff, technicians; and greenhouse, test garden, orchard, and field staff. Students should also become familiar with campus buildings, laboratories, and staff offices. Campus maps are available in 134A PS. The director of graduate studies, as well as other faculty members and staff, can provide assistance to become familiar with university and department policies. An orientation program for all incoming graduate students is held during the week of registration in January and August.

This handbook will help you understand how the department operates, what is expected of you, and what you may expect from the department. The faculty, director of graduate studies, and the department chair have an open-door policy and make every effort to address student needs. This handbook provides supplemental information that applies specifically to the field of horticulture and should be used in conjunction with information published by the Graduate School ([www.gradschool.cornell.edu](http://www.gradschool.cornell.edu)). Please feel free to ask questions as you adjust to your new surroundings.

## Major Advisor & Special Committee

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The faculty person who directs your thesis work is usually considered the major advisor/chairperson of your special committee. This advisor is most often identified prior to your arrival and will guide you through your graduate study. Your chair should be recorded with the Graduate School within the first 3-weeks of admission. Use the Special Committee Selection and Change form to assign your chairperson. This can be done on-line at [www.gradschool.cornell.edu/forms](http://www.gradschool.cornell.edu/forms) or directly through ‘Student Center’ website.

Other members of the special committee represent the minor fields chosen (one additional faculty member/field for a M.S. degree and two additional faculty members/fields for a Ph.D.), plus any additional members that you may wish to add.

## Choosing a Special Committee

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The Special Committee should be chosen by the end of the first semester at Cornell. Selection of the minor members is best done in consultation with the major advisor/chairperson. Feel free to interview various members of the graduate faculty before making your decision. Tell them of your goals and find out what interests you have in common.

One minor member is required for an M.S. and two for a Ph.D. degree.

There is great flexibility and a wide range of possible subjects. Popular minor subjects include plant physiology, plant breeding, plant pathology, soil science, international agriculture, agricultural economics, entomology, ecology, biometrics, biochemistry, rural sociology, and landscape architecture. They should be chosen in consultation with your major advisor with the aim of enhancing your research project, as well as providing you with information useful in your future career. Use the Special Committee Selection and Change form to add members to your committee.

## In-House Application to a Ph.D. Program

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Students who were admitted into the M.S. degree program, have fulfilled those requirements, and then wish to continue their studies in a Ph.D. program must complete a new on-line application for admission to the Horticulture PhD program. Application fee waiver information can be found here: <http://www.gradschool.cornell.edu/admissions/fees>.

Note: The *Application for Readmission* (Form R3) is only used for students who have let their registration lapse in their current program and wish to return to finish their degree: [http://www.gradschool.cornell.edu/sites/default/files/field\\_file/gradform\\_r3.pdf](http://www.gradschool.cornell.edu/sites/default/files/field_file/gradform_r3.pdf).

## Degree Requirements

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### **MPS Ag - College of Agricultural and Life Sciences Degree Requirements**

Please carefully review the CALS MPS (Ag & Life Sciences) Program website: <http://cals.cornell.edu/mps/>.

This degree is offered within the College of Agriculture and Life Sciences. It is primarily a course-driven degree where candidates complete a problem-solving project instead of a hypothesis-driven thesis. The MPS degree is most useful for those students who wish to acquire greater subject-matter expertise in an aspect of horticulture or who are changing fields to horticulture.

- Satisfactory completion of a minimum of 30 credit hours of coursework related to the candidate's professional interest, as agreed upon with the Special Committee, of which at least 24 credits must be in courses numbered 4000 or higher. A maximum of 6 of the required 30 credit hours may be earned through the student's problem-solving project.
- Required to register for MPS special project research credit each semester, Hort 5900: *Master of Professional Studies (Agriculture) Project*. Credit hours may vary and should be discussed with your chair.

- Exit seminar is optional and can be scheduled during one of the Hort 6000: *Seminar in Horticulture* lectures, or one-hour prior to the final exam if this option is exercised.
- Completion of a minimum of 2 semesters of course study.
- One (1) registration unit earned by carrying a minimum of 12 credit hours in a single semester
- Satisfactory completion of a problem-solving project under the supervision of the Special Committee. This project may be an action program, the development of a plan-of-attack for a pertinent problem, or the development and execution of research appropriate to the profession. A formal project report must be submitted to and approved by the candidate's Special Committee.
- The student selects A Special Committee made up of a minimum of two faculty members; one faculty member from his/her chosen field to chair the Special Committee and a second member to represent either another field or another concentration in the same field as the chair.
- One semester of Hort 6000: *Seminar in Horticulture* is encouraged
- A minimum grade point average of 2.5 based on a minimum of 18 hours at Cornell with letter grades
- Completion of the degree within four years of admission. Finishing in one to two years is the norm.
- Required to submit two (2) bound copy of their problem-solving project paper; one to Ann Gantner for inclusion in Mann Library and one to Department of Horticulture, Graduate Field Assistant, Carol Grove.
- **Consult with the CALS Academic Program Assistant, Ann Gantner, at 173 Roberts Hall, during your 3<sup>rd</sup> semester to verify all CALS requirements are being met.**

### **MPS/International Program (formally Peace Corp option)**

The program combines academic coursework with Peace Corps field experience. Enrollment for two full academic semesters is required with satisfactory completion of 24 credit hours. Then the Peace Corps assignment is undertaken after which time the student will return to Cornell to complete the MPS degree. Applicants must apply concurrently to Cornell's MPS Agriculture program and to the Peace Corps' Master's International Program and should indicate this on your MPS application. For more information, contact The International Programs/CALS Office, 161 Roberts Hall, Ithaca, NY 14853; Telephone: 607-255-7693; and check their web site at: <http://peacecorps.cornell.edu> or <http://jp.cals.cornell.edu>

### **MPS in Public Garden Leadership | *This program is currently on Hold***

This is a two year program through Cornell Plantations with an internship required during the summer months between the first and second year of their program. Students are not required to have an undergraduate degree in horticulture to apply; however, a strong background in horticulture or public garden management (such as landscape architecture, botany, agricultural economics, natural resources) is highly desirable. Fall admission only. **Application deadline: November 5.** Fellowships are available on a highly competitive basis. When you are applying for this Fellowship, mention it in the first sentence of your *Statement of Purpose*. For more information about this program go to: <http://www.cornellplantations.org/learning/graduate-fellowships>. All requirements for the MPS-Ag degree apply to this program.

## MS Degree Requirements

- Coursework and credits required for the MS degree are determined by the student's Special Committee.
- At least two (2) semesters of Hort 6000: *Seminar in Horticulture*.
- Required to register for Hort 8900: *MS Thesis Research* after the first semester of study. Credit hours may vary and should be discussed with your chair.
- Student selects a Special Committee composed of one professor representing the major field/chair and at least one professor representing a minor field; more than one minor member is acceptable.
- Committee members advise students in the selection and conduct of research problems for the thesis.
- You must submit a complete draft to all members of your Special Committee at least six (6) weeks before the final masters or B exam. (Your Special Committee may modify this requirement). At least five (5) days before the exam, you must provide all members of your Special Committee with a complete, formatted, and editorially acceptable copy of the thesis or dissertation for final approval. (Your examining committee may still require modifications.) **Final Examinations may not be scheduled until this requirement has been met.** Code VI.G.4, *Guide to Graduate Study*
- Exit seminar must be scheduled during one of the Hort 6000: *Seminar in Horticulture* lectures, or one-hour prior to the final exam.
- Pass a final oral examination.
- Fulfill a minimum of 2 registration units for at least two semesters (*Code of Legislation, V.C.*). Students for a Master of Science degree majoring in horticulture are expected to demonstrate competence in the three core areas of Horticulture Biology, Horticulture Production and Management, and Horticultural Methods, as listed in Suggested Courses. See Coursework for more information.
- Teaching experience is expected but not required and can be satisfied by assisting a faculty member in teaching a course, working in extension, or taking a course in education.
- Candidates must submit an acceptable thesis based on a research project.
- MS degree candidates are expected to complete degree requirements in two years but have up to 4 years to complete requirements.

## PhD or MS/PhD Degree Requirements

It is generally expected that a student will possess a Master's degree before beginning a PhD in Horticulture; however, the Graduate Field may decide to admit a student directly to a PhD program without a Masters or enroll a student in an MS/PhD program.

- Students admitted directly to the PhD program without an MS will have demonstrated research capabilities in the form of published papers as well as overall academic excellence.
- Students who desire a PhD; but do not possess a Masters and have demonstrated research capabilities, may enroll in a MS/PhD program. **Beginning Fall 2013 forward**, our MS/PhD students will be expected to take a master's exam and submit a thesis. Once the thesis has been submitted and approved, the student can continue on in the PhD program. To complete the PhD program, they would take an A exam and then a B exam, and then finally submit a dissertation. The Master's and A exam can be combined; but a thesis will be required.

- **MS/PhD students who started prior to Fall 2013**, who have begun their Master's program, would not be required to submit a Master's thesis. After approximately a 1-2 year period, if the student has completed research and submitted a paper to a refereed journal and given a seminar or scientific conference presentation, said student may change to a PhD program upon passing a Qualifying Conference (Q exam) with his or her committee. No separate Master's thesis would be necessary. Any published work may be included in the PhD thesis. Without a publication, scientific presentation and successful "Q" conference within a 3-year period, the student will be advised to complete a Master's degree only. The time to complete an MS/PhD program is approximately 5-6 years.
- Student selects a Special Committee composed of one professor representing the major field/chair and at least two (2) other professors as minor members, representing fields other than horticulture. This approach permits the student to work with faculty members who can best direct the student's graduate study, regardless of college, department, or field affiliation.
- Coursework and credits required for the Ph.D. degree are determined by the student's Special Committee
- Four (4) semesters of Hort 6000: *Seminar in Horticulture* for credit.
- Required to register for PhD thesis/research credit each semester, Hort 9900, after the first semester of study. Credit hours may vary and should be discussed with your chair.
- Committee members advise the student in the selection and conduct of research problems for the dissertation.
- Candidates must submit an acceptable dissertation based on a research project.
- Pass the "Q-Conference," an oral qualifying conference that includes critical examination of proposed research and an evaluation of qualifications scheduled early in the residency.
- Pass the "A" exam; an oral exam reviewing the student's mastery of subject matter related to his/her thesis topic and the course work taken.
- Candidates must earn two additional residence units before taking the final "B" examination.
- You must submit a complete draft to all members of your Special Committee at least six (6) weeks before the final masters or B exam. (Your Special Committee may modify this requirement). At least five (5) days before the exam, you must provide all members of your Special Committee with a complete, formatted, and editorially acceptable copy of the thesis or dissertation for final approval. (Your examining committee may still require modifications.) **Final Examinations may not be scheduled until this requirement has been met.** Code VI.G.4, *Guide to Graduate Study*
- Exit seminar must be scheduled during one of the Hort 6000: *Seminar in Horticulture* lectures, or one-hour prior to the final exam.
- Pass the "B" exam or final examination which covers the subject of the dissertation.
- Teaching experience is required and can be satisfied by assisting a faculty member in teaching a course, working in extension, or taking an education course.
- Fulfill a minimum of 6 registration units, 2 of these between the A and B exam. For students completing an MS/PhD, registration units beyond the 2 units required for the MS may be put towards the 6 registration units required for the PhD. (*Code of Legislation, V.C.*)
- Candidates must submit an acceptable dissertation based on a research project.
- While it is possible to complete Ph.D. degree requirements in three years, the nature of your research may require longer, in which case, you have up to seven years to complete.

Doctoral students majoring in the Field of Horticulture are expected to develop broad competence in each of the three core areas: Horticulture Biology, Horticultural Production and Management, and Horticultural Methods during their course of study or show evidence of having attained that competence previously.

The large number of courses suggested for each concentration will allow the student, working with his/her special committee, to tailor to individual needs.

## Coursework

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The Graduate School has no course requirements for obtaining an advanced degree. Your course program is developed with the advice and direction of your special committee. Specific courses may be required by members of the committee and are usually suggested as a means to obtain essential training to save students from having to spend more time and effort in mastering the subject independently. Students should use their own judgment, along with the advice of the committee, in deciding which courses will provide the best training for future needs.

It is assumed that graduate students entering the Field of Horticulture will have completed the equivalent of an undergraduate degree in biology, horticulture or agriculture. If they do not have such a background, it is expected that they make up any deficiencies with appropriate undergraduate courses, as determined by the student's special committee.

Doctoral students majoring in the Field of Horticulture are expected to develop broad competence in each of three core areas: Horticulture Biology, Horticultural Production and Management, and Horticultural Methods. Doctoral students are expected to select a minimum of 3 credits in Horticulture from Horticulture Biology and Horticultural Production and Management; and 1 course in Horticultural Methods during their course of study, or show evidence of having attained that competence previously. The large number of courses suggested for each concentration will allow students, working with their special committee, to tailor to individual needs. It is expected that all doctoral students will take 4 semesters of the horticulture seminar (Hort 6000: *Seminar in Horticulture*).

Students for the Master's Degree majoring in horticulture will be expected to demonstrate competence in the three core areas. All Masters students will enroll in at least two semesters of Hort 6000: *Seminar in Horticulture*. All Masters candidates are expected, if possible, to show competence in teaching, by having prior teaching experience, by serving as a teaching assistant in a course for one semester, or by enrolling in a course on college-level teaching.

## Assistantships

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Most graduate students in the Department of Horticulture are assigned on a half-time basis as Teaching Assistants (TA), Graduate Assistants (GA), Research Assistants (RA), or Extension Assistants (EA). Their assignment time may be distributed throughout the year in various ways, depending on the requirements of the project. Graduate Assistants generally work more than half time (15 -20 hours a week) during the growing season and have more than enough time for their studies during the academic year.

There is likely to be an occasional demand on the student's time. Assistantship assignments should not be so engrossing that graduate work is neglected, nor should the opposite occur. Time management is extremely important and will reflect recommendations for future department positions and after graduation.

## Graduate TA Policy – adopted February 2009

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### **Background:**

The faculty in the graduate Field of Horticulture believes that it is important for graduate students to participate in activities that support the department, while simultaneously gaining experiences that will be useful in a career. Graduate students are expected to contribute to the department/field in meaningful ways, particularly if support is coming from a department assistantship. A major way that graduate students contribute is by serving as a teaching assistant. Nearly all graduates will eventually be in a position where they have to teach others. In order to have a well-rounded education, we expect all students to have substantive and meaningful experience teaching. Serving as a teaching assistant (TA) or, in exceptional circumstances, playing a major teaching role in extension/outreach programs, can satisfy this expectation.

All graduate students supported by the Field of Horticulture are expected to contribute to departmental teaching, research and outreach efforts, in accordance with their interests and abilities, and the needs of the Field and Departments. In turn, the Field and Departments will strive to allocate TA responsibilities and other departmental assignments equitably and fairly among all graduate students.

In addition, when a student's limited proficiency in English prevents them from serving as a TA in the classroom, or a suitable TA experience cannot be found, the student may be required to take a course aimed at developing his or her English proficiency and teaching skills in order to teach in the future; or they may be asked to help out with Departmental activities such as web site development, curriculum or outreach program development and delivery, to satisfy the obligations of accepting Departmental assistantship support.

### **Policies:**

- All MS and PhD students regardless of funding source are required to serve as TAs, or provide some equivalent service in curricular activities; at least once for a MS, and twice for a PhD, during their time at Cornell.
- MPS students are encouraged to TA if they are interested in doing so, but are not required to do so unless they receive tuition and stipend support from the Field of Horticulture.
- MS and PhD students funded on an assistantship or endowment from the Department of Horticulture may be required to TA during each semester. Such expectations will be spelled out in their acceptance letter. Faculty members shall accommodate the need for their graduate students to TA, and alter research and coursework expectations accordingly. Every effort will be made to ensure that teaching or departmental curriculum assignments are distributed fairly and that any special circumstances of individual graduate students are considered. Students with previous coursework and expertise in a particular area may be required to TA courses in that area, and that expectation may be stipulated as a condition of their financial support by the Field



of Horticulture when they are accepted into the graduate program. Faculty will advise students if they need to take or audit a course in order to gain more expertise in an area where they will be TA-ing.

- Students who are supported by private funds or grants, national or international fellowships, SUNY minority fellowships, Biology teaching assistantships or Dept. of Horticultural Sciences (Geneva) assistantships will be required to meet the Field teaching requirement of at least one semester.
- Students supported by a Graduate School Fellowship shall not be required to serve as a TA during their fellowship year.
- If an extension/outreach teaching experience is substituted for classroom TA-ing, the student's major professor, DGS, and committee will have to approve the substitution. This should include a plan that helps the student achieve the equivalent educational goals of classroom teaching.
- No extra Horticultural Field funding is allocated for students who TA.
- All graduate students should enroll in HORT 7000: *Graduate Teaching Experience* for the number of credits equal to that of any course they are TA-ing. This may be taken for a letter or S/U grade. The instructor in the TA's course will complete the grade sheets for that semester.
- **Students will keep the Graduate Field Assistant, Carol Grove, informed of their TA or equivalent experiences so accurate records can be kept.**
- All instructors should meet with and discuss what is expected of the TA prior to the beginning of class. Students should also discuss what they want to gain during the TA experience with the instructor.
- Any dispute regarding the assignment of TA's may be addressed to the student's major advisor in consultation with the DGS team: W. Miller (Chair), T. Björkman, L. Cheng, J. Kao-Kniffin, and C. Watkins.

### **Procedure for assigning TA's:**

- Graduate students in Horticulture will not be required to serve as TAs during their first semester in residence at Cornell, unless they are supported by a non-Departmental Cornell Biological Science program assistantship or the equivalent.
- Each April, the DGS will canvass the faculty and ask for TA requests for the next 2 academic years, both Fall and Spring semesters.
- TA opportunities for the next academic year will then be circulated to all the graduate students. Some courses may require TA's who have taken the course previously or have some background in the subject matter. On certain occasions, a student may be asked to take or audit a specific course early in their program, so they will be prepared to TA that course in the future. Other courses simply require that a student has an interest in the subject matter. These distinctions will be noted on the course TA requests when they are circulated to graduate students.
- At the same time, a list of eligible graduate students who haven't TA-ed yet and those on departmental assistantships and endowments will also be given to faculty members.
- Students who haven't had a TA experience will have the first opportunity to ask particular instructors if they may TA for their courses. All students should be proactive in thinking about what courses they would like to TA and discuss this with their committee members. In some cases, courses will have to be taken or audited in advance before students will be qualified to TA.
- Faculty members should also take the opportunity to recruit graduate students.

- If no TA has been found to assist with a course by August 1<sup>st</sup>, the DGS, in consultation with the instructor, will assign a suitable TA to that course.

## Fellowships & Other Funding Sources

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Fellowship information is available from the Graduate School, 143 Caldwell Hall, or [www.gradschool.cornell.edu](http://www.gradschool.cornell.edu). Additional information is usually forwarded via e-mail to the graduate student list in the department when it becomes available.

## Semi-Annual Graduate Review

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Each semester graduate students present a brief oral summary of their research to the entire Graduate Field. Each student presents once a year. Students who are presenting full seminars for the Department are exempt from presenting at the graduate field reviews for that year. Sharing research progress with faculty and other graduate students encourages the exchange of ideas and the possibility of modifying research directions. Students who have not started thesis research present a research plan. Students are encouraged to share their accomplishments, goals, frustrations, and projected completion dates. Students presenting submit an abstract and review form in advance so that a report can be printed before the review. Reports are distributed to faculty and students at the review. Faculty meet for a short time after the presentations to discuss concerns or unusual circumstances related to each student's progress. Reviews are scheduled in August and January, just before classes start.

## Field Appointed Committee Member

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The Director of Graduate Studies may assign an additional member of the Field of Horticulture to participate in your A/B exams and/or final exam. This person would be recorded on your Special Committee as: Field Appointment Member for Exam.

## Leave of Absence

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A leave of absence can be granted for personal or medical reasons, but the process is different for each type of leave. A health leave of absence requires filing with Gannett Health Services. More information is available at [www.gannett.cornell.edu/HLOA.html](http://www.gannett.cornell.edu/HLOA.html)

The maximum number of years allowed for leave of absence is four. A student who takes a leave of absence relinquishes the access to campus facilities and personnel that normally accompanies student status. For more information see the Code of Legislation:

[www.gradschool.cornell.edu/code](http://www.gradschool.cornell.edu/code) or obtain information directly from the Field Grad School Rep, 143 Caldwell Hall or your Horticulture Grad Field Assistant.

## In Absentia

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In absentia status provides an opportunity for graduate students to engage in approved study in a location at least 100 miles away from the University's Ithaca campus during the academic year while continuing to work under the guidance of the Special Committee. You can earn

1 registration unit RU) if the arrangement enhances the student's program of study. For more information see the Code of Legislation: [www.gradschool.cornell.edu/code](http://www.gradschool.cornell.edu/code) or obtain information directly from the Field Grad School Rep, 143 Caldwell Hall or your Horticulture Grad Field Assistant.

## Examinations

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All members of the graduate faculty are notified of examinations and all are welcome to attend. Students are responsible for notifying the graduate field assistant **at least two weeks in advance** to reserve a room and send a notice to graduate faculty. Students must submit a Schedule of Exam form for all exams (except Ph.D. qualifying) to the Graduate School **at least one week in advance** otherwise the exam results are not valid. All exams must be held on the Ithaca campus and all members of your committee must be present. Extensive information on Exams, Doctoral Dissertation and Master's Thesis production can and should be obtained from the Graduate School. Note: All research degree candidates (M.S. and PhD) must apply for graduation using the **Graduation Manager** (Online) system during the semester prior to their anticipated conferral date. Even if your degree does not require a thesis or dissertation you must still apply for graduation. Students in professional degree programs may apply for graduation through their field or affiliated college. Ask your GFA for clarification if you are unsure. After each examination, a **Results of Examination** form must be filled out and submitted to the Graduate School within three business days and a copy to the graduate field assistant.

## Q-Conference

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The Graduate Faculty in the Field of Horticulture have decided to re-name what was formerly known as the Q-Exam to the Qualifying Conference or Q-Conference. This was done to more accurately reflect the nature and purpose of this meeting. Contact the GFA for specifics and meeting room reservation.

While the Q-conference is not required by the Graduate School, it is a requirement of the Field of Horticulture for PhD candidates. This should take place before the beginning of the third semester but no later than the end of the third semester of the PhD.

The purpose of the Q-conference (qualifying exam):

- To convene the committee members and the student to discuss and evaluate the student's proposed research plan. Students should schedule the Q-conference when they have a clear focus on what they are going to work on and have had a chance to put together a written outline or research proposal on the topic. The expectation is for the student to have read much of the literature directly relating to his/her research project and be prepared to answer questions justifying his/her approach to the research. This should take place before the beginning of the third semester of the Ph.D.
- To determine what courses still need to be taken or discuss ways the student can gain the necessary background to accomplish their research program. Students should bring a list of courses they have taken at Cornell and relevant course work from their MS or undergraduate days. They should write down their goals for the research work and any other academic goals they might have (e.g. getting teaching credentials, getting extension experience, writing for various audiences, etc.).

An outline of the proposed research or research proposal, list of relevant classes, and academic goals should be given to each of the committee members at least one week before the Q-conference. This will provide a clear focus and discussion on the proposed research project. Is it well thought-out? What have others done in this area? Is it doable in the time frame given? Are there adequate facilities and support to carry it out? Is the student ready to take on this project? Does his/her background allow for critical thinking in this subject area? Are there courses that are missing and should be added?

The Q-conference is a way to officially launch the Ph.D. work, with the agreement of the committee as to how the research will be pursued. It is also a good way to encourage the student to organize their thinking. It should be a positive experience. A minimum of 2-hours should be scheduled for this.

The student must notify the GFA at least two weeks in advance of the Q-conference so that other faculty members of the graduate field can be notified should they wish to attend or contribute. A Q-conference form will be given to the student for all committee members to sign at the end and the form should be returned to the Graduate Field Assistant.

In rare instances, if the Q-conference results are unsatisfactory, the committee chair shall write a detailed evaluation and counsel the student with his/her options.

## A Exam

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### Exam for Admission to Doctoral Candidacy for PhD students

A comprehensive exam given by the student's committee to test his/her general knowledge in the areas of plant sciences and related fields relevant to the student's PhD program in Horticulture. It is designed to determine your ability to begin research. It is *not* to discuss your specific research topic or research results although it may enter the discussion. Although questions of specific factual nature are common, emphasis is also placed on your ability to utilize and synthesize your knowledge to address more complex problems. A minimum of 3-hours should be scheduled; although there is no time limit, some have gone more than 4-hours. It is typically an oral exam and some written questions are allowed if a faculty member so chooses. It is appropriate and useful to discuss examination expectations with your committee members well in advance of the exam. Other faculty members in the Field are invited to participate, are allowed to ask questions, and typically do not ask many questions. Each exam is unique. Therefore others' experiences only represent what can happen, not what will happen.

The student generally provides a list of courses s/he has taken as a graduate student. Questions relating to these classes as well as background information relating to the student's current research are fair game. You are encouraged to chat with each of the committee members to get a sense of topics that the committee member may ask about.

By Graduate School rules, this exam must be taken a minimum of 1 year before the thesis defense exam.

## B Exam

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Final Defense for PhD or Thesis Defense Exam for MS. PhD students must have earned at least 2 registration units (RU) between the passing of the A exam and the scheduling of the B exam.

The “Doctoral Dissertation, Master’s Thesis, and Advanced Degree Requirements” guide has the detailed instructions and procedures (Thesis Advisor link at: [www.gradschool.cornell.edu](http://www.gradschool.cornell.edu)). The Thesis Advisor also maintains a resource list of typists, editors, and couriers.

This oral exam will discuss the student’s research and dissertation or thesis manuscript. It is expected that at the start of the exam the student will prepare and give a brief 10-15 minutes oral presentation of the main methods and results of the project to set the stage for the discussion and to demonstrate the ability to present their work. Questions may address the scientific background of the research and hypotheses, the general approaches and specific methods used, the results, and the interpretation of the results. At least 3-hours should be scheduled for the PhD and 2-hours for the MS thesis defense. Normally, there are some changes required in the dissertation or thesis after the exam and may require from a few days to a few weeks to complete.

A suggestion: In general it is extremely difficult to re-write thesis chapters for journal publications after a student has left to assume new duties elsewhere. It is recommended that the thesis be written in the “manuscript” format where the publishable chapters are in the complete form of a manuscript for submission to a scientific journal. The publisher will then require only minor editorial revisions and it can be submitted quickly.

## Thesis - Dissertation

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Thesis or Dissertation Deadlines (Code VI.G.4) *Guide to Graduate Study*:

**You must submit a complete draft to all members of your Special committee at least six (6) weeks before the final masters or B exam;** however, your Special Committee may modify this requirement. At least five (5) days before the exam, you must provide all members of your Special committee with a complete, formatted, and editorially acceptable copy of the thesis or dissertation for final approval but keep in mind, your examining committee may still require modifications. **Final Examinations may not be scheduled until this requirement has been met.**

When you have a finished an approved manuscript:

MPS Ag – need to provide one bound copy to the MPS Ag Program Assistant in Roberts Hall with your completed **Attestation Form** and **Checklist**. Provide one bound copy to the Graduate Field Assistant, and provide copies to your committee.

The Grad School encourages all students to submit their final, approved thesis on-line using Graduation Manager, [www.gradschool.cornell.edu](http://www.gradschool.cornell.edu). This requires you to convert your document to PDF format. The approved digital document is automatically forwarded to a local printer. Any charges, including printing, will appear on your bursar bill.

MS – Submit the thesis electronically through the Graduate School website, Graduation Manager link at [www.gradschool.cornell.edu](http://www.gradschool.cornell.edu). Follow the directions via Graduation manager re: University requirements when ordering your thesis copies. Note that one copy (regular paper, not archival-quality) for the Field of Horticulture library in 22 Plant Science should be sent to the Graduate Field Assistant; your chair and committee members may also require their own printed copy.

PhD – Submit the thesis electronically through the Graduate School website, Graduation Manager link at [www.gradschool.cornell.edu](http://www.gradschool.cornell.edu). Follow the directions via Graduation manager re: University requirements when ordering your thesis copies. Note that one copy (regular paper, not archival-quality) for the Field of Horticulture library in 22 Plant Science should be sent to the Graduate Field Assistant; your chair and committee members may also require their own printed copy.

**Complete details for thesis and dissertation submission requirements can be found at the Graduate School website:**

<http://www.gradschool.cornell.edu>

**Note:** Our Director of Graduate Studies will not sign off your name on the provisional degree list until the field has received a copy of your thesis.

## Publishing Your Research Work

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Students are encouraged to publish their research results in professional journals so their work can be widely disseminated. This is easily accomplished if the thesis is organized and written with this intent. Professional journal articles are a source of pride for the student, enhances career opportunities, and reflects well on the reputation of the Department. Few academicians read theses from other institutions, so the only practical way of sharing scientific contributions is through professional journals. If you expect to publish part, or all, of your thesis, you will be required to sign a License to Use Copyrighted Material form with the Thesis Advisor at the Graduate School.

## Commencement

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Information on degree conferral dates, commencement and diploma distribution can be obtained from the Thesis Advisor at the Graduate School, 350 Caldwell Hall, 255-5810, or <http://commencement.cornell.edu/>.

## Department Hours

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Working hours for department staff (offices and facilities) are: Monday through Thursday, 8:00 am-4:30 pm; and Friday, 8:00 am-3:30 pm. Some offices such as the greenhouses, farm, or orchards may vary. Laboratories and graduate student offices are usually accessible 24-hours a day.

## Orientation of Facilities Use

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We are required by law to make certain that all users of chemicals, equipment, and facilities are familiar with potential hazards and appropriate safety precautions. Graduate students are required to attend orientation and training sessions before using any of the laboratory, growth chamber, greenhouse, or field research facilities. Orientations for facility usage are held regularly and graduate students should watch for announced times (usually by e-mail). If you are unable to attend, please contact the person in charge of orientation to make other arrangements. Do not use a facility or hazardous equipment if you have not been through the appropriate training session!

## Right to Know

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Federal and New York State law mandates and the university requires that all graduate students and employees attend an orientation on the "Right to Know" Act. This introduces the law, the Material Safety Data Sheets (MSDS), general toxicology and laboratory safety. You will receive a memo with times and locations of the orientation meetings. You will also receive a Safety Guideline checklist, mandated by the University, and you are required to return the checklist to the departmental safety representative. Safety Information notebooks are available for your reference in the main offices and in the department laboratories. You will receive an index to the notebook as a quick guide to its contents.

## Growth Chambers

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Growth chambers, both reach-in and walk-in, are available for research use. Fees are paid by the research project and professor involved. At the beginning of each semester a meeting is held to establish growth chamber assignments. Be sure to clear the availability of funds with your major professor before reserving growth chamber space. There is high demand for this and the department makes every effort to accommodate everyone's needs.

## Laboratories and Equipment

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Most research projects and professors have one or more laboratories with research equipment. Students will normally use of their advisor's laboratory and equipment. To use other equipment in the department, permission should be obtained from the professor involved

Laboratory space is assigned by the major advisor. Equipment, glassware, reagents, etc. are generally purchased to use in specific laboratories. They should not be transferred to other locations unless approved by the faculty member in charge. Before using laboratory equipment, students are expected to obtain permission and instruction from the faculty member in charge or his/her designate. Each student is responsible to keep their work areas clean. Laboratory supplies or other purchases should be approved by the student's major advisor. Disposal of toxic materials must follow proper safety procedures. See the appropriate Radioactive Material Permit Holder about use and disposal of radioactive materials.

## Greenhouses

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Requests for department greenhouse space should be approved by your major advisor beforehand. Guterman space requests are made through the greenhouse superintendent. Greenhouse space at Kenneth Post Lab (KPL) is arranged through the greenhouse manager.

## Department Thesis Library

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Department copies of all MPS, MS, and PhD dissertations are kept in Room 22 PS. They may be borrowed on short-term loan (10 days) and must be checked out with the librarian (check with admin office). For longer use of dissertations, please use the Mann Library copy. You are responsible for the cost of replacing a lost thesis, dissertation, or project books checked out by you.

## Field Research

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Requests for experimental field plots are made early each spring and must carry the endorsement of the major advisor. Policies and procedures will be explained at an orientation and training session for field research.

## Computing and Multimedia Facilities

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Graduate students in the field of horticulture enjoy ready access to a variety of computing facilities. The horticulture graduate student computing lab in 147E PS houses 4 Dell Optiplex computers, 2 with dual-screen capabilities, printer, and scanner. Please review the Plant and Environment Information Technology (PEIT) home page for the most current information about the University's IT support services: <http://peit.cals.cornell.edu/>.

Computer support for personal computers and department-owned equipment is requested via a Remedy Incident Ticket: <http://cals.cornell.edu/cals/cals-it/remedy.cfm>. New graduate students will need to have an anti-virus program installed and have their computer scanned, before they can get on our wired network. This process can take a half day or so. Please be prepared to leave your computer in the IT office (Rice 105) for this procedure. RedRover wireless can be accessed without any scanning: <http://www.it.cornell.edu/services/redrover/>.

Students should read the, "Plant and Environmental Sciences - Faculty, Staff and Student Employee - Information Technology Orientation" packet: <http://peit.cals.cornell.edu/files/2014/07/PEIT-Orientation-2014July28-2f4xqgi.pdf> to quickly become familiar with our IT support services.



## Security

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While campus is generally a safe place, theft does occur and we urge you to be mindful of your and others property. Keep offices and valuables locked up, and secure windows upon leaving for the day. Shut down computers, especially after using email. Keep backup copies of all your important work. Keep graduate student office doors closed at all times.

## Office Supplies

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Office supplies such as pens, paper, index cards, etc. are available to graduate students, with your advisor's approval, for department duties; not for personal use. For special orders see the graduate field assistant. Please keep in mind that department letterhead and envelopes are for Cornell business and professional correspondence only, not job applications, etc.

## Desk Assignments

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The department has several rooms in the Plant Science building set aside for graduate students to share, and a desk will be made available for each graduate student upon their arrival. A student will be assigned and occupy only one desk regardless of location. Assignments will be made by the graduate field assistant. Students on a Leave of Absence or with space elsewhere (such as in Geneva, or have lab/desk space) may be asked to forfeit their desk space to others, if there is a need for space when new students arrive. Students should not "take over" another desk area while they are here; and they must empty and clean their assigned desk prior to departure.

## Travel

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Graduate students are encouraged to attend and participate in industry oriented conferences/meetings such as those organized by the New York State Vegetable Growers Association and the New York State Horticultural Society. Attendance is also encouraged at national and regional scientific meetings such as the American Society for Horticultural Sciences annual conference. In the course of a student's research, the major advisor may agree to reimburse a portion of the expenses for attending a scientific meeting. It will be up to the advisor to decide if funds are available. Additional assistance may be obtained by applying in advance to the Graduate School for a special travel grant, which pays for transportation costs but only when presenting a paper/poster. You may also apply for a travel grant from the department's Homan Fund. These applications must be submitted by March 1<sup>st</sup> for travel through September 30<sup>th</sup> and October 1<sup>st</sup> for travel through February 28<sup>th</sup>. For application forms see the graduate field assistant.

Prior to your trip, give your advisor the following information: destination, departure and arrival time, date, purpose of trip. You must file a "Notice of Proposed Travel" for insurance purposes, and also if you need a travel advance. In order to get reimbursed, you must submit all original receipts and complete an expense report upon your return.

## Departmental Vehicles

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Use of university/department vehicles by graduate assistants is authorized for university business only, such as carrying out research or other university projects. You must be registered to drive these vehicles. For insurance purposes, **family members or friends are not permitted to ride in or drive university/department vehicles at any time unless they are Cornell employees and registered.**

There is a vehicle available at Guterman for transporting research materials between department locations on-and-off campus but not for personal use. Please check with the greenhouse superintendent for procedures. There are several vehicles at the Ithaca orchard for departmental use and should be scheduled through the orchard manager. There is also a truck owned by the department that can be reserved at the main office.

Horticultural Sciences at Geneva has several pick-up trucks and vans, each assigned to a specific research program. To use a vehicle while working at Geneva, check with your major advisor.

## State Fleet vehicles

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The Fleet Services, *Fleet Policy Manual* can be found here: <http://transportation.fs.cornell.edu/fleet/policy.cfm#About>. Fleet cars are available for official use. Permission from major advisors is required. Charges are made on a mileage or per day basis to department accounts; an account number is required when reserving a fleet vehicle. Reserve a car or van as early as possible; and should you need to, cancel immediately to avoid a charge (24-hours prior to departure). The actual driver must pick up the fleet car. Students must have a valid driver's license, be registered at the Fleet Garage, and be pre-approved by the Risk Management Office. In order to do so, you must fill out a form available on-line at the Cornell Transportation website: <http://transportation.fs.cornell.edu/fleet/reserving/default.cfm> - click on "**Step 1: new request**" link.

**"Authorized Drivers:** A member of the Cornell community who has been authorized by an operating unit to drive one of its vehicles for university-related business." ([Use of Cornell Vehicles, Policy 3.4](#)). Fleet vehicles *cannot* be used for personal business nor may the vehicle be used in commuting to and from an individual's place of residence. Members of an employee's family, or other unauthorized passengers not associated with the University, may not ride in a fleet vehicle. For clarification and/or policy exceptions re: passengers contact the Contract College Fleet Supervisor (607-255-3247).

**Note: If the vehicle is involved in an accident, please obtain complete information.** Use the form enclosed in the book in the glove compartment for the preliminary report. Notify Fleet Services immediately in the event of any accident. Please refer to the *Fleet Policy Manual* for more information: <http://transportation.fs.cornell.edu/fleet/policy.cfm#Accidents>.

## Farm Equipment

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Farm equipment can be used upon approval of the farm/orchard manager after a short vehicle-safety-training course.

## Keys

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Keys are available for various department facilities based on need. Key requests should be directed to our building coordinator, Steve Hatfield (SH242). Master keys are not issued to graduate students. See Carol Grove for graduate student desk keys.

## Purchasing

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During the course of your graduate study it will be necessary to obtain various items essential to your research. Be sure to check with your major advisor for availability of funds and an account number before placing an order. Items may be obtained in a number of ways. Check with your major advisor or one of the department's accounts representatives for catalogs. It is important to plan ahead for your needs. Your shipments should be addressed to: Your Name, Department of Horticulture, 133 Plant Science Building, 236 Tower Road, Cornell University, Ithaca, NY 14853.

## Telephone Calls

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Long distance calls require authorization. Only calls pertaining to thesis research or department duties are allowed and only if approved by your advisor (whose project will be charged). Graduate students may use their major advisor's authorization codes for business-related long distance calls at the advisor's discretion. Major advisors receive a monthly listing of all calls made using their code. Personal long distance calls cannot be made from campus phones unless you use prepaid calling cards, etc.

To call Geneva campus, **dial 49**, then the last three (3) digits of the Geneva telephone number. From Geneva, **dial 84** (if it's a 254 exchange) or **dial 85** (if it's a 255 exchange), then the last four (4) digits of the Ithaca telephone number.

***For example:***

Ithaca to Geneva: Carol calls Lou Ann by dialing 49-394	Lou Ann's phone number is: 315-787-2394
Geneva to Ithaca: Lou Ann calls Carol by dialing 85-1789	Carol's phone number is: 607-255-1789
Geneva to Ithaca: Lou Ann calls Taryn by dialing 84-4867	Taryn's phone number is: 607-254-4867

## Copy Machine Privileges

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Graduate students who have received approval from their advisor may use the copy machine for materials that are connected with their assistantship assignments and/or thesis research. If the student is a TA for a department course, copies may be made. Class handouts requiring 10 or more copies should be sent out to be copied - check with the faculty's administrative assistant for procedures.

**Copying of books is not permitted on the department copiers; these machines are not designed to do so and could cause the glass to break. Use one of the copiers in Mann Library. Please do not violate copyright laws.**

## Mail

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Mailboxes are in Room 21 PS. Upon arrival you will have a box assigned to you. Mail is sorted daily. Please have only university-related business delivered here. UPS is preferred for package deliveries, not via the United States Postal Service (USPS).

- Due to on-campus postal regulations, a *Postal Change of Address* notice cannot be used to forward your mail.
- Note: The department cannot forward your mail. Please plan ahead and provide your contacts with your new address.

## Postage

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The department does not provide postage for personal use, such as reprint requests, position inquiries, mailing of resumes to prospective employers, etc.

## Room Scheduling

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The Library (151 PS), the Conference Room (22 PS), and the Gallery (124 PS) are available for scheduling meetings or exams. The rooms must be scheduled in advance with Max Welcome (134 PS). To schedule these rooms for graduate student exams, please see Carol Grove (134A PS).

## Use of Audio Visual Equipment

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The Department has several laptops, LCD projectors, a document camera, and other equipment that is available for short-term loan. Reserve and return equipment to Max Welcome in 134 PS. For equipment support, see Craig Cramer, 147D PS or email him at [cdc25@cornell.edu](mailto:cdc25@cornell.edu). Craig also manages the Department's poster printer.

## Alumni Newsletter

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Graduate students are encouraged to submit newsworthy news and photos (with captions) to Leah Cook for the semi-annual *Alumni Newsletter*, including articles from the Society of Horticulture (SoHo) events, and other items of interest. Students should be sure we have their up-to-date contact information, so we can send them the newsletter after graduation!

## HORT 6000: *Seminar in Horticulture*

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Department seminars are held weekly for faculty, staff, and graduate students during the academic year. All graduate students are expected to attend all seminars unless they have a course conflict, and they should register for HORT 6000 to receive credit. It is expected that all PhD students will take at least 4 semesters and all MPS and MS students will take at least 2 semesters of HORT 6000.

## Faculty/Staff Meetings

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Faculty/Staff meetings are scheduled monthly in Ithaca; the Geneva faculty/staff members join in via Polycom. A graduate student representative usually attends and reports on the activities and concerns of all the graduate students in the field. This representative is elected or appointed at the graduate student Society of Horticulture meetings (SOHO).

## Society of Horticulture (SoHo)

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The field of horticulture has a dynamic graduate student association called, The Society for Horticulture (acronym: SoHo). All graduate students are automatically members. SoHo promotes fellowship among peers and future colleagues with food at regular meetings, cook-outs, and a holiday party. Events during the year promote professional growth by giving members the opportunity to develop communication, inter-personal, and future career skills. They raise funds to maintain and acquire common resources (e.g., a computer lab and lunch room). They represent graduate students on several department committees. Once a year they invite a speaker to deliver a key department seminar. Participation in SoHo is an excellent means to learn about and prepare for success within the field and as graduate students at Cornell.

## Coffee & Amenities

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The graduate students have a small kitchen on the first floor in 154 PS that contains a sink, refrigerator, microwave, table and chairs. This room is maintained by the graduate students. Supplies for the weekly seminars are stored in this room, and students are responsible to keep it stocked and clean.

A microwave, toaster oven, and refrigerator are also available for department use in 128 PS and in the Mail Room (21 PS). Please wash, dry, and put away all items that you use immediately. The refrigerator is cleaned out often; please label and date your items. Items deemed inedible will be tossed - container and all!

## Special Events

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There are several events that occur throughout the year and are open to all members of the department. You are encouraged to get involved in planning and participating in all of them. Some of the standard events are listed below. Watch for notices!

- **Summer Picnic** – July
- **Department Picks** (cherries, blueberries, etc.) – for the department and immediate family members
- **SoHo Welcome BBQ** – July or August
- **Holiday Event** – early December
- **Annual Banquet and Dance in Geneva** – wintertime