

Plant & Soil Science Graduate Student Handbook

Updated September 2018

This Handbook has been edited from prior versions to clarify programmatic details and maintain accuracy. If discrepancies are noticed, please report them to the PSS Graduate Coordinators as soon as possible.

Part 1. University Information & PSS Graduate Programs

Online Resources

- [UVM Graduate College](#)
- [Graduate Student Senate](#)
- [The College of Agriculture and Life Sciences](#)
- [Department of Plant and Soil Science](#)
- [Office of the Registrar](#)
- [Student Financial Services](#)
- [International Student Services](#)
- [UVM Library](#)
- [UVM Library Statistics Support](#)
- [Computer and Information Technology](#)
- [Center for Health and Well Being, including Medical and Counseling Services](#)

PSS Department Goals for Graduate Education (May 2016)

#1 Graduate students will develop a comprehensive understanding of the body of scientific knowledge relevant to their fields of study.

#2 Graduate students engage in the practice of science:

- (A) Demonstrate that s/he can develop research questions, conduct research, and analyze results in the context of the project.
- (B) Demonstrate ability to communicate science in both oral and written expression, such as in the form of writing articles, giving presentations,

and similar activities within the department, at conferences, through outreach and extension, etc.

#3 Graduate students will demonstrate effectiveness in teaching undergraduates.

Course Credits

Credits – minimums and maximums	PhD Students	MS Students
Total required for completion of degree	75	30
Maximum transfer credits*	24	9
Minimum in-residence credits	51	15
Minimum graded credits required**	30	15
Minimum research credits	20	6

* Note that transfer credits must be graduate level work. Maximum transfer credits are as listed above, except if a student has taken credits at UVM as a continuing education student, the UVM Graduate College will allow an additional 6 credits to be transferred into both degrees (30 total for Ph.D.; 15 total for M.S.). These courses must be graduate level and cannot count towards an undergraduate degree. See **Appendix A** for example Credit Transfer Scenarios.

** Minimum number of graded credits taken at UVM is 15 for PhD and MS students.

Eligible Courses

Graduate courses must be taken to fulfill the requirements above. With the prior approval of the student's advisor and Studies Committee, and the Graduate College, MS students may apply to their graduate program one course, and PhD students may apply two courses, of 100-level, or 200-level courses (that are not listed in the Graduate Catalog as approved for graduate credit). A student's advisor must sign the petition the Graduate College for approval before the student enrolls in the course.

UVM Academic Integrity Policy

<http://www.uvm.edu/sconduct/?Page=ah.html&SM=menu-programs.html>

<http://www.uvm.edu/policies/student/acadintegrity.pdf>

Grade Point Average

A minimum GPA of 3.00 must be maintained for all PhD and MS students.

Graduate College Links regarding credit requirements

Doctor of Philosophy

<http://catalogue.uvm.edu/graduate/degree/requirements/requirementsforthedoctorofphilosophydegree/>

Master's Degree

<http://catalogue.uvm.edu/graduate/degree/requirements/requirementsforthemastersdegree/>

Required Courses: Colloquium, Seminar, Statistics

Professional Skills Colloquium: PSS 301 is required of all incoming students.

Departmental Seminars: All graduate students are required to attend PSS Departmental seminars. Students supported by an assistantship should sign up for the course (PSS 393/394) for 1 credit offered as a P/NP option. Those students that are self-funded or for whom tuition is grant funded should attend seminar but are not required to take the seminar for credit.

Statistics: A minimum of 1 semester of graduate-level statistics for MS students and 2 semesters for PhD students is required. The Statistics Course(s) should be chosen in consultation with a student's advisor and Studies Committee.

All Other Coursework shall be selected in consultation with the advisor and studies committee, once it is formed, totaling the total number of required credits as shown in the Table above. *(See also the section below on 'Forming the Studies and Defense Exam Committees.')*

Other Requirements for PhD and MS students

- **Teaching:** All graduate students on a teaching or research assistantship must participate in the teaching program in the Plant and Soil Science Department. The minimum teaching requirement is two semesters for a Ph.D. student, one semester for a M.S. student. Students who pursue both the M.S. and Ph.D. degree must participate during each degree program. Graduate students who are self-funded or who are working for UVM and using their benefits to pay for courses are not required to TA a full course but should be exposed to teaching activities (academic or extension/outreach). Participation in teaching-related activities should be documented and approved by the student's advisory committee.
- **Present at Departmental Seminar:** All students must sign up to give at least one departmental seminar in addition to the dissertation defense. The seminar presentation must be at least one semester prior to the defense.
- **Outreach Activities:** An outreach experience has the same educational value to a graduate student as teaching and research experiences. Outreach gives the student exposure to another area of potential employment and an opportunity to assess this type of work. Students must

show at least three outreach activities related to their research projects (to be documented by advisor/studies committee). Outreach includes translation and communication of one's study to broader audiences. Outreach comes in many forms, but conference talks/poster presentations are not acceptable as the only form of outreach. See **Appendix B** for other Examples of Outreach Activities.

Additional Requirements for International Students

International students should seek advice from the International Student Services Administration (ISSA) about special requirements to which they may be subject. For example, visas require that international graduate students are enrolled full-time (i.e. 9 credit hours) in the spring and fall semesters. Other conditions may also apply and international students are required to meet with ISSA staff as soon as possible after arriving at the University.

Assistantships

The Department has a limited number of assistantships available for qualified students, as well as some grant-sponsored assistantships. These assistantships cover tuition for a maximum of 9 credits per semester, and the recipients must enroll in a minimum of 9 credits per semester to maintain a full-time status (registration is NOT required during either summer session for graduate students). Assistantship recipients may enroll in a maximum of 23* credit hours per year (9 in the fall, 9 in the spring, and 5 in the summer). A year is classified as starting in summer and includes fall and spring semesters.

ALL graduate students must pay for any laboratory use fees associated with courses they are taking as well as a University-wide Comprehensive Fee (for use of the buses, library, athletic facilities, etc.).

Assistantships are awarded in exchange for half-time service in the Department's research and teaching programs. Half-time service is equal to 20 hours per week. The workload for any specific week may vary depending upon the demands of the position and student academic commitments. Work schedules may be adjusted to accommodate the student's academic needs.

Students on assistantships are usually awarded a 12-month contract and are paid bimonthly (the 1st and 15th of each month). Direct deposit of paychecks is mandatory. The time limits for which departmental assistantships are awarded are two years for a M.S. candidate and three years for a Ph.D. Monies may be available to extend a candidate's funding beyond the standard award period but are not guaranteed. Appointments are made on an annual basis. Reappointment is subject to satisfactory performance and degree progress.

Forming the Studies and Defense Examination Committee

Technically, a student has two committees during the course of his/her graduate program: the **Studies Committee** and the **Defense Examination Committee**. In most cases, the student will keep the same committee members for their Studies Committee (course selection and planning, comprehensive exams, etc.) as on their Defense Exam Committee (defense committee members), though committee membership can change for various reasons, on a case by case basis. However, in most cases, it is in the student's interest to keep the two committee the same.

The Defense Exam Committee and the Studies Committee have the same structure. A Faculty Member from an outside department must serve as the Chair of the Defense Exam Committee. In the case when a student has a separate Studies Committee, i.e. with different members than the Defense Exam Committee, note that the Advisor is technically the Chair of the Studies Committee.

PhD students need at least 4 committee members (a minimum of 2 must be from inside the PSS department, one of whom is your advisor).

MS students need at least 3 committee members (a minimum of 2 must be from the PSS department, one of whom is your advisor).

Comprehensive Exam and Thesis/Dissertation Proposal Guidelines

Master's Thesis Proposal & Comprehensive Exam

MS Proposal: All students are required to write a Thesis Proposal. This should include an Introduction, Literature Review, and Methods for both Data Collection and Analysis, and be submitted to all committee members at least 3 weeks prior to taking comprehensive exams.

MS Comprehensive Exam

- The Comprehensive Exam is intended to assess student knowledge of pertinent subject matter and their ability to carry out the proposed research.
- MS Students may select either a Written or Oral examination format.
- Written Comprehensive Exams are taken within an approximately 1-week time frame with one day per question(s) from each committee member (typically 3).
- Students meet with the whole committee for the Oral Comprehensive Exam, minimum of 2 hours.
- Topics for written or oral examinations may be arranged ahead of time with committee members and/or determined based on the topics relevant to the student's proposal.

PhD Dissertation Proposal & Comprehensive Exam Options

Students and Advisors will agree upon one Option for the Dissertation Proposal and Comprehensive Exam (Options A or B, below).

Option A

Written Components

- Student writes a Dissertation Proposal including an Introduction, Literature Review, and Methods for both Data Collection and Analysis, and submits it to all committee members at least 3 weeks prior to taking comprehensive exams.
- The Written Comprehensive Exam is intended to assess the student's knowledge of pertinent subject matter and abilities to proceed with research.
- Written Comprehensive Exams are taken within an approximately 1-week time frame with one day per question(s) from each committee member (typically 4).
- Topics may be arranged ahead of time with committee members and/or determined based on the proposal and/or other topics committee members see as relevant.

Oral Component

- The Oral Comprehensive Exam is intended to assess the student's readiness in terms of clarity of their research question, their approach, and their understanding of the relevant fields.
- Topics may be arranged ahead of time and/or determined based on the proposal and written exam and/or other topics committee members see as relevant.
- Following the written comprehensive exam, but ideally within 2 weeks of completing the written exam, student meets with their whole committee for the oral examination, minimum of 2 hours.

Option B

Written Component

- Students develop their Dissertation Proposal as a grant proposal in the format of a federal, competitive grant (e.g., NSF Dissertation Improvement Grant, USDA Predoctoral grant, EPA STAR). In the case where the example grant proposal is short (e.g. less than 10 pages), students, in consultation with their advisors, can elect to use a longer format if desired.
- The proposal is sent to the committee prior to the oral comprehensive exam, providing at least 3 weeks for review. The proposal itself is considered the written portion of the comprehensive exam.

Oral Component

- The Oral Comprehensive Exam is intended to assess the student's readiness in terms of clarity of their research question, their approach, and their understanding of the relevant fields.
- Student leads individual meetings with each committee members in advance of the exam to decide upon a range of topics relevant to their thesis.
- Student meets with whole committee for oral examination, minimum of 2 hours.

Required Forms

PSS Departmental Forms

- PSS Committee Membership (recommended)
- Meeting Progress Forms (recommended)

Graduate College Forms

All students are required to provide the following forms to the Graduate College. Other forms for particular situations (such as for 'Payroll Deduction for Fes,' 'Additional Work Application,' 'Leaves of Absence' and 'Transfer Credits') can be obtained directly from the Graduate College.

- *Comprehensive Exam Completion Form* (due upon completion of Exam(s)).
- *Defense Committee Membership Form* (due the semester you plan to defend).
- *Intent to Graduate Form* (due the semester you plan to defend)
- *Defense Notice Form* (due at least 3 weeks prior to defense).

The Grad College Timetable to Defense can be found here:

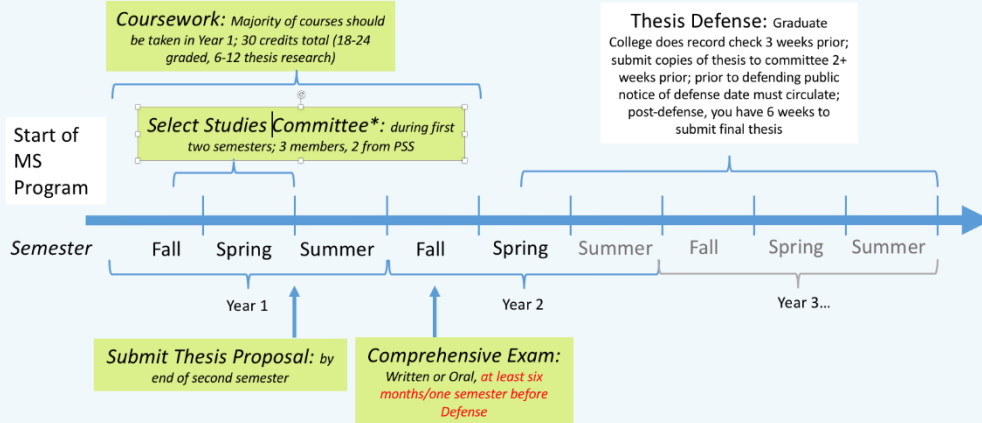
https://www.uvm.edu/sites/default/files/media/Timetable_for_defense.pdf.

Recommended Timelines for PhD and MS Programs

Example timelines are included below for reference. Depending on individual circumstances for students, advisors, grant funding, etc., these timelines may vary. If a student begins work at a time other than Fall semester, s/he can follow the schedule for Year 1, 2, etc., as opposed to the semester-based schedule.

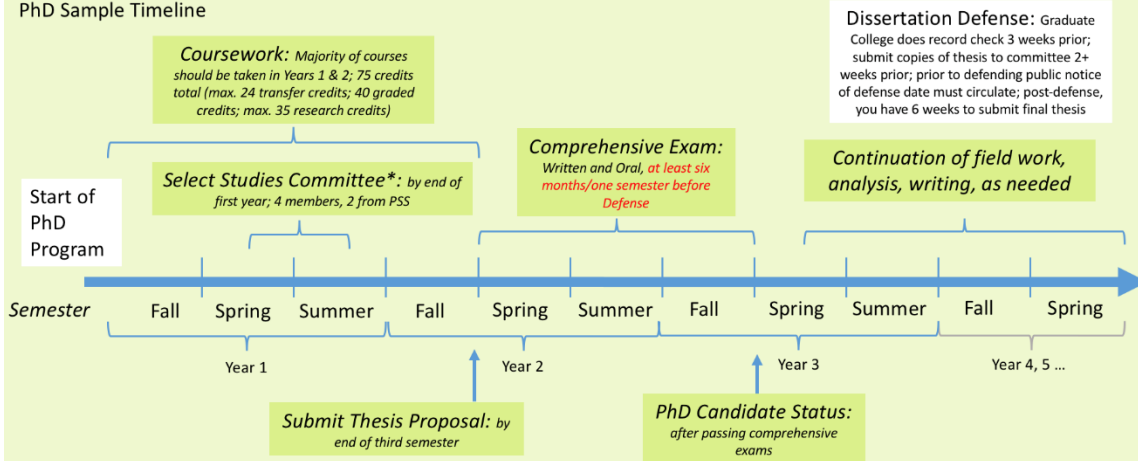
Note that students must also present at Departmental Seminar at least one semester prior to defending, but the time for this will vary for each student.

MS Sample Timeline



*Committee meetings should be held approximately 1x per semester to discuss research progress. Studies Committees are usually composed of the same members as the Defense Exam Committee but in some cases, membership changes prior to the Defense.

PhD Sample Timeline



*Committee meetings should be held approximately 1x per semester to discuss research progress. Studies Committees are usually composed of the same members as the Defense Exam Committee but in some cases, membership changes prior to the Defense.

Continuous Registration

Students who are actively working toward their degree completion and have completed enrollment in all credits required for the degree, but have not completed all graduation requirements, must enroll each semester for Continuous Registration. There is a \$100 - \$300 tuition fee for Continuous Registration each semester, which must be maintained until all degree requirements are completed.

For specific questions, you may wish to contact Student Services in the Graduate College: https://www.uvm.edu/graduate/contact_us
 (Currently the contact person is: [Sean.Milnamow@uvm.edu.](mailto:Sean.Milnamow@uvm.edu))

The following chart describes the characteristics of each level of registration:

	Effort Expectation	Credit Equivalency	Attributes of Enrollment Designation
GRAD_901	Less than Half Time - 1-16 hours effort per week	1/4 to 4	Catcard, library, fitness center and bus privileges
GRAD_902	At least Half Time, but less than Full Time - 20-32 hours effort per week	5-8	Catcard, library, fitness center and bus privileges; loan deferral, eligible to enroll in UVM Student Health insurance, federal financial aid eligibility, eligible for GTA/GRA funding
GRAD_903	Full Time - at least 36 hours effort per week	9 or more	Catcard, library, fitness center and bus privileges; loan deferral, health insurance required, federal financial aid eligibility, eligible for GTA/GRA funding, ski pass eligibility

Thesis Preparation

The Graduate School and the Department strongly urges students to prepare theses/dissertations so that only minor changes in the manuscript are required to meet the standards of publication in a specific scientific journal (Journal Article Format). Detailed information on form, and organization of the thesis/dissertation is available on the Graduate college website under resources for current students.

<https://www.uvm.edu/graduate/resources>

The thesis/dissertation prepared by the M.S./Ph.D. candidate must represent an original investigation into a subject which has been reviewed and approved by the student's advisory committee. The format must be checked by the Graduate College. Be sure to watch deadlines as posted by the Graduate College so you can meet your intended graduation date. Once all degree obligations have been met and your thesis/dissertation accepted, you are eligible to graduate from your degree program. To do so, you must file the "Intent to Graduate" form.

Transfer from the MS to the PhD program

A student may petition to be transferred from the MS to the PhD program, which will be allowed on a case-by-case basis. To be considered, the student must demonstrate exceptional abilities in their research, and self-motivation and

independence for conducting doctoral-quality research (e.g., grant proposals, manuscripts, personal references, etc.).

Assumptions:

1. The student will continue to work with their current advisor.
2. The student has successfully completed at least the first year of their MS program.
3. The student understands that funding for PhD work beyond the time already granted under the MS program is contingent on availability.

If these assumptions are met, *or if they are un-met but reasonable circumstances as to why they are un-met are described (e.g. a unique opportunity to convert to PhD emerges before the completion of the first year of the MS)*, the student will undertake the petition procedure described below. Any deviations from the two assumptions above will require the student to set up a meeting with the Graduate Affairs Committee to discuss the student's eligibility to petition.

Petition procedure:

1. Student meets with advisory committee to get endorsement. If endorsement is given, then the student continues with step 2 below.
2. Student submits a petition to the Graduate Affairs Committee to shift from an M.S. to a Ph.D., rather than earning an M.S. The petition should include the following:
 1. A letter of justification for doing the shift.
 2. A letter from the student's current advisor confirming the student's caliber and his/her willingness to continue to advise student through PhD. In this letter the advisor should also corroborate the endorsement from the advisory committee.
 3. A summary of research and scholarly accomplishments, including completed research, grant submissions and awards, presentations and publications.
 4. A summary or a proposal of the proposed, additional research that would be undertaken for the Ph.D.

Review and Response

The Graduate Affairs Committee will review the petition and form a recommendation that is presented as a motion to the PSS faculty for a vote. If supported by the PSS Faculty, the faculty would need to make their recommendation to the Graduate College, through the department chair. The Graduate Affairs Committee will inform the student of their recommendation and the department's decisions to grant or reject their petition.

If the option of shifting to a Ph.D. program is granted, the student will only be eligible to obtain this degree, and will not be able to default back to an M.S. unless the circumstances have changed in a way that the student cannot finish the PhD. Petitions will be reviewed by the graduate committee and a decision will be made on the basis of demonstrated financial hardship or life events.

Part 2. Logistics

Things to do before arrival

Please notify Patricia Englert (penglert@uvm.edu), Anne Marie Resnik (aresnik@uvm.edu) and your adviser of your arrival date at least two weeks prior to coming.

Make an appointment with Patricia Englert (penglert@uvm.edu) as soon as you arrive to Burlington. She will process your payroll paperwork. Deadlines for the first September payroll are mid-August, early submission is advised. You cannot be placed on payroll until your documentation is complete. Bring proper identification with you to this meeting.

Contact your Faculty Advisor for information on course registration and research options.

Josef Gorres and Stephanie Hurley are the PSS Co-Graduate Coordinators. You should meet with one of them for an introduction to the department.

Departmental support staff are located in the main office, room 117 Jeffords Hall, 63 Carrigan Drive, Burlington VT, 05405. Phone (802) 656-2630.

Things to do after arrival

To utilize the UVM computer network, you must activate your net-id:
<https://www.uvm.edu/it/>

Your UVM email address is the official method of communication by the University and all members of the UVM community. Resources to configure your devices can be found here: <http://www.uvm.edu/it/email/>

Obtain your student I.D. called a "CATCard". Their offices are located 48 University Place, Billings Library, [CATcard Service Center](#). Privileges include swipe access to Jeffords Hall, bus ridership, library and fitness facilities.

Parking Permits are available at Transportation and Parking Services (38 Fletcher Place Burlington) (please note that these are limited and available on a first-come, first-served basis, and only for students living at least 1/2 mile from campus). There is a charge for a parking permit which varies depending on which parking area you select.

International graduate students should also check in with International Student Services Administration (ISSA) as soon as possible. International graduate

students who have an assistantship cannot begin work before meeting with an ISSA adviser.

Personal Safety and Building Security

Please take all precautions to protect yourself and the contents of Jeffords Hall. Campus security officers patrol the building at night. The exterior doors are locked at 10:00 PM weekdays and are locked at all times on weekends/ holidays. Police Services is available to shuttle you to your car in a remote parking lot if you feel unsafe. Also, emergency phones (lit with a blue light) are located around campus. The number for campus police is 802-656-FIRE (3473).

Lastly, in the case of an emergency, dial 911 from any campus phone. Please report any concerns or suggestions about personal or building security/safety to the Department Chair, Ernesto Mendez (117 Jeffords Hall).

Transportation and Parking offer free jump-starts if your car will not start and will assist with lockouts. Call 802-656-8686 during their business hours, Mon-Thurs 7:30am -- 4:00pm Fridays 7:30am -- 3:00pm. After hours, call the non-emergency police number 656-3473.

Sexual Harassment, Misconduct, and Bias

UVM's policy on sexual harassment and misconduct can be found here:
<https://www.uvm.edu/deanofstudents/sexual-harassment-misconduct>

UVM requires every student to receive education on primary prevention and awareness of sexual violence. The program UVM selected for this training for graduate students is an online course called Sexual Assault Prevention for Graduates. The Graduate College will send you an email regarding the training for graduate students so that you can complete the training.

Lab Safety Trainings

All persons who work or teach in a Jeffords Hall Laboratory are required to take a lab safety training. The Department arranges a training at semester start every fall but Risk Management and Safety also offers training on a rolling basis. However, this training may not cover all the lab safety requirements. This is particularly true when the research or teaching lab has special safety needs (e.g. bio safety or radiation concerns). Students should check with their lab supervisor or lab safety officer for information on the required on-line and in-person

trainings. More information and class sign-ups can be found on their website [here](#). For other questions please contact Lee.Diamond@uvm.edu. Lee is the Risk Management and Safety professional assigned to Jeffords Hall.

Concerns about the Program

Please report any concerns with the program or your advising or teaching experiences to the Graduate Coordinators or Department Chair.

Departmental Policies and Procedures

Desk (Office) Assignments

Desk assignments are made for each incoming graduate student. An effort is made to group graduate students in rooms on the second and third floor of Jeffords Hall. The rooms used for graduate students are: Rm. 200, 204, 207, 230, 252 and 354. Equipment and furniture should not be moved or rearranged unless permission is given; this is for safety and security. Discuss any proposals to move furnishings and carrel walls with Anne Marie Resnik.

Desks and lockers are also available at the Bailey-Howe Library for graduate students and are located on the 3rd floor. Requests for space at the library must be made directly with Bailey Howe Library circulation desk.

Vacations

All students on assistantships/fellowships work a regular business schedule through the calendar year, even when school is not in session. This is particularly true for Fall and Spring breaks. Employment is for a 12-month period. The expectation is that graduate students will continue to conduct their research and assist their advisors during the summer months. Vacation time must be pre-arranged with the student's advisor.

Mail, Shipping, Copying

Graduate student mailboxes are located on the second floor of Jeffords at the north end stairwell. Each graduate student is given a mailbox.

UPS and FedEx make routine deliveries to Jeffords 117. Please see Anne Marie Resnik for all questions regarding shipping. Teaching and Research budgets are assigned specific codes for these tasks.

Telephone usage

Your assigned lab has a multi-user telephone. Each phone extension has voicemail. To reach off-campus exchanges, dial 9 for local numbers. Long distance calls require a special code. If you require access to long-distance service, see your major advisor. All calls made within UVM start with 6 plus the last four digits of the extension.

Copier and Printer usage

The Department has two photocopier, scanning, and printing machines available for graduate student use. Utilize the second floor, south end of Jeffords copier as your first choice. Obtain your access code from your major advisor. Your use of the machine should be limited to academic purposes. All copies are charged to your major advisor's budget. Please establish with your advisor any limitations on your photocopying privileges. Both copiers have a scanning option that is free.

For journals or texts that do not circulate, photocopiers exist in the library for your convenience. These copiers do not use the same access code as the Department. You must obtain a special debit card from the CATcard office. For personal copies, you can use your University student ID CATcard. Copies made from this account will be billed directly to you.

Computers and Technical Support

- Support for CALS PC and Mac users Dave Deutl and Sue Lang. Contact both at calstech@uvm.edu
- Other consultants are available through the [CIT helpline](#) or call: 656-2604.

Software

Software is available for graduate student use. This includes the latest suite version of Microsoft Office. You will need to use your UVM email login and password to gain access to the [UVM Software Archive](#). Please note: The University of Vermont does not condone unauthorized copying (pirating) of software by University employees and students.

Requisitions and Purchase Orders

All requisitions for supplies and equipment must be made by your major advisor who will process them through the departmental budget manager, Pat Englert, in 117B Jeffords. Purchasing Cards (PurCards) are the only accepted method for transactions. These cards function as a credit card and are accepted as such. Discuss the use of this card with your major advisor. All questions around pur-card use and reconciliation should go to Pat Englert.

UVM Contracts with Staples and Fisher Scientific for all office supply and lab materials. We are required to purchase through these vendors.

- Staples, see Anne Marie for ordering
- Amazon, UVM business account. [Register your PurCard to use Amazon:](#)
- Fisher Scientific campus contact- Donald Malenfant, Donald.Malenfant@thermofisher.com

Use of Departmental Vehicles

Only students with a valid U.S. or Canadian driver's license and who have attended the UVM Vehicle Safety Training Workshop may drive a state vehicle! For a list of times when vehicle safety training is offered, please visit the [Risk Management web site](#). A state vehicle is an expensive and important piece of equipment that has been purchased with departmental funds. At all times, we must drive in a courteous manner, adhere to state and local laws and use vehicles only for state business. Any ticket received while driving Departmental/University vehicles is the responsibility of the student.

The Department has 3 vehicles, 2 passenger vans and a pick-up truck. Keys are located in the upper right cabinet next to the copier in 117. Be sure that the van is returned to the parking section to the spur road directly in front of Jeffords.

When using departmental vehicles:

- Vehicles are reserved on the [Department Resources calendar](#)
- Fill out the Trip Log properly and legibly, indicating miles traveled, your name and a budget number. You can include your chart string on the SharePoint reservation.
- Be sure the tank is over 1/2 full when returned. If you need to fill the vehicle upon your return, you can take it to any gas station and use the card located in pouch attached to the clip board.
- Report any accident or damage immediately to your major advisor and follow the guidelines
- If you have a mechanical problem with the van, report the problem to Anne Marie Resnik, 656-2630.

Conference Travel

"Mini-Grants" from the Graduate College can help you with travel expenses when you travel outside of UVM for a conference or meeting. Students may receive up to \$300 for travel expenses and conference reimbursement (you will be reimbursed after your travel, you will not receive money before the trip). Additionally, at least a 50% match of the mini grant must be provided by your department. For more information see Graduate Student Senate information on Mini Grants <http://www.uvm.edu/~gss/?Page=minigrants.html>

Reimbursement for Travel Expenses

UVM reimbursement procedures change regularly. Discuss travel expenses with your advisor, and with PSS Business office (Pat Englert), as far as possible in advance of travel.

Appendix A. Credit Requirement Scenarios for Students Transferring Graduate Credits into PSS

A note on the credit requirements for PhD and MS students in PSS. We wanted to clarify a few really important items regarding the number of credits that are required to complete PhD and MS degrees. You may remember that as a department we decided to harmonize our graded course credit requirements with those of the graduate school. This means that PhD students need at least 30 graded credits and MS students need at least 15 graded credit hours (as per graduate college requirements). However, the Graduate College also requires that 15 graded course credits are taken in residence.

The total number of required credits for MS is 30. For PhD this number is 75. In order to graduate, the student needs to combine the transfer credits, the UVM in residence requirement, additional graded credits and research/seminar credits to make up 75 for PhD and 30 for MS degree.

The table below shows a few scenarios. Credit distribution for each scenario is shown in a separate column. Detailed descriptions of Scenarios appear below.

Table of example credit scenarios for students who transfer credits

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Credits	PhD Max Transfers	PhD Some Transfers	PhD No Transfers	MS Max Transfers	MS No Transfers
Transfer Credits	24	18	0	9	0
UVM graded credits required 'in residence'	15	15	15	15	15
Additional graded credits	0	0	15	0	0
Total graded credits	39	33	30	24	15
Graded credits needed to graduate	30	30	30	15	15
Research credits + seminars	36	42	45	6	15
Required Research credits	20	20	20	6	6
Seminar Credit Problem	x	x	x	1	x
Total graded + research credits + seminar credit	75	75	75	31	30
Continuing enrollment	Up to 9 credit hours per semester of 901, 902, or 903 after the required number of credits is reached.				

Scenario 1: PhD student transfers with maximum number of allowed transfer credits (24). S/he needs to take an additional 15 credit hours to fulfil the residence requirement. This gives a total of graded course work credits of 39 (greater than the minimum of 30 credit hours required for PhD) S/he has to take 36 research credits or P/F class credits (seminar) to graduate.

Scenario 2: PhD student comes in with 18 transfer credits. S/he needs to take the required 15 graded course work in—residence credits. That makes a total of 33. S/he has fulfilled the minimum of 30 graded course work credit hours. However, s/he still has to take 42 research and P/F class credits.

Scenario 3: PhD student comes in with 0 transfer credits. May have a MS/MA degree with no applicable transfers. This student has to get 30 credit hours in residence to fulfill the minimum graded course work credits required by the graduate school + 45 research and other P/F course work credits.

Scenario 4: MS student transfers maximum of 9 credit hours. S/he has to take 15 required in residence graded course work credits. That makes 24. The student fulfills the requirement of 15 graded course work credits. Needs 6 more research (required by graduate school) and 1 P/F course work credits for 31 credits, one more than the 30 credits needed to graduate.

Scenario 5: MS student has no transfer credits. Needs to take 15 graded course work credit hours as required. Needs another 15 as research and P/F course work credits to fulfill the 30 credit hours requirement for graduation.

Appendix B. Details on Outreach (Extension) Experience/Requirement

An outreach experience has the same educational value to a graduate student as teaching and research experiences. Outreach gives the student exposure to another area of potential employment and an opportunity to assess this type of work. Each student must participate in an outreach experience during their graduate degree program. Students may take part in any one of the experiences listed below, or an experience deemed equivalent. Waiver of this experience must be requested at least one semester prior to the semester of the defense and be supported by the advisor and Graduate Coordinator

Information Development and Communications

- Present research-generated information in a form and through a medium designed to reach either the general public or industry. Examples include: trade journals, press releases, newsletters, etc. (The Friends of the Horticulture Farm newsletter, the Vermont Association of Professional Horticulturist newsletter and the Vermont Master Gardener newsletter are some available options)
- Write a popular article for a trade paper, magazine or newsletter. (The Burlington Free Press is always looking for information from UVM)
- Participate in a radio or television interview

- Present a talk to an audience of non-scientists (Examples include: local garden club meetings, the Vermont Flower Show, or at a seminar sponsored by The Friends of the Horticulture Farm)
- Present at UVM Student Research Conference (Annual event)

Public Interaction

- Assist in the development of a commodity meeting
- Assist in tours of the UVM greenhouse or Horticulture Research Farm
- Travel with an extension agent on field visits
- Volunteer on the Master Gardener Hotline

Public Service

- Present a program (field-related) at a public or private school
- Present or develop material for other educational institutions.
- Examples include museums and state historical sites

After completion of the extension experience, the activities conducted by the student must be briefly described and document by the student in a memo, approved by their major advisor and forwarded to the Graduate Coordinator.