UNIVERSITY OF MINNESOTA

CONSERVATION SCIENCES
GRADUATE PROGRAM

STUDENT HANDBOOK

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PROGRAM VISION, MISSION AND GENERAL INFORMATION

The vision of the University of Minnesota Conservation Sciences Graduate Program mirrors that of the field of Conservation Sciences: a world in which biological diversity and the processes that generate and maintain it are preserved, managed and restored. This vision will be achieved by individuals with research-based knowledge who will promote conservation-based decision making.

The University of Minnesota Conservation Sciences Graduate Program provides world class graduate training and research opportunities. We prepare leaders to develop effective solutions to conservation and management challenges through understanding coupled biological and human systems.

Our students will gain foundational knowledge in conservation sciences specifically (1) organismal and population biology, (2) ecosystem and landscape ecology, (3) participatory decision-making, policy, and other social processes, (4) ecosystem services, and (5) analysis and interpretation of complex data.

Additionally, our students will gain the skills to make informed decisions using the best available information. Because this information is often from disparate sources and has high uncertainty, students will learn to evaluate multiple sides of issues, and understand how to link science to resource management and policy development.

Finally, our students will make cutting edge contributions to the field of Conservation Sciences as they conduct research on social, economic and biological questions. They will be exposed to exceptional faculty advisors, teachers and colleagues, and other current leaders in the field as they prepare to become the future leaders of the discipline.

The CS Program was established 1990 and is composed of faculty from more than 17 departments and 5 collegiate units. The College of Food, Agriculture and Natural Resource Sciences (CFANS) serves as the administrative home for the program; accounting and some record-keeping is handled by CFANS. General program administration – including recruitment, faculty and student assistance, and student progress documentation are handled by the CS Program Coordinator whose office is 135B Skok Hall. The CS Program Coordinator can be reached at 612-624-7751 or consbio@umn.edu The CS Program website also contains useful information for current or prospective students and faculty: http://www.conssci.umn.edu

Each CS student should have an office space, a campus address, and phone number. Office space may be in an advisor’s lab or may be assigned in Skok Hall in consultation with the FWCS department. Students with space in Skok Hall are expected to use the space on a regular basis or else they may be asked to vacate the space. Students should not maintain two desks on campus.
PROGRAM ADMINISTRATION AND GOVERNANCE

Graduate faculty in the CS Program contribute to the program by teaching CS courses, advising CS students, serving on graduate student examining and Student Advising committees, or serving on CS program committees. New graduate faculty members are added to the program by nomination by any CS faculty member and are approved by the CS Steering Committee. A current list of CS graduate faculty members can be found on the program website. The graduate faculty has primary responsibility for administration of the program through meetings held at least once a semester and called by the Director of Graduate Studies (DGS).

The DGS is responsible for the daily administration of the program and for communication between the Graduate School and the CS faculty and students. The DGS is nominated following consultation with the faculty and graduate students, elected by the Graduate Faculty, and appointed by the Dean of CFANS. The DGS chairs the Advisory Committee and oversees activities of all three standing committees (as an ex officio member of the Admissions and Prelim Committees).

Three standing committees are responsible for governing the CS program: the Advisory Committee, the Admissions Committee, and the Preliminary (Prelim) Exam Committee. The Advisory Committee comprises three graduate faculty, with at least one person from each track. The Advisory Committee brings significant policy issues to the faculty at large, assists the DGS with administering funds, assigning fellowships, summer, and bridge funding, makes policy decisions between faculty meetings, assists with curriculum decisions, recommends and nominates candidates for DGS and other committees, and forms ad hoc committees as needed.

The Admissions Committee develops, reviews and maintains application procedures, solicits applications, recruits students to the program, reviews applications for admission to the program, seeks advisors for applicants, selects and nominates prospective students for Graduate School Fellowships, and recommends students for financial support from other sources. The Admissions Committee comprises three or four faculty appointed by the DGS.

The Prelim Committee administers the written preliminary examination for doctoral students. The committee comprises three or more Graduate Program faculty with appropriate expertise to review the variety of proposals produced by Conservation Science graduate students.

GRADUATE DEGREES AND BASIC COMPLETION REQUIREMENTS

Students at the University of Minnesota can pursue several degree programs in CS: Master of Science (MS), Doctor of Philosophy (PhD), or joint Juris Doctor (J.D.) in Law and an MS or PhD in CS. Any of the CS degrees can be pursued in one of the two tracks, the Conservation Science or the Fisheries and Aquatic Biology track. Master’s and PhD students in other degree programs can also minor in CS.

Master of Science Degree

Two types of master’s degrees are offered: Plan A, involving a thesis, and Plan B, with more emphasis on coursework and one or more independent projects. The Plan A requires a minimum of 20 graduate-level course semester credits and 10 master’s thesis credits (CBIO 8777). Plan A Master’s students must complete a research thesis, following all requirements designated by the
Graduate School. Examples of Master’s thesis topics are listed on the CS program website. Thesis credits may be taken for the master’s Plan A at any time during degree program.


Plan B course requirements include graduate-level course semester credits; plus an additional 10 elective credits, chosen in consultation with the adviser. Plan B Master’s students must demonstrate familiarity with the tools of research or scholarship in their major field, the ability to work independently, and the ability to present the results of their investigation effectively, by completing at least one Plan B project. The Plan B project should involve a combined total of approximately 120 hours (the equivalent of three full-time weeks) of work. The advisory committee specifies both the nature and extent of the options available to satisfy this requirement, subject to approval by the DGS. The Plan B project must be satisfied independent of the courses in the student’s program.

General requirements for the Master Plan B - are explained in the Graduate School Bulletin (http://policy.umn.edu/prod/groups/president/@pub/@policy/@esl/documents/policy/masterscompletion_appb.pdf).

MS students have the option of completing a minor in another field, e.g., Statistics or Ecology, Evolution and Behavior; see the DGS of those programs for requirements.

All students must pass a comprehensive final oral examination which is administered by a committee appointed by the Graduate School, including at least two faculty members from the major field and one from the minor or supporting field. Typically, the Master's program takes from 2-3 years.

**Doctor of Philosophy Degree**

General requirements for the PhD are explained in the Graduate School Bulletin (http://policy.umn.edu/prod/groups/president/@pub/@policy/@esl/documents/policy/doctoralcompletion_appa.pdf). The PhD program requires a minimum of 48 credits: a minimum of 24 graduate-level course credits and a minimum of 24 thesis credits. Course credits are intended to provide doctoral students the necessary intellectual and professional foundation for their thesis projects, future career and professional activities. All students must pass a written exam, a preliminary oral exam, and a final oral exam (the thesis defense). The written preliminary examination should be taken in the second semester of the second year. A student may submit their proposal with the next year’s cohort with written permission of the student’s advisor and committee. If the written preliminary exam has not been passed 4 years after beginning the program, the student will be dismissed from the program. The preliminary oral examination should be taken within the first semester after passing the written examination. Preliminary examinations should be taken before significant time has been spent on thesis research. PhD students are required to take the core courses which amount to 7 credits (includes 3 CS seminars and prelim seminar).

The heart of graduate education for the PhD in CS is extensive research under the supervision of one or more members of the graduate faculty. This research will be guided to promote submission of manuscripts to peer reviewed journals. Examples of PhD dissertation topics
are on the CS program website. A thesis defense is required for completion of the degree. Generally a PhD should be completed in 3-5 years.

**Joint Degree in Conservation Sciences and Law**

Students may enter the Joint Degree Program in two different ways. They may apply simultaneously to both the Law School and the CS Program, or they may begin one program and apply for the second degree during their first or second year. The Law School and the Graduate School each accept 12 semester credits transferred from classes taken in the other School, thereby reducing the total number of required credits by 24. In addition, the MS thesis or PhD dissertation satisfies the third-year writing requirement for the Law School.

**The Conservation Science Track**

The Conservation Science track provides structure and oversight for students interested in the interface of population, species, and ecosystem biology with disciplines of social sciences, education, economics, and law. This will improve the student experience and allow more curricular specialization for these students. The name of the track will appear on student’s transcripts and diplomas, providing potential employers with information on their credentials.

**The Fisheries and Aquatic Biology Track**

Three quarters of the global ecosystem is water and most is a global commons. Many biologists and economists argue that freshwater is one of the most critical global resources and that the functional integrity and biodiversity within fresh water and marine ecosystems are highly threatened. The Fisheries and Aquatic Biology Track is available for MS, PhD, and joint degree students wishing to emphasize this concentration within a CS major. The track name will be indicated on the student's transcript and may be useful to the graduate for obtaining jobs with many federal and state agencies where such expertise is specified in job announcements or hiring criteria. The track designation clearly indicates that the student has specialized coursework and research or project experience leading to expertise in fisheries or aquatic biology. Combined with a typical undergraduate degree in biology or natural resource science, careful selection of courses in the graduate program will satisfy the educational requirements for professional certification by the American Fisheries Society. Students in the track must be advised or co-advised by a faculty member affiliated with the track. Request for admission to the track may be made during the application process or any time after the student is admitted to the CS Graduate Program.

Students who designate this track will be expected to work closely with their Student Advisory Committee (SAC) to develop an appropriate course of study. The Track Coordinator will review each student’s academic program to examine how Track expectations are met and forward it with a recommendation to the DGS for approval.

**Minor in Conservation Sciences**

A minor for Master’s Plan A and Plan B students in other programs may be earned by completing FW 8452, one semester of the CS seminar (CBIO 8001) and three credits of electives. A PhD minor for students in other graduate programs may be obtained by completing the core course (FW 8452), participating in two semesters of the CS seminar (CBIO 8001), and taking seven credits of electives approved by the CS DGS.
Change of Status from MS to PhD

Students who enroll as an MS student must apply via the graduate school to have their status changed to be a PhD student using the ApplyYourself system. Detailed instructions are available at http://www.grad.umn.edu/admissions/cos/index.html. The graduate school will forward the change of status application to the program for evaluation. The decision to grant the change in status will be made by the DGS, in consultation with the admissions chair and will be based on academic progress to date, and recommendation from the advisor. This process does not apply to students who were first admitted to the PhD that opt to complete the MS first.

CURRICULUM

The CS curriculum recognizes that the field of Conservation Sciences requires a multidisciplinary approach. It is designed to give students the scope to develop individualized programs that span the full range of disciplines needed to accomplish conservation. To understand the complex array of biological, economic and social dimensions of conservation, a core course is required for all students during the first year. While taking the core course, students will develop graduate programs to fit their individual needs and participate in a seminar that focuses on understanding the interdisciplinary nature of the program.

The program assumes that students will enter with undergraduate training that satisfies all the prerequisites for the required graduate coursework in one of the many academic dimensions of conservation biology. Those entering without an appropriate background in biology will be expected to complete the necessary prerequisites early in their graduate program. At a minimum, students will be expected to have an advanced undergraduate level course in general ecology. This deficiency needs to be remedied in the first year of a student’s program.

Integrative Courses and Seminars
The following courses are required for all students in CS. The content of these courses addresses both biological and human dimensions of conservation biology.

FW 8452 Conservation Biology 3 credits (Fall)
CBIO 8001 Conservation Biology Seminar 1 credit

All students are also required to take one graduate level quantitative course (statistics, systematics) and complete bioethics training. Bioethics training is a Graduate School requirement and must be completed once during a student’s degree program.

PhD students need to take 2 additional credits of CBIO 8001 as well as:
CBIO 8095 Contemporary Problems in Conservation Biology 1 credit

Registration for CBIO 8095 is required to prepare for the written preliminary examination. All doctoral students planning to take their preliminary written and oral exams in a given academic year will take this seminar together, under the guidance of a faculty member.

After successfully completing the exam, the student must complete Preliminary Written Examination Report form (www.conssci.umn.edu/download/Prelim-written-exam-form.docx) and submit to the program coordinator. The program coordinator will record the result into the
graduate education database, until this step is complete the student will not be able to schedule the prelim oral exam.

**Core Course (FW 8452).**

Students are expected to enroll in FW 8452 during their first fall semester. It serves to bring students from a variety of backgrounds to a common level of understanding of critical issues and concepts in the field. Students gain a comprehensive and current understanding of the biological, ecological, economic, social, and policy principles of conservation biology and the application of these principles to conservation challenges. This course is also critical for fostering a sense of community among newly enrolled CS students.

**Conservation Sciences Seminar (CBIO 8001).**

Students are expected to attend CS Monday seminar all semesters they are in residence. The seminar constitutes a major intellectual forum for this graduate program and involves presentations by external speakers, faculty and graduate students of the CS program. Students are encouraged to use this seminar as the venue for their thesis proposal, research progress reports, or any topic of relevance to conservation biology. By the end of their graduate programs, MS students must make one presentation and PhD students, two presentations in this or the informal Tuesday seminar.

All MS students must register twice for CBIO 8001 for 1 S/N credit; FAB track students can substitute 1 semester of FW 8200. PhD students must register for 3 semesters of CBIO 8001; FAB-track students must take 1-2 semesters of FW 8200, which can count towards this requirement. Students do not need to be enrolled in CBIO 8001 during the semester they make presentations. Students who register for the seminar should plan on attending all scheduled meetings. One unexcused absence per student will be permitted during the semester. If a student anticipates missing more than one class session, he/she should ask permission of either the Program Coordinator or the DGS for waiver of the "one miss" rule. Students who do not follow these guidelines will not receive credit for CBIO 8001.

**Contemporary Problems in Conservation Biology (CBIO 8095).**

All PhD students planning to take their preliminary written exams in a given academic year take this seminar together, under the guidance of a faculty member. Students taking the written prelim exam must file their PhD program form with the Graduate School by the time they register for CBIO 8095. Exceptions to this will only be approved under unusual circumstances: the student should petition the DGS by sending a letter co-signed by the PhD advisor.

At a minimum, students should have completed the core sequence prior to enrolling for CBIO 8095. The preliminary written course covers 1 semester and provides time and guidance during the writing process.

**Additional Course Requirements for the Fisheries and Aquatic Biology Track**

In addition to the course requirements for the CS major, students in the Fisheries and Aquatic Biology track are expected to have coursework leading to expertise in fisheries or aquatic biology. Specific courses are based on the career goals, interests, previous experience, and undergraduate coursework of the student. MS students in FAB track will take at least two 3 cr courses and PhD students will take three courses from the following list. These courses should be selected with approval of the student’s advisor and SAC.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEB 4601</td>
<td>Limnology</td>
<td>3 cr</td>
</tr>
<tr>
<td>ENT 5361</td>
<td>Aquatic Insects</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 4401</td>
<td>Fish Physiology and Behavior</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 5003</td>
<td>Human Dimensions of Biological Conservation</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 5601</td>
<td>Fisheries Population Analysis or (FW 5051)</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 5051</td>
<td>Analysis of Populations</td>
<td>4 cr</td>
</tr>
<tr>
<td>FW 5136</td>
<td>Ichthyology</td>
<td>4 cr</td>
</tr>
<tr>
<td>FW 5604</td>
<td>Fisheries Ecology and Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 8448</td>
<td>Fishery Science</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 8459</td>
<td>Stream and River Ecology</td>
<td>3 cr</td>
</tr>
<tr>
<td>FW 8465</td>
<td>Fish Habitats and Restoration</td>
<td>3 cr</td>
</tr>
<tr>
<td>EPSM 5061</td>
<td>Water Quality and Natural Resources</td>
<td>3 cr</td>
</tr>
<tr>
<td>EPSM 5575</td>
<td>Wetlands Conservation</td>
<td>3 cr</td>
</tr>
<tr>
<td>EPSM 5111</td>
<td>Hydrology and Water Quality Field Methods</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEB 5605</td>
<td>Limnology Laboratory</td>
<td>2 cr</td>
</tr>
<tr>
<td>EEB 8601</td>
<td>Introduction to Stream Restoration</td>
<td>3 cr</td>
</tr>
<tr>
<td>EEB 8602</td>
<td>Stream Restoration Practice</td>
<td>2 cr</td>
</tr>
<tr>
<td>FR 5114</td>
<td>Hydrology and Watershed Management</td>
<td>3 cr</td>
</tr>
<tr>
<td>FR 5153</td>
<td>Forest and Wetland Hydrology</td>
<td>3 cr</td>
</tr>
</tbody>
</table>

Other advanced courses or colloquia on fisheries or aquatic biology, but not listed here, may also satisfy needs of students in the track. In addition, master’s students are required to enroll for at least one semester and doctoral students for two semesters of FW 8200 Seminar for 1 credit.

**Electives**

CS Students choose electives in consultation with their advisor and/or Student Advisory Committee. Given the multidisciplinary nature of the field of conservation biology, all student programs are expected to reflect coursework or knowledge in both social and biological sciences. Additionally, students are encouraged to develop depth in their area of greatest interest.

**Electives in Biological Dimensions of Conservation**

Students in CS need to have a good understanding of ecology, population and organismal biology. Ecological implications of issues and policies involving species diversity, endangered species concerns, and habitat protection all require a basic understanding of ecological principles and their associated models. Students in the program must be prepared to deal with such issues through formal academic training. NOTE: Students lacking a background in biological sciences sufficient to enroll in graduate-level courses should take a graduate level general ecology course prior to fulfilling the course requirements in this section of the curriculum.

**Electives in Social Aspects of Conservation**

Problems in conservation sciences and their potential solutions occur within diverse societal contexts. These contexts are defined by social institutions and processes such as economics, policy and law, politics, cultural identities, history, values and ethics, and spiritual traditions. Courses in this section of the curriculum analyze societal contexts and/or describe the operations of specific institutions. For example, students whose career goals include a desire to influence conservation policy need to understand workings of the public policy framework in which economics and law play a critical role. It is important that every graduate program include courses in the social sciences.
**Research Credits**

MS (Plan A) students must register for 10 thesis credits (CBIO 8777) and PhD students must register for 24 dissertation credits (CBIO 8888) as part of their program. Doctoral students cannot register for CBIO 8888 until they pass written and oral preliminary exams or until following requirements have been met: 1) 1-year of courses work completed, 2) approved degree program from the graduate school, 3) a thesis proposal (1-2 pages) approved by the advisor and Student Advising Committee (SAC) submitted to the Program Coordinator. Graduate students must register for 6-14 credits/semester to be considered full-time; students generally take 6-9 course credits each semester. MS (Plan A) students can enroll in CBIO 8777 throughout their program; PhD students should enroll in CBIO 8666 (Doctoral Pre-Thesis credits) until they meet criteria (listed above) to register for thesis credits (CBIO 8888). Pre-thesis credits and research credits beyond those required by the Graduate School cannot be used to meet other degree requirements.

**DEVELOPING AND FILING A DEGREE PROGRAM AND EXAM COMMITTEES**

The student is required to develop a graduate degree program in collaboration with the principal advisor and a student advisory committee (SAC) for both the MS and PhD degrees. A student’s “program” is the list of courses that the student will complete to receive his/her degree. The list is recorded on the Degree Program form, signed by the advisor(s) and the DGS, and submitted to the Graduate School. This is the responsibility of the student. Students begin the program approval process by submitting their forms (signed by their advisor) to the Program Coordinator (not DGS). The Program Coordinator will review the form to ensure all requirements are met. The DGS will not sign the form without this program review step. For MS students, the program should be filed by the end of their first year. For PhD students, the Graduate School requires that students should submit their completed degree program forms to the Graduate School at least the semester before the written prelim and two semesters before the preliminary oral examination.

The degree program form is available online at [http://policy.umn.edu/forms/otr/otr198.pdf](http://policy.umn.edu/forms/otr/otr198.pdf). The form should list all coursework, completed and proposed, that will be offered in fulfillment of degree requirements including any transfer work. At least two-thirds of the total number of course credits included on any degree program form must be taken A-F. Coursework completed in S/N that is only offered on the S/N grading basis is not counted in S/N limit. The courses should be graduate level i.e. 5xxx or higher; maximum of 9 credits of 4xxx level courses may be used in degree program (master’s and doctoral).

Students may request to transfer graduate course credits earned at another graduate institution by including the courses on the proposed degree program form. Graduate credits earned at other recognized graduate institutions may be applied to master’s or doctoral degrees if the coursework is graduate level and was taught by faculty authorized to teach graduate courses. Official transcripts of the graded work must be attached to the degree program form, unless they have already been included in the student’s Graduate School file. Transfer of graduate credit is not allowed for courses taken before the awarding of a baccalaureate degree.

The Degree Program Form should be filed with the Graduate School by the end of the second year in residence. The core course and CS seminar (2 times for MS and 3 times for PhD) are required. The doctoral students are also required to take CBIO 8095 as a part of written prelim. Before the program is approved by a DGS, it should be reviewed by the Program Coordinator. Once approved by the Graduate School, the program must be fulfilled in every detail to meet graduation requirements and before the final oral examination can be scheduled. No changes can be made except by petition. Program changes should be requested by completing a Graduate School petition form.
**MS Examination Committee**

Students in both MS Plan A and Plan B programs are required to select final examination committee members in consultation with the advisor(s) at least one month prior to the final exam. Students are responsible to fill out online form at [http://grad.umn.edu/students/assignmasterscommittee/index.html](http://grad.umn.edu/students/assignmasterscommittee/index.html) to request the graduate school to assign final examination committee.

**Final examination committee:**

The final examination committee must consist of at least three members, including the adviser/s. All members of the committee and the student must participate in the final examination.

- At least one member must represent a field outside the student's major field.
- If the student has a declared minor(s), the outside member(s) must be from the minor field(s).
- Members cannot satisfy the requirement with respect to more than one field.

**Adviser:**

- Must represent the major field on the examination committee.
- May serve as chair for the final examination

**Co-adviser (if any):**

- May represent the major field or the outside/minor field
- May serve as chair for the final examination.

**Thesis reviewers (Plan A only):**

- Assigned committee members also serve as thesis reviewers for the Plan A.

**PhD Examination Committees:**

Doctoral students are required to select following examination committees in consultation with the advisor(s). The program suggests doctoral students assemble all examination committees at least one month prior to taking written prelim by filling online form at [http://grad.umn.edu/students/examiningcommitteesnew/index.html](http://grad.umn.edu/students/examiningcommitteesnew/index.html)

**Prelim oral examination committee:**

The doctoral preliminary oral committee must consist of at least four members, including the adviser/s. All members of the committee and the candidate must participate in the preliminary oral examination.

- At least three members (including the adviser) must be from the student's major field.
- At least one member must represent a field outside the major
- If the student has declared a minor, at least one member must represent the minor field.
- Members cannot satisfy the requirement with respect to more than one field.
Final oral examination committee:

The doctoral final oral committee must consist of at least four members, including the adviser/s. All members of the committee and the candidate must participate in the final oral examination.

- At least three members (including the adviser) must be from the student's major field.
- At least one member must represent a field outside the major
- If the student has declared a minor, at least one member must represent the minor field.
- Members cannot satisfy the requirement with respect to more than one field.
- Committee is not required to include the same members who served on the prelim oral committee.

Thesis Reviewers for final oral examination:

- A minimum of 2 major field reviewers and 1 minor/outside reviewer are required. In the case of multiple minors, there must be a reviewer for each minor.
- Adviser/s must serve as reviewers.
- Every designated reviewer on the doctoral dissertation reviewer’s report must certify that the dissertation is ready for defense before the doctoral final oral examination may take place.

Adviser:

- Must represent the major on the preliminary oral and final oral committees.
- May serve as chair for the preliminary oral examination.

Co-adviser (if any):

- May represent the major or the minor/outside field on the preliminary oral and final oral committees.
- May serve as chair for the preliminary oral examination.

REGISTRATION REQUIREMENTS

The Graduate School's handbook provides detailed guidelines for degree and registration requirements. Students who plan to transfer credits from other institutions to complete degree requirements should consult this on-line handbook: [http://www.catalogs.umn.edu/grad/index.html](http://www.catalogs.umn.edu/grad/index.html). Only general information is provided below.

All students.

The Graduate School requires graduate students to register EVERY SEMESTER. If a student only needs to register to meet the Graduate School's registration requirement, there is a no-credit, no-fee registration option – Grad 999. See details at [http://grad.umn.edu/students/faq/index.html#registration](http://grad.umn.edu/students/faq/index.html#registration). Students not registered every fall and spring term are considered to have withdrawn and their Graduate School records are deactivated. Those who wish to resume graduate work must request readmission to the Graduate School to reactiviate their status.

Graduate students must register for 6-14 credits to be considered full-time. Advanced master's and advanced doctoral candidates (i.e., students who have completed all their program
coursework and required thesis credits, but still are working full-time on the research or writing of their thesis, papers, or dissertation) may be eligible for “Full-time with one credit registration” courses that enable them to be certified as “full-time” students when registered for one credit. See details at: [http://grad.umn.edu/students/faq/index.html#registration](http://grad.umn.edu/students/faq/index.html#registration).

All graduate students must register before the first day of the term to avoid a late registration fee. Be aware that a typical assistantship or tuition fellowship only pays for 14 credits, and these are for degree program courses. Students will be billed for credits over 14 and for courses not related to their field of study (e.g., martial arts and dance).

**Master’s Degree.**

Master’s degree students are required by the Graduate School to complete at least 60 percent of the coursework for their official degree programs (excluding thesis credits) as registered University of Minnesota Graduate School students. With approval of the adviser, DGS in the major, and Graduate School, transfer coursework may make up the remaining 40 percent (maximum) of the degree coursework. Work to be transferred must be graduate level (post baccalaureate) and have been taught by faculty authorized to teach graduate courses. It is the student’s responsibility to provide appropriate course documentation supporting proposed transfer credits to the program. Courses taken before the awarding of a baccalaureate degree cannot be transferred. See details at: [http://www.catalogs.umn.edu/grad/gen/masters.html](http://www.catalogs.umn.edu/grad/gen/masters.html).

**Doctoral Degree.**

Doctoral students must take a minimum of 12 course credits at the University. Transferred credits can include a maximum of 12 graduate course credits taken as non-degree seeking or non-admitted status. Transfer of thesis credits is not allowed.

**Applying graduate credits across University graduate programs.**

a. Graduate course credits earned while enrolled in one University graduate program may be applied to another University graduate program.

i. The number of graduate course credits applied is determined by the graduate program to which the student is applying.

ii. Earned Master's thesis credits (8777) and doctorate thesis credits (8888) in one University graduate program cannot be applied toward the thesis credit requirement for another University graduate program.

b. A maximum of 12 graduate course credits from other University registration categories, such as non-degree seeking or non-admitted students, may be considered for transfer once the student is admitted and enrolled in a graduate program.

c. Graduate programs may accept University 4000-level course credits as graduate courses. A maximum of nine 4000-level course credits may be used to satisfy the doctoral or master's course credit requirement.

**Leave of Absence:**

[http://www.policy.umn.edu/Policies/Education/Education/GRADSTUDENTLEAVE.html](http://www.policy.umn.edu/Policies/Education/Education/GRADSTUDENTLEAVE.html)

Graduate students are expected to maintain active status through continuous registration from the time they matriculate until they graduate. Students who are not able to maintain active status are strongly encouraged to consult with their Director of Graduate Studies, advisor, and relevant offices to determine whether requesting a leave of absence is the most appropriate course of action. Students who do not have an approved leave of absence and are not continuously enrolled
may experience negative consequences related to academic, visa, financial aid, and other student issues. The new policy also

- provides students the opportunity to return to the University under the rules and policies in effect when they left and without affecting their time to degree;
- allows the University the opportunity to counsel students about actions they must take to be reinstated upon the expiration of the leave.

**STUDENT ADVISING AND COMMITTEES**

**Advisor:**
An advisor will be identified through the admission procedure. The advisor is the student’s primary contact at the University. It is very important that the student and their advisor work well together. On rare occasions students discover that they are not well matched with their advisor for various reasons. If a change is necessary, that change must be approved by the Director of Graduate Studies (DGS) and the new advisor in consultation with the previous advisor and the student.

The advisor chairs meetings of the SAC and makes final decisions. She/he also assumes advisory and administrative responsibility for an individual student’s program, including recommendations regarding program content and student progress. Advisors for students in the Fisheries and Aquatic Biology track must be members of this track.

**Student Advisory Committee (SAC):**
The Student Advisory Committee (SAC) must have members from **more than one academic department.** The student is responsible for assembling the Student Advisory Committee, in consultation with the advisor. A SAC for an MS student is composed of the student’s advisor and two other faculty members who can give advice on the student’s professional direction. One of these should be on the CS faculty; the other should represent a different field. For PhD students, the SAC includes three faculty members other than the advisor, 2 from CS and 1 from another field. The purpose of the SAC is to assist the student to develop a degree program (e.g., list of coursework) and provide advice on research. The student’s principal advisor is responsible for helping the student to identify faculty representing both the biological dimensions and social dimensions of conservation biology to serve on the SAC.

Typically the advisor assists new graduate students in selecting courses for their first semester; the SAC should meet during the first semester of a student’s residency to assist in selecting courses for the next term and to offer some general guidance for research and the degree program. The SAC should be convened in the second semester to provide input the research proposal and to finalize the degree program (see the section on filing a degree program). Students should develop a research proposal (with literature review) for SAC review. This proposal is developed in close coordination with advisor and is provided to SAC members prior to the meeting that occurs in the second semester.

The student must schedule a meeting of the SAC at least once a year to review his/her progress. In general, the membership of the SAC does not change during a student’s program. However, if the direction of student’s research changes and/or if the advisor and a SAC member agree that another faculty can better assist the student, a change can be requested. These changes need to be approved by the DGS and Graduate School.

The SAC often serves as the Master of Science Examining Committee, the PhD Preliminary Oral Examining Committee, or the Final Oral Examining Committee (although these are all formally appointed by the Graduate School).
Preliminary Oral Examining Committee (doctoral students):

The Prelim Oral Examining Committee conducts the Preliminary Oral Exam. The examining committee has a minimum of four members: three (including the student's adviser) from the major field and one from the minor field or supporting program. All assigned members must be present at the preliminary oral examination; the absence of any member results in an invalid examination. If substitutions on the examining committee are necessary, the advisor or DGS must request approval from the Graduate School. All students scheduling their preliminary oral examination should contact the Graduate School to obtain the necessary forms.

Final Oral Examining Committee (doctoral and masters students):

The final oral examining committee is formed in the same way as the preliminary oral examining committee. However, members of the two committees need not be the same. The committee must consist of at least three members for the MS and four members for the PhD: two (MS) or three (PhD) (including the student's advisor) from the major field and one from the minor field or supporting program. At least one committee member from the minor field or supporting program should represent a graduate program and an academic unit other than that of the student's major.

Although the student's advisor serves as a member of the final oral examining committee, another member of the committee is designated as the chair and functions in this capacity at the final oral examination. The chair must be a full member of the graduate faculty and may be from either the major field or the minor field or supporting program. All committee members must be present at the examination; the absence of any member results in an invalid examination. If substitutions are necessary, the advisor or DGS must request approval from the Graduate School. All students preparing for their final oral examination should contact the Graduate School to receive detailed directions about degree completion procedures.

WRITTEN AND ORAL EXAM

Master of Science.

Students electing either a Plan A (thesis) or Plan B (non-thesis) program are required to pass a final oral examination. The exam is administered by a committee identified by the adviser and student and approved by the DGS and Graduate School. The final examinations cover the major field and the minor or related fields, and may include any work fundamental to these fields. The final oral for the master's degree is conducted as a closed examination, attended by only the student and the examining committee. In general, MS Plan A examinations often are primarily a thesis defense whereas Plan B examinations will focus more on general information from coursework. Immediately prior to the examination, CS students almost always present a public seminar on their thesis. The examining committee must be present during this seminar because a separate presentation will not occur during the closed session.

Doctor of Philosophy.

Students in the PhD program are required to pass a written exam, a preliminary oral exam, and a final oral exam. The written prelim exam, explained below, should be taken no later than 2.5 years after beginning the program. Preliminary examination groups will be assembled without regard to track designation. The Graduate School requires that the prelim oral must take place at least one academic term (15 weeks) before the final oral defense.
PhD Written Prelim. Exam.

The Written Preliminary Exam is in the form of a written research proposal, no more than 8 pages, single-spaced, including figures and tables but excluding references. The proposal should describe all, or part of, the student’s dissertation. It must include a broader impacts section that clearly addresses the importance of the research to the broader community. This section can vary in length and focus as appropriate to the topic, but must be considered carefully in the review process. A successful preliminary exam proposal should be hypothesis or theory-driven, include appropriate methods for collection and analysis of data, demonstrate familiarity with the literature, and demonstrate that the student can write at a level appropriate for the Ph.D. It is expected that the student will consult with their advisor, their committee members, and with other graduate students during the writing process; however, the final product should reflect the student’s own work. The proposal should be written for a discipline, but not a specialty-specific audience. The format can vary, depending on the student’s interests and career goals, but it is recommended that it address the requirements of a funding agency.

The preliminary written exam is associated with a 1-credit course to ensure a hard deadline and to provide students with guidance during the writing process. There is a single submission date for all students in a cohort, in the second semester of the second year to allow time for gaining candidacy status by the third year. The submission date will be announced by the DGS early in the fall semester. With written permission of the student’s advisor and committee, a student may submit their proposal with the next year’s cohort.

Preliminary exams are reviewed by a committee convened by the DGS. The committee will be comprised of at least three CS faculty members (more will be required in years in which more students take the exam) with appropriate expertise to review the variety of proposals produced by CS graduate students. If necessary, given the number and breadth of proposals submitted, the DGS is encouraged to solicit written reviews from additional CS graduate faculty. The submission of written reviews will also keep other CS graduate faculty engaged in the written preliminary exam process.

The committee will form a review panel, chaired by the DGS. Each member of the committee will be the primary reviewer on one or more exams and will be responsible for writing a summary for those exams. Each exam will be reviewed by at least two additional committee members. The DGS is responsible for assigning proposals to the reviewers and determining their role as primary or secondary reviewer with each written preliminary exam. If possible, the committee should be constituted so it does not include the advisor or co-advisors of any students evaluated that semester. If it is not possible to establish a panel that does not include the advisor or co-advisors of the students being evaluated, the advisor or co-advisors should step out of the room when their advisees are being discussed.

There are several possible outcomes to the written preliminary examination: pass, pass with reservations, fail. Students who pass with reservations will need to remedy the deficiencies identified by the committee before taking their oral examination. Correcting deficiencies may require rewriting a portion of, or the entire exam. These deficiencies must be corrected within one month of the notice of the reservations. A student who fails the written exam may be permitted to repeat the whole process the following year with permission from the prelim committee and the...
written recommendation of the student’s advisory committee. The second exam must be taken during the year following the first exam. There are two possible outcomes to a second exam: pass or fail. If the written preliminary exam has not been passed 4 years after beginning the program, the student will be dismissed from the program.

After successfully completing the exam, the student must complete Preliminary Written Examination Report form (http://www.conssci.umn.edu/download/Prelim-written-exam-form.docx) and submit to the program coordinator. The program coordinator will record the result into the graduate education database, until this step is complete the student will not be able to schedule the prelim oral exam.

**PhD Prelim Oral Exam.**

The preliminary oral examination must be taken within 2 semesters after passing the written examination and at least 15 weeks prior to the final oral exam. The preliminary oral examination is administered by the student’s oral examining committee that is approved by the DGS and the Graduate School. As stated by the Graduate School “This exam will cover the major field, the minor or supporting program and any work fundamental to these areas including possible plans for thesis research. Specialized training and knowledge related to specific tracks can be addressed in this exam. It is the responsibility of the student to schedule the preliminary oral with the examiners and with the Graduate School. The student must schedule the preliminary oral examination with the Graduate School online as soon as a date is set, but no later than one week prior to the examination. For directions on scheduling the oral prelim, see http://www.grad.umn.edu/students/prelimschedule/index.html.

There are several possible outcomes to the oral preliminary examination: pass, pass with reservations, and fail. Students who pass with reservations will need to remedy the deficiencies identified by the committee before taking their final oral examination. These deficiencies must be corrected within 12 months of the notice of the reservations. A student who fails the oral exam may be permitted to retake the following year with permission from the examination committee and the written recommendation of the student’s advisory committee. The second exam must be taken during the year following the first exam. There are two possible outcomes to a second exam: pass or fail.

**PhD Final Oral exam.**

Each doctoral student is required to successfully defend his/her thesis in a final oral examination within five calendar years after passing the preliminary oral examination. To be eligible for the final oral examination, a student must have completed all coursework listed on the official doctoral degree program form; must have passed both the written and oral preliminary examinations; must have an approved thesis proposal on file with the Graduate School; must have maintained active status; and must have satisfied the thesis credit requirement. In addition, the thesis must have been certified by the readers as ready for defense. The student must schedule the examination at least one week in advance with both the committee and the Graduate School. Scheduling for the final oral exam with the graduate school should be done online at http://www.grad.umn.edu/students/finalschedule/index.html.

The final oral examination consists of a seminar in which the candidate presents the thesis and to which the scholarly community is invited. The seminar may take place only after the thesis has been judged ready for defense. A closed meeting between the candidate and the appointed examining committee immediately follows the thesis presentation. The examination is limited to
the candidate’s thesis subject and relevant areas and will not exceed three hours. The candidate is then excused and a vote is taken on whether the candidate passed the examination.

**ANNUAL STUDENT REVIEW**

The College requires that each graduate student be evaluated by their Program annually. CFANS has developed a web-based annual review system. The program coordinator sends an email notice to all students in April containing a link to the review form and the deadline for completion. Once the form is submitted it is routed to the advisor(s) for approval. For CS students, the purpose of this annual review is two-fold: to document the accomplishments of the graduate students in the program and to identify students who may not be making adequate progress towards their degrees. The completed forms are reviewed by the DGS. A compilation of accomplishments is included in reports to the college. If students fail to submit the annual review on time, a hold will be placed in their academic record, and they will not be allowed to register until the annual review has been completed and approved by the DGS.

**Outstanding Conservation Biology Graduate Student**

Based on review of annual accomplishments of all students, up to 5% of the students will be given “Outstanding Conservation Biology Graduate Student” awards. These awards will honor truly superb performance in research fundraising, research publication, teaching, and/or outreach. These awards will be announced the following fall at the first Conservation Biology seminar of the year. Students can receive these awards more than once. Accomplishments of MS and PhD students will be evaluated separately, using criteria appropriate to their degree programs.

**Academic Performance and Student Progress**

Students are expected to receive grades of B or better, for an overall GPA of at least 3.0. In very rare cases students have problems with a course. Do not wait until the course is finished to inform the advisor/DGS of a poor grade; often they can help before it is too late. An instructor may give an ‘incomplete’ when in the instructor’s opinion there is a reasonable expectation that the student can successfully complete the work of the course. An incomplete remains on the transcript until the instructor replaces it with a final A-F or S-N grade. Course instructors may, at their discretion, establish a time limit for the removal of incomplete grades. CS students cannot carry more than 5 credits of incomplete grades at a time. If a student has more than 5 credits of incomplete grades for a semester, a hold can be placed on student’s registration.

A student not making adequate progress can be one who has not maintained minimum academic performance, who has not filed a degree program form and/or not met with their SAC, who does not have an advisor, and/or who has not completed preliminary or final examinations within accepted time-frames (see Appendix A). Students found not to be making adequate progress towards their degree will receive a written warning from the DGS articulating the expectations that must be met by the end of the next semester or as otherwise indicated by the DGS. If those expectations are not met, a second warning letter will be sent to the student the following semester identifying the consequences to their financial support and continuation in the program. If expectations are still not met by the end of the next semester, a hold is placed on the student’s registration and they receive a third and final warning identifying the expectations that must be met before the student is allowed to continue in the program. The advisor receives copies of all correspondence between the DGS and student.
THESIS

The thesis or dissertation is typically the most significant part of a graduate student’s program – both in time and intellectual investment. Graduate students need to make substantial progress planning their thesis during the first year of their program. A thesis proposal combined with a draft coursework program is often reviewed by the SAC in a student’s second semester – and always before data collection begins. When embarking on developing a thesis proposal, be sure to meet periodically with your advisor to consider your ideas. Be sure to set realistic goals, develop an appropriate timeline or schedule, and read other examples of completed theses (especially those that were published in academic or professional journals). The University of Minnesota library owns a copy of every thesis and dissertation completed here—so there is no shortage of available examples! Be sure your thesis research is focused, is organized around a set of questions, and uses appropriate methods. Rely on your committee to give you advice on research approaches—but remember it is your project and you will need to generate ideas and proposals for them to react to. Be sure to select committee members whose expertise will be relevant to your thesis research and who will give you valuable critique. As you develop your thesis proposal, think about how your work fits into the rest of what is going on in conservation biology worldwide and how your proposed research fits in and contributes to advancing the field. Be sure to follow graduate school requirements on thesis content and structure; see http://www.grad.umn.edu/current_students/forms/gs16.pdf

Thesis Reviewers

All members of the final oral examining committee read the thesis. For Master’s theses, the entire committee must be unanimous in certifying that the thesis is ready for defense, as indicated by their signatures on the thesis reviewers report form. For PhD dissertations, only those designated as thesis reviewers sign the report form certifying that the thesis is ready for defense. The designated reviewers for PhD dissertations consist of the adviser and at least two other members of the final oral examining committee. Part of this group of reviewers should come from outside of the graduate program’s thesis advisory committee. To permit faculty sufficient time to read the thesis and decide whether it is ready for defense, all members of the examining committee must have at least two weeks to read the thesis.

Use of Published Work

The thesis or dissertation may include materials that students have published while a graduate student at University of Minnesota provided the research, was carried out under the direction of the graduate faculty and approved by the advisor for incorporation into the thesis. Such publication is welcomed as the best demonstration of quality in a student’s research. Instructions for the preparation of the thesis should be obtained online at http://www.grad.umn.edu/prod/groups/grad/@pub/@grad/documents/asset/otr206_formatting_and_submissi.pdf.

SOURCES OF FUNDING

Assistantships

The typical CS student has a Graduate Assistant position – either as a Research Assistant (RA) or as a Teaching Assistant (TA). The pay range for Graduate Assistants varies by department but is typically $15,000 to $18,500/year for a 50% appointment. In addition, Graduate Assistants receive comprehensive health and dental insurance and are eligible for tuition benefits—a 50% assistantship (20 hours/week) results in a 100% tuition waiver. Out-of-state residents who have
worked 2 semesters as a graduate assistant are eligible to receive a maximum of 4 semesters of resident tuition rate once they no longer are graduate assistants.

**UM fellowships**

A few first-year and fourth-year CS students are nominated each year for University of Minnesota Graduate Fellowships. Recipients of this fellowship receive a stipend comparable to a 50% assistantship for the academic year, full tuition, and comprehensive health insurance and dental care. The Graduate School also offers several endowed fellowships. Deadlines and forms for application are on the Grad School web page at www.grad.umn.edu. The MacArthur Program also offers fellowships for both incoming and current graduate students. See their web site at http://www.icgc.umn.edu/Fellowships/fellowover.htm.

**Outside funding**

The ability to successfully obtain grant funds for research is extremely important for professional conservation biologists. Thus, all students are expected to actively seek financial support for their research with the help of their advisors. Each year, CS students apply for and are awarded fellowships from organizations outside the University of Minnesota. For example, in the past, CS students have been awarded fellowships from agencies such as the National Science Foundation, Environmental Protection Agency, and the National Security Council. In addition, there are hundreds of smaller grant competitions. Students should seek advice about potential funding sources from their advisors, fellow graduate students, and the Program DGS. Grant competitions also are advertised through emails on the CS-student list server, posted fliers, and on the internet.

**Personal funds**

Sometimes students enter the program on personal support. For example, some students are employed and want to continue to work part time and go to school. Occasionally, students enter the program using student loans or other personal funds.

**Sources of Information**

**Program web site:**
http://www.conssci.umn.edu

**Other students in the program:**
The students have a group email. It is very appropriate to send out a general message regarding program issues such as, ”has anyone taken X course?” Once a response is received, students are asked to continue the discussion privately. Do not use the group email for personal issues (e.g. selling furniture, caring for pets, seeking roommates) to avoid overloading the system with material that will have limited interest.

**The Graduate School:**
The Grad School provides information on anything having to do with the ”nuts and bolts” of the degree. They provide forms for filing the program, thesis title, written and oral examinations, etc. Most of these forms are on their website (http://www.grad.umn.edu/current-students/forms ). Be sure to read a copy of the UMN Graduate Bulletin about degree requirements that apply to you (http://catalogs.umn.edu/grad/index.html ). A very helpful one-page document available from the
Grad School outlines the general process and procedures for obtaining a degree; see http://www.grad.umn.edu/current-students/gssp.

**Funding:**
Recipients of Graduate School Fellowships or another fellowship administered through the Graduate School should check in with the Grad School fellowship office in Johnston Hall to make sure all paperwork is in order and to learn about the expectations associated with the fellowship. MacArthur Scholars need to keep in close contact with the MacArthur program office and Nancy Rothman, FWCS, who handles tuition and health insurance.

Students with a Teaching Assistantship (TA) or Research Assistantship (RA) need to determine which department their paycheck is coming from and become acquainted with the payroll staff in that department. Typically the department of the student’s advisor will be responsible their payroll.

**Advisor:**
The advisor is a student’s primary contact at UMN. Because of the multidisciplinary aspect of the CS program, several CS students have 2 advisors. Advisors vary tremendously in their style. Some maintain very close control and contact while others will let students make all decisions. Students should always interact with their advisor regarding course choices and plans for each semester. It is up to the student to keep their advisor informed. On rare occasions students discover that they are not well matched with their advisor for various reasons. It is very important to work well with an advisor. If a student has a problem doing so, or otherwise needs assistance, please see the DGS to help resolve the issue.

**Conservation Sciences Program Office:**
The Program Office is in 135 B Skok Hall. The office phone is 612-624-7751, office fax is 612-625-5299 and the program email is consbio@umn.edu. The program website is at http://www.conssci.umn.edu.

**Directors of Graduate Study (DGS):**
The DGS will help solve problems with the grad program and interactions with the Graduate School, advisors, committees, etc. but students should attempt to solve problems through their advisor and the CS Program Coordinator first.

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**SPECIAL CONSIDERATIONS FOR INTERNATIONAL RESEARCH**

**From UM Office of International Programs**

To protect the health and safety of our students, the University of Minnesota has adopted a series of policies and procedures requiring a release and waiver and international health insurance for all students who go abroad. This includes study, research, internships, work, and volunteer experiences abroad that are sponsored or endorsed by the University either as part of a group or as individuals. Note that this includes graduate students conducting independent projects abroad.

There are three main components about which you should be aware:

**Release and Waiver Form:** All students must complete and sign the release and waiver form developed by the Office of the General Counsel.
International Health Insurance: All students are required to obtain the Risk Management-approved international health insurance policy. Information and application forms are available at: http://umabroad.umn.edu/students/healthsafety.php

Education Abroad Suspension Committee: Any faculty member, department, college, or individual student proposing a student program or activity abroad in a country on the U.S. State Department travel warning list [http://travel.state.gov/travel/cis_pa_tw/tw/tw_1764.html] must gain prior approval. The University has created the Education Abroad Suspension Committee to consider these requests and also the suspension of existing programs in countries that are added to the list. Requests should be submitted electronically two months in advance of departure. See guidelines at: http://www.international.umn.edu/travel_warning/

Colleges, departments, and individual faculty and staff who lead programs abroad must ensure that all students meet these requirements.

DEVELOPING YOUR PROFESSIONALISM

You are in this program to obtain a degree and make a difference in global conservation efforts. Taking courses is a very small part of the big picture. You were admitted for this program because we identified you as an individual with great potential to contribute to the stewardship of the Earth’s biodiversity. We expect you to give to the program and the profession of conservation biology as much as you plan to take. Several opportunities/responsibilities are listed below. Every single one of these is vital to your professionalism. Post them as a list of goals to achieve and work on every semester.

1. **Attend seminars on campus.** Every day there is some seminar on one of the campuses that has relevance to conservation biology. There is no way to attend them all. Be alert and schedule them into your plans when possible. Pay particular attention to those sponsored by CS, but others will be in departments such as Ecology, Forest Resources, Fisheries and Wildlife, Geography, the Humphrey Institute, etc. You will find your own sources based on your interests. In semesters when you are not signed up for the CS Seminar (8001) for credit you are still expected to attend.

2. **Belong to a professional society** (or several). It is important that you develop these ties early. A natural is the Society for CS. Others may be the American Fisheries Society, The Wildlife Society, Ecological Society of America, the American Ornithologists’ Union, etc. Ask your advisor for advice. All of these societies produce professional journals and have annual meetings. They have student rates. Why should you join? There are many reasons (e.g. you will become a member of a group who will be your professional peers after graduation; you will keep up to date on research in your field (through the journal); you will begin to learn the politics of your profession). All of you should decide on a society and become a member by the end of your first semester.

3. **Attend professional meetings.** Every year students attend a number of meetings. If you present a paper, the CS Program often has funds to provide $300 (in country) or $400 (international) to help with expenses for one meeting/year. You and/or your advisor will need to cover the rest. To receive support from the CS program you must include the CS Program in your affiliation as listed on your abstract. Presenting at professional meetings is expected of PhD students and highly encouraged at the MS level. The Society for Conservation Biology is a natural meeting to attend, but students attend a diverse selection.
4. **Update your resume/curriculum vitae.** This is your professional record and one of the most important “tools” for obtaining funding while in the program or future employment. Some have highly sophisticated CVs; others are not well prepared. Ask your student colleagues for advice and your advisor to review your CV. You should update it at least once/semester.

5. **Establish an office space at UMN and use it.** Do not hole up at home and deprive yourself of graduate school life. The most important thing you will get from graduate school is your interaction with colleagues, faculty and visiting scholars. Graduate school is not an extension of college; it is a way of life. If you need to study at home, do so, but leave time every day to come and interact through seminars, etc. One of the biggest mistakes new students make is to use grad school only as a route to taking more courses. If you plan only to come to campus, attend class, and go home, you are in the wrong program and field. You need to understand the culture of science and conservation. You need to engage in conversations. You need to develop friendships with your colleagues as they will be critical professional links for you in the future.

6. **Obtain funding for research and graduate training.** Students come into the program with a variety of funding support systems. Some students are almost completely funded. Some have little or no funds other than personal ones. Very few have funds to support their research. Everyone can be funded at some level, but it will take work and creativity on student’s part. Obtaining funds for a living stipend, tuition or research is part of being a professional. You need to be continuously alert to sources of funding, no matter how small, because developing a funding record is also important for your professionalism. A good place to start is through the Fellowship Office at the Graduate School. Check out their web site to find information on fellowships available through the UMN. For example, for those of you who plan to do international work, there is a fellowship for research abroad. Also check the Graduate School website for student job postings. There are often good opportunities in other campus programs. The CS Program does not have money to fund students except under very special circumstances so you cannot depend on the program for any regular support. Discuss funding support and options with your advisor.

7. **Publications are important.** You will be judged on your publications for any academic or research-oriented positions you seek (this includes MS students who plan to enter a PhD program as well as people seeing positions at the university level). Publications may be required and will definitely provide an advantage for a number of other positions. Interact with your advisor regarding publications. This is a critical issue, especially for those of you in the PhD program.

8. **Preparing Future Faculty:** This is a very innovative program available through UMN for PhD students who seek employment in academia. PPF is a two-part course. The first course addresses the theory of teaching where students develop a syllabus, teaching philosophy, and learn teaching techniques. The second course is a practicum where students teach either a course or a series of class sessions. Several CS students have been hired by colleges/universities, in part, because they participated in this program. Look for announcements about this program or contact the University of Minnesota Teaching and Learning Center for more information.

9. **Seek Opportunities for Leadership and Community Involvement:** These opportunities can be within the CS Program, the broader university system, or at the regional, national or international level. Some of you already have these connections. Evidence of leadership and “community” involvement is often a criteria for outside funding/fellowships and is definitely a plus when you see employment.
APPENDIX A: PROGRAM CHECKLISTS

All Students:

- All students must have a junior-senior level course in ecology as a requirement for the CS program. Students lacking this course need to make up this deficiency in the first year.
- Students should take the core course, FW8452, their first year.
- All students must take one graduate level quantitative course, such as statistics.
- All students must complete ethics training during their graduate program.
- All students must convene their SAC committee by their second semester: the SAC should review their thesis proposal and their proposed degree program.
- All CS degree programs need to include coursework in both the biological and social sciences.
- All students should convene their SAC once/year throughout their program.
- All students must complete their annual progress report.
- All students should attend the CS seminar regularly, regardless of whether they are registered for the course.
- All students must register every semester throughout their program.

MS Students:

- Students should submit a degree program with no fewer than 30 credits: 14 credits in the major and 6 credits in related fields or a minor. Plan A students should have 10 thesis research credits and Plan B students should have an additional 10 credits of coursework electives.
- Students should file their degree program by the end of their first academic year.
- Students should take the CBIO 8001 seminar for credit twice; FAB-track may substitute one credit of FW 8200.
- Students should present in CBIO 8001 seminar once.
- Students should publicly present their thesis seminar on campus prior to their final examination and their examining committee should be present.

PhD Students:

- Students should file their degree program by the end of their second academic year, a semester before the written prelim, and 2 semesters before the oral prelim.
- Students should take the CBIO 8001 seminar for credit three times; FAB-track may substitute 1-2 credits of FW 8200.
- Students should present in CBIO 8001 seminar twice; FAB-track students should make at least one presentation in CBIO 8001 and another arranged with their advisor.
- Students should take the written prelim during their second year, and register for CBIO 8095 the semester they plan to take their written prelims. They must have 1) completed the core sequence prior to enrollment, 2) an approved degree program (submitted the previous semester), and 3) the permission of their advisor. N.B.: CBIO 8095 is a major time commitment. Students need to minimize other courses and research activities during this term.
- After completion of the written prelim and at least one week before the oral prelim, the Preliminary Written Examination Report must be submitted to the Graduate School.
- The oral prelim must be taken within 2 semesters of passing the written prelim. It should be scheduled one week in advance of the exam and at least 15 weeks before the final oral defense.
- Students submit the thesis proposal form to the Graduate School the term after passing the prelim oral. Students should consult the Grad School Web site for degree completion procedures and deadlines.
- Students must publicly present their dissertation seminar on campus prior to their final examination-their examining committee must be present.
APPENDIX B: COMMITTEE REPORTING FORM

COMMITTEE REPORTING FORM

Submit with degree program

________________________________________   __________________________________
Student Name (print)      Student Signature

________________________
Date of Committee Meeting

We, members of the student’s advisory committee, have met as a group and discussed what will constitute acceptable coursework for his or her degree. We have reviewed and find acceptable the degree program that will be submitted to the Conservation Biology program and Graduate School.

________________________________________   __________________________________
Name (print) Signature

________________________________________
Name (print) Signature

________________________________________
Name (print) Signature

________________________________________
Name (print) Signature

________________________________________
Name (print) Signature

(Note: MS committees should have 3 members, including 2 from CS and one from a supporting field or minor. PhD committees should have 4 members, including 3 from CS and one from a supporting field or minor. Occasionally, programs have an additional member)