

Shippensburg University Biology Department Graduate Program

Policies and Procedures (updated 06/22)

The Shippensburg University Graduate Catalog contains the policies and procedures for the Shippensburg University School of Graduate Studies. It is your responsibility to be familiar with and adhere to these policies. A pdf version of the catalog is available at:

www.ship.edu/catalog/graduate_catalog/

Several University policies of particular importance to note are:

Minimum Academic Standards - As a graduate student at Shippensburg University, you are expected to maintain satisfactory academic standing, which requires a cumulative QPA of 3.0 (B) or better in your total program of courses. If your cumulative QPA drops below 3.0 you will be placed on academic probation, and if your cumulative QPA drops below 2.0, you will be dismissed from the program. Students on probation must raise their QPA to 3.0 by the end of the next semester (or full summer term) in which they register. An additional probationary semester may be granted at the discretion of the department graduate committee. If you fail to meet the conditions of academic probation you are subject to dismissal.

Dual-Level (400) Courses - Courses with numbers from 400 to 499 are open to graduate and advanced undergraduate students. Graduate students enrolled in 400-level courses are expected to meet the customary standards appropriate to graduate-level studies. These standards are reflected in the specific requirements found in syllabi for each of the 400-level courses. A maximum of 12 semester hour credits of 400-level courses may be applied to the master's degree requirements.

Transfer Credits – A maximum of nine credit hours of graduate coursework earned at another institution may be accepted as transfer credit toward a graduate degree. The courses must be part of a graduate degree program at the sponsoring institution and must be appropriate for the student's program at Shippensburg University. To be evaluated for transfer credit, courses must be listed on an official graduate transcript with a final grade of B or higher. Credit earned more than five years prior to the date you begin your graduate program at Shippensburg does not qualify for transfer credit.

Biology (M.S.) Graduation Requirements

Each candidate for a degree must complete a minimum of 31 semester hour credits. All candidates must complete BIO593 Biometry and BIO515 Scientific Communication in Biology. At least 25 credits must be earned in biology courses (including biology-numbered courses offered by the Chincoteague Bay Field Station at Wallops Island). A maximum of six credits may be selected, with advisement, from courses such as chemistry, physics, mathematics, computer science, or geography/earth science. Candidates simultaneously working towards secondary certification may count EDU440 Teaching of Science in Secondary Schools and EDU441 Curriculum and Evaluation in the Secondary Science Classroom towards these credits.

Specific Requirements:

Master of Science in Biology (non-thesis track)

In addition to completing BIO 593 and BIO 515, candidates must complete 27 semester hour credits, including at least one capstone experimental course. The capstone course may be either three credits of internship (BIO 609) or three credits of graduate research (BIO 605, BIO 606). This should normally be undertaken during the second year of enrollment for full-time students, or after at least 18 credits have been accumulated in the program. If opting for internship, students are strongly encouraged to complete this during the summer. A maximum of 6 total credits of internship, research, or a combination of internship and research may be counted toward the degree. For students simultaneously pursuing secondary certification, student teaching (EDU 495) may be counted as the capstone experience, but no credit will be awarded for this toward the M.S. in Biology degree.

Master of Science in Biology (thesis track)

In addition to completing BIO 593 and BIO 515, candidates must complete 27 semester hour credits including six semester hour credits of Thesis I and Thesis II (BIO 612 and BIO 613). Candidates may also elect up to three of these 27 semester hour credits as graduate research (BIO 605, 606) or internship (BIO 609).

Thesis Requirements - see http://www.ship.edu/Graduate/Thesis_Instructions/ for additional Shippensburg University School of Graduate Studies instructions.

1. The thesis must be written in manuscript style format with any material not appropriate for a scientific manuscript (i.e., voluminous tables) included as appendices. The specific style will depend on the requirements of the individual journal to which the manuscript will be submitted.

2. An oral thesis defense, including a formal seminar on the thesis research, advertised and open to the university community, is required. The oral defense must be advertised by e-mail to all Biology graduate faculty and graduate students, and by signs placed in Franklin Science Center, at least one week (five work days) prior to the date of the defense. Thesis committee members must be provided with a final, edited copy of the thesis a minimum of one week (five work days) in advance of the thesis defense. The defense must be scheduled on a day when on-campus classes are in session.

3. Two copies of the completed and approved thesis must be submitted to the Registrar's Office. One copy of the thesis will be housed in the Lehman Library; the other copy will be housed in the Biology Department.

Thesis Guidelines

Incoming students usually spend their first semester choosing a thesis advisor and research topic. During the second semester, the thesis committee is established, a research proposal is written, and the student presents the research proposal at a meeting of the thesis committee. The committee should meet and approve the student's research plans before the student can register for Thesis I. It is the student's responsibility to organize the committee meeting, complete the Arrangements for

Completing the Thesis Requirements for the Master's Degree form, and return the form to the Biology Department office.

The thesis committee consists of three Shippensburg University faculty members, including the thesis advisor and two other faculty members chosen by the student. With advisement from the thesis advisor, the student may choose additional committee members from outside the university; however at least three Shippensburg faculty members must approve the thesis. While outside members may sign, they are essentially in an advisory role, and do not have the power to hold up or advance approval of the thesis.

Students completing a thesis may sign up for up to three hours of research credit. Appropriate activities for this research include reviewing the pertinent literature, planning the thesis research, and conducting research/collecting data. For a student planning to complete a MS degree within two years, research credit is usually awarded in the spring or summer of the first year.

Students generally sign up for Thesis I and Thesis II during their second year, when they are analyzing data that has already been collected and writing the thesis. Although both Thesis I and II may be taken in the same semester, students usually sign up for Thesis I the semester prior to the thesis completion/defense and sign up for Thesis II the final semester.

The thesis committee plays an integral role in the thesis process. Therefore, it is important for the student to keep thesis committee members informed on progress towards completion of the thesis. In addition to the initial meeting in which the student presents the research proposal, the student must also meet with thesis committee (either as a group or individually with each committee member) prior to registering for Thesis II. During this meeting, the student should describe progress to date, deviations from the original research proposal, and any impediments to completion of the thesis. The committee members must be satisfied that adequate progress is being made towards completion of the thesis, and sign the Permission to Register for Thesis II form, before the student is allowed to register for Thesis II. It is the student's responsibility to return the signed form to the biology department office.

When the thesis is complete, the student should schedule a thesis defense. The defense has two components: a formal seminar on the thesis research, advertised and open to the university community, and a closed-door session with questions from the committee. At this session, committee members will often suggest final revisions to the thesis. Revisions must be completed and committee member signatures obtained prior to submitting the final version of the thesis to the Registrar's Office.

Suggested timeline for thesis completion in 2 years (Fall start):

Semester 1: Explore topics, READ, talk to possible advisors. Choose an advisor and topic by the end of the semester, or early semester 2 at the latest. *We strongly suggest thesis students take BIO 515 Scientific Communication in Biology during the first or second semester.*

Semester 2: Thesis proposal completed and presented to committee by early April. A public presentation of the proposal is strongly suggested. Make revisions as necessary and begin planning

research activities. Schedule Thesis I for Fall of year 2. *We strongly suggest thesis students take BIO 593 Biometry during the second semester (first semester for a spring-start student).*

Summer 1: Field/lab work to be completed largely during the summer following year 1. Planning and often initial work should be well underway by the end of semester 2. Begin writing the methods section while this work is ongoing.

Semester 3: Finish field and lab work, analyze data, finish methods section, begin writing the results section. A meeting with the committee should be scheduled for mid-semester (October) of year 2 to review data collected and make adjustments if needed. Committee should approve plans to schedule Thesis 2 for Semester 4.

Semester 4: Finish writing and formatting thesis. Schedule the thesis defense, ideally for 4-5 weeks before the end of the semester. Provide a complete, edited draft (usually revised several times with advisor by this point) to the committee at least ONE WEEK before the formal thesis defense. Note that this 'final' draft may still need further revision based on feedback from the committee during the defense. The final, approved thesis, with signatures, should be submitted to the Registrar's office at least 30 days before your intended graduation date.

Summer 2 (if needed): Don't let thesis completion stretch beyond this period. History suggests that the likelihood of successful completion drops precipitously after this period. Though technically you have until one year after registering for Thesis II to complete (i.e., December if you began Thesis II in January), it is inadvisable to wait this long. If the defense is scheduled in the summer, it must be during a period when classes are in session, and all committee members must be willing and able to attend the defense.

Graduate Assistantships

The Biology Department has several graduate assistantships that are awarded on an annual (or occasionally semester) basis. These assistantships provide a salary and tuition waiver. During each semester, full-time graduate assistants are required to work 250 hours (approximately 15 hours per week) and maintain full-time student status (9 hours of graduate [400-699] level coursework). Graduate assistants must work at least 90 percent of the required hours in order to qualify for the tuition waiver. Assistants working less than this amount will be required to pay for a portion of tuition. The criteria used for awarding assistantships to incoming students include previous academic and professional achievement and a personal statement of interest. Preference is given to students with an interest and potential to complete a thesis.

Graduate assistants who are adequately performing their work duties and making progress towards obtaining their MS degree are generally awarded a second year of funding. However, this second year of funding is not guaranteed and is contingent on sufficient progress. Specifically, students desiring a continuation of funding should meet the following requirements:

- 1) Professional completion of assistantship duties as evaluated by the supervising faculty member(s).
- 2) Cumulative QPA of 3.0 (B) or better, full-time student status.

Graduate students seeking secondary certification are not eligible for an assistantship during the semester that they are completing their student teaching.

Graduate assistantships (and federal financial aid) will cover only courses required in your program. In order to maintain eligibility for 4 semesters (typically the minimum needed for successful completion of a thesis), thesis students and GAs are advised to take only 6 credits each of their final two semesters. (For a fall start student: Sem I: 10 cr, Sem II: 9 cr, Sem III: 6 cr, Sem IV: 6 cr.) A 6-credit GA has the same maximum hours (250) as a 9-credit GA, and GAs will still be expected to work 250 hours.

A Note on Internships:

In a recent survey of employers, internship experience was the top criterion in hiring recent college graduates. Internships provide a valuable opportunity to gain work experience, learn and practice skills and techniques, and network with people in the profession. Non-thesis students are strongly encouraged to conduct an internship for their capstone experience. Thesis students may also benefit from an internship experience. Internships are commonly offered by state (e.g., DCNR, DEP) and federal (e.g., USGS, NRCS) agencies, nonprofit organizations (e.g., Chesapeake Bay Foundation, Western Pennsylvania Conservancy, Nature Conservancy), and private companies (e.g., environmental consulting firms). Although faculty in the department will provide advice on internship opportunities, it is the responsibility of the student to find and obtain the internship and to fill out the appropriate paperwork.

Important Contacts:

Graduate Coordinator:	Dr. Theo Light, 717-477-1093, tsligh@ship.edu
Department Chair:	Dr. Sherri Bergsten, 717-477-1401, seberg@ship.edu
Department Secretary:	Ms. Hannah Stahlman, 717-477-1401, hastahlman@ship.edu

Thesis Formatting Instructions:

While there is some leeway in formatting, depending on the specific nature of the thesis or committee wishes, please use these guidelines unless there is a compelling reason to deviate from them.

Margins: Left – 1.25” (to accommodate binding)
 Right – 1”
 Top – 1”
 Bottom – 1”

Spacing:

All thesis text should be double spaced. Figure captions, references, appendices, table of contents, lists of figures and tables should be single spaced.

Font:

Most fonts are acceptable. However, the most commonly used are Times New Roman, Book Antigua, Arial, Calibri, and Corbel. Regardless of the font used, it must be consistent throughout the thesis. Font size should be 12pt.

Tables and Figures:

Graphs and other images should be labeled sequentially as Figure x. Tables should be labeled sequentially as Table x. Do not restart the numbering with each new section or component. Color figures may be used, but recognize that grayscale figures reproduce more clearly. Each table and figure must have an accompanying caption with an appropriate description (table legends are placed above tables, figure legends are placed below figures). All tables and figures must be completely legible as they appear in the thesis and should be either embedded in the thesis text as close to their first reference as possible or placed in separate sections after the Literature Cited section. Excessive tables and other information that is important but not critical to the thesis may be included in one or more Appendices at the end of the thesis.

Citation Format:

All sources listed in the Literature Cited section of the paper must be cited in the text of the thesis. Citations should be formatted using the style of either the Council of Science Editors (CSE) or a major journal in your field.