

Buffalo State College
Department of Biology

Graduate Student Handbook

Guidelines for the Degrees of

M.A. in Biology

and

M.S. in Education in Biology

November, 2010

This Handbook is designed to help students fulfill their responsibilities and to make steady progress toward completion of a Master's Degree in Biology at Buffalo State College. These requirements and procedures have been established by the Graduate Faculty of the Biology Department acting within guidelines set by the Graduate School. Students should consult the Graduate Catalog in effect when they entered the graduate program for other policies that may be applicable. Graduate degree programs are characterized by the high level of initiative that is expected of graduate students in meeting program requirements, setting up meetings with their committees, or completing their research. Your faculty mentor or committee members should not be expected to remind you of approaching deadlines or requirements.

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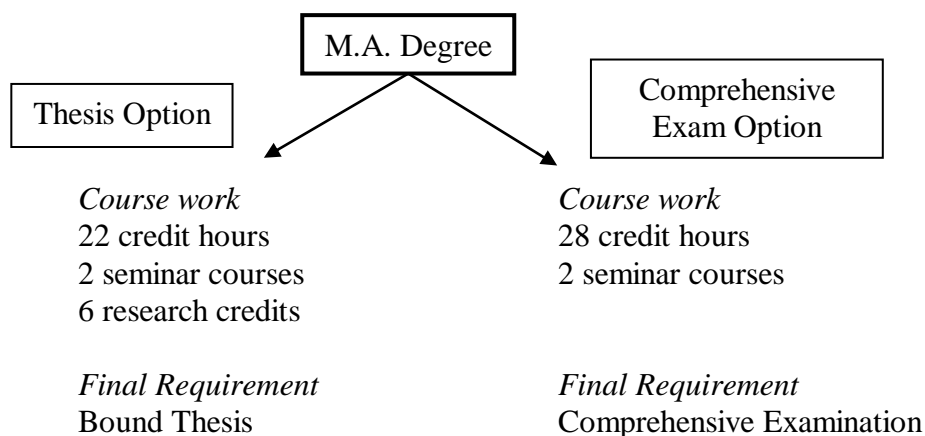
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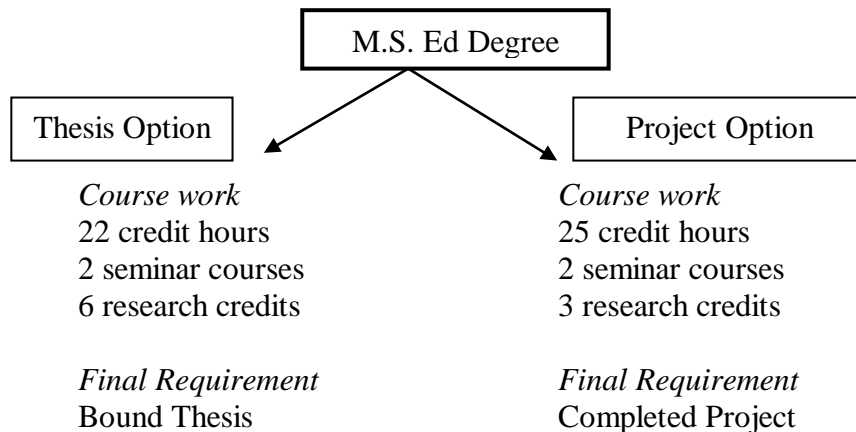
Overview of the M.A. and M.S. Ed. Degrees

The **M.A. in Biology** degree is designed for those who desire advanced knowledge of biology. It prepares students for research, professional employment, and/or study at the Ph.D. level. There are two options for the Biology M.A. degree:

- a) a thesis degree requiring completion of an original scholarly research activity plus coursework,
- b) a non-thesis degree requiring coursework culminating in a comprehensive exam.



The **M.S. in Education in Biology** degree is designed to provide an advanced degree for persons who are or who plan to become secondary science teachers. M.S.Ed students in Biology have the option of obtaining a thesis-based degree or a project-based degree both of which have coursework and research components; however the project-based degree involves a smaller commitment to research.



Graduate Assistantships

Graduate Teaching Assistants assist faculty in their teaching responsibilities and are recommended for appointment by the Department Chairperson after consultation with the Graduate Committee. An assistantship is a form of financial aid (it provides a stipend for the academic year and a tuition scholarship of up to nine semester hours per semester). It is awarded on the basis of academic ability. The Chairperson will recommend appointment initially for one semester; reappointment is contingent on a student's effectiveness as a graduate assistant, his or her performance in course work and progress on their degree. Graduate assistants must be full-time students and carry an approved academic load. The work performed by a graduate assistant requires an average of 20 hours per week. Although graduate assistants are usually assigned to a particular professor, they are ultimately responsible to the Department Chairperson. M.A. students in the Thesis Option are given priority for Teaching Assistantships.

Graduate Research Assistants are appointed by professors who hold outside grants and contracts. The details of the arrangement are worked out between the research assistant and the professor. However, research assistants, like graduate teaching assistants, must carry an approved academic load each semester and are expected to put in an average of 20 hours per week on the projects assigned to them.

Student Advisement

Arranging a course of study and/or designing a research project are complex tasks which the student carries out with the aid of a faculty adviser or committee. The advisement guidelines and expectations vary depending on the course of study and are described for each program below.

Admission to Candidacy

Candidacy is a written agreement, arrived at between the student and his or her committee, stating the coursework that the student must complete in order to be awarded their graduate degree. This formal agreement is drawn up with the help of a student's major professor and must be approved by the major professor, Department Chairperson, and the Graduate School Dean. Careful consideration should be given to the development of the agreement since failure to complete the approved coursework may hinder graduation. Once the candidacy form has been approved, changes can be made only with approval of the student's adviser, Department Chairperson, and the Graduate School Dean. Forms for this purpose are available in the Biology Department office and at the Graduate School.

To enter candidacy, the student must satisfy the following requirements:

Complete at least 6 but not more than 12 credit hours of graduate coursework.

Maintain at least a "B" (3.0) grade point average on all graduate work.

Remove all academic deficiencies identified in writing by the Graduate Committee or Chairperson as a condition of admittance to the Graduate Program.

Remove all grades of I, N, and X.

Complete the appropriate APPLICATION FOR ADMISSION TO CANDIDACY form.

It is important to be admitted to candidacy before completing 12 credit hours of graduate coursework, since further delay may cause problems with subsequent registration for courses.

Research Seminar (Biology 617)

Participation in the seminar series is required for all Biology graduate students. The series is organized as a one-credit course, Biology 617, Research Seminar. Class is held once a week during the fall and spring semesters. On a given day, the speaker could be a member of the faculty reporting on his or her own research or on other current issues in biology, an invited scientist from another institution, or a graduate student in this department. This is a good opportunity to learn what other people in the department are doing and to report on one's own research work or some other subject of general interest. In order to earn one credit, the student must present a seminar in that semester. All students are strongly encouraged to attend seminars whether or not they are enrolled for credit.

M.A. students must take Research Seminar twice during their academic career at Buffalo State. These two seminars should be different, although they may be related to the student research area. Neither the oral presentation of the thesis proposal nor the thesis defense may be counted as one of these required seminars.

Description of Graduate Programs in Biology

I. The Thesis-Based M.A. in Biology

Advisement

Early in the application process thesis students should identify a faculty mentor to supervise their research and serve as their major professor. The major professor should be consulted each term before registering for courses. In addition, students should select a thesis committee prior to the completion of their first semester of coursework (for full time students) or first year of coursework (for part-time students). This committee will consist of three Biology faculty, or two Biology faculty and one adjunct Biology faculty. One of these three individuals must be the student's major professor. Additional committee members may be selected at the discretion of the student and the major professor and may include Biology faculty, adjunct Biology faculty, or qualified individuals from other departments or institutions. As a general rule, keeping the committee at three simplifies arrangement of committee meetings and thesis discussions. Students must schedule a meeting with their committee at least once each semester to keep members abreast of progress and to avoid obstacles. The major professor should take minutes of the proceedings and distribute copies of the minutes to the Chairperson of the Department and the student.

Coursework

The M.A. degree requires the completion of 30 hours of graduate coursework. Of these 30 hours, six hours will be in Biology 695 (Research Thesis in Biology). The remaining 24 hours can be formal classroom work or the student can choose to take up to six hours of special project (Biology 590) and the remainder in classroom work. Students are also required to enroll in Biology 617 (Biology Seminar) two times and present two seminars (see below).

Students are often confused about the difference between Biology 695 (Research Thesis in Biology) and Biology 590 (Independent Study). BIO 695 gives graduate credit for work on the actual thesis project. Students should sign up for BIO 590 when they wish to pursue a project which is not directly part of their thesis research.

The following specific regulations relate to coursework in the M.A. program:

A minimum of 18 hours must be in formal coursework (i.e., not Bio. 590 or 695). In all graduate coursework, the student must maintain a minimum grade point average of 3.0 (B) on a 4-point scale, but cannot take more than 36 hours to achieve this average.

Students earn no credit for any graduate course in which they receive less than a C. However, the grade will still count in the cumulative grade point average.

Full-time students making satisfactory progress toward completion of the thesis M.A. degree shall meet the following minimum expectations:

1. Maintain a cumulative GPA of ≥ 3.0 (B) on a 4-point scale, earning no grade $< C$ for any graduate course,
2. Select a thesis committee prior to the end of the first semester,
3. Have thesis proposal approved and presented prior to the end of the second semester, and
4. File for candidacy prior to completion of 12 credit hours of coursework.

Failure to maintain satisfactory progress toward completion of the thesis degree may prevent a student from being awarded a graduate assistantship in biology.

Thesis Proposal

One of the features of the thesis-based MA is the central role of research. The thesis proposal outlines the research goals of the student and places the research in context of current knowledge. The proposal should be approved before research begins in earnest. Since graduate research in this department often contributes to papers published in scientific journals, it is useful to keep in mind the goal of a publishable piece of work when proposing thesis research.

Your proposal should include a title page listing members of your committee, an overview section (similar to an abstract), an introduction section which reviews the literature and places your investigation in some context (this section will also generally contain the goals or hypotheses directing your research), a description of the investigative procedures to be followed (i.e., a

materials and methods section), including an outline of the statistical analyses to be used, a timeline, and a literature cited section.

In your proposal you should include sufficient detail for the committee to judge whether the investigation proposed is likely to yield answers to the questions posed and if it can be conducted within a reasonable amount of time using available resources. It is essential to include a timetable in each proposal, indicating when one expects to accomplish the various components of the investigation; this is especially important in projects involving fieldwork. You should carefully consider your experimental design. Replications may be required and the results should be analyzed statistically. The thesis committee may ask the student to specify the statistical analyses he or she plans to use. It also may be necessary to ascertain that all equipment needed is available and functional.

The proposal should be written with input from members of the committee. The student should circulate a rough draft among the committee members and get comments before submitting the final draft for the committee's approval. It is important that the proposal be written carefully but with the realization that during the actual research the procedure followed may have to be altered. Remember that although the scientific problem to be addressed may be obvious to the student writing the proposal and his or her adviser, it needs to be made comprehensible to other members of the committee, to fellow graduate students, and to the faculty of the Biology Department.

After the proposal has been approved by the committee, the substance of the proposal must be presented orally before the "public" (meaning faculty and other graduate students) as soon as possible. This oral presentation (the Thesis Proposal Seminar) should occur before you begin research in earnest. The seminar should be announced in advance by distributing and posting appropriate announcements. Although this may seem like an intimidating prospect, experience has shown that the most successful investigations are those that have benefited from substantial constructive criticism during the planning stages. Careful preparation of the proposal and a public presentation of the proposal are good investments toward a successful thesis or project.

Before the Department Chairperson will approve your registration for Biology 695 (Thesis Research) your written proposal must be approved by your committee and you must also have presented your oral seminar. M.A. students should plan to complete the proposal and proposal presentation prior to completion of 12 graduate credits (generally in your second semester of study).

Research and Thesis

Writing of the thesis must follow the format established by the Biology Department and the Office of Graduate Studies. Copies of the current format guidelines are available in the Biology Department Office. Completion of the thesis work is not finished until the thesis is approved by the Graduate School. There are strict guidelines on how the thesis must be formatted and when and who must sign and approve the thesis. The timetable for getting theses in to the graduate school must be followed closely. There is a very long lead time for when theses need to be sent to the graduate school and when you plan to graduate. All formatting and procedural guidelines for submitting theses to the graduate school can be found on the Graduate School website. Go to:

A brief timetable is included here, but **BE SURE TO CHECK WITH THE GRADUATE SCHOOL** for any updates on formatting or procedural changes.

Activity	Due Date
Register for thesis credit; register for scheduled course or if no course is scheduled, submit Individual Study Application along with thesis proposal to Graduate Office by due date	See Academic Calendar for registration dates or Individual Study Application submission deadline for the semester you wish to register
Drafts to thesis committee	As per committee suggestions
Oral Defense and Final Manuscripts to committee	7 weeks before thesis due date of semester you wish to graduate or complete thesis
Make and Submit edits of thesis to committee	3-4 weeks before thesis due date of semester you wish to graduate or complete thesis
Submit one, complete, final manuscript, unbound and three original sets of all signatory pages, approved and signed by all committee members, to the Graduate School Office	2 weeks before thesis due date of semester you wish to graduate or complete thesis
Submit 2 final bound manuscripts to the Graduate School Office and 2 final bound manuscripts to your department	Thesis Deadline – see academic calendar of semester you wish to graduate or complete thesis

When the thesis is completed, the student must make an oral defense (a presentation) of the thesis before the thesis committee. The presentation is also open to the public (in practice this means other graduate students and members of the faculty) and must be announced by notices posted in the Science Building at least one week before the defense and notices distributed to each faculty member. During the defense, the student will be expected to report the results of his or her research and to demonstrate command of appropriate related material.

Checklist of Requirements

- Completion of 30 semester hours of graduate work, but no more than 36 semester hours, with a cumulative GPA of ≥ 3.0 .
- Admitted to candidacy.
- Presentation of two seminars.
- Oral presentation of thesis proposal.
- Completion of thesis
- Thesis accepted by thesis committee and publicly defended.

Example Timetable

All students are different. They enter the M.A. program with different levels of preparation and they tackle theses of different levels of complexity. Consequently, students will progress toward degree completion at somewhat different rates. However, students should be able to finish their course work and thesis in two years of full time study with proper planning. With this in mind, the following timetable could be used as a guideline:

- | | |
|------------------------|---|
| Semester 1
(Fall) | <ol style="list-style-type: none">a. Coursework: 6-9 credit hours of classroom work. Enroll in any courses necessary to complete deficiencies.b. Select a general area of research and begin to identify potential thesis topics. Select and meet with thesis committee. |
| Semester 2
(Spring) | <ol style="list-style-type: none">a. Coursework: 6-9 credit hours of classroom work, including one hour of seminar. Present first seminar.b. Apply for candidacyc. Prepare and submit thesis proposal to committee. Make oral presentation of proposal. |
| Summer
Semester | <ol style="list-style-type: none">a. 3 credit hours of classroom work or 3 credit hours of thesis, or 6 thesis creditsb. Begin research. |
| Semester 3
(Fall) | <ol style="list-style-type: none">a. Coursework: 6-9 hours of classroom work (or thesis) including one hour of seminar. Present second seminar.b. Continue research. |
| Semester 4
(Spring) | <ol style="list-style-type: none">a. Coursework: 6-9 hours of classroom work (or thesis).b. Complete and defend thesis.c. File Application for Graduation. (Note deadline.)d. Submit one, complete, final manuscript and three original sets of all signatory pages, approved and signed by all committee members, to the Graduate School Office two weeks before graduation. |

II. The M.A. in Biology with a Comprehensive Exam

Advisement

Students will be assigned a major professor that will provide knowledge and advice about courses and procedures. The major professor should be consulted each term before registering for courses and will coordinate the scheduling of the final comprehensive exam.

Coursework

The M.A. degree requires the completion of 30 hours of graduate coursework. Of these 30 hours, at least 28 hours should be formal classroom work at the graduate level, or the student can choose to take six of those hours completing special projects in Biology 590 (Independent Study). Students also are required to enroll in Biology 617 (Biology Seminar, 1 credit) two times.

The following specific regulations relate to coursework in the M.A. program:

A minimum of 22 hours must be in formal course work (i.e., not BIO 590).

In all graduate course work, the student must maintain a minimum grade point average of 3.0 (B) on a 4-point scale, but cannot take more than 36 hours to achieve this average.

Students earn no credit for any graduate course in which they receive less than a C. However, the grade will still count in the cumulative grade point average.

Full-time students making satisfactory progress toward completion of the M.A. degree with the Comprehensive Exam Option shall meet the following minimum expectations:

1. Maintain a cumulative GPA of ≥ 3.0 (B) on a 4-point scale, earning no grade $< C$ for any graduate course,
2. File for candidacy prior to completion of 12 credit hours of coursework.

Failure to maintain satisfactory progress toward completion of the requirements may prevent a student from being awarded a graduate assistantship in Biology.

Comprehensive Exam

The comprehensive exam will be based on knowledge from coursework the student has completed over the first two thirds of their degree program, or 20 credits. Most M.A. students in the Comprehensive Exam Option will have completed seven formal graduate courses by the time they will be taking the exam. Of these, the student must choose three courses on which to be tested. These courses must have been completed at Buffalo State College and have been taught by three different professors in the faculty; adjunct and part-time professors cannot administer questions. The three professors chosen will be the evaluating committee for the written and oral portions of the exam. The examination period starts at the end of each Fall or Spring semester (after CEP week) and lasts six weeks. The student will schedule a time with their advisor to take the exam within the examination period. Good academic standing (average GPA of B or above)

is required in order to take the exam. The student must plan to take the exam during the examination period closest to when s/he anticipates completing 20 credits of coursework. Failure to schedule the exam during the closest examination period will prevent the student from taking additional credits in the program. If s/he passes the exam, s/he will proceed to take the remaining credits for graduation. In the case of a failing grade, the student will have a second chance to take the exam, and should schedule it during the closest examination period after s/he completes the 30 credits required by the program. Failure to take the exam during the closest examination period after 30 credits without a justifiable cause (communicated in advance to the student's advisor), will indicate that the student renounces the opportunity to re-take the exam and, therefore, completion of the program. Students taking the exam for the second time will have the same examining committee they had for their first exam.

To take the Comprehensive Exam, the student must follow these steps:

1. Schedule a time with their advisor to take the written and oral examinations, which can be taken over the course of one to two weeks.
2. Take the written portion of the exam.
3. Take the oral exam, in which the three examining professors will meet with the student to review his/her written answers and evaluate his/her depth of knowledge in the three courses chosen.

The examining committee will unanimously award a grade to the student. A grade of graduate-level B or better is necessary to pass these exams. If the student is unable to pass these exams for the second time, there will be no option to retest a third time or switch to the thesis option, and the student will not obtain an M.A. degree in Biology.

A thesis-M.A. student can switch at any time into the Comprehensive Exam M.A. option. However, once a student has switched to the Comprehensive Exam option, s/he will not be allowed to complete a thesis or switch back to the thesis option. The former thesis student will have two chances to pass the exam. If the student has taken 20 credits or more before switching to the Comprehensive Exam option, they must schedule the exam during the closest examination period before additional coursework is completed. Failure to schedule the exam during the closest examination period will prevent the student from taking additional credits in the program. The student may obtain 1-3 credits for the work s/he has already completed towards a thesis (e.g., proposal, proposal presentation, field or lab work, etc.) as Independent Study BIO 590. The decision about whether or not to grant these credits is at the discretion of the faculty mentor that the student worked with when s/he was enrolled in the M.A. thesis program.

Checklist of Requirements

Completion of 30 semester hours of graduate work, but no more than 36 semester hours, with a cumulative GPA of ≥ 3.0 .

Admitted to candidacy.

Enrollment two times in BIO 617.

Successful completion of Comprehensive Exam.

Example Timetable

Students will progress toward degree completion at somewhat different rates. However, students should be able to finish their course work and comprehensive exam in two years of full time study with proper planning. With this in mind, the following timetable could be used as a guideline:

- | | |
|------------------------|--|
| Semester 1
(Fall) | a. Coursework: 6-9 credit hours of classroom work. Enroll in any courses necessary to complete deficiencies. |
| | b. Meet with major professor. |
| Semester 2
(Spring) | a. Coursework: 6-9 credit hours of classroom work, including one hour of seminar. |
| | b. Apply for candidacy. |
| Summer
Semester | a. Optional Coursework: 3-6 credit hours of classroom work or independent project |
| Semester 3
(Fall) | a. Coursework: 6-9 hours of classroom work including one hour of seminar. |
| | b. Schedule Comprehensive Exam for end of Fall semester. |
| Semester 4
(Spring) | a. Coursework: 6-9 hours of classroom work |
| | b. File Application for Graduation. (Note deadline). |
| | c. Second chance to take Comprehensive Exam. Schedule Comprehensive Exam for end of Spring semester. |

III. The M.S. Ed. Degree in Biology

Advisement

M.S. Ed. students will be assigned a faculty advisor upon acceptance to the program. This person is generally the department Chairperson. This assignment is temporary and students should seek out a project advisor before completion of six graduate credits. Like M.A. students, M.S. Ed. students should meet with their advisor each semester to discuss coursework and progress in the degree. In practice, most M.S. Ed. students also have a Science Education advisor to help them navigate the required curriculum in pedagogy. Both advisors should be consulted each semester. It is strongly advised that M.S. Ed. candidates discuss project or thesis options with their advisor early in their graduate tenure. Do not wait until the last semester or two to decide on a research topic.

Coursework

New York State requires all provisionally certified teachers to obtain a master's degree as part of the requirements for permanent certification. This must be done within five years of beginning to teach. It is anticipated that many students pursuing an M.S. Ed. degree in Biology at Buffalo State will be part-time students and will be employed full-time as teachers or in some other position. Such a student should not only keep the New York State five-year deadline in mind, but also the Buffalo State College rule that all work towards a master's degree must be completed in six years.

The M.S. Ed. degree requires the completion of 30 semester hours of graduate credit. The degree has three components: graduate level biology courses, three required science education courses, and a research component which may be either a research project or a research thesis. The exact requirements are shown below:

Biology courses (600 level)	12 - 15 hours
Education courses	9 hours
SCI 628 Seminar in Secondary Science Education	
SCI 632 Curricular Trends in Secondary School Science	
SCI 685 Evaluation in Science Education	
Elective (500 or 600 level)	3 hours
Research Component (choose one option)	
BIO 690 Project	3 hours
BIO 695 Thesis	6 hours

A student must attain a minimum average of 3.0 on a 4.0 scale in order to graduate. No more than 36 credit hours may be taken to achieve this average. No credit can be earned for any graduate course in which the grade is less than a C; however, the grade will still count in the cumulative grade point average.

When selecting courses, students should be aware that appropriate courses must be 500 level or above and include cross-listed undergraduate/graduate courses (usually scheduled during the day), graduate classes in biology (usually scheduled in the evening), and graduate courses offered at UB or other SUNY institution. The number of courses a student can take from schools outside BSC per semester and their cumulative total is limited. Be sure to check with prevailing guidelines at the Graduate School for limits.

Project and Thesis

The M.S. Ed. degree in Biology is intended to enable persons teaching science in secondary schools to meet the requirements for permanent certification. The research component represents a valuable part of such a degree, but shares priority with advanced coursework in biology and pedagogy. The specific benefits which M.S. in Education/Biology students may derive from a research experience include:

A better understanding of how research is conducted and the nature of scientific knowledge. This can result in greater effectiveness in teaching their own students about the use of scientific methods, asking and answering questions, and discussing cause and effect relationships.

The skills to direct middle school student research projects. High school students may also become involved in their teacher's research work.

A familiarity with local resources and scientists.

The ability to inspire and guide students towards careers in science as a result of first-hand experience with research.

The research component of the M.S. Ed. degree may be satisfied by choosing either a Thesis or a Project.

Guidelines for the M.S. Ed. Thesis: An M.S. Ed. thesis should occupy about two terms of full-time work or the equivalent spread over several terms. The thesis supervisor and other members of the thesis committee should assist the student in defining a project that can be completed within this time frame.

The results of the thesis research will be written in accordance with the standards set by the Graduate Office for Master's Degree Theses. (Copies of this information are available online at www.buffalostate.edu/graduateschool/documents/thesisguidelines.pdf or in the Biology Department Office). When the thesis has been approved by the thesis committee, one bound copy of the thesis will be filed in the Biology Department Office and two copies in the Graduate Office. The results of the thesis research will be presented in a departmental seminar called for this purpose. In general, the policies outlined above for M.A. thesis completion apply to M.S. Ed. thesis completion.

Guidelines for the M.S. Ed. Project: As a general rule, a Project should occupy no more than

one term of full-time work or the equivalent spread over several terms. Project supervisors should assist the student in defining a project that can be completed within this time frame.

The results of the project research will be written in a format appropriate for the content. When the report has been approved by the student's Project Committee, a copy of the report will be filed in the Biology Department Office. The results of the project research will be presented orally in a suitable public forum such as a graduate seminar, or a seminar called for this purpose. The appropriate forum for the public presentation will be arranged with the approval of the Project Committee. Biology 690 (Project Research) is periodically offered as a lecture/lab course where students can complete the entire project activity within the semester. Prospective students should check with their advisors to evaluate whether this option is appropriate for their degree program.

Thesis Proposals and Project Proposals: A thesis or project is based on original biological research in the laboratory or field. Theses and projects produced in this department have resulted in papers published in scientific journals, and it may prove useful to keep in mind the goal of a publishable piece of work.

Your proposal should include a title page listing members of your committee, an overview section (similar to an abstract), an introduction section which reviews the literature and places your investigation in some context (this section will also generally contain the goals or hypotheses directing your research), a description of the investigative procedures to be followed (i.e., a materials and methods section), including an outline of the statistical analyses to be used, a timeline, and a literature cited section.

In your proposal you should include sufficient detail for the committee to judge whether the investigation proposed is likely to yield answers to the questions posed and if it can be conducted within a reasonable amount of time using available resources. It is essential to include a timetable in each proposal, indicating when one expects to accomplish the various components of the investigation; this is especially important in projects involving fieldwork. You should carefully consider your experimental design. Replications may be required and the results should be analyzed statistically. It is also advisable to ascertain at this point whether all equipment needed is available and functional.

The proposal should be written with input from members of the committee. The student should circulate a rough draft among the committee members and get comments before submitting the final draft for the committee's approval. It is important that the proposal be written carefully but with the realization that during the actual research the procedure followed may have to be altered. Remember that although the scientific problem to be addressed may be obvious to the student writing the proposal and his or her adviser, it needs to be made comprehensible to other members of the committee, to fellow graduate students, and to the faculty of the Biology Department.

After the proposal has been approved by the committee, the substance of the proposal must be presented orally before the "public" (meaning faculty and other graduate students) as soon as possible. This oral presentation (the Thesis Proposal Seminar or the Project Proposal Seminar) should occur before you begin research in earnest. The seminar should be announced in advance

by distributing and posting appropriate announcements. Although this may seem like an intimidating prospect, experience has shown that the most successful investigations are those that have benefited from substantial constructive criticism during the planning stages. Careful preparation of the proposal and a public presentation of the proposal are good investments toward a successful thesis or project.

Before the Department Chairperson will approve your registration for Biology 695 (Thesis Research) or Biology 690 (Project Research), your written Thesis proposal or Project proposal must be approved and you must also have presented your oral seminar.

Final Notes

Progress Toward Your Degree

If you are failing to make sufficient progress or to meet degree requirements, you will be notified in writing by the Department Chairperson. Failure to improve may result in dismissal from the graduate program. The Department Chairperson will make final decisions regarding dismissal in consultation with the student's major professor, the Thesis or Project Committee and the Biology Department Graduate Committee.

Research Involving Human or Animal Subjects

If a thesis or project involves the use of vertebrate animals or human subjects, campus-level approval is required. Research involving human subjects requires review at the departmental level and may require review through the Institutional Review Board on campus. Approval should be sought PRIOR to undertaking the investigation. Information on human subjects research and all forms are available through the Research Foundation website. Currently information on use of humans in research is found at <http://www.rf.buffalostate.edu/research-compliance/human-participants.html> and forms involved are found at <http://www.rf.buffalostate.edu/forms/forms-research-compliance.html>. Research requiring the handling or care of vertebrate animals requires review by the Institutional Animal Care and Use Committee (IACUC). Information on research with vertebrate animals and animal care forms are found on the Research Foundation website. Currently, information on animal subjects is found at <http://www.rf.buffalostate.edu/research-compliance/animal-subjects.html> and the application to IACUC for animal care is found at <http://www.rf.buffalostate.edu/forms/forms-research-compliance.html>.

Approval for animal or human subject research is required before a thesis or project proposal is approved. This means you will need to have your IACUC permit on file with your advisor at the proposal stage. The Department Chair will not sign off on a thesis or project without the necessary IACUC or human subjects approval.

The Lighter Side

Your graduate career is an important stepping stone in your life and a time of great academic learning and freedom. You will undertake a wide variety of specialized courses, read many research papers and possibly undertake a research project that is entirely your own. In some cases you will even get paid to do it! You should actually WANT to read all those papers. You should value the time that you think long and hard about specific questions and ponder how best to investigate them. If you are allowed the opportunity to be involved in basic research you will be challenged in many new ways and will (hopefully) develop a surprising level of commitment, pride and fondness for your project.

You will join a group of graduate students in biology who are motivated by similar questions and experiences and who also 'thirst' for knowledge on their topic. Hopefully, that similarity in purpose leads to further scientific interaction as you practice seminars, discuss papers, take classes, or work together.

All graduate students will attend the annual Graduate Student Picnic to kick off each fall semester, meeting new students and reacquainting with familiar classmates and labmates. Your time invested during this important stage in your life will help build your peer family here at Buffalo State, and help guide your future decisions. Although the Biology Department expects high quality learning and research from its students, you should also have fun while you are here. Upon completion you will enter the ranks of valued graduate alumni, so please keep us informed of your success by calling the departmental office (716-878-5203) or emailing your major professor. Good Luck!