

**GRADUATE HANDBOOK
OF INFORMATION AND POLICIES
OF THE DEPARTMENT OF BIOLOGY
UNIVERSITY OF NORTHERN IOWA
CEDAR FALLS, IA 50614-0421**

OVERVIEW OF PROGRESS THROUGH THE MASTER=S PROGRAM

| | <u>Date planned</u> | <u>Date completed</u> |
|-------------------------------------------------------------------------------------------|---------------------|-----------------------|
| <i>Applications submitted to UNI Registrar and Department (by student)</i> | _____ | _____ |
| <i>Thesis/Research adviser identified</i> | _____ | _____ |
| <i>Admission granted (by department)</i> | _____ | _____ |
| <i>Acceptance of admission (by student)</i> | _____ | _____ |
| <i>Acceptance of assistantship (by student, if offered and desired)</i> | _____ | _____ |
| <i>Advisory Committee approved (by advisor with student input)</i> | _____ | _____ |
| <i>Program of Study (GF-1) submitted to Graduate College (first semester, by student)</i> | _____ | _____ |
| <i>Program Approval (by Graduate College)</i> | _____ | _____ |
| <i>Thesis or research paper proposal approved (by Advisory Committee)</i> | _____ | _____ |
| <i>Final writing started after optional presentation to Advisory Committee</i> | _____ | _____ |
| <i>Thesis preview by Graduate College</i> | _____ | _____ |
| <i>Thesis or research paper to Advisory Committee</i> | _____ | _____ |
| <i>Thesis or research paper approved for defense (by Advisory Committee)</i> | _____ | _____ |
| <i>Final exam passed (thesis defense or Comprehensive exam)</i> | _____ | _____ |
| <i>Signatures on final exam</i> | _____ | _____ |
| <i>Thesis or research paper submitted to Graduate College</i> | _____ | _____ |
| <i>Final approval by Graduate College (thesis only)</i> | _____ | _____ |
| <i>Application for graduation filed (by student)</i> | _____ | _____ |
| <i>Degree awarded</i> | _____ | _____ |

BIOLOGY DEPARTMENT - UNI: MASTER=S DEGREE PROGRAMS

I. Programs Offered

A. The Biology Department offers two master=s degree programs, the M. S. in Biology and the M.A. in Biology. The two programs are designed to meet the needs of different populations of students, including those wishing an intensive scientific research experience (M.S.), and those with a primary interest in further coursework (M.A.)

B. The major differences between the two degree programs include:

1. Fewer credits and courses are required for the M.S. than for the M.A.
2. A 9-credit research thesis is required for the M.S.; a 3-credit research paper is required for the M.A.
3. A thesis defense is required for the M.S.; a comprehensive examination is required for the M.A.

C. A student who has not been admitted to a graduate degree program may take courses as a non-degree status student. (See III. A. below for transfer of hours to degree program.)

D. A description of the scope, policies, and procedures of the University=s graduate program is available from the office of the Dean of the Graduate College (www.grad.uni.edu) or from the Registrar=s Office.

II. Preparation for the Graduate Program

A. An applicant=s undergraduate background should include courses in mathematics, chemistry through organic chemistry, cell biology, genetics, and ecology.

B. International students have additional requirements. Information for international students can be obtained from International Services in the UNI Office of International Programs.

III. Admission

A. Application materials

1. The Application for Admission to Graduate Study can be obtained and completed online at www.uni.edu/applications. The completed application should be mailed to the Office of the Registrar, Gilchrist 243, Cedar Falls, IA 50614-0006
2. Application forms for departmental admission and Graduate Assistantships are available from the Biology Department and should be returned there. (International students see below.)
3. Applicants should have three letters of recommendation sent to the Biology Department.

4. Transcripts *must* be sent to the Registrar=s office (all students).
5. Credits from courses taken prior to applying to the degree program may be identified (by the applicant) for possible transfer to the degree program.
6. International Students
 - a. Information on admission to UNI, and application forms for Department Programs should be obtained from International Services, not from the department. This includes inquiries about any aspect of the programs or admission.
 - b. Applications for admission and Graduate Assistantships should be sent to International Services. Transcripts *must* be sent to the Registrar=s Office.
 - c. Letters of acceptance or rejection and notification of Graduate Assistantships are sent from International Services, not from the Department or the Graduate College.

B. Processing of the application

1. All students must be accepted by a major professor prior to entering the graduate program. Students may directly contact a potential major professor after consulting the Biology Faculty=s research interests (included with application materials) to see if there is space within the research program of interest. Alternatively, students may indicate their preferred area(s) of research or major professor(s) on the application form. If none of the student=s preferences can be accommodated, but they meet minimum requirements for admission, all other faculty will be contacted to see if any wish to accept the student into their program. The student may then either accept or decline the particular research program(s) available to them.

When each prospective student=s application materials have been received, the file is reviewed by the Biology Graduate Admissions Committee. If the applicant meets the minimum qualifications, and an advisor has indicated an interest in mentoring the student, the Graduate Admissions Committee will make a positive recommendation to the Department Head. In addition to recommendations on admission, the departmental Graduate Admissions Committee may stipulate to the Department Head any requirements or recommendations that apply to an applicant=s graduate work, such as specific courses that must be taken, grade point conditions, or credits (identified by the applicant) to transfer to the graduate program.

The Graduate Admissions Committee shall recommend to the Department Head those applicants who apply for and are acceptable for graduate assistantships. Telephone interviews may be used to supplement application materials and to facilitate admissions and selection of graduate assistants.

2. The Graduate College, in consultation with the Department Head, may offer available graduate assistantships to applicants at any time.

3. The Department Head will by March 1 notify applicants by letter as to the disposition of their applications, as required by the guidelines of the Council of Graduate Schools of the United States, of which UNI is a member.

4. Students should notify the Biology Department by letter as to acceptance of offers of admission and assistantships by April 1, as required by the guidelines of the Council of Graduate Schools

C. Outcomes of the application

1. Students who have: 1) a 3.0 (or higher) overall undergraduate grade point average; 2) provided three favorable letters of recommendation; and 3) been accepted by a major professor may be admitted to degree status. Students that have a 2.5 to 2.9 GPA may be admitted to provisional degree status, depending on other indicators of academic potential. These students may be admitted to degree status upon completion of eight or more credit hours of a degree program with a 3.0 grade point average and fulfillment of other requirements specified by the departmental Graduate Admissions Committee.

2. Applicants will be informed in writing by the Department Head as to prior or present courses that will be accepted for a program leading to the M.A. or M.S. Degree. Up to 12 credit hours of prior course credit may be applied toward these degrees, providing the residency requirement is met. See [Curriculum](#) below for clarification.

3. Applicants will be informed in writing by the Department Head of other requirements stipulated by the departmental Graduate Admissions Committee.

4. If the Department rejects an application for degree status, notification will be sent in writing by the Department Head.

5. A student whose application has not been accepted for academic reasons may reapply to the Biology Degree Program at a later date, after at least one semester, including at least 9 graduate credit hours as a non-degree student. However, even with exemplary grades as a non-degree student, entrance to the graduate program is in no way guaranteed because the student still must be accepted by a major professor (see above).

IV. Notification within the Department

A. Applications to departmental Graduate Programs shall be made available to the faculty.

B. The actions of the departmental Graduate Admissions Committee on applications will be communicated to the faculty by the Department Head. The departmental Graduate Admissions Committee will reconsider any application at the request of a faculty member. The departmental Graduate Admissions Committee and the Department Head will determine the disposition of such applications.

C. Acceptance of offers of admission and assistantships will be communicated promptly to the faculty.

V. Financial Assistance

A. Application forms for Graduate Assistantships are normally submitted as part of the admissions process (see above). Letters in support of the application may also be used in support of financial assistance.

B. Other forms of financial aid are available through the University of Northern Iowa Financial Aid Office.

C. Tuition scholarships are usually (but not always) granted along with Graduate Assistantships, but a separate application form for a tuition scholarship is necessary at the time of application.

D. Graduate Assistantships are usually (but not always) granted for one year and may be renewed for a second year, pending satisfactory progress toward the degree (as indicated by the student=s Advisory Committee) and continued availability of funds.

1. Graduate Assistantships require that students work 15-20 hours per week within the department. Graduate Teaching Assistants may be assigned to teach up to 3 laboratory sections per semester.

2. Graduate Assistants who have teaching responsibilities will have regular student assessments of their teaching effectiveness. Assistantships may not be renewed if Graduate Assistants are unable to demonstrate effective teaching. During the first semester that a graduate student teaches, an early assessment of teaching effectiveness will be conducted to provide input to the graduate teaching assistant. This will normally take place after approximately 5 weeks of teaching.

E. Limited support for research is available through the College of Natural Science Dean=s Office through the GRASP program. Funds may also be available from grants to individual faculty members.

VI. Advising

A. Students who have not been accepted by the Department but are attending classes on a non-degree basis do not have an official departmental adviser. The Department Head shall act as an adviser in such cases.

B. During the first semester

1. Students will enroll in 840:292 (Research Methods in Biology) to assist in developing a research proposal.

2. The Advisory Committee will be recommended by the major adviser in consultation with the student. The Advisory Committee consists of a minimum of three members of the graduate faculty; one member may be from outside the Department. Research specialists from other universities may provide advice or be appointed as a member of the Advisory Committee.
3. The student, the adviser and the Advisory Committee should agree on the degree program, including an area of research specialization and courses to be taken (Program of Study, to be submitted with Form GF-1 [see below]).
4. Then the student with regular degree status should file a [Program of Study](http://webct.uni.edu) at <http://webct.uni.edu>. **The Graduate College requires that this be done before 15 credit hours are completed.** After this is completed and approved by the Graduate College, any change in the program requires a student request which must be approved by the Advisory Committee, the Department Head and Dean of the Graduate School.
5. By the end of the first semester, as part of the Research Methods class, the student will have presented a thesis/research paper proposal at Graduate Colloquium where department-wide feedback can be gathered.

C. During the second semester:

1. No later than the beginning of the second semester the student's Advisory Committee will meet to discuss the student's proposal. The student is expected to make revisions until the Advisory Committee is satisfied and approves the proposal.
2. Before the end of the second semester, the student's Advisory Committee will meet to evaluate the student's progress. At that time the Advisory Committee may formally accept the student as a candidate for the degree they are seeking, establish a subsequent re-evaluation date, suggest that the student change from M.S. to M.A. or vice versa, or in extreme cases recommend that the student should be terminated.

D. The major adviser has the following responsibilities:

1. To assist the student in the choice of a suitable research project
2. To work with the student to formulate an Advisory Committee.
3. To convene meetings of the Advisory Committee at appropriate times.
4. To supervise the research project.
5. To direct and assist in the writing of the proposal and thesis or research paper.
6. To act as signatory for the Advisory Committee.
7. To keep Departmental files of planned programs and any subsequent changes.
8. To annually evaluate the progress of the student and notify the Department Head of the student's progress.

E. The Advisory Committee has the following duties:

1. To help plan a degree program reflecting the interests and specialty of the student while conforming to established Departmental and University policies.
2. To counsel the student concerning any matters stipulated by the departmental Graduate Admissions Committee.
3. To act on student requests and changes of program.
4. To evaluate the proposal for the thesis (M.S.) or research paper topic (M.A.)
5. To administer and evaluate the thesis defense or comprehensive examination, including reading and evaluating the thesis or research paper with respect to format, style and content.

F. The student has the following responsibilities:

1. To identify a suitable adviser and keep in close contact with that adviser.
2. To help recommend a suitable Advisory Committee.
3. To follow the Program of Study in a timely manner.
4. To meet all deadlines and file the correct forms, as specified by this document, the Graduate College and the University.
5. Conform to all regulations specified by this document, the Graduate College and the University.

VII. Curriculum

A. Program requirements

1. The following are the minimum requirements for the degrees offered. Most students exceed these requirements. Note that full-time student status, required for graduate assistantships and some types of international student visas, requires 9 credit hours per semester.

2. M.S. (Thesis) required courses:

| | |
|------------------------------------------------|---------------|
| 1 course in 2 of the 4 core courses (B4 below) | 6 cr. |
| 840:202 Graduate Colloquium | 4 cr. |
| 840:292 Research Methods | 1 cr. |
| 840:299 Research (thesis) | 9 cr. |
| Electives 100g or above | <u>12 cr.</u> |

Total 32 cr.

3. M.A. (Non-thesis) required courses:

| | |
|------------------------------------------------|---------------|
| 1 course in 3 of the 4 core courses (B4 below) | 9 cr. |
| 840:202 Graduate Colloquium | 4 cr. |
| 840:292 Research Methods | 1 cr. |
| 840:299 Research (research paper) | 3 cr. |
| Electives 100g or above | <u>19 cr.</u> |
| Total | 36 cr. |

4. Additional requirements (M.S. and M.A.): acceptance of research proposal by Advisory Committee, oral presentation of thesis (M.S.) or research paper (M.A.), and passing of the final examination (described below).

B. Courses:

1. 840:292 - Research Methods in Biology (1 cr.). Normally taken the first semester to develop the research proposal (paper for M.A. or thesis for M.S.). This includes presentation of the research proposal.

2. 840:202 - Graduate Colloquium (1 cr.). A total and maximum of 4 credits must be taken. The research proposal and research paper or thesis will be presented as part of this course.

3. 840:299 - Research (credit variable). M.A. students must take 3 credits of this course, for the required research paper. M.S. students must take 9 credits for the required thesis research.

4. Graduate core courses:

Advanced Cellular & Molecular Biology (840:240)
Advanced Physiology & Development (840:250)
Advanced Ecology (840:260)
Advanced Systematics & Evolutionary Biology (840:270)
These are offered on a rotating basis, one per semester.

5. Other courses:

a. Graduate credit is given for courses numbered 100g or above. These may be taken in the Biology Department or in other departments, depending on the research area.

b. Courses to be taken on a noncredit basis may be specified by the departmental Graduate Admissions Committee or the Advisory Committee to eliminate deficiencies.

C. Requirements associated with credits

1. The M.S. requires a minimum of 20 credit hours in residence; the M.A. requires a minimum of 25 credit hours in residence. Both degrees require at least 6 credit hours in residency during one semester or summer session.

2. Only credits (including transfers) earned within a seven year period immediately preceding the completion of requirements for the degree are acceptable.
3. A maximum of 12 credits of courses taken before admission to the degree program may be used to satisfy degree requirements, subject to agreement of the Advisory Committee and the Department Head. Permission to use specific credits is granted via petition to the Dean of the Graduate School.
4. No more than one-third of the credits in the degree program can be from courses taken outside UNI.
5. Audited courses may not be applied toward the degree program.
6. A maximum of 3 credit hours of credit/no credit may be included in the degree program.
7. Assistantships require the following:
 - a. During semesters on an assistantship, students must be registered for a minimum of 9 credit hours. Note that this requires 36 credit hours for 4 semesters, 4 more than required for the degree.
 - b. No more than the total required number of credit hours (9 or 3) of 840:299 credits may be included in the 9-cr. requirement for a semester on an assistantship
 - c. The above two limits apply only to 840:299, not to 840:230 (Special Problems).

D. Additions or changes to the Program of Study submitted to the Graduate College may be requested by submitting a student request at (<http://webct.uni.edu>). A new plan of study need not be submitted.

E. Grades

1. A cumulative grade point average of 3.0 in the student=s graduate program as specified on the application for candidacy is required for graduation. The Advisory Committee may review student performance at the end of each semester. In determining the student=s grade point average all course work attempted at this University within the student=s degree program will be used. **If a graduate student repeats a course, both grades will be used in computing the GPA.**
2. A degree program course grade below C- will not count toward the degree requirements, but will be included in the GPA. No more than six semester credit hours of C credit (including C+, C and C-) may be applied toward the degree program.
3. Probation and suspension
 - a. A student who has completed 9 semester credit hours in a degree program with a GPA lower than 3.0 in that program will be placed on probation. A student who has completed 18 semester credit hours in a degree program with a GPA

lower than 3.0 in that program will be suspended.

b. When a student is suspended, at least one calendar year must elapse before reapplication to a graduate degree program may be made. Such applications must be submitted to the Dean of the Graduate College.

c. If a student who has been reinstated after suspension fails to attain a cumulative 3.0 GPA in the program of study for the first enrollment period, he or she will be permanently suspended from the graduate program. See the University Bulletin for additional information.

F. Course load:

1. A full course load is 9 credit hours per semester. This load is necessary to maintain an assistantship or for international students on F or J visas. Students with assistantships should not exceed 15 credit hours per semester.

2. The Graduate College specifies a maximum load for graduate students of 15 credit hours per semester during the academic year, and 8 credit hours during the eight-week summer session.

3. The Biology Department recommends that M.S. students take no more than 12 credit hours per semester, in order to leave adequate time for research.

VIII. Thesis and Research Paper Policies

A. A thesis is required of M.S. students; a research paper is required of M.A. students. These works should show originality and individuality, plus scientific and scholarly merit. The thesis is of greater scope than the research paper.

The organization and style of the M.A. paper should be consistent with the CBE or another manual approved by the Advisory Committee. That of the M.S. thesis must conform to the requirements of the Graduate College. ***The specific format requirements for the thesis are found in the Thesis Manual, which can be obtained from the Graduate College (www.grad.uni.edu/thesis/).***

B. The major advisor will be involved in planning and initiation of the work. A graduate student should not register for Research (840:299) until the Advisory Committee has approved the research project, presented in a research proposal.

C. Research proposal: The student will submit a written research proposal to the Advisory Committee for approval. The proposal should contain:

1. Title.

2. Introduction--a specific statement of the research problem and an outline of other work on similar problems including literature citations.

3. Materials and Methods--tentative description of research methods sufficiently

detailed for others to assess. This section should describe how observations will be analyzed, including appropriate comparisons and statistical tests.

4. Time Schedule and Budget.
5. Bibliography or Literature Cited.

D. Evaluation and Approval of Proposal: The Advisory Committee should evaluate the proposal with respect to

1. The validity and significance of the research problem.
2. The soundness of the research design.
3. The adequacy of facilities, time and funds.

The Advisory Committee should assist the student with the project design as needed. When the proposed project is acceptable to the Advisory Committee, the student should proceed with the project immediately.

E. Presentation of Research Proposal: Each student will present the research proposal to the Graduate Colloquium, normally during the first semester in residence, as part of the requirements for 840:292.

F. The approval of the Advisory Committee should be sought whenever a substantial change in the research proposal is necessary.

G. Thesis or Research Paper

1. The thesis or research paper should describe the completed work, following the form agreed upon by the Advisory Committee, and meeting any requirements stipulated by the Graduate College (www.grad.uni.edu/thesis/)
2. The thesis or research paper shall be written in consultation with the major adviser.
3. An M.S. student may (but is not required to) give an informal oral presentation of the nearly-completed thesis work to the Advisory Committee, in order to obtain advice and to receive reassurance that the work is sufficiently complete for the student to write up and defend the work.
4. Typically only after the major adviser has approved the thesis or research paper should it be given to the members of the Advisory Committee for evaluation and suggestions. At this time it should be free of errors, and the graphics should be in nearly final form. At least two weeks should be allowed for the reading of the work.
5. The Advisory Committee will determine if the thesis or research paper is acceptable and ready for presentation. No thesis or research paper seminar will normally be scheduled until such acceptance has been obtained. (If a student disagrees with the Committee's decision, the student may appeal to the Department Head for an exception.) If revision is needed, the Advisory Committee will suggest improvements

and will further evaluate the work.

6. The Graduate College requires a thesis preview to check for correct format and style. The preview must be scheduled at least a month before the thesis is due at the Graduate College. The thesis must be approximately three-fourths completed at the time of the preview. The Graduate College can supply additional details ([www.grad.uni.edu/thesis/.](http://www.grad.uni.edu/thesis/))

H. Thesis or Research Paper Seminar

1. M.S.: The thesis seminar is typically presented to the Graduate Colloquium of the Biology Department. The student will normally present the research problem, methods, results, analysis, interpretation, and some remaining problems with possible methods of solution. This presentation is open to all members of the university community and is part of the final examination.
2. M.A.: The research paper presentation may be scheduled as a part of the Graduate Colloquium of the Biology Department. It is normally open to all members of the university community.
3. Final acceptance of the thesis or research paper normally follows the public presentation of the work.

I. Thesis or Research Paper Signatures

1. When the thesis or research paper is acceptable, it is normally signed as approved by all the members of the Thesis Advisory Committee. A minimum of two signatures, including that of the major adviser, is required for approval.
2. Signed copies of the thesis or research paper must be provided to the Biology Department and the student's major adviser. Two additional signed copies of the thesis must be provided to the Graduate College.

IX. Final Examination

A. For candidates for the M.S. degree.

1. The final examination is in the form of a thesis defense. The purpose of the thesis defense is to defend the research and to demonstrate the ability to integrate the research into a broader biological framework.
2. An oral examination conducted by members of the Advisory Committee, along with additional members of the Graduate Faculty who wish to participate, normally follows the thesis research seminar.
3. The oral examination should typically not last more than one hour. At the end of the

examination the student shall be dismissed prior to the Advisory Committee vote.

4. The examination will be graded pass/fail, as determined by a majority of the Advisory Committee. If a portion of the examination is not satisfactory, the Advisory Committee may choose to re-examine the student on that material at a future time.

5. The student shall be informed of the outcome as soon as possible.

6. The Chair of the Advisory Committee shall inform the Biology Department Office of the decision of the Advisory Committee=s decision as soon as possible.

a. If the student passes the exam, the Advisory Committee Chair should request that the Biology Department submit the proper forms to the Graduate College.

b. If the student fails the exam, the advisory Committee will advise the Department Head and the student=s retention in the program will be evaluated.

B. For candidates for the M.A. degree.

1. The exam will be scheduled, closed-book or take-home essay consisting of questions submitted by faculty members in the Biology department. Generally this will include committee members and faculty whose courses the student has taken. General criteria for grading will be explained in the exam.

2. If take-home, students may work on these questions any place they choose. In the case of closed-book exams, a space will be identified and time arranged.

3. It is anticipated that all questions that comprise the exam will be answered within one week.

4. The faculty member who wrote the exam for a particular topic area shall be responsible for grading that portion of the exam, either pass or fail. Comments will be written on the answer or attached to indicate the considerations the faculty member made in their decision. These comments will be signed and dated. Students must pass each question to pass the comprehensive exam.

5. The student will receive the graded exam with grader comments within two weeks of taking the exam. The graduate advisor will be responsible for collecting the individual portions of the exam and for sharing them with the student. A copy of the results will be placed in the student's departmental file.

6. The Biology Department will abide by the policies and procedures of the University of Northern Iowa in regards to student access to his or her departmental file.

7. Students who fail one or more portions of the exam will be given one chance to remedy the situation by the end of the following semester by re-taking question(s) on similar topic areas. The Graduate Advisor has the right to select either the original examiner, or an alternate faculty member to write the question(s).

8. The Department of Biology has no language requirements associated with the

earning and awarding of the M.A. degree.

9. The time frame for taking the exam and evaluating it may be modified upon consent of the Graduate Advisor if there are extenuating circumstances such as illness. Documentation of this modification, and any stipulations accompanying it, will be made in writing and a copy placed in the student's file.

X. Graduate College Approval of Thesis (no equivalent process necessary for research paper).

1. The thesis preview should identify most of the style and format changes that must be made in the thesis. These should be made before the Advisory Committee reviews the document.
2. Following a successful defense of the thesis, a near-final copy must be submitted to the Graduate College for further examination. This will normally result in a list of minor corrections to be made.
3. When the final corrections have been made and accepted by the Graduate College, the Registrar's office will be notified of completion of the thesis requirement by the Graduate College.