



**GRADUATE HANDBOOK
of INFORMATION and POLICIES**

**DEPARTMENT OF BIOLOGY
UNIVERSITY OF NORTHERN IOWA
CEDAR FALLS, IA 50614-0421**

Revised 02/17

OVERVIEW OF PROGRESS THROUGH THE MASTERS PROGRAM

| | <u>Date planned</u> | <u>Date completed</u> |
|--|----------------------------|------------------------------|
| Applications submitted to UNI Admissions (by student) | _____ | _____ |
| Thesis/Research advisor identified | _____ | _____ |
| Admission granted (by department) | _____ | _____ |
| Acceptance of admission (by student) | _____ | _____ |
| Acceptance of assistantship (by student) | _____ | _____ |
| Advisory Committee approved (by advisor with student input) and Advisory Committee form sent to Graduate College for approval | _____ | _____ |
| Thesis presentation | _____ | _____ |
| Submit student requests (if necessary) to add elective courses to Program of Study | _____ | _____ |
| Thesis paper proposal approved (by Advisory Committee) | _____ | _____ |
| Meeting with Advisory committee for mid-progress report | _____ | _____ |
| Submit student requests (if necessary) to add elective courses to Program of Study | _____ | _____ |
| Final writing started after presentation to Advisory Committee | _____ | _____ |
| Thesis preview by Graduate College | _____ | _____ |
| Thesis to major advisor | _____ | _____ |
| Thesis to Advisory Committee | _____ | _____ |
| Thesis approved for defense (by Advisory Committee) | _____ | _____ |
| Final exam passed (thesis defense) | _____ | _____ |
| Signatures on final exam | _____ | _____ |
| Thesis submitted to Graduate College | _____ | _____ |
| Final approval by Graduate College | _____ | _____ |
| Application for graduation filed (by student) | _____ | _____ |
| Degree awarded | _____ | _____ |

DEPARTMENT OF BIOLOGY - UNI: MASTERS DEGREE PROGRAM

I. Programs Offered

- A. The Department of Biology offers a Master of Science (MS) in Biology. The program is designed to meet the needs of students wishing an intensive scientific research experience. The details of this program can be found at <https://www.uni.edu/biology/graduate-programs>.
- B. A student who has not been admitted to a graduate degree program may take courses as a non-degree status student. (See IIIA below for transfer of hours to degree program.)
- C. A description of the policies and procedures of the University's graduate program is available online at <https://www.grad.uni.edu>.

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 will have additional requirements. Information for international students can be obtained from International Admissions in the UNI Office of International Programs and is available online at <http://www.uni.edu/intladm>.

III. Admission

- A. Application materials
 - 1. The Application for Admission to Graduate Study can be obtained and completed online at <http://www.grad.uni.edu/>.
 - 2. Application forms for departmental admission and Graduate Assistantships are available online at <http://www.uni.edu/biology/graduate-programs>. (international students see below).
 - 3. Applicants should have three letters of recommendation sent to the Office of Admissions at admissionsprocessing@uni.edu or by mail to: Office of Admissions – Graduate Admissions, 002 Gilchrist Hall, University of Northern Iowa, Cedar Falls, IA 50614-0018. Forms for the recommendation letters are available online at <http://www.uni.edu/biology/graduate-programs>.
 - 4. All applicants must send their transcripts to the Office of Admissions, 002 Gilchrist Hall, University of Northern Iowa, Cedar Falls, IA 50614-0018.
 - 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 University application forms can be obtained from International Services (<http://www.uni.edu/intladm/>). This office provides information regarding any aspect of the majors/programs, admission requirements, assistantships and fee structure.
- b. Applications for admission and Graduate Assistantships should be sent to the Office of International Admissions (Gilchrist 002, University of Northern Iowa, Cedar Falls, Iowa 50614-0018 USA). Transcripts *must* be sent directly from the educational institution to the UNI International Admissions Office as well.
- c. Letters of acceptance or rejection are sent from the Department and International Admissions. Notification of graduate assistantships are sent from the Graduate College.

B. Processing of the application

1. In order to be accepted for admission as a graduate student in the Department of Biology, all students must meet two criteria: 1) meet the academic standards set by the department AND 2) the student **MUST** be accepted by a major professor to work with them **PRIOR** to entering the graduate program. Students should directly contact a potential major professor after consulting the Biology faculty members' research interests (<https://www.uni.edu/biology/research>) to see if there is space within the research program of interest. Alternatively, a student may indicate his or her preferred area(s) of research or major professor(s) on the application form. If none of the student's preferences can be accommodated, but the student meets minimum requirements for admission, other faculty members will be contacted to determine if any wish to accept the student into their research lab. If the faculty member agrees to work with a student, the student may then either accept or decline the particular research program(s) available to them.

When the 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 additional requirements or recommendations that apply to an applicant's graduate work, such as specific courses that must be taken, or credits (identified by the applicant) to transfer to the graduate program.

The Department Head will identify those applicants who are acceptable for graduate teaching assistantships.

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. Acceptance of offers of admission and assistantships must be made by April 15, as required by the guidelines of the Council of Graduate Schools.

C. Outcomes of the application

1. Students who have met the three criteria below may be admitted to degree status.
 - a) Have a 3.0 (or higher) overall undergraduate grade point average.
 - b) Have provided three favorable letters of recommendation.
 - c) Have been accepted by a major professor.

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 8 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 who have requested consideration of transfer credit 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 MS degree. Up to 12 credit hours of prior course credit may be applied toward the degree, providing the residency requirement is met. See "VII- 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 not 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 will be communicated promptly to the faculty.

V. Financial Assistance

- A. Application forms for Graduate Assistantships should be submitted as part of the admissions process. 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 (<http://www.uni.edu/finaid/>).
- C. Tuition scholarships can be granted along with Graduate Assistantships, but a separate application form for a tuition scholarship is required at the time of application.
- D. Graduate Assistantships are usually 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. A Full Graduate Assistantship requires that students work 20 hours per week within the department. The student's assignment will be determined by the Department Head.
 - 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.
- E. Limited support for research is available through the College of Humanities, Arts & Sciences Dean's Office through the GRASP program and the Intercollegiate Academic Fund through the Provost's Office.

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 advisor. The Department Head shall act as an advisor in such cases.
- B. For students who have been accepted, during the first semester:
 - 1. Students will enroll in BIOL 6292 (Research Methods in Biology) to assist in developing a research proposal.

2. An Advisory Committee will be formed by the student in consultation with the advisor. 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 and the advisor in consultation with the Advisory Committee should agree on the degree program, including an area of research specialization and courses to be taken.
4. Upon admission to a graduate program, a Program of Study (Advisement Report) is automatically developed for the student. It is populated with the required courses for their program. However, elective course options are not selected. Students can track their progress through their program by printing out their Advisement Report (found on MyUniverse under Student Center)
5. By the end of the student's first semester or the beginning of the second semester, as part of the Research Methods class, the student should have presented a thesis proposal at Graduate Colloquium, where department-wide feedback can be gathered.

C. During the student's second semester:

1. No later than the beginning of the second semester the student's Advisory Committee will meet to discuss the student's written research 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 progress made by the student or in extreme cases recommend that the student's continuation in the program be terminated.

D. The major advisor 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.
5. To supervise the research project.
6. To direct and assist in the writing of the proposal and thesis.
7. To act as signatory for the Advisory Committee.
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 evaluate the proposal for the thesis.
4. To administer and evaluate the thesis defense, including reading and evaluating the thesis with respect to format, style and content.

F. The student has the following responsibilities:

1. To identify a suitable advisor and keep in regular contact with that advisor.
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, with 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 MS degree. 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. Required courses:

| | | |
|-----------|---|---------------|
| BIOL 6202 | Graduate Colloquium | 4 cr. |
| BIOL 6292 | Research Methods | 1 cr. |
| BIOL 6299 | Research (thesis) | 9 cr. |
| | Electives 5000 or above | 12 cr. |
| | Course from 2 of the 4 core areas below: | 6 cr. |
| BIOL 6240 | Advanced Cellular & Molecular Biology | |
| BIOL 6250 | Advanced Physiology & Development | |
| BIOL 6260 | Advanced Ecology | |
| BIOL 6270 | Advanced Systematics & Evolutionary Biology | |
| | Total | 32 cr. |

3. Additional requirements:
 - a. acceptance of research proposal by Advisory Committee,
 - b. defense of thesis.

B. Courses:

1. **BIOL 6292 - Research Methods in Biology (1 cr.)**. Course is taken in the first semester to develop the research proposal. This includes presentation of the research proposal.

BIOL 6202 - Graduate Colloquium (1 cr.). A total and maximum of 4 credits must be taken. The research proposal will be presented as part of this course.

BIOL 6230 - Special Problems (1-6 credits). A maximum of 6 total credits will be awarded. Students will be allowed to use Special Problems to take a 3000-level course and to receive 6000-level credit for doing so, pending additional work associated with the course. Additionally, up to three credit hours of Special Problems may also be used to bring a student's course load up to full-time if needed for assistantship purposes during the student's final semester of his/her graduate program. Appeals for exceptions to this policy can be made to the Head of the Department of Biology.

BIOL 6292 - Directed Research (Credit/No Credit) (1-6 credits). A maximum of 6 total credits will be awarded. Students will be allowed to use Directed Research to bring a student's course load up to full-time if needed for assistantship purposes during the student's final semester of his/her graduate program.

2. **Graduate core courses:**

Listed above under VII-A-2. Advanced Cellular and Molecular Biology is offered odd Springs. Advanced Ecology even Springs. Advanced Physiology, odd Falls and Development and Advanced Systematics and Evolutionary Biology even falls.

3. **Other courses:**

- a. Graduate credit is given for courses numbered as "5000" or above. These may be taken in the Department of Biology or in other departments, depending on the research area and based on consultation with the advisor.
- b. Courses to be taken on a non-credit basis may be specified by the departmental Graduate Admissions Committee or the Advisory Committee to eliminate deficiencies.

C. Requirements associated with credits

1. The MS requires a minimum of 20 credit hours in residence. This degree requires 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 will 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) of BIOL 6299 credits may be included in the 9 credit requirement for a semester on an assistantship.

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", "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 University graduate degree program. 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 that graduate program

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. However, a full course load is not required of students who are not on assistantships.
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 Department of Biology recommends that MS students take no more than 12 credit hours per semester, in order to leave adequate time for research.

VIII. Thesis Policies

- A. A thesis is required of MS students. This work should show originality and individuality as well as scientific and scholarly merit.

The organization and style of the MS 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 online at <http://www.grad.uni.edu/thesis-dissertation>.

- B. The major advisor will be involved in planning and initiation of the work. A graduate student should not register for Research (BIOL 6299) 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** — Contains a specific statement of the research problem and an outline of other work on similar problems. It should include a goal statement or research hypothesis and literature citations.
 3. **Materials and Methods** — Includes a 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 at the Graduate Colloquium. This occurs either during the end of the first semester or during the beginning of the second semester in residence, as part of the requirements for BIOL 6292.

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

G. Thesis:

1. The thesis should describe the completed work, following the form agreed upon by the Advisory Committee, and meeting any requirements stipulated by the Graduate College (<http://www.grad.uni.edu/thesis-dissertation>).
2. The thesis shall be written in consultation with the major advisor.
3. It is recommended that the MS student give an informal oral presentation of their 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. The major advisor should review the thesis prior to distribution to committee members. The student must allow sufficient time for the review, editing and the revision process that occurs before final distribution to the Advisory Committee.
5. The thesis is given to the members of the Advisory Committee for evaluation and suggestions. At this time it should be reasonably 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 by the members of the Advisory Committee.
6. The Advisory Committee will determine if the thesis is acceptable and ready for presentation. A thesis seminar will not 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.

7. At some time during the semester in which the student intends to graduate, and no later than eight weeks before graduation, the student must make an appointment with the Graduate College Office for a thesis preview to review the style and format. The dates for thesis preview and review are listed online at <http://www.grad.uni.edu/thesis-dissertation> . However, before contacting the Graduate College office, the student should let department office know of their plans. The department office needs to notify the Graduate College with a list of students who will need to schedule their thesis previews. Therefore, the department office should be notified at the **beginning of the semester** if a student plans to schedule a thesis preview.

H. Thesis Seminar:

1. The thesis seminar is typically presented at the Graduate Colloquium of the Department of Biology. 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. A decision on the final acceptance of the thesis normally follows the public presentation of the work based on discussion among the Advisory Committee.

I. Thesis Signatures:

1. When the thesis 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 advisor, is required for approval.
2. Signed copies of the thesis must be provided to the Department of Biology and the student's major advisor. Graduate college thesis requirements can be found at <https://grad.uni.edu/thesis-dissertation>.

IX. Final Examination

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 Department of Biology 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 Department of Biology 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.

X. Graduate College Approval of Thesis

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.