



UNIVERSITY OF COLORADO  
**COLORADO SPRINGS**

**Program Information Handbook  
For Enrolled Students**

**Master of Sciences in Biology**

MSc Biology  
University of Colorado Colorado Springs  
College of Letters, Arts, and Sciences  
Department of Biology  
1420 Austin Bluffs Parkway, Colorado Springs  
Colorado 80918  
Phone: (719) 255-3266 or 255-7552  
Fax: (719) 255-3047

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# Biology

UNIVERSITY OF COLORADO  
**COLORADO SPRINGS**

## *Welcome to the Department of Biology*

This handbook has been prepared as a resource for graduate students and faculty in the Department of Biology at the University of Colorado Colorado Springs. This handbook identifies and describes the major processes, rules and regulations, and policies of the Department of Biology in one comprehensive document.\*

All graduate students in the Department of Biology are required to read this document prior to initiating coursework. Further, all students are responsible for knowing the information contained in this document. Knowledgeable, empowered students will understand how to meet the demands of the graduate program as well as advocate for themselves when appropriate. If a student has questions about any of the content, it is recommended that the student meet with his or her faculty advisor, in a timely and proactive manner, or contact the MSc advisor directly.

Your suggestions, on the part of all who use this document, are encouraged. Please send your comments directly to the Department of Biology MSc advisor.

Sincerely,

Andrew Subudhi, Ph.D  
Chair, Department of Biology  
Osborne Center for Science & Engineering, B341  
College of Letters, Arts, and Sciences  
1420 Austin Bluffs Parkway  
University of Colorado Colorado Springs  
Colorado Springs, CO 80918  
asubudhi@uccs.edu, 719-255-3938

\*NOTE: The faculty of the Department of Biology reserve the right to make changes to this handbook whenever necessary and without prior notice.

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## **General Information**

The Department of Biology offers a program leading to the degree of Master of Sciences (MSc) with options in Molecular & Cellular Biology, Exercise Science, and Ecology & Evolution. Graduate students pursue coursework in biology and one other science discipline (e.g., physics, chemistry, mathematics, geography), providing students with a diverse curriculum and an understanding of how various science disciplines relate to each other.

This interdisciplinary program offers students a broad science education with few restrictive requirements compared to traditional graduate science programs. It allows for development of a plan based on individual needs.

The MSc degree is designed for students intending to become professional biologists. The standard MSc degree plan requires a thesis and is appropriate for those seeking advanced graduate work. See “Requirements of the Thesis Option” Section below for more information.

### **MSc Discipline Options**

In consultation with the major advisor, students may choose to focus their graduate studies in one of the following options:

- Ecology and Evolution
- Exercise Science
- Molecular and Cellular Biology



## **Duration of Program**

Students must be enrolled continuously and those enrolled in the thesis option should expect to dedicate a minimum of 15 hours per week in the laboratory or field doing research. Therefore, the MSc Program in Biology usually requires 2-3 years to complete. Students who plan on continuing their education by applying to a professional school (e.g., veterinary, medical and dental school) or to graduate school (towards a Ph.D.) should be aware that many of these schools do not accept students until they have completed the MSc.

## **Financial Aid**

Applicants to the MSc Program in Biology may be offered a MSc Biology Graduate Teaching Assistantship. This award provides a stipend for teaching 2 sections of a laboratory course both fall and spring semesters for up to two years. A second component of the award is a scholarship. Some faculty may be able to support a graduate student with grant money as well. Prospective students should discuss this with potential Major Advisors. Prospective students should also contact the Office of Financial Aid at UCCS for information about student loans (for domestic students, FASFA must be completed). Students are encouraged to apply for external fellowships as well as research options for scholarship through the Graduate School office.

## **Applying to the MSc program**

### **Requirements for regular admission**

- A Bachelor's degree from an accredited College or University
- An undergraduate GPA of 3.0 or higher
- Completion of 40 hours of natural and physical science and mathematics courses.
- Two semesters of calculus or one semester of calculus and one semester of statistics.
- GRE, general test

## Required application materials

- Online graduate application: <http://www.uccs.edu/graduateschool/prospective-students/admissions.html>
- A cover letter stating intent and interest in obtaining an MSc degree in Biology.
- Resume or curriculum vitae
- One copy of official transcripts from all institutions of higher education attended.
- Three letters of recommendation
  - The letters should not be mailed to faculty or to the MSc Biology program advisor.
  - The names of those recommending the applicant are included in the online application. Once the application has been submitted, they will be contacted by UCCS for their recommendation letter.
- Original GRE results
- A sample of written work if required by the Major Advisor.
- A Sponsor Agreement form will be required upon acceptance into the program.

All application materials should be submitted using the online application, including the letters of recommendation.

Transcripts should be submitted by mailing one official copy to the following address:

Admissions Services, Main Hall 108  
University of Colorado Colorado Springs  
1420 Austin Bluffs Parkway  
Colorado Springs, CO 80918

## Provisional admission

Under certain circumstances, applicants not meeting the criteria for admission as a regular degree student may be recommended by the faculty for admission as a 'provisional admissions' student. The department may assign course work and/or examinations that must be taken to make up deficiencies. When the conditions for regular status are met, the Program Advisor will reclassify the student to regular status.

## **Transfer credits**

### [From CU campuses](#)

Up to 12 credit hours of appropriate upper-level course work with a grade of B or better that are not counted toward a degree and earned at any CU campus may be requested for transfer into the MSc program. Double counting of undergraduate and graduate courses is not allowed. These credit hours are computed into the students' graduate GPA but the undergraduate transcripts remain unchanged (i.e., there is no physical movement of courses on the transcripts).

### [From Outside Institutions](#)

Up to 9 credit hours of appropriate upper-level course work with a grade of B or better that are not counted toward a degree and completed at an institution other than the University of Colorado may be requested for transfer into the MSc program. These credit hours are not computed into the students' graduate GPA.

## **The Application Process**

- The MSc Program in Biology reviews applications annually.
- All application materials are due December 15.
- Applicants are encouraged to contact potential sponsors before beginning the application process.
- Qualified applicants will not be accepted into the program unless they have a sponsor. Please see below for information about the sponsor and the sponsor agreement.
- Applicants will be notified of their acceptance into the program by March 2 for the following fall semester.

## **The Major Advisor and Sponsor Agreement**

The Sponsor is any faculty member on the Graduate Faculty who agrees to function as a Major Advisor and mentor to the student during their tenure as a graduate student. Thus, the Sponsor is the Major Advisor and the term Major Advisor will be used throughout this document. Faculty will decide if they wish to sponsor a student when applicants are being considered for the program. Although applicants do not need a Sponsor to apply to the MSc program, the 'Sponsor Agreement' form must be signed by both student and Sponsor before the student will be accepted into the program. The form is available online:

<http://www.uccs.edu/Documents/biology/SponsorForm13.pdf>

## Finding a sponsor/major advisor

- Current students at UCCS should meet with the appropriate faculty member about graduate school and discuss the possibility of working with that faculty member.
- Students new to UCCS should make an appointment with potential faculty advisors (see list on page 5) to discuss the possibility of working with that faculty member.
- Prospective students who are living out-of-state are encouraged to contact potential advisors by email or telephone and arrange a visit to UCCS prior to applying.
- Alternatively, prospective students may familiarize themselves with UCCS and potential advisors by enrolling in a course as an 'unclassified student'.

## Changing sponsors

During the first year in the MSc program the student may determine that he/she wishes to change his/her project, and therefore his/her Major Advisor.

- The student must meet with his/her Major Advisor to discuss the change.
- If an alternative faculty member agrees to function as the Major Advisor, a new 'Sponsor Agreement' form will be completed and put into the student's file.
- If there is no alternative faculty member the student may decide to withdraw from the MSc program. The student must then give written notification to the MSc Program Advisor.

## After Acceptance into the MSc Program

### Orientation

All entering graduate students must meet with the MSc Program Advisor for an orientation session during which requirements of the program will be explained. In most cases the meeting will be scheduled immediately before the New Student Welcome Reception sponsored by the Graduate School, the week prior to classes.

### Safety and Compliance

- All students conducting research in the laboratory or field must complete the required safety training. Contact Cynthia Norton ([cnorton@uccs.edu](mailto:cnorton@uccs.edu)) at 719-255-3212 for further information.
- Safety training must be completed prior to initiation of the research.
- Most biological research requires IBC authorization prior to initiation of the research.
- **The Institutional Biosafety Committee** (IBC) is responsible for reviewing all University research protocols involving any biological agents, infected animals or tissues (including field work), recombinant DNA, Select Agents & Toxins, and work with human blood, bodily fluids, tissues or cells in culture.

- <https://www.uccs.edu/pusafety/environmental/hazardous-materials/biosafety.html>
- **The Institutional Review Board (IRB)** is responsible for reviewing all University research protocols involving human subjects.
- Most research using human subjects requires IRB authorization prior to initiation of the research.
- It often requires several months to get IRB approval so students planning on using human subjects should discuss this with the Major Advisor as soon as possible.
- If the research will involve both biohazards and human subjects (e.g., bodily fluids), IBC approval should be obtained prior to applying for IRB approval.
- <https://www.uccs.edu/osp/research-compliance/research-involving-human-subject-irb.html>

### Course Requirements of the Thesis Option

- A total of 30 hours of upper-level coursework is required.
  - Biol 5010, Graduate Seminar, must be taken three times. The student must enroll during his/her second semester (spring).
  - The student must enroll in Biol 6000, Introduction to Scientific Communication.
  - The student must enroll in a total of 6 hours of Masters Thesis (Biol 7000).
  - A maximum of 6 hours of Independent Study, Research Practicum, or Externships will count toward the degree.
- A minimum of 24 hours of 5000-level courses with the remaining at the 4000-level is required.
  - The student must enroll in the 5000-level of any course offered at both 4000-level and 5000-level to receive credit.
  - Courses taken pass/fail will not count toward the degree.
  - All courses must be taught by faculty appointed to the Graduate Faculty.
- At least one course must be taken from another department participating in the MSc program (e.g., chemistry, physics, geography, health sciences, mathematics).
- A 3.0 GPA or higher must be maintained.
  - Any course in which the student receives a grade of C (C+, C-, or lower in courses where + and – are used) will not be counted toward the degree.
  - The student will be allowed to retake any one course in which he/she receives a C or lower; if a B- or above is not achieved on the retake, the student will be dismissed from the program.
  - Two consecutive grades of C (C+, C, C-) or lower will be cause for dismissal from the program.

### Additionally,

- Students must be able to commit ~15 hours per week performing research toward the completion of the thesis research.

### **During the first semester, the student must meet with the Program Advisor and his/her Major Advisor**

- Have an initial orientation meeting with the Program Advisor
- Meet with his/her Major Advisor to
  - determine the research project and appropriate coursework
  - select a graduate committee to advise the student during his/her tenure as a graduate student
  - determine the coursework appropriate for his/her plan of study
  - begin a review of the literature pertinent to the research project

### **During the second semester or before the one-year anniversary of acceptance into the program, the student will**

- Enroll in Biol 5010, Graduate Seminar
- Complete a review of the literature and present his/her thesis proposal to the academic community in an oral seminar of approximately 30 minutes. The seminar will be followed by a public question and answer period.
  - Following the public presentation and question period, the committee will meet with the student for an additional question and answer period/discussion until all committee members are satisfied with the presentation. This meeting is usually officiated by the Major Advisor.
  - The committee will grade the student; this will be the student's grade for Biol 5010.
  - If the committee is not satisfied or fails the student, the student will receive a grade of Incomplete and will be required repeat the process by the end of the next semester (fall).
- If the student fails to meet the Biol 5010 milestones, the student must communicate with the MSc Program Advisor a timeline to fulfill these requirements before the last day of the semester (spring) or he/she will be dismissed from the program.
- The process may be repeated only once. If the student fails a second time, he/she will be dismissed from the program.
- A copy of the IBC and/or IRB approval form(s) and protocol number(s) must be submitted to the MSc Program Advisor to be placed in the student's file. These are required by the graduate school.

### **The final semester paperwork**

- The student must enroll in Biol 9990, Candidate for Degree, the semester he/she defends the thesis or project if not enrolled in any other course. If the student has previously defended the thesis or project, and all coursework has been completed, then enrollment in Biol 9990 is not required.
- Complete all paperwork required by the graduate school. The Schedule of Deadlines can be found here as well: <https://www.uccs.edu/graduateschool/current-students/graduating-this-semester.html>

- Note, the online Admission to Candidacy form is completed by the student and emailed to the Biology MSc Advisor. After approving the form, the MSc Advisor will submit it to the Graduate School for final approval.
- Any problems found by the Graduate School must be addressed and corrected before the student can graduate.

### Requirements for completing the Thesis

- The candidate will deliver a draft of his/her thesis to the Major Advisor one semester prior to graduation.
- The 'Thesis and Dissertation Manual' can be found at:  
<http://www.uccs.edu/graduateschool/current-students/graduating-this-semester.html#ThesisDissertationForms>
- All students in the MSc Biology program are required to present their thesis work to the academic community in an oral seminar of approximately 50 minutes as part of the thesis defense. The seminar will be followed by a public question and answer period.
- The candidate will consult the committee members and schedule the thesis defense for a time prior to the deadline set by the Graduate School.
- The candidate will inform his/her Major Advisor and the Program Advisor, of the defense schedule. The Program Advisor will then request a room for the defense and notify the Graduate School. The Graduate School will announce the seminar to the campus community.
- The candidate will provide a final copy of the thesis, approved by the Major Advisor, to the other committee members at least 2 weeks prior to the scheduled defense.
- The candidate will post announcements of the seminar in the Osborne Science & Engineering building at least one week prior to the scheduled defense.
- Following the public presentation and question period, the committee will meet with the student for an additional question and answer period until all committee members are satisfied with the examination. This meeting is usually officiated by the Major Advisor.
- The committee will assign a grade for Biol 7000, Masters Thesis.
- Following the defense, the committee members will complete:
  - The 'Master Defense Exam Report' form:  
<https://www.uccs.edu/Documents/graduateschool/Master%20Final%20Exam%20form%202015.pdf>
  - The departmental 'Thesis Evaluation' form and the 'Thesis Oral Presentation Evaluation' form.
  - These forms should be returned to the Biology MSc Program Advisor after the defense and/or when revisions have been accepted by the committee.
- The candidate will complete any changes or revisions to the thesis. The candidate will then complete the 'Electronic Thesis/Dissertation Signature and Agreement Form' for submission of the thesis to the Graduate School.
- Submission of the thesis to the Graduate School must be completed by the end of the semester.

## **The Graduate Committee**

The committee consists of 3-4 members including the Major Advisor and at least one other faculty member from the Department of Biology. Each new student should discuss possible projects with his/her Major Advisor. The Major Advisor will often suggest possible faculty members appropriate for the committee.

- Students should meet individually with possible committee members to introduce themselves and determine if the faculty member would be interested, and have time, to be on the committee.
- One committee member may reside outside the Department of Biology but must be a member of the Graduate Faculty.
- Members from outside the Department of Biology may include individuals with special expertise (e.g., Colorado Parks & Wildlife staff, physicians, genetic counselors) or non-UCCS faculty (e.g., USAFA, Colorado College, other CU campuses) as well.
  - The MSc Program Advisor will request a special appointment from the Graduate School for non-UCCS members to participate on the MSc committee.
- The first formal committee meeting must be held within 6 months of entering the program.
  - At least one week before the meeting the student must give each committee member a written outline plan of his/her research.
  - During the meeting the student will present this plan to the committee members.
- Committee meetings must be scheduled at least once a year so the committee can review the student's progress and continue to advise the student.
- During the semester prior to that in which the student plans to graduate, the student will make a formal presentation to the committee. The committee will determine if the student is ready to defend his/her research.

## **Leave of absence**

Under extraordinary circumstances a student may request one leave of absence of up to one year from the program.

- This request must be in writing and have the approval of the Major Advisor and the Program Advisor.
- At the end of this term, the student must inform the MSc Program Advisor in writing if he/she wishes to return to, or withdraw from, the program.
- Upon return, the student must reapply to the program before enrolling in courses.
- The student will be admitted back to work with the same Major Advisor unless the student enters into a verbal or other agreement with another mentor and completes a new sponsor form.

- If the student wishes to change Major Advisors upon his/her return, and a new advisor cannot be found, the application will be treated as a new admission with the understanding the individual may not be readmitted.
- If the student fails to notify the MSc Program Advisor of his/her plans within 13 months of the beginning of the leave of absence, the student will be dismissed from the program.