Integrative Physiology - Master of Science (MS)

Physiology is the field of biology that deals with function in living organisms. The academic foundation of the department is the knowledge of how humans and animals function at the level of genes, cells, organs and systems. A graduate degree in integrative physiology provides opportunities for careers in academia, industry and the health professions.

Concurrent Degree Program
BA/MS in Integrative Physiology

The Department of Integrative Physiology has developed a curriculum that results in simultaneously conferring BA and MS degrees following a five-year course of study. The program has been designed to provide qualified undergraduate students with an opportunity to enhance their knowledge base in the discipline, engage in research, increase their opportunities for employment and make their applications to medical/allied health professional schools more competitive. Candidates for the program are recruited from the undergraduate population of declared integrative physiology majors during the beginning of their junior year. All interested candidates must apply by the second semester of their junior year. To apply, students must have a minimum GPA of 3.30, one letter of recommendation and a faculty mentor. Approximately 3–5 of the applicants will be selected on a competitive basis to begin the program.

Once accepted into the program, a student must maintain a GPA of 3.00 in all course work undertaken. By the completion of their senior year, students must have completed the 116 undergraduate credit hours as outlined in the concurrent degree plan options. Continuing students must register for at least 5 graduate course credit hours per semester, beginning with the fall semester of their senior year. Students deciding to discontinue the program may do so at any time during their course of study. All credit hours completed toward the concurrent degree program will be counted toward the completion of the requirements for a BA degree in integrative physiology.

The curriculum for all students in the first year of the program is the same and is designed for students to complete their undergraduate requirements (116 credit hours) and 8 of their graduate credit hours. To complete the program in five years, students will be allowed to count 6 credit hours of their graduate work as electives for the undergraduate degree and 6 prespecified credit hours of undergraduate work toward the master’s degree.

Requirements
Admission Requirements

Entering graduate students must have an undergraduate preparation equivalent to the basic core curriculum requirements in integrative physiology at the University of Colorado or departmental approval of their academic preparation for graduate study.

All graduate applicants must have an introductory course in statistics or research design. In addition, students should have the knowledge base that would be obtained by completing human anatomy lecture and lab, as well as human physiology lecture and lab courses.

Satisfactory scores on the Graduate Record Examination (general) tests are also required for admission to the department. These scores should be submitted at the time of application.

Deficiencies
If the undergraduate preparation of a prospective graduate student is not adequate, the student may be allowed to pursue graduate study with the understanding that identified deficiencies will be completed. The graduate admissions committee will determine the nature and extent of these deficiencies.

Deficiencies in any area of the undergraduate major may be met by completing approved course work in the subject at CU Boulder or at other institutions. All entering graduate students with deficiencies must satisfy at least one deficiency per semester until all deficiencies are satisfied. Graduate courses taken before removing deficiencies may be accepted for graduate degree credit only if prior approval of the graduate coordinator has been granted.

Course Requirements

Master’s candidates entering the graduate program must complete 30 credits to graduate. They may select one of three options:

- Course work only
- Research project: Course work plus 3 research project hours
- Thesis: Course work plus 4 to 6 thesis hours

It is possible, however, to change from one option to another during the program of study.

Students must have a minimum cumulative grade point average of 3.0 in all graduate work taken, and must perform satisfactorily on the comprehensive exam.

Required Courses and Semester Credit Hours

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Semester Credit Hours</th>
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<tbody>
<tr>
<td>IPHY 5100</td>
<td>Colloquium in Integrative Physiology</td>
</tr>
<tr>
<td>IPHY 5800</td>
<td>Advanced Statistics and Research Methods in Integrative Physiology</td>
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</tbody>
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Degree Plan Option

Select the course work-only (0 credits), research project (3 credits) or thesis (4-6 credits) option.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPHY 6840</td>
<td>Research Project</td>
<td>3</td>
</tr>
<tr>
<td>IPHY 6950</td>
<td>Master’s Thesis</td>
<td>4</td>
</tr>
</tbody>
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Electives

Elective course work to fulfill the 30-credit minimum. 18-24

Total Credit Hours 30

Candidacy for Degree

Within the first semester of study, the student and mentor must prepare a program of study for the student. This program of study may be changed during the residence of the student with the approval of the mentor. It is the student’s responsibility to transfer the program of study to the Application for Admission to Candidacy form required for graduation. The Application to Candidacy is due no later than ten weeks prior to defense of the thesis or research project. The original Application to Candidacy form should be submitted to the program assistant for review and approval.
Comprehensive Examination
All candidates are required to complete an examination (oral or written) covering the thesis or research project as well as course work leading to the degree.