The doctoral program uses a flexible approach to curriculum requirements. Students are required to take two core courses, three laboratory rotations (five weeks each), and electives. The students in consultation with a faculty advisory committee choose additional courses in chemistry, biochemistry, immunology, molecular biology, mathematics, and cell biology. Students are encouraged to begin research as soon as they identify an area of research interest. The department has a particularly strong focus in cell physiology, comparative physiology, computational biology, neurophysiology, and endocrinology. Courses and lab research are supplemented by a weekly seminar series. Toward the end of the second year, students must submit a report describing their initial research and pass an oral qualifying examination in order to continue in the PhD program. One year after their qualifying examinations, and no later than the end of their eighth semester in the program, students are expected to take their preliminary examinations in which they present their thesis topic and preliminary research to a faculty committee. Finally, a thesis, which is based on original work in one area of physiology and which demonstrates a thorough knowledge of underlying theories and experimental approaches, must be defended at the final examination. Most students complete their PhD training in four to five years.

Graduate Degree Program in Molecular & Integrative Physiology

Molecular & Integrative Physiology, PhD (p. 1)

The PhD program in Molecular and Integrative Physiology (MIP) is designed to provide individualized training in preparation for research and teaching careers in molecular, cellular, and integrative physiology. The objective of the training is to produce scientists who are technically competent and broadly educated. Students interested in the MIP PhD program must apply directly to the School of Molecular and Cellular Biology (https://mcb.illinois.edu/graduate/gradprospect/). During the first semester, students perform three laboratory rotations, choosing from any laboratory in the School. Students select a laboratory for their thesis research in December and formally join the appropriate graduate program at that time.

Admission

Applicants interested in the Molecular & Integrative Physiology PhD program will need to apply directly to the School of Molecular and Cellular Biology (MCB) PhD program, https://mcb.illinois.edu/graduate/gradprospect/. The MCB PhD program is an umbrella program that requires admitted students to spend their first semester rotating among three different labs to explore their interests before joining one of our four departments.

MCB Admission requirements include a bachelor’s degree in biological or physical sciences, a grade point average of a 3.0 or higher (A = 4.0), prior research experience, and three letters of recommendation from individuals who can attest to the applicant’s academic and research background. The Graduate Record Examination (GRE) is not required. Applicants interested in pursuing a PhD in Molecular & Integrative Physiology should have a strong background in biology, chemistry, and mathematics. In addition to these requirements, non-native English speaking applicants must attain a minimum Test of English as a Foreign Language (TOEFL) overall score of 96, with at least a score of 22 on the speaking section. MCB does not accept the International English Language Testing System (IELTS) to show English proficiency. Graduate College requirements also apply.

Graduate Teaching Experience

Experience in teaching is considered a vital part of the graduate program and is required as part of the academic work of all PhD candidates in this program. Minimum teaching requirement is 50% for one semester. However, it is strongly recommended that students gain experience equivalent to 50% for at least two semesters.

Financial Aid

Financial support is guaranteed for all students who remain in good academic standing.