

MOLECULAR, CELLULAR AND INTEGRATIVE BIOSCIENCES

Dual-Titles

Dual-Title Ph.D. in Molecular, Cellular, & Integrative Biosciences and Astrobiology

Requirements listed here are in addition to requirements listed in GCAC-208 Dual-Title Graduate Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-208-dual-titles/>).

Admission Requirements

Students must apply and be admitted to the graduate program in Molecular, Cellular, & Integrative Biosciences and the Fox Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Astrobiology dual-title program. Refer to the Admission Requirements section of the Astrobiology Bulletin (<https://bulletins.psu.edu/graduate/programs/majors/astrobiology/>) page. Doctoral students must be admitted into the dual-title degree program in Astrobiology no later than the end of the fourth semester (not counting summer semesters) of entry into the graduate major program.

Degree Requirements

To qualify for the dual-title degree, students must satisfy the degree requirements for the degree they are enrolled in Molecular, Cellular, & Integrative Biosciences, listed in the Degree Requirements section. In addition, students must complete the degree requirements for the dual-title in Astrobiology, listed on the Astrobiology Bulletin page (<https://bulletins.psu.edu/graduate/programs/majors/astrobiology/>).

The Qualifying Examination in the major area alone will satisfy the Qualifying Exam requirement for the dual-title program.

In addition to the general Graduate Council requirements for Ph.D. committees (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-602-phd-committee-formation/>), the Ph.D. committee of a Molecular, Cellular, & Integrative Biosciences and Astrobiology dual-title Ph.D. student must include at least one member of the Astrobiology Graduate Faculty. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in Astrobiology, the member of the committee representing Astrobiology must be appointed as co-chair. The Astrobiology representative on the student's Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in Molecular, Cellular, & Integrative Biosciences and Astrobiology. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Fox Graduate School.

Dual-Title PH.D. IN Molecular, Cellular, & Integrative Biosciences and Microbiome Sciences

Requirements listed here are in addition to requirements listed in GCAC-208 Dual-Title Graduate Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-208-dual-titles/>).

MCIBS Ph.D. students with research and educational interests in Microbiome Sciences may apply for admission to the Microbiome Sciences Dual-Title Degree Program. Students must first apply and be admitted to the MCIBS graduate program and the Fox Graduate School before applying for admission to the dual-title program. To apply, a student should send to the MBIOM Graduate Program Advisor (microbiomesciDT@psu.edu) a written personal statement that explains their interest in Microbiome Sciences; the career goals they hope to work toward by attaining the dual-title degree; and describe actual or potential research objectives that integrate microbiome sciences. This statement should be signed by their major adviser or dissertation adviser, if assigned. Students should also send the MBIOM Graduate Program Advisor their undergraduate and graduate transcripts for review by the MBIOM Faculty-in-Charge, who will notify the Fox Graduate School and student about the enrollment decision.

The result of the MCIBS qualifying examination serves to qualify the student's entrance to the MBIOM dual-title program. The application for the dual-title degree program may be completed after the qualifying examination in the major program, as long as the application takes place before the end of the fourth semester.

To obtain this dual-title, students must satisfy the degree requirements for the Ph.D. in MCIBS, listed in the MCIBS Degree Requirements section. In addition, students must complete the degree requirements for the MBIOM dual-title, listed on the Microbiome Sciences Bulletin page (<http://bulletins.psu.edu/graduate/programs/majors/biogeochemistry/>). To fulfill the course requirements for the dual-title in Microbiome Sciences, students must complete a total of 15 credits including 2 credits of MBIOM 550 and at least 13 credits chosen in consultation with the adviser from an approved list of courses, with at least 3 credits in each of the following areas: microbial sciences, ecology and evolution, and bioinformatics and research tools. All students must pass a qualifying examination in their major field of study. The qualifying examination for the student's graduate major program will satisfy the qualifying examination for the dual-title degree program in Microbiome Sciences.

In addition to the general Graduate Council requirements for Ph.D. committees (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-602-phd-committee-formation/>), the Ph.D. committee of a MCIBS and Microbiome Sciences dual-title Ph.D. student must include at least one member of the Microbiome Sciences Graduate Faculty. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in Microbiome Sciences, the member of the committee representing Microbiome Sciences must be appointed as co-chair. The Microbiome Sciences representative on the student's Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in Molecular, Cellular, and Integrative Biosciences and Microbiome

Sciences. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Fox Graduate School.