

# METEOROLOGY AND ATMOSPHERIC SCIENCE

## Dual-Titles

### Dual-Title Ph.D. in Meteorology and Atmospheric Science and Astrobiology

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

Students interested in the emerging field of Astrobiology may wish to obtain a dual-title Ph.D. in Meteorology and Atmospheric Science and Astrobiology. The pursuit of this dual-title entails additional course work beyond the degree requirements set forth here (see the Astrobiology Bulletin page (<http://bulletins.psu.edu/graduate/programs/majors/astrobiology/>) for further details concerning these course and other program requirements), as well as the participation of at least one Astrobiology program faculty member on the Ph.D. committee. The Astrobiology representative, who assists with the selection of courses, may be the adviser and have an appointment in Meteorology and Atmospheric Science. The Ph.D. qualifying exam for dual-title students will be administered by Meteorology and Atmospheric Science but with a component of it from the Astrobiology representative, or others related to this dual-title graduate degree, that assesses the student's potential in the field of Astrobiology. The field of Astrobiology will also be integrated into the comprehensive examination. A Ph.D. dissertation that contributes fundamentally to the field of Astrobiology is required. A public oral presentation of the dissertation is required.

### Admission Requirements

Students must apply and be admitted to the graduate program in Meteorology and Atmospheric Science and The 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 page (<http://bulletins.psu.edu/graduate/programs/majors/astrobiology/>). Doctoral students must be admitted into the dual-title degree program in Astrobiology prior to taking the qualifying examination in their primary graduate program.

### Degree Requirements

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. in Meteorology and Atmospheric Science. In addition, students must complete the degree requirements for the dual-title in Astrobiology, listed on the Astrobiology Bulletin page (<http://bulletins.psu.edu/graduate/programs/majors/astrobiology/>).

The qualifying examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Meteorology and Atmospheric Science and must include at least one Graduate Faculty member from the Astrobiology program. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. There will be a single qualifying examination, containing elements of both Meteorology and Atmospheric Science and Astrobiology. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying

examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for Ph.D. committees (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation/>), the Ph.D. committee of a Meteorology and Atmospheric Science 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 Meteorology and Atmospheric Science 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 Graduate School.

### Dual-Title Ph.D. in Meteorology and Atmospheric Science and Climate Science

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

Students interested in the field of Climate Science may wish to obtain a dual-title Ph.D. in Climate Science and Meteorology and Atmospheric Science. The pursuit of this dual-title entails additional course work beyond the degree requirements set forth here (see the Climate Science Bulletin page (<http://bulletins.psu.edu/graduate/programs/majors/climate-science/>) for further details concerning these course and other program requirements), as well as the participation of at least one Climate Science program faculty member on the Ph.D. committee. The Climate Science representative, who assists with the selection of courses, may be the adviser and have an appointment in Meteorology and Atmospheric Science. The field of Climate Science will be integrated into the comprehensive examination. A Ph.D. dissertation that contributes fundamentally to the field of Climate Science is required. A public oral presentation of the dissertation is required.

### Admission Requirements

Students must apply and be admitted to the graduate program in Meteorology and Atmospheric Science and The 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 Climate Science dual-title program. Refer to the Admission Requirements section of the Climate Science Bulletin page (<http://bulletins.psu.edu/graduate/programs/majors/climate-science/>). Doctoral students must be admitted into the dual-title degree program in Climate Science no later than the end of the fourth semester (not counting summer semesters) of entry into the primary Ph.D. program.

### **Degree Requirements**

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. in Meteorology and Atmospheric Science. In addition, students must complete the degree requirements for the dual-title in Climate Science, listed on the Climate Science Bulletin page (<http://bulletins.psu.edu/graduate/programs/majors/climate-science/>).

The qualifying examination in Meteorology and Atmospheric Science satisfies the qualifying exam requirement for the dual-title degree program in Climate Science.

In addition to the general Graduate Council requirements for Ph.D. committees (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation/>), the Ph.D. committee of a Meteorology and Atmospheric Science and Climate Science dual-title Ph.D. student must include at least one member of the Climate Science 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 Climate Science, the member of the committee representing Climate Science must be appointed as co-chair. The Climate Science 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 Meteorology and Atmospheric Science and Climate Science. 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 Graduate School.