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I. **INTRODUCTION**

Graduate school is a very different kind of educational experience than being an undergraduate. This is where you specialize, focus, and become an expert. In most programs the primary goal is the thesis, and coursework mostly exists to give you the preparation or background you need to get there. Because of that, Cornell’s graduate program has several features that may take some getting used to. These are described in more specifics in the following sections.

- First, your program has no general course requirements set by Cornell University or the Department. Rather, each student has a Special Committee who decides upon the necessary preparation and coursework. Generally, coursework will become less important as your degree progresses, and instead your advisor and Committee are central to evaluating your progress.

- Second – and this is different than most other universities – the graduate programs are organized into fields that do not directly correspond to departments. Two fields are administered in the Department of Earth and Atmospheric Sciences (Geological and Atmospheric Sciences) but both fields include faculty in several other departments. Sometimes this can get confusing as resources generally come from departments, while academic requirements are organized by field.

- Third, although there are few requirements, graduate school requires commitment and drive. The Ph.D. program requires two exams including a thesis defense and thesis, and the M.S. requires a thesis and defense. Your success generally depends on getting research done, presenting and publishing that research, and generally learning how to be a scientist. While your advisor and committee will do what they can to help you on this path, ultimately it depends on you. Many students struggle at first with the transition to near-exclusive emphasis on long-term goals. Faculty and your fellow graduate students can be a great aid in navigating the transition.

There are many other specifics to your program, and this Handbook is designed to help you keep track of them. It is one of two important documents that describe the program, the other being the Code of Legislation of the Graduate Faculty. All Graduate Students are subject to the rules and regulations of the Code of Legislation of the Graduate Faculty (/gradschool.cornell.edu/sites/gradschool.cornell.edu/files/field_file/Code%20Revisions_Ma

II. **GRADUATE FIELDS**

At Cornell University, graduate study is governed by graduate fields, which are distinct from university departments. You are a student in the Graduate Field of Atmospheric Sciences. While the faculty of the field is mainly drawn from the department, it also includes faculty from such divergent departments as Astronomy, Biological and Environmental Engineering,
Civil and Environmental Engineering and Mechanical and Aeronautical Engineering. A list of faculty in the Graduate Field of Atmospheric Science appears below (link here).

Natalie Mahowald, **Director of Graduate Studies**
Toby Ault
Gang Chen
Steve Colucci
Art Degaetano
Oliver Gao
Charles Greene
Dave Hysell
Peter Hess
Sara Pryor
Max Zhang

A full list of graduate fields can be found [here](#).

### III. SUBJECTS AND CONCENTRATIONS

Each graduate field is composed of one or more subjects of study, which are broad categories that may actually be the same as the field itself. For instance, the Graduate Field of Atmospheric Sciences offers only one subject: Atmospheric Sciences. Each subject may then be divided into specialized areas called concentrations. A faculty member in a graduate field represents one or more concentrations within that graduate field, and a student elects a specific concentration by adding a faculty member who represents that concentration to their Special Committee. The chairperson represents the major subject and concentration and minor members represent minor subjects and concentrations. The faculty member who represents a concentration on a Special Committee determines the specific requirements that the student must complete related to that concentration.

The Graduate Field of Atmospheric Sciences currently does not have concentrations, but is petitioning to add concentrations.

### IV. PROGRAMS AND DURATION

The Graduate Field of Atmospheric Sciences offers two graduate degree programs: the Master of Science (M.S.) and the Doctor of Philosophy (Ph.D.). The M.S. requires a written thesis; but the degree CAN be awarded for coursework alone or by taking the Admission to Candidacy Exam as part of the Ph.D. program. Of course, the Ph.D. also requires a thesis of substantially different scope.

#### A. M.S.
The M.S. requires only two registration units (two semesters of successful full-time study), but typically takes two years to complete. The M.S. requires the completion of a written thesis. Additional requirements and expectations are developed in conjunction with your Committee. Financial support is generally offered for two years, contingent upon adequate progress of the student and on the availability of funds.

B. PH.D.

The Ph.D. requires only six registration units (six semesters of successful full-time study), but typically takes at least five years beyond the B.S. (or three years after the M.S.) to complete. The Ph.D. requires the completion of a written thesis. Coursework, including that required for a minor concentration, is typically an early focus (i.e. years 1-3), with thesis research occupying a progressively larger portion of the student’s time over the course of his or her program. Specific requirements and expectations are developed in conjunction with your Committee. Financial support is generally offered for five years, contingent upon adequate student progress and the availability of funds.

C. TIME-TO-DEGREE LIMITS

Graduate School legislation imposes a time limit on degree programs, counting from the date of the student’s first registration in the program to the awarding of the degree: four years for the M.S. and seven years for the Ph.D. To request an extension, students may, with the approval of the field, petition the Graduate School.

*The Graduate Field of Atmospheric Sciences strongly encourages students to complete their degree in a timely manner.*

V. THE SPECIAL COMMITTEE

The special committee, under the leadership of the chairperson, is responsible for overseeing the student’s course of study and progress. Among other things, the special committee administers examinations, oversees the thesis, assures itself that the student is well prepared in his or her field, sees to it that all degree requirements have been satisfied, and recommends that the degree be awarded.

There are no regulations of the graduate faculty governing the number of courses, grades, or specific content of instruction to which special committees must subscribe. Graduate field requirements should be stated in terms of range and thoroughness of knowledge rather than in the form of a list of prescribed courses. Special committees may impose any requirements over and above the requirements of the Graduate School that they deem educationally sound.

The Graduate Fields of Atmospheric Sciences (and the Graduate School) considers regular meetings between the student and his or her special committee important to ensure proper communication and urges the student to take the initiative in holding such meetings at least twice a semester. These meetings may take the form of individual meetings with each advisor.
or a group meeting of the entire committee. It is recommended that students be proactive to set up such meetings regularly, for example at the start of each semester.

A. SELECTION

An M.S. student is required to have at least two members on their special committee—a chairperson representing a concentration within the Graduate Field of Atmospheric Sciences, and a minor member representing a subject and concentration outside the Graduate Field of Atmospheric Sciences.

A Ph.D. student is required to have at least three members on their special committee—a chairperson representing a concentration within the Graduate Field of Atmospheric Sciences, and two minor members who represent a concentration in an additional subject outside the Graduate Field of Atmospheric Sciences.

(Once concentrations have been added to the Field of Atmospheric Sciences, hopefully complete by 1/1/2016, one member can be within the Field, but with a different concentration).

Additional members may be added to the special committee of M.S. and Ph.D. students to cover other areas of interest.

B. DEADLINES

A student must submit the name of their special committee chair or temporary advisor to the Graduate School no later than three weeks after first registration.

M.S. students must select their full committee (chairperson and minor member) by the end of their second semester.

Ph.D. students must select their full committee (chairperson and two minor members) no later the end of their third semester.

C. CHANGES TO MEMBERSHIP

A student may change their special committee with the approval of all the members of the newly constituted committee. Notice of such change must be filed immediately with the Graduate School.

For M.S. students, no change may be made during the three months prior to the Final Examination, except with the approval of the Dean.
For Ph.D. students, no change may be made after passing the A Exam, except with the Dean's approval. In addition, no Ph.D. student may schedule a B Exam within three months of a change of committee, except with the Dean's approval.

D. AD HOC MEMBERS

Although members of a student's special committee are normally drawn from the currently active graduate faculty at Cornell University, committee members from outside that body (ad hoc members) may be added under special circumstances. Such a member should either have special expertise in the student's subject area, or should have a close working association with the student and his or her research. An example would be a faculty member at another institution with whom the student is working or who has expertise in the student’s sub-specialty.

To be nominated, the individual must be recommended for ad hoc membership by the field’s Director of Graduate Studies. The individual’s curriculum vitae and a letter of recommendation from the Director of Graduate Studies, along with the student’s petition requesting the ad hoc member, must be submitted to the Dean of the Graduate School for final approval. The student and advisor can work with the Department to generate this request.

Ad hoc special committee members serve in addition to the two required committee members on an M.S. student’s committee and three required committee members on a Ph.D. student’s committee.

VI. EXAMINATIONS

For M.S. students, the graduate faculty requires the Final Examination for the Master’s Degree. For Ph.D. students, the graduate faculty requires the Examination for Admission to Candidacy (A Exam) and the Final Examination for the Doctor of Philosophy Degree (B Exam).

A. QUALIFYING EXAMINATION (Q EXAM)

The Atmospheric Science Field does not require a Q exam, but this information is provided because other fields do (e.g. Geological sciences). The Q Exam is intended to determine a Ph.D. student’s aptitude for advanced study and scientific research, and will enable the Special Committee to propose a program that will help the student accomplish his or her objectives. The examination is administered by the Special Committee and attendance is generally limited to that body. The exam format—which can be written, oral, or both—is typically oral. Because it is a Graduate Field requirement, rather than a Graduate School requirement, there is no paperwork to complete to schedule the Q Exam; the student must arrange the examination date and location in consultation with the members of his or her Special Committee. On the basis of the student’s performance, the Special Committee may pass the student, require that the examination be retaken (in the same or different format), not allow continuation in the Ph.D. program but allow the student to change to the M.S. program,
or fail the student. The Chairperson of the Special Committee must report the results of the Q Exam to the student in a letter, copying all members of the Special Committee, the Director of Graduate Studies, and the Graduate Programs Coordinator.

The Qualifying Examination is typically taken in the second semester and must be taken by the end of the third semester.

B. ADMISSION TO CANDIDACY EXAMINATION (A EXAM)

The purpose of the A Exam is to certify that the student is sufficiently prepared to undertake thesis research. The A Exam may be taken after the student has earned two registration units (two semesters of successful full-time study) and, unless special permission is obtained from the Dean, must be attempted before the beginning of the student’s seventh semester of registration in the Ph.D. program. The successful completion of the exam implies that formal coursework is nearly or fully complete. In the Graduate Field of Atmospheric Sciences, the exam format—which can be written, oral, or both—is typically oral. The oral section of the examination must be scheduled with the Graduate School and must also be announced to the faculty in the Graduate Field by the Director of Graduate Studies at least seven days in advance of the examination. Ordinarily only members of the Special Committee attend and question the student, but other graduate faculty members are welcome to attend and are permitted to question the student. The determination of the outcome of the examination rests exclusively with the Special Committee. The Special Committee may pass, conditionally pass, or fail a student. For a student to pass an examination, all members of the Special Committee must approve. If a student fails the examination, reexamination is allowed only upon approval of the Special Committee, but not earlier than three months after the failed exam.

C. FINAL EXAMINATION FOR THE DOCTOR OF PHILOSOPHY DEGREE (B EXAM)

A doctoral candidate takes the B Exam, also known as the thesis defense, upon completion of all requirements for the degree but no earlier than one month before completion of the minimum registration unit requirement. Furthermore, a minimum of two registration units (two semesters of successful full-time study) must be earned between passing the A Exam and scheduling the B Exam. The examination must be scheduled with the Graduate School and must also be publicly announced by the Director of Graduate Studies at least seven days in advance of the examination. This oral exam covers the general subject of the dissertation and, in the Graduate Field of Atmospheric Sciences, takes the form of a public thesis defense with open questioning, followed by private questioning by the Special Committee. A doctoral candidate must submit a complete draft of their thesis to all members of their Special Committee at least six weeks before the B Exam, unless the requirement is modified by the Special Committee. At least five business days before the B Exam, a student must also give each member of the Special Committee the thesis, complete in all respects and editorially acceptable for final approval. The thesis, following any revisions after the B Exam, must be
submitted to the Graduate School within 60 days of the B Exam, and must receive final approval from the Graduate School (for formatting purposes) and all members of the Special Committee.

D. FINAL EXAMINATION FOR THE MASTER’S DEGREE

An M.S. student takes the final examination upon completion of all requirements for the degree but no earlier than one month before completion of the minimum registration unit requirement. The examination must be scheduled with the Graduate School and must also be publicly announced by the Director of Graduate Studies at least seven days in advance of the examination. This oral examination covers the topic of the master’s thesis and, in the Graduate Field of Atmospheric Sciences, takes the format of a public thesis defense with open questioning, followed by private questioning by the Special Committee. For a student to pass an examination, all members must approve. If a student fails the examination, reexamination is allowed upon approval by the Special Committee but not earlier than three months after the failed exam. An M.S. student must submit a complete draft of their thesis to all members of their Special Committee at least six weeks before the Final Examination, unless the requirement is modified by the Special Committee. At least five business days before the Final Examination, a student must also give each member of the Special Committee the thesis, complete in all respects and editorially acceptable for final approval. The thesis, following any revisions after the Final Examination, must be submitted to the Graduate School within 60 days of the Final Examination, and must receive final approval from the Graduate School (for formatting purposes) and all members of the Special Committee.

VII. REGISTRATION UNITS

One registration unit corresponds to the satisfactory completion of one academic semester of full-time study and research. A student’s chairperson may award less than one full registration unit to a student to indicate that the student has made less than full satisfactory progress that term. The fraction of a registration unit granted for a semester of full-time study thus represents an evaluation of the student’s academic progress by the Special Committee Chair.

Two registration units are the minimum requirements for students in the M.S. program. Six registration units, two of them after the A Exam, are the minimum requirement for students in the Ph.D. program. At least half of the registration units earned toward these requirements must be earned from full-time, academic-year study on campus.

VIII. COURSEWORK

The Graduate School has no requirements related to the number of or level of courses that students must complete in order to obtain the M.S. or Ph.D. degree. Instead, the Special Committee determines which courses the student must complete. In Atmospheric Sciences, this is highly dependent on the student’s committee, with some students taking 2-3 courses, while others take no courses. Additionally, students often need to complete coursework in
order to fulfill requirements related to their minor concentration(s). The faculty member on
the Special Committee representing the minor concentration determines which courses the
student must take in order to fulfill the minor.

M.S. and Ph.D. students are required to enroll in at least 12 credits each term. If students are
taking fewer than 12 credits of coursework or are no longer completing coursework,
Atmospheric Science students should enroll in 8500, 9500 or 9510 (or equivalents),
depending on their level for the remaining number of credits that they need.

IX. GUIDELINES FOR SATISFACTORY PROGRESS

M.S. and Ph.D. students are expected to maintain a B (3.0) or better grade point average.
Grades of C+ to D-, while passing, do not normally constitute satisfactory progress.

At the end of each term, the Special Committee Chairperson reports to the Graduate School
the number of registration units that the student should be awarded and explains any less-
than-satisfactory progress. Registration units are the major basis for the determination of
progress.

X. STUDENT STATUS

A. REGISTERED STATUS
University registration is the official recognition of a student’s relationship with the
university and is the basic authorization for a student’s access to campus resources. To
become registered each term, a student must settle all financial accounts with the university,
satisfy New York State and university health requirements, and have no holds from their
college, the Office of the Judicial Administrator, Health Services, or the Bursar.

i. FULL-TIME STUDY

An individual is considered a full-time student if he or she is registered, enrolled
in courses or engaged in thesis work, and is in conformity with limitations on
assistantships, hourly student appointments, and/or outside employment as
specified in the Code of Legislation of the Graduate Faculty.

ii. IN ABSENTIA STUDY

In absentia status provides an opportunity for graduate students to engage in
approved study during the academic year in a location at least 100 miles away
from campus while continuing to work under the guidance of the Special
Committee. An extended field season that overlaps a significant part of the
semester is a typical reason for applying for in absentia status. A student may
apply for in absentia status by submitting a petition to the Graduate School. An
M.S. student must have earned a least one registration unit and a Ph.D. student
must have earned at least two registration units in full-time study on the Ithaca
campus or at a satellite location to be eligible for in absentia status. Graduate
students who are approved to register in absentia pay in absentia tuition (currently $200/semester) instead of regular tuition.

**B. NON-REGISTERED STATUS**

i. **LEAVE OF ABSENCE**

A leave of absence can be granted for personal or health reasons. Leaves run for a period of up to 12 months and may be renewed annually to a maximum of four calendar years. Time spent on leave of absence does not count toward time-to-degree limits. The field and the Graduate School jointly determine whether a personal Leave of Absence will be granted. If a Health Leave of Absence is recommended for a student by University Health Services, the Graduate School, in consultation with the field, determines whether a Health Leave of Absence will be granted. A student who takes a leave of absence relinquishes access to campus facilities and services that normally accompany student status.

ii. **WITHDRAWAL**

Students may withdraw voluntarily at any time. Withdrawal is appropriate for students who do not intend to resume students or to complete their M.S. or Ph.D. at Cornell University. Any interruption of registration is considered a withdrawal unless the student has been granted a leave of absence.

**XI. CHANGES IN PROGRAM**

An M.S. student wishing to change to the Ph.D. program, who has the endorsement of his or her Special Committee Chairperson to do so, should submit the Application for Student Program Change form to the Graduate Programs Coordinator for the Graduate Field of Atmospheric Sciences for consideration by the field. As part of the consideration process, the Director of Graduate Studies will consult with the Special Committee Chairperson and other members of the student’s Special Committee. If approved, the Application for Student Program change form will be forwarded, along with an admit letter, to the Graduate School and the student will be officially changed to the Ph.D. program.

A Ph.D. student may elect to change to the M.S. program by submitting an Application for Student Program Change form to the Graduate Programs Coordinator for the Graduate Field of Atmospheric Sciences. A student’s Special Committee may also recommend that the student change from the Ph.D. program to the M.S. program at any time (for a variety of reasons), and can decide to allow such a change as an alternative to failing an exam. If such an action is taken, the Special Committee must inform the Graduate School, the Director of Graduate Studies for the Graduate Field Atmospheric Sciences, and the Graduate Programs Coordinator.
XII. AT A GLANCE

A. M.S.

- **Type of Degree:** Research
- **Duration:** At least two registration units; typically two years
- **Areas of Concentration:** Two areas, one from within the Graduate Field and one from outside the Graduate Field
- **Special Committee:** Two member committee consisting of chair and one minor member
- **Required Examinations:** Final Examination for the Master’s Degree
- **Deadlines:**
  - Chair Nomination—3rd week of 1st semester
  - Special Committee Selection—end of 2nd semester
  - Master’s Examination and Thesis Submission—as soon as degree requirements have been met; no later than 8 semesters

B. PH.D.

- **Type of Degree:** Research
- **Duration:** At least six registration units; typically five years after the B.S.
- **Areas of Concentration:** Three areas, one from within the Graduate Field, two from outside the Graduate Field.
- **Special Committee:** Three member committee consisting of chair and two minor members
- **Required Examinations:** Admission to Candidacy (A Exam); Final Examination for Doctor of Philosophy Degree (B Exam)
- **Deadlines:**
  - Chair Nomination—3rd week of 1st semester
  - Special Committee Selection—end of 3rd semester
  - Admission to Candidacy Examination—before beginning 7th semester
  - Final Examination for Doctor of Philosophy Degree and Thesis Submission—as soon as degree requirements have been met; no later than 14 semesters