

Atmospheric Sciences Graduate Student Guide

Department of Atmospheric Sciences
College of Science &
College of Mines and Earth Sciences
University of Utah

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This document is intended to be complementary, but subordinate, to the policies of The Graduate School of the University of Utah.



Photo by Ashley Evans

Table of Contents

I. The Department	3
II. Admissions	3
Requirements for Admission:.....	3
Application Process:.....	4
Readmission:	4
III. Academic Requirements for the M.S.: Thesis Option	4
Program of Study:	4
Registration:	5
Supervisory Committee:.....	6
Comprehensive Examination:	6
Thesis Defense:	8
Student Access to Academic Information:.....	8
Time Constraints:	8
IV. Academic Requirements for the M.S.: Non-Thesis Option	9
V. Committee on Doctoral Advancement (CODA)	9
VI. Academic Requirements for the Ph.D.	10
Registration:	10
Supervisory Committee:.....	11
Doctoral Qualifying Examination:	12
Dissertation Defense:	12
Time Constraints:	13
VII. Alternative Format Thesis/Dissertation	13
VIII. Criteria for Dismissal from the Program	14
IX. Additional Registration Requirements:	15
University Leave of Absence:	15
Departmental Leave of Absence:	16
X. Financial Assistance	16
The Tuition Benefit Program:	16
Residency Status:	17
XI. Changes in Guidelines	18
XII. Safety and Wellness	18

I. The Department

The Department of Atmospheric Sciences at the University of Utah is the leading program of weather and climate-related research and education in the Intermountain West and is recognized internationally for its expertise in cloud-aerosol-climate interactions, mountain weather and climate, climate physics and dynamics, weather and climate modeling, land-atmosphere interactions, tropical meteorology, air quality, fire weather, data assimilation, and atmospheric chemistry. Our research and teaching endeavors provide the knowledge and tools needed to address the challenges posed by hazardous weather and climate change in the 21st century. Our faculty and students also collaborate extensively with departments and colleges throughout the University. Our strengths include student-centered faculty, internationally prominent scholars, a small student-to-faculty ratio, and programs that guide students from classroom to careers.

The Department offers graduate courses and research opportunities leading to M.S. and Ph.D. degrees. Class sizes are small and offer easy and frequent interaction with the faculty. The graduate program has been carefully designed to provide students with a solid foundation in a broad spectrum of the atmospheric sciences while allowing students to specialize for their thesis or dissertation research. Through these goals, the Department expects our graduates to contribute during their professional careers to a diverse range of issues that affect the public locally, nationally, and internationally. Nearly all of our graduate students are supported by graduate research assistantships or teaching assistantships.

For more information about the research interests of our faculty please visit our research programs web page at <https://atmos.utah.edu/about/research/index.php>.

II. Admissions

Requirements for Admission:

To be considered for admission to the M.S. program, applicants must meet the following minimum requirements:

1. A bachelor's degree from a regionally accredited U.S. college or university, or recognized equivalent from a similarly accredited international college or university;
2. Successful completion of courses in math (through ordinary differential equations), calculus-based physics, general chemistry, and computer programming comparable to those required for an Atmospheric Sciences B.S. at the University of Utah (<https://atmos.utah.edu/undergraduate/index.php>);
3. A cumulative GPA of at least 3.0 on a 4.0 scale, or otherwise demonstrable academic readiness for graduate-level studies as defined by the Graduate School
4. Demonstrate English-language proficiency (for international student applicants, who do not qualify for a waiver – <https://atmos.utah.edu/graduate/graduate-faq.php>) and provide results to the University (<https://admissions.utah.edu/apply/international/english-proficiency/>).

To be considered for admission to the Ph.D. program, applicants must meet all of the M.S. admission requirements and have completed a thesis-based M.S. degree in atmospheric sciences, meteorology, or a similar field from a regionally accredited U.S. college or university, or recognized equivalent from a similarly accredited international college or university. In

addition, such students must either: (1) have the Core Class requirement waived by the Committee on Doctoral Advancement (CODA) or (2) complete the core classes (<https://atmos.utah.edu/graduate/courses/grad-core-courses.php>), pass the Comprehensive Exam (see Section III) at the M.S. level or higher, and be recommended by a majority vote of the faculty for continuation in the Ph.D. program. Students who successfully pass through CODA upon admission to the graduate program do not need to complete the core@ classes, however, they are still expected to complete the oral and written prospectus process at the end of Spring Semester of their first year (see “Comprehensive Examination” in section III).

Students who complete an M.S. in Atmospheric Sciences at the University of Utah who wish to continue on to a Ph.D. should petition the department for admittance to the Ph.D. program after submitting their M.S. thesis to the Graduate School. The student can be admitted directly to the Ph.D. program if the student’s M.S. Supervisory Committee, the Director of Graduate Studies, and the Department Chair all recommend the student be admitted to the Ph.D. Program. At this point, a formal offer letter of admission to the Ph.D. program will be sent to the student. If there is disagreement among the student’s M.S. Supervisory Committee, the Director of Graduate Studies, and/or the Department Chair, the student’s application to the Ph.D. program will be sent to CODA for further evaluation (see section V “Committee on Doctoral Advancement” for details on this process).

Application Process:

The Department typically accepts new graduate students for the fall semester. The selection process is very competitive, and not all qualified applicants can be admitted. A complete summary of the application procedures for the Department of Atmospheric Sciences is available at <https://atmos.utah.edu/graduate/graduate-faq.php>.

After reviewing each application, the Department will make its recommendation to the Office of Admissions. The Department Chair will then contact applicants recommended for admission by email to inform them of our decision and provide the offer details. A formal letter of admission to The Graduate School will be sent by mail if the Office of Admissions accepts the recommendations of the Department. The Department would appreciate a reply either accepting or declining our offer as soon as possible. However, the University of Utah abides by the Council of Graduate Schools Resolution Regarding Graduate Scholars, Fellows, Trainees and Assistants (<https://cgsnet.org/resources/for-current-prospective-graduate-students/april-15-resolution>), which does not require prospective students to respond to offers of financial support prior to April 15.

An offer of acceptance is valid only for the semester the applicant is admitted. If an applicant does not enroll during their admitted term, the applicant must resubmit an admissions application and fee before the application deadline for the semester they wish to begin. Graduate students who are interested in deferring their start at the university must discuss this with their academic program and obtain their approval.

Students should be aware that the Department makes a recommendation for admission to the University. The Office of Admissions makes the final decision on admission. Please reference the requirements outlined by the Office of Admissions available at <https://admissions.utah.edu/>.

III. Academic Requirements for the M.S.: Thesis Option

Program of Study:

Students are expected to work with their Supervisory Committee (see below) to develop a detailed Program of Study that provides the student with the necessary theoretical framework for their specific research topic. Program of Study forms are available from the Departmental Office and online:

https://atmos.utah.edu/resources/documents/graduate_students/ms_study_program_fillable.pdf

A signed Program of Study form must be submitted to the Department Office prior to the end of the first semester of graduate study. The Program of Study must meet the University and Department requirements for the M.S. degree including:

1. A minimum of 30 credit hours of graduate courses (i.e., numbered 5000 or above) and a thesis, or in rare instances, a non-thesis option;
2. A minimum of 20 credit hours must be in coursework other than Thesis Research ATMOS 6970 or Faculty Consultation ATMOS 6980;
3. The following courses are required and count towards the 20 credits of minimum coursework: Fundamentals of Dynamic Meteorology ATMOS 6010 (3), Fundamentals of Physical Meteorology ATMOS 6020 (3), Climate Dynamics ATMOS 6030 (3), Scientific Writing ATMOS 6600 (1), and one credit of Graduate Seminar ATMOS 7810 (1) in each of Fall and Spring of the first year.
4. A minimum of 6 credit hours of Thesis Research (ATMOS 6970) must also be completed; and
5. An overall GPA of 3.0 or higher. A grade below C- is not accepted toward a graduate degree.
6. Students are strongly encouraged to attend departmental seminars (ATMOS 7810) throughout their entire time as a graduate student; however, students are only required to register in ATMOS 7810 during the Fall and Spring semesters of their first year.

Registration:

A typical student should register for the following; deviations from this schedule should be approved by the student's Supervisory Committee.

	Fall Semester	Spring Semester	Summer Semester
M.S. year 1	<p>≥ 9 credits hours:</p> <ul style="list-style-type: none"> - ATMOS 6010 (3) - ATMOS 6020 (3) - ATMOS 7810 (1) - electives* and/or ATMOS 6970 thesis research (≥2) 	<p>≥ 9 credits hours:</p> <ul style="list-style-type: none"> - ATMOS 6030 (3) - ATMOS 6600 (1) - ATMOS 7810 (1) - electives and/or ATMOS 6970 thesis research (≥4) 	3 credit hours of thesis research [†]

M.S. year 2	≥ 9 credit hours: - electives and/or ATMOS 6970 thesis research (≥ 9)	≥ 9 credit hours: - electives and/or ATMOS 6970 thesis research (≥ 9)	3 credit hours of thesis research [†]
Total thesis research (ATMOS 6970)	≥ 6		
Total coursework credits	≥ 20		
Total credits	≥ 30 ; time limit of 4 consecutive calendar years		

* courses outside of the Atmospheric Sciences department may incur differential tuition (<https://health.utah.edu/nutrition-integrative-physiology/degrees/coordinated-masters/tuition-%26-fees>)

† Students who are working as Graduate Research Assistants during the Summer Semester should register for 3 credits. If the student is working off campus for the summer (e.g. pursuing an external internship), the student should not register for summer credits. The student and advisor should discuss any plans for research assistantships, external internships, etc. prior to the Summer Semester.

Supervisory Committee:

Unless otherwise approved by the Department Chair, a Supervisory Committee must be appointed during the first semester of the student's residency. M.S. supervisory committees consist of three members, the majority of whom must be tenure-line faculty in the student's major department. All University of Utah faculty members including tenure-line, career-line, adjunct, visiting and emeritus are eligible to serve as Supervisory Committee members. The members must hold an academic or professional doctorate, the terminal degree in the relevant field, and/or must have demonstrated competence to do research and scholarly or artistic work in the student's general field. Persons not affiliated with the University of Utah may also serve as committee members upon approval of the Dean of The Graduate School (a vita for the proposed committee member must accompany each request). Immediate family members are not eligible to serve on a student's Supervisory Committee.

Exceptions to these guidelines must be recommended and justified by the Director of Graduate Studies and approved by the Dean of The Graduate School. The two most common exceptions include a career-line faculty member serving as a Supervisory Committee Chair and two career-line faculty members serving on a Supervisory Committee chaired by a tenure-line faculty member.

Each student must meet with their Supervisory Committee during the fall semester of their first academic year to get their Program of Study approved (https://atmos.utah.edu/_resources/documents/graduate_students/ms_study_program_fillable.pdf), prior to the Comprehensive Exam (which takes place at the end of the spring semester of the first academic year). After the first academic year, students are then required to convene a

meeting with their Supervisory Committee members at least once per academic year until completion of the program to review research progress and update their Program of Study (exams, e.g. the M.S. defense, can be used to meet this requirement). A Committee Meeting Form must be filed with the department office following at least one committee meeting per year; it is the responsibility of the student and the Committee Chair to summarize the student's progress toward degree on the form, collect signatures from Committee Members and the student, and submit the form to the office. Departmental Committee Meeting Forms do not need to be filed for M.S. or Ph.D. defenses, but there are separate administrative steps required to schedule Oral Defenses (see relevant subsections of the M.S. and Ph.D. portions of this document). An effort should be made to hold one of these required meetings approximately 6 months prior to the thesis defense.

Comprehensive Examination:

All M.S. students are evaluated during their first year for knowledge in the atmospheric sciences and their intended field of research through the core classes (ATMOS 6010, ATMOS 6020, ATMOS 6030) and the preparation of a Research Prospectus (through ATMOS 6600), consisting of both written and oral components. Collectively, this evaluation is known as the Comprehensive Examination even though it is based on a combination of coursework and research activities during the first year.

The written component of the Prospectus, which will be evaluated by the Supervisory Committee, is due on the last day of classes during the spring semester of the first year in the graduate program. The oral component of the Prospectus, which will be evaluated by all Atmospheric Sciences faculty in attendance, must be completed at least two days prior to the grade submission deadline for the spring semester of the first year in the graduate program; the department typically schedules all oral Prospectus presentations, during the week following spring semester final exams.

The written component of the Prospectus is a document of 3000 words or less (not including figure captions and references) prepared in consultation with the faculty advisor consisting of:

1. A working title for the research project;
2. A review of literature and existing knowledge in the area of intended study that contextualizes background information and identifies a key paradox, inconsistency, or gaps in understanding to be addressed by the research project;
3. A statement of the research goal or goals (may include a summary of key hypotheses or questions to be tested or examined);
4. A description of the project components and organization; and
5. A summary of preliminary research.

The oral component of the Research Prospectus is a summary of the written Prospectus followed by a question and answer session. The entire oral presentation (including questions and answers) must be less than 30 minutes with no more than 20 minutes devoted to the student summary. The oral presentation will be made to the faculty of the Department of Atmospheric Sciences and will be closed to the public. Students are evaluated based on organization, presentation, and scientific content

(https://atmos.utah.edu/_resources/documents/graduate_students/research_prospectus_pdf.pdf).

At the end of the spring semester of the first year of graduate study, the performance on the

Comprehensive Exam will be reviewed by the faculty of the Department of Atmospheric Sciences and each student will be placed in one of the following categories by majority decision of the departmental faculty:

- **Pass with Distinction:** The student may enter the Ph.D. program directly without completion of a M.S. thesis, but has the option to complete a M.S. degree if desired. We expect only a small percentage of M.S. students to Pass with Distinction. Typically these receive an A or A- in each core class, exceptional performance on both components of the Research Prospectus, and express a clear capability to conduct independent research during their first year.
- **Pass:** The student is encouraged to complete the requirements for the M.S. degree. Following a successful M.S. defense, the student may submit a petition to the Committee on Doctoral Advancement (CODA) for consideration of continuation toward the Ph.D. (see Section VI for details). Most M.S. students will receive a Pass.
- **Failure:** The student will be immediately dismissed from the graduate program unless: (1) the departmental faculty recommend by majority vote that the student be allowed to continue work toward a degree, *and* (2) the student successfully completes all remedial activities dictated by the majority vote of the committee prior to the commencement of the fall semester. Failure to satisfactorily complete the prescribed remedial activities in the allotted time frame will result in immediate dismissal from the graduate program.

Thesis Defense:

Students are required to complete and orally defend a M.S. thesis, except in rare, non-thesis option cases (see Section IV for details). In preparation for defense, a complete draft of the thesis must be submitted to the Supervisory Committee Chair at least three weeks prior to the defense, and to the remainder of the committee no later than two weeks prior (see also: <https://regulations.utah.edu/academics/6-201.php>). The final thesis format must adhere to University guidelines published by the University Thesis Office (<https://gradschool.utah.edu/thesis/>). University guidelines permit the use of an alternative thesis/dissertation format composed of chapters that are authored or co-authored by the student and are either published or suitable for publication in a peer-reviewed journal (see Section VIII for details). A student may wish to submit all, or a portion, of their thesis to the University Writing Center for assistance: (<https://gradschool.utah.edu/announcements/posts/2021/august/writingcenterresource.php>). In addition, a student may also submit a copy of their thesis to the Thesis Office (<https://gradschool.utah.edu/thesis/meet-with-an-editor.php> and <https://gradschool.utah.edu/thesis/manuscript-submission.php>) prior to the defense to check for potential formatting problems.

An oral defense must be scheduled with the Department Office; an abstract and title should be provided to the office several weeks in advance of the defense. Students should reference the Thesis Office deadlines (<https://gradschool.utah.edu/thesis/calendar.php>) to submit a defended manuscript when scheduling a defense date. After the public oral presentation, questions are fielded from the public. At the conclusion of the public participation, the committee will excuse the public and conduct further questioning on the thesis and related topics. A majority of the committee must recommend that the student has passed the defense. Once a student has successfully defended their thesis:

1. The thesis must be approved by all committee members
2. The student must format the thesis to meet the requirements of the thesis office at the Graduate School
3. The student must then send their thesis to the Department Chair, and submit the thesis to the Thesis Office for approval (<https://gradschool.utah.edu/thesis/manuscript-submission.php>).

Students should refer to the “Handbook for Thesis and Dissertations” at <https://gradschool.utah.edu/thesis/handbook/index.php> for instructions and details on acceptable formatting. No degree will be conferred until the Thesis Office issues a thesis release.

Student Access to Academic Information:

Once The Graduate School has approved the Supervisory Committee, the student can view their Electronic Graduate Record File online. Students can access their graduate student record by logging into Campus Information Services (<https://portal.app.utah.edu/>) and clicking on Graduate Student Summary under the Graduate Student section.

Time Constraints:

A detailed M.S. Thesis Completion Calendar is available to students at https://atmos.utah.edu/resources/documents/graduate_students/MS%20Timeline.pdf. This calendar contains a timeline of all the events that must take place for students to graduate with a M.S. degree. All work for the M.S. degree must be completed within four consecutive calendar years. On recommendation of the student’s Supervisory Committee, The Graduate School can modify or waive this requirement in meritorious cases.

IV. Academic Requirements for the M.S.: Non-Thesis Option

In rare instances, a student may be allowed to pursue a non-thesis M.S. option. This requires completion of a Program of Study that is approved by the M.S. Supervisory Committee and Department Chair. A project or exam will be given as advised by the Supervisory Committee; this exam date must be entered into the Electronic Graduate Record File by the Department Office and approved by the Supervisory Committee Chair no later than the last day of the semester in which the student expects to graduate.

V. Committee on Doctoral Advancement (CODA)

The goal of the CODA is to provide an independent assessment of the potential for a student to obtain a Ph.D. degree. The CODA consists of three members appointed by the Department Chair for each CODA application. All CODA members must be tenure-line faculty members in the Department of Atmospheric Sciences. In addition, no CODA member can be a member of the student's M.S. committee or the Department Chair.

Students who complete a M.S. in the Department of Atmospheric Sciences at the University of Utah may petition for admittance to the Ph.D. program after their thesis is submitted to the Graduate School. The student can be admitted directly to the Ph.D. program if the student’s M.S. Supervisory Committee, the Director of Graduate Studies, and the Department Chair all recommend the student be admitted to the Ph.D. Program. At this point, a formal offer letter of admission to the Ph.D. program will be sent to the student. If there is disagreement among the student’s M.S. Supervisory Committee, the Director of Graduate Studies, and/or the Department

Chair, the student's application to the Ph.D program will be sent to CODA for further evaluation. Students with M.S. degrees who wish to waive the Core Class requirement can also apply to CODA.

M.S. students who have received a "Pass" on the Comprehensive Exam and wish to continue in the Ph.D. program may initiate the CODA process after full acceptance of the M.S. thesis by the M.S. committee; students who receive a "Pass with Distinction" do not need to go through the CODA process.

For consideration, the following materials must be submitted to the Department in electronic form:

1. M.S. thesis;
2. Curriculum vitae;
3. Copies of any papers or conference preprints the student has authored or coauthored;
4. A cover letter indicating the student's desire to be considered for acceptance into the Ph.D. program. This letter should summarize the student's motivation and credentials.

Upon submission of a CODA application, letters of recommendation will be solicited from the M.S. Supervisory Committee members. The CODA then has 14 days to reach a majority decision to determine if a M.S. student is eligible for continuation in the Ph.D. program. In cases when a student CODA petition is not successful, the CODA Chair will provide a written summary of the decision rationale to the Department Chair. At the conclusion of the CODA process, the Department Chair will communicate the results to the student and their faculty advisor.

Students entering the program with a thesis-based M.S. in atmospheric sciences or closely related field from another regionally accredited U.S. college or university, or recognized equivalent from a similarly accredited international college or university, may be nominated by a faculty member to be evaluated by CODA for the waiver of the Core Class requirement. The CODA evaluation in this instance involves a process similar to above except that the nomination must be initiated as early as possible in order to meet Graduate School deadlines; efforts should be made to initiate this process 120 days prior to the start of entering the Ph.D. program. Students may reapply to the CODA when they have significant additional scholarly credentials (i.e., publications) to present.

VI. Academic Requirements for the Ph.D.

Program of Study:

Students are expected to work with their Supervisory Committee to develop a detailed Program of Study that provides the student with the necessary theoretical framework for their specific research topic. Program of Study forms are available from the Departmental Office and at: https://atmos.utah.edu/_resources/documents/graduate_students/phd_program_request_form.pdf

A signed Program of Study form must be submitted to the Department Office prior to the end of the first semester of graduate study. The Program of Study must meet the University requirements for the Ph.D. including:

1. A minimum of three full years (six semesters) of committee-approved graduate work (i.e., courses numbered 5000 or above). Course work used for an M.S. Program of Study may not be used to fulfill the University requirements for the Ph.D.;
2. A minimum of 14 semester credit hours of Thesis Research (ATMOS 7970);
3. At least one year (two consecutive semesters) of the Ph.D. program must be spent in full-time academic work (i.e., at least 9 semester credit hours if taking courses or 3 semester credit hours if only taking Thesis Research) at the University of Utah to fulfill the full-time registration requirement; and
4. An overall GPA of 3.0 or higher.
5. A grade below C- is not accepted toward a graduate degree.
6. Students are strongly encouraged to attend departmental seminars (ATMOS 7810) throughout their entire time as a graduate student.

Registration:

A typical student should register for the following; deviations from this schedule should be approved by the student's Supervisory Committee.

	Fall Semester	Spring Semester	Summer Semester
Each Ph.D. year	<p>≥ 9 credits hours:</p> <ul style="list-style-type: none"> - electives* and/or ATMOS 7970 thesis research (≥9) 	<p>≥ 9 credits hours:</p> <ul style="list-style-type: none"> - electives and/or ATMOS 7970 thesis research (≥9) 	3 credit hours of thesis research (discuss with advisor for approval)
Total thesis research (7970)	≥ 14		
Total coursework credits	Consult with Supervisory Committee		
Total credits	See Program of Study requirements above		

*courses outside of the Atmospheric Sciences Department may incur differential tuition (<https://health.utah.edu/nutrition-integrative-physiology/degrees/coordinated-masters/tuition-%26-fees>)

Supervisory Committee:

Unless otherwise approved by the Department Chair, a Supervisory Committee must be appointed during the first semester of the student's residency. Ph.D. supervisory committees

consist of five members, the majority of whom must be tenure-line faculty in the student's major department. One member of the supervisory committee must be from outside the Department. One member of the supervisory committee must be from outside the Department. All University of Utah faculty members including tenure-line, career-line, adjunct, visiting and emeritus are eligible to serve as Supervisory Committee members. The members must hold an academic or professional doctorate, the terminal degree in the relevant field, and/or must have demonstrated competence to do research and scholarly or artistic work in the student's general field. Persons not affiliated with the University of Utah may also serve as committee members upon approval of the Dean of The Graduate School (a vita for the proposed committee member must accompany each request). Immediate family members are not eligible to serve on a student's Supervisory Committee.

Exceptions to these guidelines must be recommended and justified by the Director of Graduate Studies and approved by the Dean of The Graduate School. The two most common exceptions include a career-line faculty member serving as a Supervisory Committee Chair and two career-line faculty members serving on a Supervisory Committee chaired by a tenure-line faculty member.

Selection of the Supervisory Committee members should be made in consultation with the student's faculty advisor. The Ph.D. Program of Study/Supervisory Committee form may be obtained from the Department Office, and at: https://atmos.utah.edu/resources/documents/graduate_students/Ph.D._program_request_form.pdf. Once the Department Office has received the signed Ph.D. Program of Study/Supervisory Committee form and it has been approved by the Department Chair, an Electronic Graduate Record File will be generated and forwarded to The Graduate School for approval. The committee is responsible for approving the Program of Study, evaluating the Research Prospectus, and judging the Ph.D. dissertation and defense.

Each student must establish and meet with a Supervisory Committee during the first semester of their Ph.D. program to complete a proposed Program of Study. Typically, this involves the selection of elective courses needed for disciplinary breadth and research specialization and the development of a timetable for initial research and completion of the Doctoral Qualifying Examination. Students are then required to meet with their Supervisory Committee at least once per academic year until completion of the program to review research progress and update their Program of Study. A Committee Meeting Form must be filed with the Department Office following at least one committee meeting per year; it is the responsibility of the Committee Chair to summarize the student's progress toward degree on the form, collect signatures from Committee Members and the student, and submit the form to the office. An effort should be made to hold one of these required meetings approximately 6 months prior to the thesis defense. Supervisory committee meetings for the Doctoral Qualifying Exam and Ph.D. dissertation defense meet this requirement in the years they are completed.

Doctoral Qualifying Examination:

No later than two years after admission to the Ph.D. program, students must pass a Doctoral Qualifying Examination that is designed to test the student's specific knowledge and ability in the focused area of their Ph.D. research. In general, the student will prepare a written dissertation research proposal of approximately 8000 words that will be delivered to the Ph.D. Supervisory Committee for review a minimum of 14 calendar days before the exam date (by unanimous consent, the committee may elect to reduce this time period). During the exam, a 30-

45 minute oral presentation will be given by the student to the Supervisory Committee members. This presentation will be followed by a question-and-answer period. In some cases, a supplemental written component of the Doctoral Qualifying Examination may also be administered. This is at the discretion of the Supervisory Committee members. This written component should be administered after the student has submitted the written formal proposal and before the oral portion of the Doctoral Qualifying Exam. Results of the supplemental written exam, if administered, will be available for review by all the committee members. The outcome of the Doctoral Qualifying Examination is gauged by the majority vote of the Supervisory Committee members. In the event that a student does not pass the Doctoral Qualifying Examination, a written summary of the rationale for the majority decision must be provided to the Departmental Chair by the chair of the Supervisory Committee within 14 days of the decision. Failure to successfully complete a Doctoral Qualifying Examination within the specified time-frame may result in dismissal from the Ph.D. program.

Dissertation Defense:

Students are also required to complete and orally defend a Ph.D. dissertation. The dissertation must provide evidence of originality, an ability to do independent investigation, and it must contribute new knowledge. The dissertation must also show a mastery of the relevant literature and be presented in an acceptable style.

In preparation for defense, a complete draft of the dissertation must be submitted to the Supervisory Committee Chair at least three weeks prior to the defense, and to the remainder of the committee no later than two weeks prior (see also: <https://regulations.utah.edu/academics/6-203.php>). The final thesis format must adhere to University guidelines published by the University Thesis Office (<https://gradschool.utah.edu/thesis/>). University guidelines permit the use of an alternative dissertation format comprised of chapters that are authored or co-authored by the student and are either published or suitable for publication in a peer-reviewed journal (see Section VIII for details). A student may wish to submit all, or a portion, of their thesis to the University Writing Center for assistance:

(<https://gradschool.utah.edu/announcements/posts/2021/august/writingcenterresource.php>).

In addition, a student may also submit a copy of their dissertation to the Thesis Office (<https://gradschool.utah.edu/thesis/meet-with-an-editor.php> and <https://gradschool.utah.edu/thesis/manuscript-submission.php>) prior to the defense to check for potential formatting problems.

An oral defense must be scheduled with the Department Office; an abstract and title should be provided to the Office several weeks in advance of the defense. Students should reference the Thesis Office deadlines (<https://gradschool.utah.edu/thesis/calendar.php>) to submit a defended manuscript when scheduling a defense date. After the public oral presentation, questions are fielded from the public. At the conclusion of the public participation, the committee will excuse the public and conduct further questioning on the thesis and related topics. A majority of the committee must recommend that the student has passed the defense. Once a student has successfully defended their dissertation:

1. The dissertation must be approved by all members of the student's supervisory committee.
2. The student must format the dissertation to meet the requirements of the thesis office at the Graduate School
3. The student must then send their dissertation to the Department Chair, and submit the

dissertation to the Thesis Office for approval
(<https://gradschool.utah.edu/thesis/manuscript-submission.php>).

Students should refer to the “Handbook for Thesis and Dissertations” at <https://gradschool.utah.edu/thesis/handbook/index.php> for instructions and details on acceptable formatting. No degree will be conferred until the Thesis Office issues a thesis release.

Time Constraints:

A detailed Ph.D. Timeline is available to students at https://atmos.utah.edu/resources/documents/graduate_students/Ph.D.%20Timeline.pdf. This calendar contains a timeline of all the events that must take place for students to graduate with a Ph.D. degree. All work for the Ph.D. degree must be completed within seven consecutive calendar years from the date of matriculation into the program regardless of whether students enter with a bachelor’s or master’s degree. On recommendation of the student’s Supervisory Committee, The Graduate School can modify or waive this requirement in meritorious cases. However, students whose studies have been interrupted for long periods and who have been granted an extension to complete their degrees may be required to complete additional courses, pass examinations, or otherwise demonstrate that they are current in their field.

VII. Alternative Format Dissertation

The traditional dissertation is a long monograph that does not typically lend itself to direct publication in the atmospheric sciences literature. In practice, most students publish papers while working toward their degree and desire to publish additional research shortly after defending their dissertation. For this reason, students may choose to prepare an alternative format dissertation composed of chapters that are authored or co-authored by the student and are either published or suitable for publication in a peer-reviewed journal.

Such a dissertation must still meet University requirements and could be organized as follows:

1. A general abstract that covers all components;
2. An acknowledgements section that recognizes funding sources and includes any required disclaimers;
3. A general introduction that contextualizes existing knowledge in the field, highlights the scientific and in some instances historical or societal significance of the research, and clearly defines the meaningful problem or problems addressed by the doctoral work;
4. Chapters that are individually formatted like a research article (e.g., abstract, intro, data and methods, results, conclusions, references) and contain either previously published material or material intended for future publication and potentially co-authored with other scientists;
5. A conclusion that integrates the most significant findings of the dissertation research and presents recommendations for future work; and
6. An optional appendix summarizing additional professional accomplishments of the student including publications not included in the dissertation, field program experience, etc.

Chapters containing previously published material must acknowledge co-authorships and collaborations and, if the copyright has been transferred (e.g., articles published in American Meteorological Society, American Geophysical Union, or Royal Meteorological Society journals), permission to duplicate copyrighted material with the required copyright statement.

Students are also required to obtain releases from any coauthors (see <https://gradschool.utah.edu/thesis/forms.php>).

The number of papers that should be included in each dissertation varies depending on the discipline, quality, and originality of the research, as judged by the Supervisory Committee. In addition, the entire dissertation, including previously published peer-reviewed work, is subject to review by the Supervisory Committee.

VIII. Criteria for Dismissal from the Program

M.S. students may be dismissed from the program for failure to achieve any of the following:

- Maintain a minimum GPA of 3.0;
- Earn a passing grade or better on the Comprehensive Exam;
- Officially register documentation of a Supervisory Committee and Supervisory Committee Chair by the end of the second semester as a M.S. student;
- Continuously maintain an official advisor and Supervisory Committee through completion of the program; and
- Make acceptable progress toward the degree as determined by the Supervisory Committee, as documented through annual committee meetings.

Ph.D. students may be dismissed from the program for failure to achieve any of the following:

- Maintain a minimum GPA of 3.0;
- Officially register documentation of a Supervisory Committee and doctoral advisor by the end of their second semester as a doctoral student;
- Continuously maintain an official advisor and Supervisory Committee through completion of the program;
- Pass the Doctoral Qualifying Exam by the end of their second year in the doctoral program; and
- Make acceptable progress toward the degree as determined by the Supervisory Committee, as documented through annual committee meetings.

In addition, any student engaging in academic, behavioral, or professional misconduct as defined in the Student Code (<https://regulations.utah.edu/academics/6-400.php>) may be immediately dismissed from the graduate program. Students should be aware that the Student Code also specifically enumerates student rights and responsibilities.

IX. Additional Registration Requirements:

- **Full time enrollment:** In order to be enrolled full time (<https://catalog.utah.edu/#/policies?group=Registration&bc=true&bcCurrent=Registration&bcItemType=policies>), graduate students must be registered for 9 credit hours of coursework, or, after meeting the residency requirement, 3 credit hours of thesis research.
- **Continuous registration requirement:** All graduate students must be registered for at least one course (each fall and spring semester) from the time of formal admission

through completion of all requirements for the degree they are seeking, unless granted an official Leave of Absence (see section “University Leave of Absence” below). For the purposes of this continuous registration requirement (<https://gradschool.utah.edu/navigating-grad-school/graduate-policies/registration.php>), The Graduate School accepts any graduate level course (5000-6000 level for masters; 5000-7000 level for doctoral) that awards one or more credits. Note that if a student is not registered for at least 3 summer semester credits, FICA taxes will be withheld from summer earnings.

- **Semester of defense exceptions:** A student defending their thesis must register for at least one course of at least one credit during the semester in which they defend (i.e., fall, spring, or summer).
- **International students:** There are minimum credit requirements in which international students must be enrolled in order to maintain their student visa status (<https://iss.utah.edu/current-students/students-f1-and-j1/f-1-students/maintaining-status/full-time-enrollment/index.php>).
- **Tuition benefit program (TBP):** There are additional registration requirements associated with remaining eligible for the tuition benefit program (see Section X Financial Assistance section below).

University Leave of Absence:

Unless granted a leave of absence, students are expected to be registered to meet continuous registration requirements (detailed above). The Graduate School determines policies for Leaves of Absence, including for example parental leave:

(<https://gradschool.utah.edu/navigating-grad-school/graduate-policies/registration.php>).

Officially admitted, domestic graduate students who have registered for, and completed, at least one semester of their designated program may apply for a University Leave of Absence to postpone their studies for up to one year. Students who wish to discontinue their studies for one or more semesters (other than summer term) must complete a Graduate Student Request for Leave of Absence form (<https://registrar.utah.edu/handbook/leave.php>). The form must be approved and signed by the Supervisory Committee Chair and Department Chair and then be forwarded to the Dean of The Graduate School for approval. The period during which a Leave of Absence is granted does not count toward the period allowed to complete the degree.

- **Form requesting leave of absence:** <https://registrar.utah.edu/handbook/leave.php>
- **International:** In addition to the above, international students on a F1 or J1 visa must obtain permission from International Student & Scholar Services prior to submitting a Leave of Absence application:
<https://iss.utah.edu/current-students/students-f1-and-j1/f-1-students/leave-of-absence/index.php#:~:text=The%20Leave%20of%20Absence%20allows,NOT%20the%20Ostudent's%20immigration%20record>

Departmental Leave of Absence:

Graduate students, eligible for a Leave of Absence as described above, who desire a leave that is shorter than one semester, may apply for a Departmental Leave of Absence of up to 8 weeks. The Departmental Leave of Absence form may be obtained from the Departmental Office. It must be signed by the student, the Supervisory Committee Chair, and the Department Chair and will only be approved for circumstances recognized by the Graduate School (<https://gradschool.utah.edu/navigating-grad-school/graduate-policies/registration.php>).

Students on a Departmental Leave of Absence must maintain registration as described in the Continuous Registration Requirement section above to avoid potential loss of their student status and associated tuition and health insurance benefits. In some circumstances, it may be necessary for students on a Departmental Leave of Absence to be placed on a short work break resulting in unpaid leave. Students are advised to consult with the Department Office before deciding on the length of the short work break because students must earn a minimum threshold salary during the semester to maintain eligibility for the TBP. Failure to maintain TBP eligibility could result in a student being required to pay for their own tuition and health insurance. Students taking a Departmental Leave of Absence during a semester will be provided reasonable accommodations with regards to missed coursework within the Department. Ph.D. students taking a Departmental Leave of Absence will be allowed to delay the Doctoral Qualifying Examination by one semester.

Parental Leave of Absence:

In the case of parental leave, the department will provide financial support to such students for a period of 12 weeks following birth or adoption. Parental leave support will be granted to a single principal caregiver, no more than once per child, and no more than twice per caregiver. To facilitate department planning, applications for this benefit should be submitted to the Atmospheric Science Office no later than 3 months prior to the anticipated date of birth or adoption, with normal allowances being made for the actual date. Students should follow the Graduate School “Leave of Absence” form procedure linked above, in addition to notifying the Department.

X. Financial Assistance

A graduate research assistantship (GRA) is normally offered to students who are admitted to the program. The GRA typically includes tuition coverage, subsidized student health insurance benefit plan (<https://studenthealth.utah.edu/insurance/>), and financial compensation that is competitive with other Atmospheric Sciences graduate programs. Continuing financial support is conditional on satisfactory student performance and availability of funds.

The Tuition Benefit Program:

Most graduate students are eligible to participate in the Tuition Benefit Program (TBP) and will generally not pay tuition costs while eligible for TBP benefits (see <http://gradschool.utah.edu/tbp/tuition-benefit-program-guidelines/> and <https://gradschool.utah.edu/funding/tbp/faq.php>). The Graduate School limits the number of semesters and credit hours for which a student can be covered by TBP. Once the TBP eligibility has been exhausted, the student may be responsible for paying tuition and health insurance on their own, unless an alternative arrangement can be negotiated with their faculty advisor. Students who wish to continue voluntary health insurance after their TBP eligibility has been exhausted can explore their options at <http://gradschool.utah.edu/tbp/insurance-information/> and <http://www.uhcsr.com/utah>.

Residency Status:

Domestic (out of state) students should apply for residency after they have accumulated at least 40, but less than 85 enrolled student credit hours (sometimes referred to as “the 84 hour rule”; <https://gradschool.utah.edu/funding/tbp/guidelines.php>). Domestic students should become a

resident of Utah and submit an application for resident reclassification by the term deadline to the Admissions Office, otherwise they may be responsible for non-resident tuition. A complete set of guidelines for residency reclassification can be found at <http://admissions.utah.edu/apply/residency/>. Specific steps that must be taken to be reclassified as a resident include obtaining a Utah driver's license, Utah voter registration, and Utah car registration if operating a vehicle in Utah. In addition, these ties must be established at least three (3) months (90 days) prior to the first day of class for the academic term for which resident student status is requested (see Board of Regents Policy R512, Creating Utah Domicile, for more detail, at: <https://admissions.utah.edu/information-resources/residency/all-residency-policies-exceptions/>). Domestic students who do not obtain residency status with the University of Utah before they reach 85 cumulative enrolled credit hours will be billed for tuition at the non-resident rate.

XI. Changes in Guidelines

Policies and procedures may have changed since this document was approved. Check with The Graduate School web page (<https://gradschool.utah.edu/>) and the Department Office for the most recent rules.

XII. Safety and Wellness

Your safety is our top priority. In an emergency, dial 911 or seek a nearby emergency phone (throughout campus). Report any crimes or suspicious people to 801-585-2677 (801-585-COPS); this number will get you to a dispatch officer at the University of Utah Department of Public Safety (DPS; <https://publicsafety.utah.edu/>). If at any time, you would like to be escorted by a security officer to or from areas on campus, DPS will help — just call at 801-585-2677.

The University of Utah seeks to provide a safe and healthy experience for students, employees, and others who make use of campus facilities. In support of this goal, the University has established confidential resources and support services to assist students who may have been affected by harassment, abusive relationships, or sexual misconduct. A detailed listing of University Resources for campus safety can be found at <https://registrar.utah.edu/handbook/campussafety.php>.

Your well-being is key to your personal safety. If you are in crisis, call 801-587-3000; help is close. Students are encouraged to reach out to the Office of the Dean of Students, which can help connect students to various campus support resources (<https://deanofstudents.utah.edu/>). The university has additional excellent resources to promote emotional and physical wellness, including the Counseling Center (<https://counselingcenter.utah.edu/>), the Wellness Center (<https://wellness.utah.edu/>), and the Women's Resource Center (<https://womenscenter.utah.edu/>). Counselors and advocates in these centers can help guide you to other resources to address a range of issues, including substance abuse and addiction.