

Meteorology

Graduate Student Handbook

2000-2001

Iowa State University
College of Liberal Arts & Sciences
Department of Geological & Atmospheric Sciences

Rev. 08-28-00

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General Information

This handbook is a guide to the graduate program in Meteorology within the Department of Geological and Atmospheric Sciences and provides requirements related to M.S. and Ph.D. programs, departmental procedures and standards, and financial support.

Admissions Requirements

Requirements for full admission in Meteorology are as follows:

1. Three letters of recommendation. Letters should be from instructors or employers familiar with your academic abilities, at least two letters should be from persons in your major field.
2. A minimum TOEFL score of 530 for non-English speaking applicants. Applications will not be processed until the Department receives this score.
3. Statement of purpose describing research interests and future plans. Potential faculty mentors should be identified. Students will be admitted into the graduate program *only* if a faculty member agrees to serve as mentor.
4. Applicants with background deficiencies in the chosen areas of graduate study may be admitted on a provisional basis. Students may be granted full admission status upon overcoming the deficiency and subject to approval by the Atmospheric Science faculty and the Graduate College (usually after one or two semesters).
5. The Graduate Records Examination (GRE) for the verbal, quantitative and analytical areas are highly recommended but not required.
6. Students entering the Ph.D. program must have an M.S. degree from a U.S. or Canadian University. Otherwise the student will be enrolled in the M.S. program.
7. Students must petition for formal enrollment in the Ph.D. program. The faculty will review petitions and notify students in writing of their decision. For successful petitioners, the letter of acceptance will include tentative dates for taking the Ph.D. Preliminary Examination.
 - (a) Continuing students in the Meteorology graduate program who complete an M.S. degree will petition by sending to the Professor-in-Charge a brief memo (one or two sentences) requesting Ph.D. enrollment. The petition must be submitted within three months after their M.S. advisor signs documents signifying successful completion of all M.S. degree requirements.
 - (b) For students entering the Meteorology graduate program after completing an appropriate M.S. elsewhere, their application for admission will be considered the petition.

Graduate English Requirements

Requirements for Native Speakers

All degree-seeking graduate students who are native speakers of English must pass the Graduate English Examination requirement (established by the Graduate College) by taking a machine-scored test of English grammar, usage and punctuation before completion of 12 semester hours of graduate work. Performance on the test determines whether a student must take a writing proficiency test. The Graduate English requirement must be met to be advanced from restricted or provisional admission to full admission.

Requirements for Non-Native Speakers

Graduate students whose native language is not English and who do not have a bachelor's degree from ISU must take the English Placement Test at the beginning of their first semester of enrollment in lieu of the Graduate English Examination. This test is required by the Graduate College and is administered by the Department of English. It must be taken in addition to the TOEFL (Test of English as a Foreign Language), which is taken as part of the admissions process. A student who does not pass this examination is assigned to one or more courses in the English 101 series. This course work must be completed during the first year of graduate study.

Graduate students whose native language is not English, but who have an undergraduate degree from ISU, must take the Graduate English Examination for International Students (also administered by the Department of English) at the beginning of their first semester of graduate work. Students who do not pass the test must complete English 101D during their first year of study.

Expectations of Writing Standards for Dissertations, Theses, and Creative Components

A dissertation, thesis, or a creative component submitted as partial requirement for the M.S. and Ph.D. degrees is expected to be professionally written and of quality expected for publication in a leading scientific journal. It is the responsibility of the student to ensure that drafts of the dissertation, thesis, or creative component be of a high standard; it is not the duty of the major professor to correct poorly written drafts. The Writing Center (English Department, 418 Ross Hall, phone number 4-5411) offers free tutoring for students whose first language is not English and for students needing improved writing skills. The Thesis Office (Graduate College, 207 Beardshear, phone number 4-2666) provides a list of people whom graduate students can hire to do word processing, formatting and editing. Graduate students in the English Department can sometimes be hired to do thesis, dissertation, or creative component editing. The easiest way to find one of these students is to post a message in the English Department by e-mail. Ph.D. students in Rhetoric and Professional Communication will be the most qualified and can be reached at engl-phd@iastate.edu. To reach all graduate students in English, mail to engl-mas@iastate.edu or engl-nonta@iastate.edu.

Academic Standards

Graduate students failing to maintain a cumulative 3.0 grade point average on all course work taken, exclusive of research credit, are placed on academic probation by the Graduate Dean. Grades earned by graduate students in undergraduate courses are included in calculating the grade point average.

A student on academic probation cannot be admitted to candidacy for a degree and usually will not be appointed to an assistantship. The Graduate College places a hold on future registration pending a review by the Department each semester on probation.

A student must complete all courses listed on the Program of Study with a "C" (2.0) or above and have an overall 3.0 average, unless an exception is recommended by the student's committee and approved by the Graduate Dean, before being approved for graduation.

In order to remain eligible to receive financial aid from student aid programs, a student must meet both qualitative and quantitative academic standards. Qualitative standards refer to minimum expectations of academic performance in course work; quantitative standards refer to limits on the number of semesters in which enrollment is permitted in combination with a minimum number of credit hours to be earned per year. The Student Financial Aid Office can provide more details.

Guidance for New Students

Registration

Registration worksheets are available in 3010 Agronomy Hall for assistance in registering. Iowa State University offers three types of registration: web-based (through AccessPlus), touch-tone and walk-through registration. The first two are preferred because they save time, miles and signatures. The AccessPlus registration also has the advantage of displaying which course sections are available when courses start to fill. Details on registering, including the steps to follow, are available at the ISU web site under <http://www.public.iastate.edu/~registrar/registration/>.

Graduate students must obtain Registration Access Numbers (RANs) from their major professors prior to registering for each subsequent semester. AccessPlus and touch-tone registration end according to dates posted in the university calendar.

Office Space

New students are generally assigned a desk by the Professor-in-Charge.

Late Registration

For late registration (beginning on the first day of class), a Student Schedule form is required. The Student Schedule form (Appendix B) with signatures of the major professor and all instructors should be presented along with a \$20.00 late registration fee to 207 Beardshear and then to 10 Alumni Hall.

Photocopying

Students on research assistantships should obtain a photocopy account code from their major professor. All personal copying must be paid by the student in cash or on a personal copy code.

Add/Drop Slips

Students can use Touch-Tone Registration to process drops until the fifth day of classes. After the fifth day of classes, a Request for Schedule Change or Restriction Waiver (Add/Drop Slip) form (See Appendix C) is needed for any changes to the class schedule. A class is **not** automatically dropped because you do not attend lectures or laboratories. Add/Drop Slips require the signatures of the major professor, instructor and DEO/DOGE. A pass/no pass grading option is also offered. The Add/Drop Slip is used to designate this option. The pass/no pass option requires only the signature of the major professor. Forms are available in 3010 Agronomy Hall.

Temporary Major Professor

Students not having a major professor at the time of admission will be advised temporarily by the Professor-in-Charge or faculty member he so designates. A major professor should be selected during the first semester of enrollment.

Mail Boxes

All students will be assigned a mailbox in 3010 Agronomy Hall.

Travel Authorization

Students on assistantship who leave the state of Iowa during normal school session must fill out a Travel Authorization. Forms are available in 3010 Agronomy Hall.

Policy on Sexual Harassment

The Department of Geological and Atmospheric Sciences emphasizes and reaffirms its commitment to maintaining a working and learning environment free from sexual harassment.

Anyone who believes that she or he has been subject to sexual harassment may elect to proceed informally by bringing the complaint directly to the attention of an appropriate administrator, or by filing a complaint with the Affirmative Action Office. Students may obtain information about the University's sexual harassment policy and resolution procedures from the Dean of Student's Office, the Student Counseling Service, or the Women's Center.

Internet/E-Mail

Every Meteorology student must register for a Project Vincent account for e-mail and Internet access. The Department will send information at various times via electronic mail, so it is imperative that an account be established promptly after admission. Instructions for registering for an account can be obtained in the Departmental Office. New students should supply the Departmental Office their log-in user name (it should be something similar to: jsmith@iastate.edu) to ensure timely receipt of department notices.

Keys

Keys will be issued upon request of the major professor. The application for building, room and laboratory keys is completed in 3010 Agronomy Hall. Processing of key applications may take two days. Keys must be returned to the Key Issue Desk, Facilities, Planning and Management Building, prior to graduation. There is a \$5 fine per lost key.

F-1 and J-1 Credit Requirements

Note: This information is advisory. For definitive information, especially unusual circumstances, please consult the International Education Services office (IES, 4 Hamilton Hall, 294-1120)

International students with an F-1 or J-1 non-immigrant visa are required to maintain full time student status.

During Fall and Spring semester:

- ◆ All students are required to be enrolled for a minimum of 9 credit hours.
- ◆ If it is in the student's best interest to be enrolled for less than 9 credits, a 'short course load' form is to be completed. This form is available in the IES office.

During Summer semester:

- ◆ If the first semester the student is enrolled at ISU is Summer, the student is required to be enrolled for 5 credits. If it is in the student's best interest to take less than 5 credits, a 'short course load' form is to be completed. This form is available in the IES office.
- ◆ If the student has been enrolled during the previous semester, the student is not required to be enrolled during the Summer semester.

It is an ISU requirement that students on an assistantship register for at least 1 credit regardless of visa type or semester.

Graduate Courses in Meteorology

Course #	Course Title	Sem. of Offering
504	Global Change	S
505	Biometeorology	S
507	Mesoscale Meteorology	S
511	Synoptic Meteorology	F
517	Mesoscale Laboratory	S
528	Atmospheric Physics	Alt. S
532	Instrumentation and Measurements	S
542	Physical Meteorology	Alt. F
543	Advanced Dynamic Meteorology I	Alt. F
544	Advanced Dynamic Meteorology II	Alt S
555	General Circulation/Advanced Dyn.	S
561	Geophysical Fluid Dynamics	Alt. F
590	Special Topics	F, S
605	Micrometeorology	Alt. F
699	Research	F, S

Program of Study (POS)

A POS Committee provides programmatic oversight for the graduate student and suggests courses necessary for a student's area of specialization. The POS Committee ensures departmental and University requirements are met. Students are encouraged to establish a POS Committee as soon as the major professor is selected by filing a Recommendation for Committee Appointment (Appendix D) with the Graduate College. The student normally forms a POS Committee by the end of the second semester of graduate study.

The POS is signed by the student, committee members, and the Director of Graduate Education (DOGE) for the Meteorology graduate major before being submitted to the Graduate College. When the Graduate College has approved the POS, one copy is returned to the student, one to the major professor, and one to the Department.

All changes in an approved POS must be made in writing to the Graduate College with the agreement of the student, major professor, and the Chair of the Department. Major changes, such as course substitution, changing from thesis to non-thesis, or vice versa, and deletion or addition of a declared minor, require POS Committee concurrence and the signature of the Director of Graduate Education (DOGE) and the Graduate College.

The following requirements have been established by the Graduate College and the Department of Geological and Atmospheric Sciences for membership of a POS Committee:

M.S.

- a. The POS Committee has at least three members.
- b. Two members are from the Meteorology faculty of the Department of Geological and Atmospheric Sciences and at least one member is from outside of the Department.
- c. All committee members must belong to the Graduate Faculty of the University.
- d. If a minor is being pursued by the student (e.g. Water Resources), a member of the advisory committee associated with the minor (see ISU General Catalog) must also be on the POS Committee.

Ph.D.

- a. The POS Committee has at least five members.
- b. All members of the POS Committee, including the major professor, must be members of the Graduate Faculty.
- c. At least three POS Committee members are from the Atmospheric Science (Meteorology) faculty of the Department of Geological and Atmospheric Sciences.
- d. One Committee member must be from outside the Department of Geological and Atmospheric Sciences.
- e. If a minor is being pursued by the student (e.g. Water Resources), a member of the advisory committee associated with the minor (see ISU General Catalog) must also be on the POS Committee

Degree Requirements in Meteorology

Evaluations and Examinations

Diagnostic entrance evaluation

The atmospheric science faculty will provide a diagnostic evaluation of all graduate students entering the M.S. and Ph.D. programs who do not have an M.S. degree in Meteorology from a US or Canadian institution. The purpose of this evaluation is to assess the level of understanding of fundamental meteorology at the senior undergraduate level in the following four areas: dynamic meteorology, thermodynamic and physical meteorology, synoptic meteorology, general meteorology. Before the student's first semester of enrollment, the faculty will evaluate transcripts, work experience, internships, and other evidence of academic and practical experience relating to these areas. The student may be interviewed by a committee appointed by the professor-in-charge to examine more fully the content of previous course work and experiences. The student should be prepared to submit samples of previous work (undergraduate thesis, term papers, problem solutions, research summaries, etc.) as supporting evidence of competence in the areas under evaluation.

On the basis of this evaluation, a set of required courses and experiences will be established for each student. This normally will consist of a specific set of undergraduate material, including parts or all of undergraduate courses and may include enrollment in undergraduate courses in mathematics, physics, computer science, or statistics. The student will enroll in Meteorology 490, with the number of credits determined by the faculty on the basis of the amount of required remedial work. At midterm of the first semester, the committee will meet to evaluate progress on mastering the remedial material and report to the student the performance expected through the remainder of the semester. At the end of the semester the committee will issue a letter grade on the student's performance in Meteorology 490. The student must earn B or better (not B-) in Meteorology 490 and in all courses required under the diagnostic entrance evaluation. A grade below B (B- or lower) in any remedial course (including Meteorology 490) may lead to dismissal from graduate enrollment.

Ph.D. Preliminary Examination

The Ph.D. preliminary examination provides an evaluation of the student's working knowledge of graduate course material and certifies that the student is suitably prepared to advance to the research component of the Ph.D. program. This examination covers dynamic meteorology and physical meteorology. Physical meteorology includes atmospheric radiation, cloud physics, convective processes, surface energy budgets, and global energy balance. Students must pass both a general dynamic/physical component and a component specific to each student's specialization that is determined in consultation with the major professor. Students will receive one of the following grades in each of these two areas: Pass, Provisional Pass, Fail.

Pass: indicates the student has sufficient working knowledge of this area to advance to the research component.

Provisional Pass: indicates the student has a deficiency in this area that can be remedied by means of a special arrangement, such as solving a collection of problems on a particular topic, doing special studies (such as a brief research paper) under one of the faculty, or grading problems in the particular class relating to the deficiency. Requirements for remedying this deficiency must be completed in the semester that the exam is taken.

Fail: indicates the student must terminate his or her Ph.D. program in Meteorology.

Course, Thesis, and Dissertation Requirements

M.S. students

* Course requirements for the M.S. degree include Mteor 542, 543, and 555 and six credits of additional graduate course work in Meteorology or Agricultural Meteorology. Students without prior synoptic meteorology course work must complete Mteor 511; other students must complete Mteor 507 or Agron 507. Mteor 511, 507 or Agron 507 may be counted in the six additional credits.

* All graduate students are expected to be participants in regular and special Meteorology seminars. Part of the grade for students enrolled in Mteor 699 will be determined by seminar attendance.

* Masters students must satisfactorily repair any deficiencies revealed by the diagnostic entrance evaluation.

* Upon completion of requirements prescribed by the diagnostic evaluation, the student, with help from the major professor shall prepare a thesis or creative component prospectus that outlines the research to be undertaken for the M.S. degree. The prospectus should be of sufficient depth and length to demonstrate that the student has read the scientific literature relevant to the problem, understands the nature of the problem and understands the computational and statistical procedures required to advance scientific understanding of the issue. This prospectus should be written in the style of a paper written to a scientific journal of the American Meteorological Society and will be submitted as an oral presentation to the POS committee for subsequent modification by the student.

* Upon completion of the research outlined in the prospectus as modified and approved by the POS committee, the student will write a thesis or creative component presenting research results in the form of a scientific paper suitable for submission to one of the major journals in the field. (Note that *formatting* of the thesis must follow guidelines set by the Graduate College.) The student also will defend his or her research in a final oral examination. The first part of this examination will be a public seminar on the thesis or creative component topic. This will be followed by a period in which the degree candidate will be examined in more detail by the members of the POS committee.

Ph.D. students

* Ph.D. students must satisfactorily repair any deficiencies revealed by the diagnostic entrance evaluation.

* Applicants for the Ph.D. program are expected to hold an M.S. degree from a US or Canadian university

* Course requirements for the Ph.D. degree include Mteor 542, 543, 544, 555, and 605 or equivalent courses (as determined by the faculty) and six credits of additional graduate course work in Meteorology or Agricultural Meteorology. Students without prior synoptic meteorology course work must complete Mteor 511; other students must complete Mteor 507 or Agron 507. Mteor 511, 507 or Agron 507 may be counted in the six additional credits.

* All graduate students are expected to be participants in regular and special Meteorology seminars. Part of the grade for students enrolled in Mteor 699 will be determined by seminar attendance.

* At the beginning of the third semester in the Ph.D. program, or at the discretion of the faculty, the student will take the preliminary written examination. Students must pass

both a general dynamical/physical component and a component specific to each student's specialization that is determined in consultation with the major professor.

* Upon passing both components of the Ph.D. preliminary written examination, the student, within one semester and with help from the major professor, shall prepare a dissertation prospectus that outlines the research to be undertaken for the Ph.D. degree. The prospectus should be of sufficient depth and length to demonstrate that the student has read the scientific literature relevant to the problem, understands the nature of the problem and understands the computational and statistical procedures required to advance scientific understanding of the issue. This prospectus should be written in the style of a paper written to a scientific journal of the American Meteorological Society and will be submitted as an oral presentation to the POS committee for evaluation and subsequent modification by the student.

* Upon completion of the research outlined in the prospectus as modified and approved by the POS committee, the student will write a dissertation presenting research results in the form of one or more scientific papers suitable for submission to major journals in the field. (Note that the *formatting* of the thesis must follow guidelines set by the Graduate College.) The student also will defend his or her research in a final oral examination. The first part of this examination will be a public seminar on the dissertation. This will be followed by a period in which the degree candidate will be examined in more detail by the members of the POS committee.

Minor in Meteorology

The department offers a minor in Meteorology which may be earned by completing a total of 15 credits of course work, including no more than 6 credits of 300 or 400 level meteorology along with any course numbered above 500. Courses must be chosen in consultation with a meteorology POS committee member.

Financial Support

Assistantships

Teaching assistantships (TA) are available from the Department on a competitive basis for students admitted on a full-time basis. A limited number of research assistantships (RA) are available from the research grants of individual faculty members. The current stipend for a 1/2-time TAs is \$10,000 per academic year. Additional RA support may be available during the summer.

A half-time teaching assistantship generally requires 20 hours per week of assistance in preparation, teaching, and grading for lectures and laboratories in undergraduate courses. To be eligible for a TA, a student must have very good teaching and English-speaking skills. Teaching duties are usually assigned by the Professor-in-Charge based on class schedules, previous experience, and consensus of the faculty.

Research assistantships are offered to students qualified to assist faculty members holding sponsored research grants. The work required of the RA generally leads to thesis or dissertation research.

Summer research assistantships may be available on a part-time or full-time level. Students on summer assistantships must register for at least one credit.

Additional support is normally provided for graduate students holding an assistantship. A student on full admission with a 1/4- or 1/2-time assistantship receives a Graduate College Scholarship credit equal to 1/4 or 1/2 of the resident tuition, respectively. Non-resident students on appointment normally receive a Tuition Scholarship equal to the difference between resident and non-resident rates, in addition to the Graduate College Scholarship. High quality applicants can be nominated by the Department to receive a Graduate College Premium for Academic Excellence (PACE) award during the time of admission. This award can be for one to three years and equals one-half of resident tuition each semester.

New students wishing to apply for financial assistance for the coming academic year should do so as early as possible but **before February 1** for the following Fall Semester. Offers of financial assistance will generally be made in early March, and acceptance or rejection of the offers by the prospective student is normally required by April 15.

A few appointments may become available during the academic year. Students graduating at mid-year who qualify for financial support may begin graduate study in the Department of Geological and Atmospheric Sciences in mid-year.

Benefits

Insurance: All C-base graduate assistants (TAs and RAs) receive single student medical insurance coverage free of charge under the ISU Student Health Insurance Plan. Coverage for hospital, accident expenses, surgical care and maternity care are included. For more information, please consult the Graduate Student Handbook prepared by the Graduate College and ISU Benefits Office (Room 16) in Beardshear Hall.

Holidays: All employees, regardless of appointment base, are not required to be at school during official holidays, which include New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and the Friday after Thanksgiving, Christmas, and two additional days each year determined by the President and ISU Administration.

Research Grants

Most students in Meteorology are supported by research grants held by individual faculty members. Because of the diverse nature of these grants and their funding agencies, there will be differences in duties of appointment and stipend levels. Term of appointment will follow the funding cycle of the grant.

Graduate Student Professional Advancement Grants (PAG)

PAGs are provided for ISU graduate students by the Graduate College and the Graduate Student Senate (GSS). Each graduate student is eligible to receive one Travel PAG and one Research PAG per fiscal year (July 1 through June 30). Each request must be approved by the major professor, Department Chair, and academic dean. It is recommended that applications be submitted as early in the Fall and Spring semesters as possible as funds are usually depleted by November 15 for the Fall funding period and April 1 for the Spring funding period.

Travel: Funds may be granted for attending a professional meeting, defined as a gathering of an organized society of professionals for the purpose of presenting research papers. PAGs may also be provided for attending professional workshops that provide "hands-on" experience not available at ISU. If the student will make an oral presentation of data generated at ISU at a professional meeting, the travel grant may be up to \$100; if the student is not presenting a paper, a maximum of \$75 will apply. After its separate review, the GSS may provide an additional \$12.50 per day for up to 4 days in actual attendance at the meeting (travel days are not funded). In addition, the GSS may provide an extra \$25 if a paper is being presented. Only one author per paper will be funded \$100.

Research: The Graduate College may provide one grant of up to \$200 per fiscal year for each graduate student. **PAGs are not for support of thesis or dissertation research.** Proposals may be submitted individually or as a collaborative project by two or more students. In the latter case each student is eligible for \$200.

Sigma Xi, Grants-in-Aid of Research

Sigma Xi provides partial support of master's and doctoral thesis research. Awards are made in amounts up to a maximum of \$1,000, although awards will not normally exceed \$600. In general, grants can be used for cost of travel, for room and board and travel in the field, and for other expenses directly related to the fulfillment of the research project. Applications are reviewed three times per year and must be received (not post-marked) by February 1, May 1, and November 1.

Faculty Research

T.-C. (Mike) Chen:

Dr. Chen's primary research covers a wide range of subjects: (1) intraseasonal to interdecadal variability of climate system, (2) global and regional hydrological and energy cycle, (3) tropical meteorology and monsoon, and (4) North-America regional climate including the scale-interaction between large scale circulation and low-level jet. These research efforts use not only the NCEP/NCA and NASA/GEOS reanalysis data, but also the global climate model and regional MM5 model developed at HCAR, and the Goddard global data assimilation system. The major funding sources of these research efforts are provided by NSF and NASA. Several graduate students, postdoc, visiting scientists and scientists from Goddard Space Flight Center, NCAR, and NCEP are involved in different tasks of my research activity.

William A. Gallus:

The research of Dr. Gallus primarily concerns improving weather forecasting through increased understanding and better modeling of mesoscale weather systems. The research includes incorporating nonhydrostatic dynamics into operational forecast models, and the use of such models to investigate the role of surface processes in the evolution of fronts and convective precipitation systems.

William J. Gutowski, Jr.:

Dr. Gutowski's research concentrates on the role of atmospheric dynamics in climate. Central focuses are the dynamics of the hydrologic cycle and regional climate. Because processes on a wide range of spatial and temporal scales are important for both of these, his research program entails a variety of modeling and data analysis approaches. Much of his work is with the Project to Intercompare Regional Climate Simulations (PIRCS), which he coordinates with Prof. Takle and Prof. Arritt (Agronomy Dept.).

Eugene S. Takle:

Dr. Takle's research program includes modeling weather and climate at the mesoscale and microscale. Mesoscale research problems include sensitivity of regional climate to land use and remote forcing. Turbulent flow through vegetation is simulated with microclimate models which present opportunities to evaluate the interaction of plants, soil, and atmosphere in heterogeneous agro-ecosystems.

Douglas N. Yarger:

The research of Dr. Yarger addresses the issues associated with integrating inquiry-based learning in the undergraduate geoscience classroom. In particular this research is exploring how to use Web technology to facilitate interactive, student centered education in authentic learning environments. Tools such as Java and VRML are being used to construct failure-driven learning-by-doing activities.

Meteorology Computer Lab Guide

General Rules and Suggestions

1. Food or drink is discouraged when using computers.
2. Please keep computer areas clean and orderly. Anything left lying around is subject to arbitrary removal or disposal.
3. Please maintain security. All rooms in the Agronomy building are on an automatic climate control. Please report cooling/heating problems to your major professor rather than opening windows.

Use of Computers

There are several different clusters of computers available for graduate student use in the meteorology area. Computers in 1010, 3128, and 3008 are available for general use when classes are not in session. During daytime undergraduates are given preference; however, they do not have access to these areas at night so after normal class hours these computers are available for graduate student use. Other computers are under the supervision of various faculty. Permission should be obtained before using these.

Appendix A - Touch-Tone Registration Worksheet

Appendix B - Student Schedule

Appendix C - Graduate College Change in Classification (Add/Drop Slip)

Appendix D - Recommendation for Committee Appointment

Appendix E - Program of Study

Appendix F - Request for Preliminary Examination

Appendix G - Request for Final Examination

Appendix H - Application for Graduation (Diploma Slip)

(Forms in these appendices are in 3010 Agronomy.)