

GEOSCIENCES GRADUATE PROGRAM
DEPARTMENT OF GEOSCIENCES

REGULATIONS AND PROCEDURES FOR
GRADUATE STUDENTS

February 2008

GENERAL REQUIREMENTS AND EXPECTATIONS OF THE GEOSCIENCES GRADUATE PROGRAMS (M.S. AND PH.D.)

Admissions Requirements	7
Program Overview	8
General Course Requirements for Completion of M.S. and Ph.D. Degrees	8
Exceptions from Course Requirements	9
Requirement for Science Communication Activity	11
Minor Fields	11
Concurrent Degree Program	12
Timelines for the Completion of Degrees	12
Financial Support	13
Annual Review of Progress	13
Curricular Groups	14

ADMINISTRATIVE AND ACADEMIC OVERSIGHT AND RESPONSIBILITY FOR THE GRADUATE PROGRAMS

General Oversight	14
Academic Research Advisors	15
M.S. Committees	15
Doctoral Advisors and Committees	16
The Official Student File	18

EXPECTATIONS FOR GRADUATE STUDENTS IN GEOSCIENCES

Academic Integrity	18
Course Schedule and Academic Progress	18
Academic Standing (M.S. or Ph.D.)	19
Duties of Graduate Assistants	19
Graduate School Guidelines Regarding Leaves for Graduate Assistants	20

REGISTRATION

Credit Loads	21
Completing Your Registration	21
Registration Near the Completion of the Ph.D. and M.S. Programs	21

M.S. DEGREE PROGRAM SPECIFIC REQUIREMENTS

M.S. Degree Requirements	22
Time to Completion for Master's Degree	22

PH.D. PROGRAM SPECIFIC REQUIREMENTS

Ph.D. Degree Requirements	23
Foreign Language Requirement	24
English Competency	24
Formal Oral Presentation	25
Candidacy Examination	26
Comprehensive Examination	29
Bypassing the M.S. Degree	29
Change of Status Following the M.S. Degree at Penn State	30
Students Admitted to Penn State with the M.S. Degree	30

M.S. AND PH.D. THESIS PREPARATION

The Thesis Proposal	31
Thesis Formats	31
Theses with Separate Research Chapters	31
Multi-Authored Papers	32
The State of the Thesis at the Time of the Final Oral Examination	32
Thesis Defense	33
Copies of the Thesis	34
Costs of Thesis Preparation	34

DUAL-TITLE PH.D. DEGREE PROGRAM IN ASTROBIOLOGY

34

EARTH SCIENCE DEGREES

36

GENERAL STUDENT SUPPORT AND BENEFITS

Financial Support for Graduate Students	36
The P.D. Krynine Memorial Fund	37
Health Insurance Benefit	38

RESOLUTION OF STUDENT CONCERNS

Departmental Ombudspersons	38
Sexual Harassment	39
Formal Resolution of Problems	39

FACILITIES AND SERVICES

Student Offices	39
Graduate Student Mail	40
Telephones	40
Conference Rooms	40

Office Supplies	40
Copy Machines	40
Keys to Student Offices and Laboratories	40
Motor Vehicle Regulations	41
Employment Services	41

GRADUATE STUDENT COMMITTEES

Selection/Election of Graduate Student Representatives	42
Graduate Program Committee Representative	42
Department Faculty Meeting Representatives	42
PSU Graduate Student Association Representatives	42
Department Colloquium Committee	42
Graduate Student Colloquium Committee	43
Activities and Events Committee	43
Computer Committee	43
Welcoming Committee For New Students	43
TGIF Committee	43

DEPARTMENTAL/RESEARCH LABORATORIES AND EQUIPMENT

General Laboratory Facilities	44
Computer Facilities	44
Safety Training	44
Rock Preparation Room	44

APPENDICES

M.S. and Ph.D. Thesis Format	46
Thesis Title Page	47
Permission to Copy Page	48
Masters Thesis Signatory Page	49
Graduate Student Committee Policies and Procedures And Committee Appointment Signature Form	50
Declaration of Multi-Authorship within a Thesis	52
Doctoral Thesis Signatory Page	53
eTD Approval Form/e-thesis Signatory Pages	54
Letter for Major Advisor	56
Letter for Thesis Committee	57
Change of Committee/Advisor	58
Candidacy Examination Form	59
Assessment of English Competency at the Candidacy Examination Form	60

INTRODUCTION

The M.S. and Ph.D. programs in Geosciences provide students with a strong background in a major area within the geological sciences and intensive research experiences, culminating in a formal thesis. The goal of the program is to prepare students for scientific careers in academia, government, or industry. The administration of the graduate programs follows the Guiding Principles for Good Practices in Graduate Education adopted by the Penn State Graduate School; these state:

Working relationships between faculty, staff, and students are an important component of graduate education at Penn State. The quality of these relationships can make or break the graduate school experience. The development of a positive learning environment depends on a shared vision of educational values, objectives, and expectations. *It is the joint responsibility of faculty, staff, and students to work together to nurture this vision, and to encourage freedom of inquiry, to demonstrate personal and professional integrity, and to ensure a climate of mutual respect.*

The following six principles are elements in a productive environment for graduate education at Penn State.

- **Understanding the work environment.** Faculty, staff, and students must each take the initiative to learn the policies, rules, regulations, and practices that affect them, their work, and the units in which they work. Graduate program handbooks, pertinent University publications, funding agency references, and other resources can typically be obtained from graduate program officers, the Internet, registered student organizations, department faculty, other students, faculty advisors, and thesis committee chairs.
- **Academic honesty, professional integrity, and confidentiality.** These qualities are the responsibility of all faculty, staff, and students. Each member of the graduate community must endeavor to adhere to the highest level of these ideals in all their personal and professional activities.
- **A clear course of study.** The student and his/her faculty advisor should develop and agree upon a clear plan of academic study and the responsibilities associated with it. Careful planning and discussion throughout a graduate program are the best ways to avoid later misunderstandings and problems.
- **An atmosphere of openness.** Students and faculty must work to establish and maintain an environment that is open, sensitive, and encourages free discussion between members of the graduate community. Clear, two-way communication is a critical ingredient in a successful graduate experience.
- **Acknowledgment of intellectual rights and property.** Students and faculty should discuss issues associated with academic freedom, intellectual property, authorship, and publication as part of the student's academic plan. Resolution of these issues early in the graduate program is often the best way to avoid later disputes.

- **Opportunities for evaluation.** Evaluation, reflection, and feedback are integral parts of the academic process. These items should be a regular part of every graduate program. Early, frequent, and constructive feedback help to prevent small differences from becoming serious problems.

While these six guiding principles are not exhaustive, they do reflect a spirit that can make the graduate education process at Penn State more rewarding and productive for everyone.

This “Blue Book” has been prepared within the spirit of these guiding principles. This book aims to provide graduate students in the Department of Geosciences with policies and procedures that relate to the graduate academic programs within the Department. The [Graduate School policies](#) are listed in the [Graduate Degree Programs Bulletin](#). It is the responsibility of the graduate students to familiarize themselves with the pertinent policies and deadlines of the Graduate School.

The Geosciences Graduate Programs are administered by the Associate Head for Graduate Programs and Research, Katherine H. Freeman, Professor of Geosciences, and Graduate Program Assistant, [Shari Walczak](#), who can be contacted for further information.

Kate Freeman
508 and 235 Deike
863-8177
kate@essc.psu.edu

Shari Walczak
507 Deike
863-7394
slw2@psu.edu

21 February 2008

GENERAL REQUIREMENTS AND EXPECTATIONS OF THE GEOSCIENCES M.S. and PH.D. PROGRAMS

Admissions Requirements

For admission, applicants generally are expected to have a bachelor's degree in some branch of the natural or physical sciences, engineering, or mathematics. An applicant also is expected to have completed standard introductory courses in geosciences, chemistry, physics, and mathematics through integral calculus, plus 15 credits of intermediate-level work in one or a combination of these subjects. Applicants who are admitted but have less than the minimum preparation in these subjects must make up their deficiencies prior to entry to the program. They may take such courses concurrently with their graduate studies, but this is not encouraged. Students with special backgrounds, abilities, and interests whose undergraduate grade-point average in courses pertinent to geosciences is below a 3.00 (on a 4.00 scale) will be considered for admission only when there are strong indications that a 3.00 average can be maintained at the graduate level.

Scores from the Graduate Record Examination (GRE) are normally required for admission. Requirements listed here are in addition to general Graduate School requirements stated in the General Information section of the [Graduate Bulletin](#).

Students are admitted either to the M.S. or Ph.D. degree program. A student may work toward a Ph.D. degree without first earning a master's degree.

Admission Portfolio Evaluation

Applicant academic portfolios are evaluated by the Admissions Committee, with input by faculty members within the relevant subdiscipline. *Our Goal is to admit students who show signs of future achievement as scientists and with high potential for success in our graduate programs.*

It is difficult to discern accurate predictors of future performance in most applicants because they simply have not had an exactly parallel experience. For example, we get a much better sense of student potential if they have successfully completed a graduate degree prior to applying to our program. For most of our applicants, we are left sifting through a myriad of inexact indicators for a signal that is larger than the general “noise” of human behavior and we must interpolate a trend from imprecise sampling of a student’s growth as a person and as a young scholar. In general, we are looking for the following abilities and attributes:

- Aptitude for solving quantitative, spatial and analytical problems
- Aptitude for clear and disciplined critical thinking
- Aptitude for written and oral communication
- Aptitude for learning
- Knowledge relevant to the (sub)discipline
- Drive, determination, and a passion for their work

We typically employ measures of these properties that are based on prior achievement:

- GRE scores, course grades and when available, research publications
- Written personal statements and other forms of communication (emails or letters)
- Prior research experience
- Endorsement by mentors
- Demonstration of a strong work habits

Faculty with experience as educators of graduate students can readily identify students who clearly promise success. These are individuals who have strong and well-rounded portfolios, with high achievement in all of the categories noted above and especially either undergraduate or MS research experience with a known and trusted colleague. However, there are students with top classroom grades that turn out to have a limited aptitude for research, and there are many cases where students have mixed academic performance prior to coming here, and then really shine as graduate students and go on to exemplary careers.

Program Overview

The graduate student experience involves coursework, teaching, and research. These help the student build his or her skills in observation, critical thinking, quantification, and presentation. They also lead to a depth of knowledge in a subset of the field, and a broad understanding of important problems and processes in the geosciences. Our goal is that our graduates are prepared for professional opportunities both at the time of graduation, and throughout their careers.

Because the Geosciences graduate program accepts students from widely different academic backgrounds, the graduate curriculum aims to provide commonality in the vernacular and key ideas at the core of the geosciences. The first-semester course (“Issues in Geosciences”) aims to increase camaraderie among students and to provide them with skills and background knowledge that prepare them to take advantage of the host of intellectual and educational opportunities at Penn State. The boundaries of geosciences are ever expanding, and our courses and training promote interdisciplinary inquiry as well as a foundation in the core of geosciences.

General Course Requirements for the Completion of M.S and Ph.D Degrees

All graduate students in Geosciences are expected to acquire breadth of knowledge in the geosciences, fundamental and advanced knowledge of their subdiscipline, and skills in the areas of data collection and quantitative analysis. Toward that end, all students must complete the **Geosciences Breadth** course Geosc 500, "Issues in Geosciences." In addition, students must select one approved course in each of the following areas (please see below for exemptions):

- **Disciplinary Fundamentals:** Courses that survey the discipline at the advanced level, building upon undergraduate coursework, while also providing fundamental knowledge required for other advanced, graduate-level courses.
- **Data Gathering/Interpretation:** Courses that develop skills in observation, data gathering, and interpretation in the field and/or laboratory.

- **Quantitative Analysis:** Courses that develop skills in the quantitative analysis of geosciences data and theories, including geostatistics, mathematics, numerical modeling and data analysis. The selection of courses does not include all courses that are “quantitative.” Rather it includes only those courses where quantitative analysis of data and theories is the primary emphasis.

A list of approved courses is available on the [Graduate Program website](#) and from the Department’s Graduate Program Office. The list of approved courses may be modified by approval of the Department’s Graduate Program Committee

The selection of advanced coursework will be at the discretion of the student, with advice from his/her advisor and thesis committee. In the initial advising session, the new student and the advising committee will discuss which, if any of undergraduate courses would be useful to the student in preparation for advanced coursework.

Exemptions from Course Requirements

There are some circumstances for which it may be appropriate for a student to petition for a waiver of one or more of these course requirements. Examples are:

- Ph.D. students with M.S. degrees: Graduate coursework at other institutions that has substantial overlap with any of the courses listed may be substituted for courses in the curriculum.
- Courses in other departments that meet the expectations of one of the categories above: This could include graduate-level statistics, time series, or modeling courses, or field or laboratory techniques courses.
- Students designing a truly hybrid degree program that involves substantial coursework from one or more departments outside of Geosciences.

Exceptions to the curriculum will only be granted in special cases, by petition. Petitions should be submitted before a course to be considered for substitution is taken. *Petitions should be submitted to the Graduate Program Office and must include:*

- a statement of justification written by the student
- a syllabus of the class the student would like to substitute for one of the required courses
- a statement of support from the advisor.

Special Case of Students Entering with a Completed M.S. Degree

Incoming students who have completed a M.S. degree in geosciences or a closely allied field may be advised upon entry to petition for exemption from either the curricular Data Gathering or the Quantitative Analysis requirements, depending on the nature of their M.S. research. It is recommended that students bring a copy of their M.S. thesis to the advising session with their assigned Initial Advisory Committee. The faculty advising team will recommend whether it is appropriate to make this petition.

Graduate Program Course Schedule
Dept. of Geosciences
Approved Courses for Graduate Curriculum

	Fall		Spring	
<i>Category</i>	<i>Course Number</i>	<i>Course Name</i>	<i>Course Number</i>	<i>Course Name</i>
Geosciences Breadth	Geosc 500	Issues in Geoscience		
Disciplinary Fundamentals	Geosc 548	Surface Processes	Geosc 533	Principles of Geochemistry
	Geosc 481	Solid Earth and Planetary Geophysics	Geosc 507	Seismology I
	Geosc 489	Dynamics of the Earth	Geosc 585	Sedimentary Geology
	Geosc 479	Advanced Stratigraphy	Geosc 502	Evolution of the Biosphere
	Geosc 518	Stable Isotope Geochemistry		
Data Gathering and Interpretation	Geosc 413W	Techniques in Environmental Geochemistry	Geosc 572	Field Stratigraphy
	Geosc 483	Environmental Geophysics	Geosc 410	Marine Biogeochemistry
	Geosc 511	Instrumental Techniques	Geosc 565	Tectonic Geomorphology
	Geosc 558	Multi-Channel Seismic Proc.	Geosc 508	Mechanics of Earthquakes and Faulting
Quantitative Analysis	E MCH 524	Mathematical Methods in Engineering	Geosc 561	Mathematical Modeling in Geosciences
	MNG 557	Comput. Geomech.	Geosc 560	Kinetics
	PNG 511 or PNG 430	Num. Sol'n PDE in Flow or Res. Modeling	PNG 425	Well Test Analysis
	STAT 500	Applied Statistics	Geosc 514	Data Inversion in Earth Sciences
	Geosc 597	Multivariate Analyses in Geosciences		

Revised 8/10/2007

REQUIREMENT FOR SCIENCE COMMUNICATION ACTIVITY

It is a higher obligation of those engaged in the pursuit of science at public universities to foster its use for the public good. It is a particular goal of our graduate program that we train the next generation of Geoscientists in skills necessary for the effective communication of scientific ideas to a broad audience. Science communication skills lead to both public and personal gain: by helping to maintain an informed citizenry and by providing essential tools for personal advancement and success in industrial, government and academic professions.

For M.S. students, the focus of their efforts should be on developing skills in communicating scientific findings and interpretations with other researchers. The department further encourages these students to begin to develop their science communication skills to a broader audience through teaching and outreach activities.

For Ph.D. students, the Department of Geosciences Graduate Program expects their participation in a meaningful and substantive science communication experience. This requirement can be satisfied by the following options:

Option 1

The teaching of a practicum section of an undergraduate course (i.e., serving as a Teaching Assistant in a lab course for one semester). Activities must include presentation and discussion of scientific ideas and active participation in the assessment of students. Serving as a “grader” does not satisfy this option.

Option 2

Completing a teaching or outreach module with educational activities involving a minimum of 9 hours contact time with persons who are not scientific experts (i.e., undergraduates, policy makers/public servants, industry management, K-12 students, etc.). The teaching or outreach module can be part of an organized program, or may be of the graduate student’s own design. In either case, the module should include mentorship by an experienced educator. This option requires approval of the Graduate Program Committee by means of a short written proposal that documents the nature of the educational activities, the targeted audience and plans for preparation and conducting the proposed activities.

For all graduate students, there is the additional requirement that they participate in the discussions and attend guest lectures associated with Geosc 500 (Issues in Geosciences), which will focus on a wide range of topics related to science communication, including for example, teaching and assessment tools, classroom management, broader impacts of science, ethics, integrated/interdisciplinary scholarship and issues related to diversity in education. It is the intent of this component of the Issues course that the students gain resources, mentoring and technical skills that will foster their abilities in science communication.

Minor Fields

The incorporation of a minor field in a graduate program is optional. A minor field may be recommended by the Doctoral Committee or included at the student's request. See the [Graduate Bulletin](#) for the credit requirements for a minor in the master's and doctoral programs.

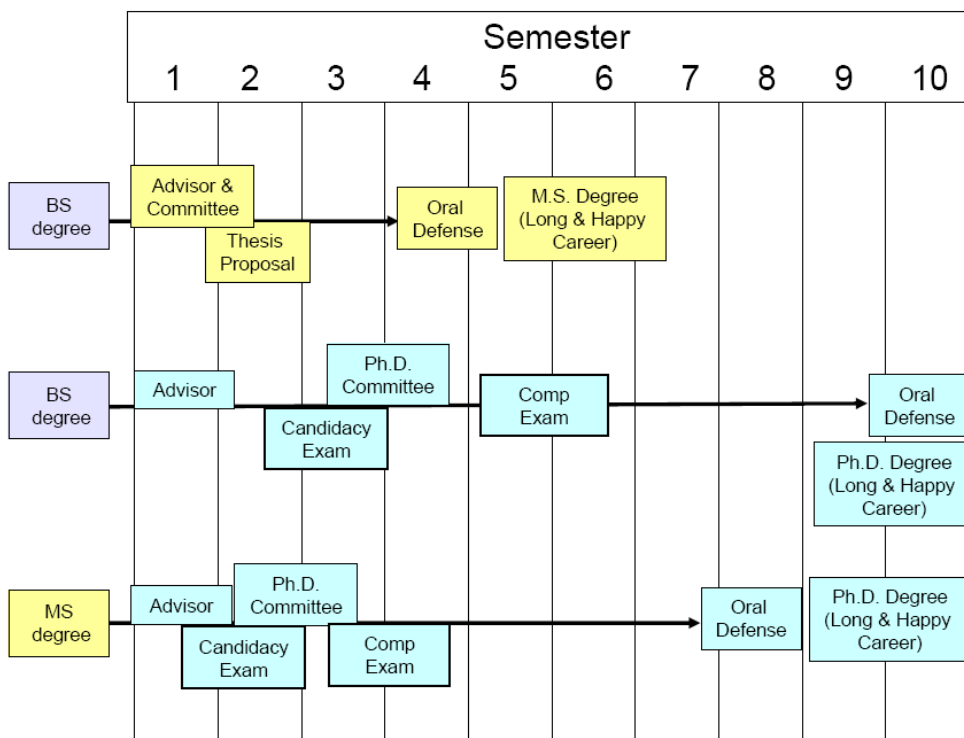
Concurrent Degree Program

A student may wish to design a program that leads to the awarding of two degrees. Normally such concurrent degree programs involve two M.S. degrees or a Doctorate in the major field and a Master's degree in a related field. Students who elect a concurrent degree program should contact the Graduate Programs Office of the Graduate School as well as the outside department as early as possible, and not less than one and one half years before they expect to receive their degrees. With the permission of the outside Department Head and Program Chair, and with the approval of the Graduate School, an advisor will be assigned in the outside field, and together with the student's principal advisor, a suitable course program will be worked out that satisfies the requirements of both degree programs. A maximum of 10 credits may be used in common to fulfill the requirements for both degrees. Two theses are required.

Timelines for the Completion of Degrees.

A flow chart showing normal academic progress is shown below. Graduate programs should require no more than 2 years of residence for the M.S. degree and 5 years for the Ph.D. degree.. Students entering the Department with the M.S. should complete their degree within 4 years. Students completing their M.S. within our department should aim to complete both degrees within 6 years.

Milestones in Geosciences Graduate Programs



Financial Support

It is the policy of the Department of Geosciences to provide students, to the best of its ability, limited financial support in the form of Teaching Assistantships. It is the expectation of the department that Ph.D. students will spend no more than 4 semesters on T.A. support, with the rest of their support coming from external funding such as research assistantships or fellowships. Students who enter a Ph.D. program having completed their M.S. within the department should expect no more than 6 semesters of departmental support total during their association with the department.

All requests for T.A appointments must be submitted in writing to the Grad Program Office. Requests will be evaluated by considering academic progress as documented by the Annual Review of Progress (see below). Students should discuss with the Associate Head any extenuating circumstances that prevent external funding, and/or have prevented good progress towards their degree. *Decisions regarding support will, in all cases, be based on the availability of funds, the number of semesters of previous departmental support, department teaching needs, student expertise, financial need, academic standing and progress towards degree.*

Annual Review of Progress

Every graduate student is required to submit a typewritten progress report in order to enable evaluation of their research and academic progress and to provide guidance for their activities in the coming year. The report should include the [Annual Progress Report](#) and a concise summary of achievements in study and research for the past year, and work planned for the coming year to fulfill the degree requirements. Students are asked to report any publications that have resulted from their research efforts. *The report should include timetable for meeting course requirements and degree program milestones in the coming year, and an estimation of when the degree requirements will be met. Failure to submit a report can lead to termination of financial support.*

The report should be submitted to the Research Advisor, and the student should schedule a meeting with their Thesis Committee to assess the student's progress towards the completion of the degree requirements. The following table list deadlines for student progress reports for the 06-07 academic year:

Student	Report Deadline
M.S.	Jan. 22, 2007
Ph.D. (pre comps)	April 2, 2007
Ph.D. (post comps)	Dec. 1, 2006

Students who have formally scheduled a thesis defense date are exempted from the requirement to submit an annual report.

The Associate Head will review reports and make a determination of progress. When progress is deemed unacceptable, reports will then be reviewed by the Graduate Program Committee, which

will recommend academic and financial consequences. The student will be informed of the results of the evaluation, and a copy will be placed in the official student file.

Curricular Groups

Curricular groups represent the major research subdisciplines in the Department and serve to review and update background and core courses in each subdiscipline. They are not intended to be mini-programs with administrative functions. Responsibilities for advising students rest with the Advisor and M.S./Ph.D. Committee, not with a Curricular Group.

ADMINISTRATIVE AND ACADEMIC OVERSIGHT AND RESPONSIBILITY FOR THE GRADUATE PROGRAMS

Updated August 19, 2005

General Oversight

The Department is administered by a Head and two Associate Heads, one for Undergraduate Programs and one for Graduate Programs and Research. Each Associate Head chairs a Program Committee, composed of elected faculty and student representation. In addition, an Executive Committee, composed of the Head, the two Associate Heads, the Department's Representative to the Diversity Council of the College of Earth and Mineral Sciences, and two elected at large faculty members, has responsibilities in faculty evaluation and in policy-making on a long-term basis.

The Associate Head for Graduate Programs and Research is responsible for administering the Graduate Program. Specific duties include certifying completion of degree requirements and approving final theses, assigning Teaching Assistants (with the Associate Head for Undergraduate Program), appointing Research Assistants (with project directors), assigning student offices, scheduling and developing graduate courses, appointing M.S. and Ph.D. committees, administering an annual review of student progress, administering admissions, and maintaining official student files. The Associate Head also has responsibilities in coordinating and administering research proposals, facilities, and equipment.

The Graduate Program Committee has important oversight functions in advising the Associate Head, approving appointments to committees, awarding or recommending fellowships, monitoring the annual review of student progress, and in serving as an appeals board, for faculty and students, on academic decisions of the Associate Head. A nonvoting student representative is included in all discussions concerning general policies, but not in those that involve individual students.

The Initial Advisory Committee appointed by the Associate Head advises students upon arrival. The committee will meet with the student prior to his or her first registration and will advise on recommended courses and other requirements for the first semester. The committee shall designate one faculty member as Initial Advisor. The temporary advisor will fill out a form

indicating the student's research interests and the courses advised. This form will be entered in the official student file.

Academic/Research Advisors

Students should choose an academic and research advisor during the first semester. The academic advisor and research supervisor is usually the same person, except when the research supervisor is not a member of the Department of Geosciences. In such a case, a Geosciences faculty member will serve as the academic advisor.

It is the responsibility of the thesis advisor to guide the design and implementation of the project so that the scope is realistic and the aims are viable. For M.S. theses, it is also the responsibility of the advisor that the magnitude of the M.S. project should not deviate greatly from the standard 4-semester-plan established in the Blue Book. The actual project deliverables should be made clear and agreed upon with the student. The advisor will review thesis drafts in a timely manner agreed upon with the student.

Adjunct faculty may hold temporary graduate faculty appointments for periods not to exceed the term of their affiliation. Such appointments will be reviewed by the Department Executive Committee after each term. Individuals holding these temporary faculty appointments are expected and encouraged to participate actively in the graduate program, to serve on academic committees, and to interact with students and faculty. As such, they may serve on doctoral committees, supervise M.S. and Ph.D. theses, and teach 500-level courses authorized by the Department. If a student has an adjunct faculty member as research supervisor, the student will also have an academic advisor who is a regular Geosciences faculty member. The academic advisor will co-chair the M.S. or Ph.D. Committee.

M.S. Committees

By the end of the first semester, an M.S. committee of at least three graduate faculty members must be appointed for students pursuing the M.S. degree. A majority of members must be members of the Geosciences Graduate Faculty.

To form this committee, the student and his/her proposed advisor must submit the tentative title of the thesis and a list of committee members to the Associate Head. The committee must be approved by the Graduate Program.

The M.S. Committee will first meet with the student at or before the progress report meeting (deadline: 20 January 2007). Prior to the end of the second semester of the first year, the student should submit and orally present a brief (5-page maximum) statement of the proposed thesis research. In this meeting, the student, advisor, and committee should also agree to a tentative schedule for completion of the degree. The scope of the work in the thesis proposal should be consistent with this schedule.

The committee must meet at least once during the academic year to participate in the annual progress evaluation of the student. However, the student is advised to meet with his/her

committee during the third semester to discuss research progress and problems. Although the primary guidance of the student's program should be provided by the advisor, the committee should assist by providing oversight on courses and on planning and conduct of the research, as appropriate.

It is the responsibility of the committee to judge viability of the proposed research, the plausibility of the time frame, and the validity of the project's aim. Committee members are often involved for specialized knowledge -- if so, this function should be clear to the student and the committee member. Committee members will read progress reports and proposals from the student and provide feedback. They will also attend review meetings and provide individual feedback if either the student or committee member sees fit. If committee members find that they cannot meet these obligations, they should inform the student and advisor so that accommodations can be made. Part of the committee's function is to prevent the student and advisor from losing perspective regarding the scope of the master's thesis project.

Doctoral Advisors and Committees

Ph.D. students should choose an academic advisor within their first semester. This person may be a member of the doctoral committee or someone else designated by the head of the major program for this specific duty. The academic advisor may be different from the dissertation advisor.

Doctoral Committee--General guidance of a doctoral candidate is the responsibility of a doctoral committee consisting of three or more active members of the Graduate Faculty, a majority of whom must be faculty of the Geosciences Graduate Program, and one Outside Member, as described below, for a total of four or more committee members. A member of the Geosciences Graduate Faculty must have agreed to supervise the student by the time the committee is appointed. The dissertation advisor must be a member of the doctoral committee and usually (but is not required to) serves as chair. If the candidate has a minor, that field must be represented on the committee. This committee is appointed by the graduate dean through the Office of Graduate Enrollment Services, upon recommendation of the head of the major program, soon after the student is admitted to candidacy.

A person not affiliated with Penn State who has particular expertise in the candidate's research area may be added as a special member, upon recommendation by the head of the program and approval of the graduate dean. A special member is expected to participate fully in the functions of the doctoral committee. If the special member is asked only to read and approve the doctoral dissertation, that person is designated a special signatory of the thesis. Occasionally, special signatories may be drawn from within the Penn State faculty in particular situations. The committee should be selected to reflect appropriate depth and breadth in the thesis topic and in related geoscience subdisciplines.

Chair-- The chair or at least one co-chair must be an active member of the graduate faculty of the specific doctoral program in which the candidate is enrolled. A retired or emeritus faculty member may chair a doctoral committee if he/she began chairing the committee prior to retirement and has the continuing approval of the department head or program chair. The

primary duties of the chair are: (1) to maintain the academic standards of the doctoral program and the Graduate School, (2) to ensure that the comprehensive and final examinations are conducted in a timely fashion, (3) to arrange and conduct all meetings, and (4) to ensure that requirements set forth by the committee are implemented in the final version of the thesis.

Outside Member-- While one or more members of the doctoral committee may be from outside the department in which the graduate program resides, an official "Outside Member" must be appointed who serves a specific role as described below. The primary responsibilities of the Outside Member are to (1) maintain the academic standards of the Graduate School and (2) assure that all procedures are carried out fairly. The Outside Member represents the Graduate School and, as such, the Outside Member shall be a member of the Graduate Faculty who may, but is not required to have direct expertise in the research area of the candidate. The Outside Member should have no conflicts of interest with members of the committee, in such a way as to preclude fulfilling their duties as the Outside Member. Specifically, the Outside Member shall not hold a budgetary or adjunct appointment in the department or academic unit to which the student's doctoral program belongs or with the unit(s) to which either the chair or the dissertation advisor belongs. The Outside Member cannot chair or co-chair the committee. This does not preclude other members of the Graduate Faculty regardless of budgetary appointment from serving on the committee, and potentially in dual roles, for example, as co-chair. The committee member representing the minor may serve as the Outside Member if his or her budgetary appointment satisfies the conditions noted above.

The membership of doctoral committees should be periodically reviewed by the program chair to ensure that its members continue to qualify for service on the committee in their designated roles. The Associate Head may modify the proposed committee after discussion with the student, advisor, and Graduate Program Committee, and will then submit the proposed Doctoral Committee to the Graduate Program Committee for approval. For example, if budgetary appointments, employment at the university, etc., have changed since initial appointment to the committee, changes to the committee membership may be necessary. If changes are warranted, they should be made as soon as possible to avoid future problems that may delay academic progress for the student (e.g., ability to conduct the comprehensive or final examinations).

Responsibilities of Doctoral Committees-- The doctoral committee is responsible for approving the student's academic and research plans with the context of degree requirements; they should review the program as soon as possible after the student's admission to candidacy. Moreover, continuing communication among the student, the committee chair, the research supervisor, and the members of the committee is strongly recommended, to preclude misunderstandings and to develop a collegial relation between the candidate and the committee. For example, students who wish to publish dissertation chapters prior to their oral exam are advised to provide committee members with copies of the manuscript prior to submission for publication.

The Doctoral Committee must meet with the student at least once each year during the annual review of the progress. The advisor will provide day-to-day advice, but the committee will have final authority over the student's program and over the Comprehensive Examination and Thesis Defense. The committee provides scientific advice on planning and executing of the thesis research.

The Official Student File

The Graduate Program office maintains an official file on each student that contains application materials (except letters of recommendation), TA/RA appointment papers, transcripts and grade sheets, progress reports, candidacy proposals, thesis proposals, results of examinations, all official communications to the student, and communications with the Graduate School.

This file is available for the student to examine on site in accordance with University regulations. It is not available to outside parties. Files will be kept for at least five years after a student's graduation or termination of program.

EXPECTATIONS FOR GRADUATE STUDENTS IN GEOSCIENCES

(Updated August 19, 2005)

These policies and procedures described in this "Blue Book" supplement those of the [Graduate School](#) as published (both in printed and electronic forms) in the [Graduate Bulletin](#) and [Undergraduate Bulletin](#). It is the student's responsibility to know and observe the departmental as well as the published regulations of the Graduate School, in particular to meet established deadlines for the scheduling of examinations and the submission of theses.

Academic Integrity

Each student and faculty member is expected to assume personal responsibility for the encouragement and promotion of the highest ethical and moral standards. It is the responsibility of the program and each faculty member to set up conditions of operation that will encourage students to strive for these high ideals. Dishonesty in any regard is a serious offense, raising grave doubt that a student is worthy of continued membership in the Graduate School community. See also [Regulations and Conduct Standards for Students Enrolled in the Graduate School](#) in the [Graduate Bulletin](#).

A statement of the Graduate School's Code of Conduct can be found in the Graduate Bulletin Appendix I.

Penn State [policy AD-47](#) General Standards of Professional Ethics and [RA-10](#) Handling Inquiries/Investigations into Questions of Ethics in Research and in other Scholarly Activities are available in the Graduate Program Office, 507 Deike.

Course Schedule and Academic Progress

Each student is responsible for planning his/her curriculum in partnership with his/her advisor or advisors. The annual progress review will identify schedules that needlessly postpone courses, do not include work required for the degree sought, or do not provide for the removal of deficiencies of courses specified by candidacy or doctoral committees. Students have

responsibility to maintain good academic standing, and to meet degree requirements and carry out their research in a timely fashion.

Academic Standing (M.S. or Ph.D.)

All Students are expected to remain in good academic standing. A graduate student in good academic standing has a GPA of 3.0 or better in 400-500-level courses, has been deemed to be making adequate progress toward completion of the degree by his or her committee, and has submitted an annual report of progress in the last academic year. A student who fails to submit a progress report will be notified of his/her poor academic status and asked to schedule a meeting with the thesis committee immediately. Failure to meet with his/her committee within the next 6 months may result in termination of the student from the Geosciences Graduate Program. The Graduate Program Committee will also act upon the recommendation of the thesis committee to terminate a student based on lack of progress toward completion of the degree.

The Graduate School Procedures for the termination of the degree program for unsatisfactory scholarship can be found in the Graduate Bulletin [Appendix III](#).

Duties of Graduate Assistants

Teaching Assistantships are intended to serve as part of the educational training of graduate students and primarily involve providing competent instruction for undergraduate students. If for any reason a student appointed as a Teaching Assistant cannot perform a given assignment, he/she should notify the professor in charge immediately, or, if he/she cannot be contacted, the office of the Associate Head for Graduate Programs.

Assistantship duties require 20 hours per week for 18 weeks at the half-time support level and 10 hours per week for 18 weeks at the quarter-time level. Note that this interval is longer than the academic term of 15 weeks. Thus, students who are supported on assistantships are expected to be available for assignments during the entire 18 week interval.

Under special circumstances, exceptions to the reporting date, specified in the "Terms of Offer of a Graduate Assistantship and General Conditions of Graduate Assistantship Appointments," accepted by a student, can be made. Such a request will be considered by the Program Chair if they have academic merit and the support of both the thesis advisor and the faculty who the student is assigned to assist.

If it should become necessary to terminate an assistantship due to inadequate performance, the Procedures outlined in the Graduate Bulletin [Appendix IV](#) will be followed.

Students and faculty should note that paid university work outside their assistantship requires approval by the department Grad Program Officer. Further, the Graduate Degree Programs Bulletin specifies that a graduate assistant may accept concurrent employment outside the University *only* with permission from the assistantship department head and the assistant's graduate academic program chair.

The student is specifically and strongly cautioned against taking outside employment of any nature (i.e., house or pet sitting, piece work, lawn work, running errands, etc.) from a faculty member with any sort of supervisory role in the student's academic or assistantship activities.

Graduate School Guidelines Regarding Leaves for Graduate Assistants

If a graduate assistant (defined as TAs, RAs, GAs or students on fellowships) is unable to fulfill the duties of his/her appointment because of illness, injury, pregnancy or adoption, every effort should be made to assist the graduate assistant in performing the level of duties possible for the duration of the semester. If the graduate assistant cannot fulfill any duties, the stipend should be maintained for up to 3 weeks or until the end of the stipend period (whichever occurs first). If circumstances are such that three weeks of paid leave do not provide the graduate assistant with sufficient time to resume his or her duties, the department head/unit leader is authorized to grant an additional three weeks leave of absence. Such a request for paid leave for medical reasons should be in writing and be accompanied by a written certification of illness from a health care provider and written permission by the graduate assistant for a University Health Services physician to contact the certifying health care provider, if needed. When the leave is requested due to pregnancy or adoption, certification by a health care provider will not be necessary.

If the source of funding is external to the University, prior to granting the leave, it will be the responsibility of the PI to be sure that the commitments to any grant or contract are fulfilled by the Principal Investigator, and to be sure that the funding agency rules allow the implementation of such a leave. Note: most funding agencies defer to the policies of the institution. There are some special programs e.g. NIH and NSF fellowship, which have defined policies. In those cases, the agency policy will prevail.

If it becomes necessary to terminate funding of a graduate assistant, the individual should be referred to the Student Insurance office (320 Grange Building; 5- 7467) to be accurately informed of the implications of the termination for his/her health insurance coverage, and of the mechanisms available for coverage once that provided by their stipend benefit is no longer in effect. It is recommended that such referral be documented in writing to the graduate assistant, in addition to any verbal provision.

Graduate assistant may take an unpaid leave for medical reasons of no more than one calendar year. In the case where the student requests an unpaid leave for medical reasons, the request should be in writing and be accompanied by a written certification of illness from a health care provider and written permission by the graduate assistant for a University Health Services physician to contact the certifying health care provider, if needed. Such a leave would not guarantee that support would be available when the student would return to full time graduate work. However, the program should not count the leave against the student's time to degree, and should notify the Graduate School in writing of the approval of the leave, its circumstances (i.e., for medical/health reasons) and its duration. Before a leave of absence is discussed with a foreign national graduate assistant, the program chair or mentor needs to contact the International Scholars Office (814865-0423) to insure consistency with federal regulations.

REGISTRATION

Credit Loads

Graduate assistants (TA or RA) at the normal half-time level should register for 9-12 credits per semester, with no more than 24 credits total for two consecutive semesters. Students holding fellowships or other awards based on academic excellence are required to carry 9 or more credits each semester. This rule does not apply to Ph.D. students who have passed their comprehensive exams and are registered for 601 or 610.

Completing Your Registration

The Penn State registration process consists of enrolling in specific courses and is complete upon receipt of payment of tuition and fees.

Your billing statement includes amount(s) due as well as possible credits resulting from applicable scholarships, loans, grants and other forms of financial assistance. In some cases, because of the financial credits, a student may not be required to make payment to the University. In other cases, a student may be due a refund from the University. In all cases, regardless of amount due, action is required to complete the registration process. If the “net payable” is less than \$100, you may confirm your registration online by using eLion.

You may pay the amount due by credit card via eLion. PSU no longer sends a paper bill, and is no longer using the website for the Bursar’s office. All payments are to be submitted on eLion.

Failure to complete the registration process may result in any or all of the following actions:

- You will not receive grades for courses you are attending.
- You will be unable to enroll for future semesters.
- Your Penn State [Computer Access Account](#) will be suspended.
- If you receive student loans, you may enter a repayment status with your lender.
- If you receive student aid, some of the aid sources may be cancelled and will be unavailable for reinstatement at a later date.
- If you are living in University Housing, you will need to vacate your housing.
- Starting with the first day of the semester you will not be allowed to add courses.
- If you receive a Federal Work Study award, you will not be eligible for employment.
- Faculty members are not obligated to provide instruction or administer assessment for the student.

It should be noted that: (a) *proper registration* (see Graduate Bulletin: [Registration](#)) is expected of all graduate students; (b) graduate assistants must carry the prescribed credit loads (see Graduate Bulletin: [Credit Loads and Academic Status](#)); and (c) because of visa considerations, international students must register every semester, no matter what their degree objectives.

Registration for Students near the Completion of the Ph.D. and M.S. Programs

A candidate for the Ph.D. degree is required to register continuously for each semester from the time the comprehensive examination is passed and the two-semester residence requirement is

met until the thesis is accepted by the doctoral committee, regardless of whether work is being done on the thesis during this interval. (See [Graduate Bulletin](#)): Registration and Continuous Registration under Requirements.)

A master's candidate is not required to register for the final semester in order to graduate or in order to make minor revision to the thesis and/or to take a final examination for the degree.

THE MASTER'S DEGREE PROGRAM SPECIFIC REQUIREMENTS

M.S. Degree Requirements

The [Graduate Bulletin](#) specifies that a total of at least 30 credits are required for the M.S. degree, the minimum credit requirements are distributed is as follows:

- 18 credits in the 500 and 600 series, combined, must be included in the program.
- 12 credits in course work (400 and 500 series), as contrasted with research, must be completed in Geosciences courses.
- 6 credits in thesis research (600 or 610) must be included in the program. *Only 6 research credits may have a letter grade; all additional research credits must have a grade of "R."*

A minimum grade-point average of 3.00 for work done at the University is required for graduation. The completion of a M.S. Thesis is part of the requirements for the completion of the M.S. degree in Geosciences

Time to Completion for Master's Degree

The following section presents a *suggested* schedule for completion of the degree within a two-year time period. Note that every student and every thesis is different, some may require less time and some may require more, but the amount of time spent should be in the best interest of the student and consistent with department policy to complete the M.S. degree within two years. *This suggested schedule is meant to provide students with a realistic framework for the completion of a M.S degree, but is not intended to be a rigid plan.*

- By the end of the first semester in residence, the M.S. student should have chosen an advisor, formed a committee, and picked a thesis topic.
- The formal presentation to the thesis committee of a project proposal should be done in the early part of the second semester.
- Initial stages of research (pilot study, background research, etc.) should be started in the second semester and grants-in-aid should be applied for, if necessary.
- For students starting in the fall semester, summer can serve as the opportunity for fieldwork or concentrated research (particularly for those supported as TAs during the regular school year).

- Research should be approaching completion by the end of the third semester. A meeting with the committee to report progress and describe how the thesis project has evolved is strongly recommended.
- The fourth semester in residence should be reserved for final analysis of results, writing of the thesis, and formal oral defense.

A fifth academic semester should not be incorporated into the timetable for the thesis, and support from the Department for the fifth and subsequent semesters is neither guaranteed nor encouraged. Remember that the Department also cannot guarantee summer support for any of its students; most students who are supported during the summer receive that support from faculty with funds available from research grants.

The M.S. Committee will first meet with the student no later than the end of the first academic year, at which time the student should submit and orally present a brief (5-page maximum) statement of the proposed thesis research

It is the *responsibility of the student* to perform the thesis research and to meet the proposed goals in a timely fashion. In addition, it is the student's responsibility to keep the committee informed on how the project is evolving and progress toward completing the research. When research deviates from the original proposed plan, the student should promptly provide the committee members with the opportunity for input.

Finally, any problems or conflicts that the student, advisor, and committee cannot resolve among themselves should be brought promptly to the attention of the Associate Head of the Graduate Program for final resolution.

PH.D. PROGRAM SPECIFIC REQUIREMENTS

Ph.D. Degree Requirements

For the completion of a Ph.D. degree a student must fulfill both Geosciences Department and Graduate School requirements. The Ph.D. student must meet the following:

Departmental requirements:

- satisfy the Core Course Curriculum of the Geosciences Department,
- demonstrate proficiency in the use of the English language,
- complete Science Communication Activity
- complete a language requirement, if specified by the Doctoral Committee,
- deliver at least one formal oral presentation

Graduate School requirements

- 2 semesters of residence
- Maintain a minimum grade-point average of 3.00 for work done at the University. This is required for: Ph.D. candidacy, taking the comprehensive examination, final oral examination and graduation

- Up to 12 credits of research (Geosc 600 or 610) may have an assigned letter grade. Any additional research credits must be assigned a grade of “R.”
- Pass candidacy and comprehensive examinations
- Prepare and defense of a thesis
- Register for each semester (Fall and Spring) from the time the comprehensive examination is passed and the two-semester residence requirement is met, until the thesis is accepted by the doctoral committee, regardless of whether work is being done on the thesis during this interval
- Complete requirements developed by the Doctoral Committee, which is responsible for ensuring that the candidate has developed scientific breadth and depth by a combination of course work and personal study. This ability is tested mainly by the Comprehensive Examination. The Language and Communication requirement is also evaluated by the Doctoral Committee. A high level of proficiency in English is required. Doctoral Committees may wish to require a foreign language.

Foreign Language Competency

The Geosciences Program the doctoral committee may require proficiency in a foreign language or languages, if this should be necessary for the successful completion of a thesis. The committee should decide at an early stage whether or not the background, thesis topic, and subdiscipline of the candidate require competence in a foreign language or languages and, if so, the procedures by which competence will be demonstrated. The requirement must be fulfilled before the Comprehensive Examination can be scheduled.

English Competency

Students in the Geosciences Program are expected to demonstrate proficiency in communicating scientific information and ideas in formal and informal professional settings. The Geosciences faculty expects spoken English to be of sufficient quality that listeners can concentrate on data and ideas rather than on the form of delivery, and that questions addressed to the candidate are readily comprehended. The Geosciences faculty expects students to perform with a uniform standard of quality in writing. Documents should demonstrate correct grammar, spelling, and punctuation. Organization, sentence length, logical sequences of thought, clarity, and avoidance of jargon and colloquialisms are all components.

English competency is *formally assessed at the Candidacy Examination and certified at the time of the Thesis Proposal*. A student will not be cleared for a Comprehensive Examination until competency is certified.

Assessment instruments prior to the Candidacy Examination include the application essay, the initial meeting with an advisory faculty panel and subsequent meetings with an advisor, the MS thesis (if the MS degree is not bypassed or achieved elsewhere), the essay accompanying the annual Spring report, oral communications at the annual candidate/committee meeting, the TSE (ESL) test (oral, for international students appointed as TAs), the required formal oral

presentation (see section below) and the two required formal research proposals prior to Candidacy.

The initial advisory panel and the interim doctoral committee will assess the measures of English competency available and make recommendations on remediation, if required, as a part of the written reports to the Associate Head that result from those meetings.

The Candidacy Committee will assess English competency as part of the Candidacy examination, based upon the written proposals and performance on the oral portion of the examination. Its recommendations on the form provided will determine if further remediation is required.

The Doctoral Committee has the responsibility of assuring that further remediation after the Candidacy Examination, if necessary, has been effective. They will base their decision upon oral presentations at the candidate-committee meetings that will occur at least yearly, upon the required oral presentation, and, ultimately, upon the Thesis Proposal.

International students who arrive with speaking deficiencies are recommended to enroll for SPCOM 114G, and those who arrive with writing deficiencies are recommended to enroll for SPCOM 116G. International students are encouraged to use English in ordinary conversation both inside and outside Deike Building. Those students required to remediate written English as a result of the Candidacy Examination will be required to take ENGL 198G, a writing course, during the ensuing Summer Session. Students who do not receive a "B" or better in ENGL 198G will be required to write two review papers under the supervision of their research advisor during the ensuing semester. It will be the responsibility of the research advisor to require an appropriate number of revisions of these papers.

The doctoral committee will make the final decision on attainment of competency in speaking and writing ability (if not satisfied previously) on the occasion of the Thesis Proposal, which involves both a written proposal and an oral presentation. Insufficient performance will result in a second required Thesis Proposal or in dropping the student from the Graduate Program.

Formal Oral Presentation

As part of the Department's program in Communication and English Competency, each doctoral student is required to present at least one formal oral talk on a geoscience topic, with appropriate visual aids. The venue for the talk may be the annual student Spring Colloquia series, a regional or national geoscience meeting, or another venue upon application to the Graduate Program Committee. The following *do not* satisfy this requirement: a talk to a class or seminar, the annual Review of Progress presentation or Candidacy exam. The talk must be presented prior to the Thesis Proposal Presentation, in order that evaluation of the talk may be used in the assessment of English competency at that meeting. The student must designate a faculty mentor, not necessarily the advisor, who will serve as a resource, who will attend the talk, and who will provide feedback. The mentor will complete a form to be entered in the student file.

Candidacy Examination

Objective: The Candidacy Examination is intended to:

1. Determine whether a student has the preparation, intellectual capacity, and professional attitude to complete a Ph.D. program successfully;
2. Explore deficiencies in the student's background and training, in order to plan additional course work that may be needed. Such exploration is not the primary purpose of the examination, however, and the examination is *not* primarily a test of knowledge attained in the geosciences;
3. Assess the student's verbal and written English competency.

Scheduling the Exam:

Students entering the Ph.D. program without having completed a M.S. degree should schedule their exam before the completion of their third semester. Students entering with a M.S. degree from another university should schedule the exam before the end of their second semester. Students entering the Ph.D. program after having completed a M.S. within the Dept. of Geosciences at PSU should schedule their exam for the semester following their completion of their M.S. degree.

The candidacy exam may be scheduled to take place during the spring or fall semester. However, *exams may not be scheduled during the last week of classes or during the week of final exams. Summer exams are strongly discouraged and tend to be difficult, if not impossible, to schedule because of faculty travel.*

Candidacy Committee: At the time of a Candidacy Examination, a student should have a research advisor who has agreed to supervise the student, although exceptions may be allowed at the option of the Associate Head. The Candidacy Committee will consist of a minimum of 4 members of the Graduate Faculty in the Geosciences Graduate Program. The members normally include the proposed advisor as well as a departmental "roving panel member," one of 3 or 4 faculty members who will serve on numerous candidacy examinations during a given year to ensure relatively equal and fair treatment among candidacy examinations. The "Rover" will chair the exam. The other members should be chosen to ensure representation of sub-disciplines within the Geosciences relevant to the student's main area of research.

Appointment of the Candidacy Committee: The student and advisor should submit a memo to the Associate Head that contains a statement of student interests and a list of suggested appropriate members. The Associate Head, with the concurrence of the Graduate Program Committee, will approve or modify the list to ensure depth and balance. The Candidacy Committee should be established at least 2 months ahead of the actual examination, so that the student will have adequate time to prepare propositions and to become acquainted with the members of the committee.

Materials Submitted Prior to the Exam: At least one week prior to exam the following should be submitted to committee members and the Graduate Program Office:

1. A resume containing information on courses taken or planned, the name of the advisor, title of the planned thesis, previous degrees, honors, etc.
2. Two propositions whose defense will form the basis of the exam. Proposals should be acceptable form before the exam in writing style and length. The roving panel member will decide in advance whether this is the case and the exam can proceed.

Propositions: The two separate research proposals should each be no more than 5 double-spaced pages of text, exclusive of figures and references. Each proposal should contain an introduction, setting the stage for the formulation of the hypothesis and providing background information, a clear statement of the hypothesis to be tested, a description of the proposed work to test the hypothesis, the criteria that would be used to accept and/or reject the hypothesis, as well as a statement of the significance of the proposed work. The audience for the research proposals is the candidacy committee.

The student should discuss the planned topics of the two proposals with their assigned faculty Rover. The Rover should identify for the student if the topics are too similar, too narrow, or otherwise inappropriate for the exam. The student should discuss with the Rover the origin of the ideas, and make sure they fulfill the requirements for depth and originality as discussed below.

The first proposition is intended to assess **depth** of thinking. It is expected to exhibit reasonable depth in background and understanding of detail. The first proposition quite properly can concern a proposed thesis topic and can involve an advisor's ideas and input. Importantly, the document should represent the student's own writing. The advisor should not edit the text of the proposal, although the student and advisor may discuss its content and style, as well as logic, depth of scholarship and significance of the ideas. The advisor's assessment of the quality of preparation of the depth proposal can serve as guide for the preparation of the second proposition.

The second of the propositions is intended to assess **originality** of thinking. It should be entirely original work of the student in concept and in background literature research. Because the advisor will not originate the ideas behind this proposal nor materially add to its development, the proposal typically will not concern a previous term paper, a previous thesis, or the proposed Ph.D. thesis. Students may discuss the content of the second proposal with their peers once they have written the document, but they should endeavor to ensure that the ideas in the proposal are their own.

These propositions and the student's defense of them in the examination should demonstrate originality and judgment, as well as geosciences background and abilities in writing, speaking, and reasoning.

Conduct of the Exam: The Candidacy Examination is chaired by the roving panel member in order to ensure uniformity of procedures, e.g. the relative time devoted to proposals or to general questions, and the level of background required. The student should consult with the roving member if he or she has any questions on exam procedure or philosophy.

The Examination will be oral and about 2.5 hours length. An introductory oral presentation for each proposal is limited to 10 minutes. Committees will normally devote at least half the time to the propositions and ancillary questions. Questions typically asked include:

- What is the hypothesis being tested?
- Will the experimental design lead to valid tests of the hypotheses?
- How would you interpret the following hypothetical results?
- What is the significance of your research?

Time should be reserved for "general" questions unrelated to proposals and attention should be given to deficiencies in background.

Evaluation: The primary objective of the evaluation is to determine whether a student has the preparation, intellectual capacity, and professional attitude to complete a Ph.D. program successfully. The committee's evaluation will be based upon the quality of the submitted propositions, their oral presentation and defense, as well as the student's background preparation. The committee will assess the following and make necessary recommendations:

1. The preparedness of the student to be a Ph.D candidate. The preparation and defense of the two research propositions will serve as the primary means of assessing the student's ability to complete a Ph.D. program.
2. The student's command of the necessary background to carry out the proposed work.
3. The student's ability to communicate verbally and in writing.

Outcome of the Exam: At the conclusion of the examination, the committee will first take a non-binding vote on accepting the student as a Ph.D. candidate, discuss the student's performance, and then cast the binding vote. A majority vote is needed to pass (e.g., 3 of 4 or 3 of 5). In the event of a tie, the outcome is a failure. Passage or failure of the exam will be based primarily on whether or not the student has demonstrated the capacity to complete a PhD program successfully (Evaluation point #1 above).

If the student is accepted as Ph.D. candidate, but demonstrated deficiencies in background or English competency (Evaluations points #2 and #3 above), the committee should make recommendations to the student on how to address these through coursework or reading. In exceptional circumstances, the committee may recommend the completion of a M.S. thesis before proceeding to the Ph.D. The committee Chair should send a separate memo to the Associate Head concerning any restrictions or specifications in the degree plan, for review by the Graduate Program Committee. In the case of a recommended M.S. thesis, a student will automatically proceed to Ph.D. research (with no second Candidacy Examination) upon successful defense of the M.S. thesis.

If the student is not accepted as Ph.D. candidate he/she may be advised to repeat the candidacy exam, or counseled to leave the Ph.D. track.

Comprehensive Examination

The Comprehensive Exam is administered by the Doctoral Committee after the student has essentially completed his/her course work and after a language requirement (if required) and the English competency requirement are fulfilled. The exam will normally be during the fifth or sixth semester for students who entered the Ph.D. program with a Bachelor's degree. Students entering the Ph.D. program with a Master's degree (from PSU or elsewhere) are expected to complete the Comprehensive Exam by the end of their fourth semester.

The purpose of the examination is to determine the student's understanding of the chosen field of specialization ("depth") as well as general knowledge in the geosciences ("breadth"). A student may consult the Committee Chair (normally the Advisor) for clarification of the areas in which comprehension is expected (e.g., paleontology, seismology, igneous petrology, Appalachian geology, etc.).

The comprehensive exam shall be composed of a written thesis proposal and an oral exam. *Student preparation of proposals can and should be guided by their committee members, and its content should be discussed in earlier committee meetings.* The proposal should be in standard format ~5-15 pages of text, abstract, references, and figures. Students will submit their proposal to committee members one week prior to the oral exam, and one copy of the proposal will reside in the official student file.

The oral exam will include both a defense of the proposal and questioning that enables the committee to assess the student's mastery of their field. At the discretion of the advisor and committee members, students may present the key elements of their thesis proposal in a short (10-15 minute) oral presentation.

Date, time, and place for an oral examination will be arranged by the Graduate Program Office upon request by the Chair of the Doctoral Committee in consultation with the student, who will have checked with other members of the Committee as to suitable times. At least two weeks before the examination, the Associate Head must request the Dean of the Graduate School to schedule the examination. A favorable vote of at least two-thirds of the committee is required for passing. The Committee Chair will report the result of the examination to the Associate Head and to the student, and will deliver the signed examination forms to the Associate Head for transmittal to the Graduate School.

Bypassing the M.S. Degree

Students seeking the Ph.D. are placed at the time of their admission into either the M.S. or Ph.D. program by the Admissions Committee, based upon careful examination of their academic background, demonstrated abilities, and stated preferences on bypassing the M.S. If a student is admitted for the M.S. degree, the degree must be attained before proceeding to the Ph.D. unless a bypass petition is submitted to the Associate Head. The petition should contain a record of achievement, a definitive statement of research interests, and discussion of background preparation. The Associate Head should consult with the student's advisor and committee, if

appropriate, and make a decision to approve or deny, with the concurrence of the Graduate Program Committee. If the petition is approved, the Associate Head will initiate a change-of-status petition with the Graduate School, and a candidacy examination should be scheduled as soon as practicable.

If a student is admitted for the Ph.D. degree (bypassing the M.S.), a candidacy examination must be passed prior to the end of three semesters of residence, as specified by the Graduate School. Prior to the examination at least 18 credits must have been earned in graduate courses.

Failure to pass the examination will terminate the Ph.D. program and financial support. In exceptional circumstances, a student may petition the Associate Head for an exception to the three-semester rule. Such petitions have to be approved by the Graduate Program Committee.

Change of Status Following the M.S. Degree at Penn State

A student admitted to the M.S. degree program, having achieved the M.S. degree, may continue for the Ph.D. degree if the Associate Head, with the concurrence of the Graduate Program Committee, approves a resume-studies petition filed with the Graduate School. The Associate Head may require a written statement from the student and recommendation letters from appropriate faculty. The petition should be filed after the degree requirements are completed (including the M.S. thesis defense and the thesis has been submitted to the Graduate School/Department). The petition will be signed only after approval of the thesis by the Graduate School/Associate Head.

Students cannot expect financial support on a Ph.D. track until a resume-studies petition is approved. Students filing a resume-studies petition for Ph.D. study must pass a candidacy examination in the semester following the completion of their M.S. degree. Failure to pass the examination will terminate the Ph.D. program and financial support.

Students should note that students continuing on from a M.S. degree into the Ph.D. program should not expect financial aid beyond a total of 6 semesters during their entire time of study with the department.

Students Admitted to Penn State with the M.S. Degree

It is expected that students admitted to Penn State with the M.S. will have the degree in hand upon arrival. Students will have been so informed in the admissions letter. In exceptional circumstances, and upon petition to the Associate Head, incidental degree requirements can be completed during the first semester in residence. In that instance, the M.S. institution must certify that degree requirements have been completed before a second semester's financial support can be approved.

Students admitted to Penn State with the M.S. Degree (or with the M.S. Degree requirements substantially completed; see above) *must pass a Candidacy Examination during the second semester of residence*. Failure to pass the examination will terminate the Ph.D. program and financial support. In exceptional circumstances, a student may petition the Associate Head for an

exception to the two-semester rule. Such petitions would have to be approved by the Graduate Program Committee and the Associate Head.

M.S. AND PH.D. THESIS PREPARATION

The Thesis Proposal

The purpose of the Thesis Proposal is to consolidate a student's thinking about the thesis problem, to define its limits, and to inform the Committee of research initiatives. In this meeting, the student, advisor, and committee should also agree to a tentative schedule for completion of the degree. The scope of the work in the thesis proposal should be consistent with this schedule. The thesis proposal should serve to focus a student's scientific ideas into a manageable project and should include a plan for achievement of research goals and scheduling of committee meetings.

The M.S. thesis proposal should be about 5 pages, and set a timetable for the completion of a M.S. thesis work. Normally, the student should aim to complete the degree in two years. Program durations of greater than the 4 plus 1 described above should only occur under truly extraordinary situations. The proposal should lay out exactly what the thesis research will involve so that later misunderstandings between the student, the advisor, and the thesis committee can be avoided. Everyone should leave the thesis proposal presentation with a clear understanding of the project's aim and the tasks that will be required to achieve it.

Thesis Formats

Information about the preparation of theses, including formatting software, and their submission can be found in the [Graduate School's Thesis Guide](#). In addition to theses prepared in the standard format, theses with separate research chapters, theses which include multiple author papers, in addition to electronic submissions are accepted by the Graduate School.

Theses with Separate Research Chapters

It is common for theses to contain sections or chapters that represent separate research papers that have been, are being, or will be submitted for publication in journals. This practice stands in contrast to traditional theses that were monograph-like and were subsequently rewritten for publication. The main criterion for deciding whether a published (or about-to-be published) work may appear in the thesis, in part or in its entirety, depends on whether the thesis is considered the primary source for the journal articles, which just happen to be published before completion of the thesis. Thus, the work is a product of the thesis study. Another important criterion is whether the student is the first author of such publications.

There are no circumstances where a series of unrelated papers could substitute for the thesis. If previously published work is included in the thesis, it must be consistent with the rest of the document, so the result is a cohesive document with an introduction that provides a framework

for linking the chapters, related chapters, and a conclusion. Thus, the thesis provides a source for those who want to study the research in greater detail than can be found in a short journal article.

Multi-Authored Papers

In addition to the precautions noted above concerning theses with chapters that represent separate research papers, more caution must be exercised in the case of multi-authored papers. The Graduate School permits departments to accept multi-authored material if the candidate is first author of the material and if the candidate's contributions are clearly and fully indicated in a preface or introduction. In particular, the contributions of each author in each chapter to data acquisition and analysis should be properly attributed.

Committees should specifically address such contributions and reach a consensus that the candidate's contributions are clearly delineated and that such contributions represent independent work – in data acquisition, in analysis of data, and in writing (subject to normal review by advisors, committee, and colleagues). The student and advisor will be asked to sign a declaratory form that will be available to the Committee at the thesis defense. Students are strongly encouraged to provide their committee members with copies of manuscripts before they are submitted for publication. This will help the members be aware of both the research findings and student progress. It is a courtesy, while it also provides committee members with an opportunity to provide suggestions or guidance on the written work prior to publication.

Penn State policy [R13 Coauthorship of Scholarly Reports, Papers and Publications](#) is available in the Graduate Program Office, 303 Deike.

The State of the Thesis at the Time of the Final Oral Examination

The Graduate School Bulletin specifies that "major revisions to the thesis should be complete before the oral examination. The thesis should be in its final draft, with appropriate notes, bibliography, tables, etc., at the time of the oral examination; both the content and style should be correct and polished by the time this final draft of the thesis is in the hands of the committee."

Both the thesis advisor and the student are responsible for assuring the completion of a sufficient number of drafts of the thesis and for adequate consultation with members of the thesis committee well in advance of the oral examination. If the copy submitted to a Committee member is not in suitable form, the member should return it to the student, and if necessary the examination should be rescheduled. If a previous draft was read, and comments were submitted to the student, then the student should have either incorporated the comments into the thesis or should have supplied justifications why the comments were not incorporated.

Committees enjoy some latitude on the issue of scientific content of a thesis, as opposed to clear statement of scientific ideas. Some Committees will want to settle major questions or disagreements about scientific approaches and conclusions before the thesis defense. Others may prefer to defer some or all such questions to the defense. The Advisor, Committee, and student should agree on the proper venue for discussion of such questions, but if possible they should

adhere to the standard above that the defense copy and the final submitted copy should be substantially the same.

Thesis Defense

A date, time, and room for a thesis defense shall be arranged by the candidate in consultation with his/her advisor. It is the responsibility of the candidate to ascertain that the examination date and time are acceptable to all members of his or her Thesis Committee. In the case of Ph.D. thesis defense, the Associate Head will then request that the Dean of the Graduate School officially schedule the examination. This request to the Dean of the Graduate School must be made no later than three weeks before the time of the examination.

The candidate shall make available a copy of the final draft of the thesis to each member of the Thesis Committee at least 10 days before the scheduled defense. This copy must be complete in every detail and in suitable form for presentation to the Graduate School. In most cases, very few changes should have to be made in style or content of the thesis after the defense. The thesis must be complete in every detail and include, in the case of a Ph.D. thesis, the required vita and abstract, and in a form suitable for presentation to the Graduate School. The title page should follow the format given in the Appendix. If the thesis is not in a form suitable for defense, the committee should return it to the student, and the examination should be rescheduled.

The student will be asked to sign a Defense Authorization form 30 days before the scheduled defense, acknowledging that he/she is familiar with the standard expected for thesis in this Department (that standard is summarized on the form). The advisor will be asked to sign the same form 3 days before the defense, signifying that she/he has polled the Committee and that at least 2/3 of the Committee agrees that the thesis is in defensible form. If the form is not signed, then the defense will be canceled. Faculty should read the final draft quickly to ensure that the poll can be complete 3 days before the exam.

The Final Oral Examination will be conducted by the Thesis Committee. The thesis defense presents a needed opportunity for intellectual exchange among the wider geosciences community, as well as an opportunity to learn about graduate student research. Accordingly approximately 30-45 minutes of the defense, to include an oral presentation and questions from the audience, should be scheduled as a public seminar. The ensuing examination will also be open to the public -- that is, an audience may remain in the room until the time of an executive session, for discussion and a vote that is closed to the public and to the candidate. The audience may not ask questions, however, after discussion of the presentation by the audience and candidate at the close of the public seminar portion of the exam.

At least three members of the committee must be physically present at the thesis defense, including the thesis advisor or chair. The graduate student must also be physically present at the exam. Thus for a five person committee two committee members could participate via distance. No more than one member may participate via telephone; a second member could participate via Pic Tel. A favorable vote of at least two-thirds of the members of the committee is required for passing. If the student fails the examination, the Committee will advise the Associate Head

whether the student should be reexamined, or whether he/she should be dropped from the Program. Unsuccessful students will oftentimes be given a second chance. The Associate Head will inform the Dean of the Graduate School about the outcome of the exam.

The thesis in its final form (and including advisor and all committee member signatures) must be submitted to the Associate Head for approval no later than 10 days before the completed thesis is due in the Graduate School. No exceptions to this schedule will be approved.

Copies of the Thesis

The Department of Geosciences does not require a copy of M.S. or Ph.D. theses for its files. The EMS Library receives the copy submitted to the Graduate School after the thesis has been bound. Doctoral candidates submitting a thesis electronically do not provide a hard copy to either the Department or the Graduate School.

Costs of Thesis Preparation

The student will bear the cost of word processing and illustrations and of preparing the required number of copies of the thesis or research paper. Additional copies, if required by the sponsor of the research project, will be paid for by the sponsor. The sponsor of the research may also defray expenses of drafting and processing illustrations in the thesis or research paper if they will be used in reports and publications. Other illustrations and typing will be the responsibility of the student.

Dual-Title Ph.D. Degree Program in Astrobiology

The complete description of the program, including the currently participating faculty and courses offered, can be found in the Graduate Degrees Program Bulletin at: [http://www.psu.edu/bulletins/whitebook/\\$programs.htm](http://www.psu.edu/bulletins/whitebook/$programs.htm) under Astrobiology

The Astrobiology dual-title degree program is administered by the Department of Geosciences for the participating graduate programs. The dual-title degree program is offered through participating programs in the College of Earth and Mineral Sciences and the Eberly College of Science and, where appropriate, other graduate programs in the University.

Admission into Dual-Title Program

Graduate students with research and educational interests in astrobiology may apply to the Astrobiology Dual-Title degree program. Candidates must submit transcripts of their undergraduate and graduate coursework, a written personal statement indicating the career goals they hope to serve by attaining an Astrobiology dual title, and a statement of support from their dissertation adviser to the Astrobiology Program Chair. A strong undergraduate preparation in the basic sciences is expected, with evidence of an interest in multiple disciplines

For admission to pursue a dual-title degree under this program, a student must apply to (1) the Graduate School; (2) one of the participating major graduate programs (Astronomy and Astrophysics, Biochemistry, Microbiology and Molecular Biology, Biology, Chemistry, or

Geosciences); and (3) the Astrobiology program committee. Usually students will apply and be accepted into the major program first. Application to the dual-title degree program can occur upon matriculation, but should be completed before the candidacy examination in the major program is scheduled.

Degree Requirements

To qualify for a dual-title degree, students must satisfy the requirements of the major graduate program in which they are enrolled, in addition to the minimum requirements of the Astrobiology program. The minimum course requirements for the dual-title in Astrobiology are ABIOL 574 Planetary Habitability (3 credits), ABIOL 590 Astrobiology Seminar (2), ABIOL 570 Astrobiology Field Experience (2), and at least 2 credits of 400- or 500-level course work outside of the student's major program in an area relevant to Astrobiology (through consultation with their adviser). All students must pass a candidacy examination that assesses their potential in the field of astrobiology. This examination may be part of the candidacy examination in the student's major graduate program if an Astrobiology faculty member serves on the examination committee and if acceptable to the major program. If not, the Astrobiology dual-title program will offer a second candidacy examination. The structure and timing of the second candidacy examination will be determined jointly by the dual-title and major program. The student's doctoral committee should include faculty from the Astrobiology program, but this person may be the adviser and have an appointment in the major program of study. The field of Astrobiology should be integrated into the comprehensive examination. A Ph.D. dissertation that contributes fundamentally to the field of Astrobiology is required. A public oral presentation of the dissertation is required.

Committee Structure, Candidacy and Comprehensive Exams, and Defense of Dissertation

The establishment of a student's dissertation committee and the timing of the candidacy and comprehensive examinations and final dissertation defense must first satisfy the requirements of the student's primary program. The normal sequence of events will be:

- 1) Admission into the primary program
- 2) Admission into the dual-title program (can be contemporaneous with admission into the Primary Program)
- 3) Passage of the primary program's candidacy examination
- 4) Passage of the dual-title program's candidacy examination (may be integrated into 3; see below)
- 5) Establishment of the dissertation committee
- 6) Comprehensive Examination
- 7) Dissertation Defense

Candidacy Examination

Normally, students admitted into the Astrobiology Program will pass a candidacy examination that assesses their potential in the field of astrobiology prior to their fourth semester in the program. This examination may be part of the primary program's candidacy examination if an

Astrobiology faculty member participates in the examination and, as part of that examination, assesses the student's potential in the field of astrobiology. Please consult your advisor or primary program's chair to determine whether an Astrobiology faculty member is serving in this role. If so, the student must request that the chair of the primary program send a copy of the candidacy report form, and the advisor send a memo confirming that the above condition was met, to the chair of the Astrobiology dual-title program.

If an Astrobiology faculty member can not or did not participate in the primary program candidacy examination and/or if astrobiology was not incorporated into the candidacy examination, the Astrobiology dual-title program must offer a second candidacy examination to comply with Graduate School rules. The student's advisor will make a request for candidacy examination at least one month prior to the anticipated date of examination. The Astrobiology program head will assign a committee consisting of the student's advisor (unless the advisor is not a member of the Astrobiology Graduate Faculty) and two other Astrobiology faculty members. The student will be asked to select, in consultation with his or her advisor, a journal article from the recent literature that addresses an astrobiological topic, and provide the article to the committee at least one week before the examination. At the examination, the student will summarize the article, provide a critical assessment of it, and lead a discussion with the committee members concerning the article. A favorable vote of 2/3 of the committee is required for passing. The committee may recommend that the student be allowed to re-take the examination in the following semester, or that the student be denied candidacy for the dual title.

EARTH SCIENCE DEGREE

The M.Ed. degree in Earth Science is designed for secondary and college science teachers. The degree is interdisciplinary and may include geological science, but their procedures and administration are separate from those of the Geosciences program. The procedures and facilities described in this Bluebook are not applicable to Earth Science students. More detail about the program can be found in the [Graduate Bulletin](#). The student is cautioned that this degree is under evaluation, and may no longer be offered in the near future.

GENERAL STUDENT SUPPORT AND BENEFITS

Financial Support for Graduate Students

The Department is committed to providing financial support for non-provisional graduate students who are making satisfactory progress toward the completion of their degree(s). That commitment must be tempered by the availability of Department, College, and University funds, or outside research grants. The financial support base also includes several fellowships sponsored by industry, private donations, as well as fellowships awarded by the Graduate School. Nominations for University Graduate Fellowships and awarding of departmental fellowships are made by the Department on a competitive basis within the guidelines of eligibility established by the sponsor of the fellowship. Students admitted provisionally may petition for support.

Decisions about the financial support of students are normally made at the time of the annual review of progress. It should be emphasized that ongoing appointments as Teaching or Research Assistants require both a financial base and an academic decision on the candidate's merits. Support may also be given, however, on a temporary (semester by semester) basis as particular needs for teaching or in research projects arise. P.I.s of projects may also pay hourly wages to students without support as needs arise.

Students without support may also consider drawing upon loan funds available in the College (see Dean Crane, 103 Deike Building). [Tuition-Grant-in-Aid](#) support is also available from the Graduate School in particular circumstances (Associate Dean for Fellowships, 317 Kern Building).

The P.D. Krynine Memorial Fund

The Krynine Fund is named for P.D. Krynine, long-time Penn State Professor and world-recognized sedimentary petrographer. It has grown to be our largest source of support for graduate student research apart from faculty grants and contracts. The fund was traditionally used for summer field support, but in recent years it has supported a broader range of research related activities. Current guidelines are given below:

1. The 1964 articles of stipulation state that the fund will "...provide grants to graduate students enrolled in The Geological Sciences who need additional funds to pursue their thesis research." Grants from the fund will be available to any graduate student in good standing enrolled in the graduate programs of the Department of Geosciences.
2. The number of grants awarded annually and the amount of each award will be determined by the selection committee (the Graduate Program Committee) and the Department Head. The yearly total sum of grants will not exceed the amount of earnings available for award.
3. Grants will cover expenses in thesis research, including field expenses, use of laboratory equipment, and travel to national or regional meetings to present results of research. Grants will not pay wages or stipends and will not cover costs of food or general subsistence. Requests for funds supporting summer research will be ranked ahead of requests for travel funds.
4. The GPC will evaluate applications and make recommendations to the Department Head. Applications will be evaluated based on the academic achievement and progress of the student and scientific worthiness of the thesis research proposed. In accordance with the 1964 stipulations, the GPC will also ensure that the student presents genuine need for funds in addition to those available from grants, contracts, and outside sources.
5. Krynine Fund awards are made twice each year. [Applications for a Krynine Fund](#) grant should be submitted by September 15 and March 15. Under no circumstances will a Krynine Award be made for expenses already incurred. Three copies of the signed application should be submitted to the Graduate Program office (507 Deike) by 5 p.m. of the due

date. If the application due date falls on a weekend or University Holiday, applications are due the first working day after the due date. The application should include a student's statements on the thesis project and on the specific research or activity for which funds are requested, a detailed budget and a statement on other monies available or sought.

Health Insurance Benefit

The University provides a health insurance benefit as part of the assistantship contract and all graduate assistant appointments are automatically enrolled in the currently available health insurance policy. Insurance coverage is mandatory for all international students. Coverage for spouse and children must be added to the student's policy each year. More information is available from the Student Insurance Office (208 Boucke Building).

Graduate Assistants who have adequate alternate medical coverage and who do not wish to be enrolled in the Penn State Student Health Insurance Plan must submit a waiver application with the Student Insurance Office, 208 Boucke Building. The University will not supplement nor will a payroll deduction be made for other insurance policies. For further information, contact the Student Insurance Office, 865-7467. The Terms of Offer of a Graduate Assistantship and General Conditions of Graduate Assistantship Appointments include a description of the university policy regarding health insurance.

STUDENT CONCERNS

There are a number of venues within the University and College of Earth and Mineral Sciences and the Department of Geosciences through which students who experience difficulties can pursue the resolution of conflicts.

Departmental Ombudspersons

Normally the advisor should be the first point of contact for graduate students who are having conflicts with other students, instructors, or administrators. However, in some cases the conflict is with the advisor, and the student may be uncomfortable reporting the conflict to the Associate Head for Graduate Programs or the Department Head. In such a circumstance, the student should communicate the problem to a designated departmental Ombudsperson.

Two faculty members serve as Ombudspersons, to enhance communication between graduate students and their advisors. They act as impartial parties to facilitate the timely and fair resolution of conflicts or grievances. The ombudspersons will report unresolved conflicts and grievances to the Associate Head for Graduate Programs, or if necessary, to the Department Head or the appropriate administrative or legal office of the university. The GPC and the Associate Head appoint the Ombudspersons, for a 2-year term, with approval of the Department Head. The appointments should, if possible, normally consist of one male and one female faculty member.

Sexual Harassment

Penn State works hard to ensure an environment in which students, faculty, and staff can learn and work to fullest potential. Nothing is more antithetical to such an environment than discrimination or harassment of any kind. The University takes a strong stand against all forms of discrimination.

Sexual harassment is a form of discrimination based on sex, including sexual orientation. Harassment impinges upon graduate students as teachers or as students when submission to such conduct is a condition for grades or academic status; when submission to or rejection of such conduct is used as the basis for academic decisions; and when such conduct interferes unreasonably with an individual's work or academic environment.

Anyone can be a victim of sexual harassment. Most reported cases involve women harassed by men who are in a position of power over them, either on the job or in the classroom. Some particular examples include: students involved in close working academic relationships that can develop into personal relationships; women in nontraditional fields who may be perceived as entering an area where they do not belong; and minority women who may be sexually harassed as a form of racism.

Further information can be found in the [University's policy AD-41](#) prohibiting sexual harassment. The Affirmative Action Office has primary responsibility for resolving sexual harassment complaints. In addition, the dean of the College of Earth and Mineral Sciences has designated Deb Detwiler (218 EES Bldg 814-863-7688 deb@essc.psu.edu) to assist in resolving complaints of sexual harassment from faculty, staff and students.

Formal Resolution of Problems

The Graduate School has put into place formal procedures for the resolution of problems. These are available in [Graduate Bulletin Appendix II](#).

FACILITIES AND SERVICES

Student Offices

Each student will be assigned a desk in one of the offices or laboratories within the Department. Desk space in a laboratory ordinarily will be assigned to a student who is using the laboratory for research. Only academic books and materials should be stored in offices; personal materials should be kept to a minimum. Holes can be placed in the office walls only for the installation of fixed equipment and only by an authorized person. To avoid the peeling or discoloration of paint on the office and laboratory walls, they should be kept free of tape of all types. Offices and laboratories should always be kept locked when unoccupied to avoid theft or vandalism.

Graduate Student Mail

Mail addressed to graduate students will be deposited in designated graduate student boxes. Students should check these boxes on a regular basis. A student who is to be out of town for more than a few days should inform the Graduate Program Staff Assistant and indicate a forwarding address for first class mail, if desired. Students should not use the Department (or Program) address for any personal mail.

Telephones

Long distance calls for any purpose on departmental telephones must be charged against research budgets or via calling cards. Calling cards must be used for personal calls. Student offices generally do not have telephones.

Conference Rooms

Conference rooms 541 and 343 are available in the Deike Building for scheduling various Departmental activities, such as oral examinations, seminars, and interviews. They can be scheduled by any staff assistant in the department.

Office Supplies

Various office supply items are kept in stock in the department office (503 Deike) for use by faculty and teaching assistants for assigned teaching activities. Students are expected to obtain office supplies for their research through their research projects, and to provide their own materials for their course work.

Copy Machines

The copy machines in the Department were acquired for use by staff assistants, professors, and teaching assistants for the duplication of illustrative material and handouts for regularly scheduled courses. Personal copies may not be put on research or departmental budgets and, if done, may lead to legal action by the University (theft of services). Personal copying can be done at designated photocopiers located throughout campus (EMS Library, HUB, IST Building, etc.) using your Penn State id+ card or by using commercial services available downtown.

Keys to Student Offices and Laboratories

Each graduate student will be issued a key to the outside door of the Deike Building, his or her office, and to the laboratories that are used regularly in his/ her research. Keys can be requested through the department office in Room 503 Deike Building.

Failure to return keys upon termination or transfer will result in the withholding of the appropriate amount from the employee's paycheck or a charge to a student's account or in withholding of grades/ transcripts/ registration/ diplomas until the keys are returned or the cost of rekeying the facility is recovered.

Motor Vehicle Regulations

Each graduate student who possesses, maintains, or parks a motor vehicle (including a motorcycle, motor bike, motor scooter, or any other motor-driven vehicle) on any university property is required to register such vehicle with the Parking Office, 1 Eisenhower Parking Deck, before the first day of classes. Failure to register a vehicle renders a student liable for a financial penalty or a magistrate's citation for each offense.

A permit for parking on campus during the day, evening, or weekend can be purchased at the Parking Office. A more restricted permit allowing parking on campus for evenings and weekends is available at a reduced rate. Please check with the Parking Office for permits and fees.

A graduate assistant is required to comply with student regulations concerning motor vehicles. A graduate assistant receiving any permit must present a valid driver's license and the owner's card for the vehicle. The vehicle must be owned by the student, his parent, or spouse. A Student Parking Rules and Regulations map is available in 1 Eisenhower Parking Deck.

Bicycles--All bicycles operated on the University Park campus or in the surrounding community must be registered once each year. Expiration date is May 31. Registration can be obtained from University Police, Eisenhower Parking Deck, or at any parking kiosk, Monday through Friday between 8:00 a.m. and 4:30 p.m. Rules and regulations are available at the time of registration. No bikes, skateboards, or rollerblades are permitted in the building.

The parking areas adjacent to the Deike Building, between Hosler and Steidle Buildings and behind the Steidle Building are closed to student parking. University regulations provide a graded scale of fines for parking violations and permit Security Officers to tow illegally parked vehicles. During winter months, overnight parking in these lots is strictly prohibited and vehicles will be ticketed or pushed out by snowplows.

Employment Services

Each year the Department is visited by numerous industrial interviewing teams and also receives many announcements of academic, government, and private-sector openings in the geosciences. Announcements related to these recruiting activities are posted on the [Geosciences Industry Support and Recruiting](#) website. Many interviewers are interested in talking with students whose graduation dates are two or three years away, or who are interested in summer jobs, as well as with those who will be available by the end of the school year. Students who are even remotely interested in industrial positions, or who may want to gain insight into industrial employment opportunities, are encouraged to arrange for appropriate interviews.

GRADUATE STUDENT COMMITTEES

Selection/Election of Graduate Student Representatives

All graduate students participate in one of the graduate student committees. In the fall at a general graduate student meeting (usually held during a TGIF meeting), slots on the various committees are filled by volunteers. Students unable to attend the meeting can make their preferences for committee assignments known to the meeting organizer prior to the meeting. Students who do not attend will be placed on committees with available slots. The term of each graduate student committee appointment is one year, from the time of the fall meeting until the next year's meeting when committee memberships are re-assigned.

Graduate Program Committee Representative - The two GPC representative (one representative and two alternates) attends meetings of the Graduate Program Committee in order to express student opinions and concerns and to ensure that graduate students are kept informed of decisions made or considered which might affect them. The GPC representative acts as a contact point between grad students (individuals or committees) and faculty/staff, is available to assist newer students with questions concerning student life, is responsible for the selection/election of the student committee and assures that the committees are functioning properly.

EMS Graduate Student Council Representatives - Two students from the department represent our graduate students on the EMS Graduate Student Council. This body meets approximately once a month. The Council's primary function is to advise the Deans of the college on how to improve graduate life. The council has also helps organize events such as the EMS Grad Poster Exhibition, and the EMS New Student Welcoming Reception / Awards Ceremony.

Department Faculty Meeting Representatives – Two representatives (one post-comps and one other) and two alternates attend the scheduled meetings of the department faculty in order to express student opinions and concerns and to ensure that graduate students are kept informed of decisions made or considered which might affect them.

PSU Graduate Student Association Representatives (Two representatives and two alternates)- Two representatives attend meetings of the University Graduate Student Association (GSA) in order to express student opinions and concerns and ensure that graduate students are kept informed of decisions made or considered which might affect them. More information about the Graduate Student Association can be found at the [GSA web site](#).

Department Colloquium Committee – (Two co-chairs and unlimited number of students) This committee is responsible for organizing and holding the Department of Geosciences Colloquium. Committee members solicit ideas for colloquium themes and speakers, invite and schedule speakers, publicize the colloquium schedule, and provide refreshments. The committee asks faculty to host the visiting speakers and to work with staff to coordinate their transportation, housing, schedule and meals.

Graduate Student Colloquium Committee - (One chair and unlimited members)

This committee is responsible for scheduling and organizing the annual Department of Geosciences Graduate Student Colloquium held during Spring semester. Committee members handle organizational logistics (reserve room and equipment, solicit abstracts, schedule speakers, compile program booklet, publicize sessions), chair colloquium sessions, and arrange for refreshments and clean-up. Guidelines for the organization of the annual Graduate Student Colloquium are spelled out in a document available from the Committee chair

Activities and Events Committee - (One chair and unlimited members) This committee helps schedule and organize the Departmental activities such as the Fall Picnic, the Holiday Party (generally held the last day of Fall classes) and Entropy (generally held the last day of the student colloquium). Committee members reserve space and equipment, advertise, solicit donations/sell tickets, and arrange for decorations, entertainment, food, and clean-up. At the request of others, this committee also helps with the Fall Picnic and other department social gatherings

Computer Committee – (One chair and unlimited members) This committee helps ensure that the computer needs of grad students are met, regardless of their affiliation (or lack thereof) with a specific computer-rich group (i.e. ESSC, Geophysics, Geodynamics, Basin Research, Ice and Climate). The Committee represents grad student interests at meetings of the Faculty Computer Committee and should interact regularly with faculty in designing access to computer facilities. The chair of this committee should have a good knowledge of computer systems and the various department facilities.

Welcoming Committee For New Students – (One chair (new student) and unlimited members) This committee provides information about housing, parking, insurance and other issues that would help incoming students and those considering offers of acceptance. In the past, this committee has compiled a folder of relevant materials to be mailed to students to whom offers of admission are extended (generally in mid-April). The chair of this committee, when requested, coordinates over-night housing (often in a student's home) and lunch or dinner for visiting potential grad students. The committee may be asked to organize welcoming social.

TGIF Committee -This committee organizes and publicizes opportunities for grad students to present their work and field/travel experiences to their peers in an informal setting, often in preparation for candidacy exams, defenses or professional meetings. This committee solicits speakers, reserves room and equipment, and publicizes the talk. The decision of whether to invite faculty to these talks is left to the speaker. The head of the TGIF committee is also in charge of running the meeting where committees are put together.

DEPARTMENTAL LABORATORIES AND EQUIPMENT RESEARCH LABORATORIES AND EQUIPMENT

The Department maintains a variety of facilities and equipment for research to which the students may arrange to have access. Each of the laboratories is under the direct supervision of a faculty member. Any planned use of these facilities should be discussed with the faculty member in charge, as the cost of operation of much of the equipment is mainly carried by particular research projects. There are also facilities available in other departments and colleges of the University. Please make sure that you secure permission of the person in charge of these facilities before using them, and ensure that you do not act in any way to lessen cooperation for yourself and your colleagues.

General Laboratory Facilities

In addition to the research laboratories there are other more general laboratories and facilities. In most cases, a faculty member is in charge of them. If there is a question as to who is in charge, please consult with the Associate Head.

Computer Facilities

The Department has extensive computer facilities of various types. As one might expect, they change frequently. The departmental policy regarding computer access is available at the [department web site](#).

Safety Training

The Department is committed to providing a safe environment for research and education. All students, staff and faculty who have potential exposure to any hazardous chemicals (through their own work or exposure by location) are required to receive safety training within 90 days of entering our program. Students are introduced of chemical safety issues and to chemical waste disposal procedures as part of the orientation sessions when they enter the Geosciences Graduate Program. The Department of Environmental Health and Safety offers additional safety training courses on specific topics.

Rock Preparation Room

The rock preparation room (607 Deike) is equipped for the wet cutting and grinding of rock and mineral specimens. To make possible fine grinding, the room must be kept free of dry rock dust and rock particles at all times. Consequently, the breaking up or pulverizing of rocks must be done somewhere else (See Don Voigt for guidance). After each period of use, the equipment must be thoroughly cleaned by the person who has used it.

APPENDICES

M.S. and Ph.D. Thesis Format

The Office of Theses and Publications is the Division of the Graduate School responsible for reviewing all theses to assure that they meet accepted standards for scholarly writing. Questions concerning thesis regulations, format, or submission should be answered by consulting the Thesis Guide, which is available at the Office of Theses and Publications (114 Kern Graduate Building). It is the student's responsibility to be aware of the current regulations and policies regarding thesis format and submission procedure.

Examples of currently acceptable formats for thesis and paper Title and Signatory Pages are shown in this appendix.

The Pennsylvania State University

The Graduate School

Department of Geosciences

Title of Thesis

A Thesis in

Program

by

First Name, Initial, Last Name

Copyright Notice, e.g., Copyright 1994 Leslie R. Anderson
[optional]

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Geosciences

Month and Year of Degree Conferral

I grant The Pennsylvania State University the nonexclusive right to use this work for the University's own purposes and to make single copies of the work available to the public on a not-for-profit basis if copies are not otherwise available.

Author's Name as on Title Page

Signatory Page of Master's Thesis

We approve the thesis of Name.

Date of Signature

Name
Title
Thesis Advisor

Name
Title
(Special Member if applicable)

Name
Title

Katherine H. Freeman
Professor of Geosciences
Associate Head for Graduate Programs and Research

Graduate Student Committee Procedures¹ and Doctoral Committee Appointment Signature Form

(For a complete list of doctoral committee policies, please refer to the Graduate Bulletin or on-line at <http://www.psu.edu/bulletins/whitebook/>)

I. Justification:

A graduate student's committee is responsible for approving a student's program and promoting communication among the graduate student, the committee chair (or adviser), and the members of the committee, and, more generally, for helping to ensure the successful completion of a student's program. The committee should be appointed as soon as possible in a master's program and immediately after the doctoral student's admission to candidacy. The following **Doctoral Student Committee Policies and Procedures** are designed to achieve these goals, minimize misunderstandings, and help foster a collegial relationship among the graduate student, the committee chair, and the members of the committee throughout the graduate student's program. **Each doctoral student, chair and committee member should receive a copy of these policies and procedures.**

II. Policies and Procedures for Doctoral Students and Committees:

1. The **doctoral committee** should meet with the student **at least once per year** to (1) provide guidance, (2) finalize and approve the research proposal of the student so that there is a clear understanding of the research goals and objectives, (3) assess the quality and progress of the research, and (4) discuss programmatic issues (e.g., course requirements).
2. Both the **chair** and the **student** are responsible for providing a copy of the final draft of the dissertation to the committee **at least 2 weeks** prior to the scheduled date of the final oral examination. The chair should schedule a date for the examination with the Office of Graduate Enrollment Services **at least two weeks** prior to the examination.
3. Both the **chair** and the **student** are responsible for ensuring the completion of a draft of the dissertation and **for adequate consultation** with members of the doctoral committee well in advance of the final oral examination. Major revisions of the dissertation should be completed before this examination. The dissertation should be in its "final" draft, with correct and polished content and style, appropriate notes, bibliography, tables, etc., at the time it is distributed to the committee members. **If committee members find that the draft submitted to them is not in this form, the chair is notified and postponement of the examination is considered.**
4. **If a committee member finds that the "final" draft is not correct and polished with respect to content and style, it is his/her responsibility to notify the committee chair (or adviser) at least one week in advance of the final oral examination date.** The **committee member** should indicate his/her concerns regarding the draft and recommend consideration of postponement of the examination to the committee chair (or adviser). The **committee chair** (or adviser), in consultation with committee members, is responsible for notifying the student and assessing whether the student can make the necessary revisions to the "final" draft before the examination date. If it is determined that revisions cannot be made in time, the examination should be postponed. If differences exist among committee members, the **department head** or **program chair** should be consulted to hear the expressed concerns and determine whether the examination should be postponed.
5. **If the dissertation is deemed unsatisfactory at the time of the examination by at least two-thirds of the committee, the student will fail the examination.** If a candidate fails, it is the responsibility of the committee to determine whether another examination may be taken by the student.
6. The primary responsibilities of The Outside Member are to (1) maintain the academic standards of the Graduate School and (2) assure that all procedures are carried out fairly. The Outside Member represents the Graduate School and, as such, The Outside Member shall be a member of the Graduate Faculty but need not have direct expertise in the research area of the candidate. The Outside Member may contribute technical expertise, but this role is subordinate to the aforementioned primary responsibilities. The Outside Member shall not hold an appointment having a budgetary connection to or other conflict of interest in the department or academic unit to which the doctoral program belongs, or to the department or academic unit of the chair or dissertation advisor, and cannot serve as either chair or co-chair of the committee.

PENNSYLVANIA



The GRADUATE SCHOOL

¹ Although master's programs vary widely across the University and differ from doctoral programs, departments and programs are urged to follow the spirit of the Procedures for Doctoral Students (points 1-6 above), when appropriate, for graduate committees of master's students. These Procedures (points 1-6) should be added to graduate program handbooks and/or web sites of departments or programs.

Doctoral Committee Appointment Signature Form

Student Name (Print or Type)	PSU ID	Degree Sought (Ph.D./D.Ed.)	Graduate Program
------------------------------	--------	-----------------------------	------------------

- III. Doctoral Committee Appointment Signature Page: A minimum of four members of the Graduate Faculty is required. At least two members must be from the major program (this may include the chair or co-chair). Please refer to the Graduate Degree Programs Bulletin "Advisors and Doctoral Committees" for detailed guidelines.

As the student/chair/committee member, I have carefully read and agree to the policies and procedures outlined on page 1, and, if a committee member, agree to serve as a chair/committee member for the student specified.

***Student:**

Signature	Date
-----------	------

***Chair of the Committee:**

(Must be a member of the major program)

Printed Name	Signature	Date
--------------	-----------	------

List all departments/programs with which you have a budgetary connection

Co-Chair (if applicable):

Printed Name	Signature	Date
--------------	-----------	------

List all departments/programs with which you have a budgetary connection or adjunct appointment

***Dissertation Advisor**

(Identify and sign even if chair or co-chair)

Printed Name	Signature	Date
--------------	-----------	------

List all departments/programs with which you have a budgetary connection or adjunct appointment

***Major Program**

Member(s):
(In addition to the chair or co-chair)

Printed Name	Signature	Date
--------------	-----------	------

Printed Name	Signature	Date
--------------	-----------	------

Printed Name	Signature	Date
--------------	-----------	------

Printed Name	Signature	Date
--------------	-----------	------

Printed Name	Signature	Date
--------------	-----------	------

***The Outside Member:**

(Cannot chair or co-chair; Must sign form last in order to assess potential conflicts)

As The Outside Member of this committee, I affirm that I do not have a budgetary connection or adjunct appointment or other conflict of interest with the department or academic unit to which the doctoral program belongs, or to the department or academic unit of the chair or dissertation advisor, and cannot serve as either chair or co-chair of the committee.

Printed Name	Signature	Date
--------------	-----------	------

List all departments/programs with which you have a budgetary connection or adjunct appointment

*Required Fields

PENNSSTATE



The GRADUATE SCHOOL

Additional members of the committee from outside the department or program, if applicable:

_____	_____	_____
Printed Name	Signature	Date
_____	_____	_____
Printed Name	Signature	Date
_____	_____	_____
Printed Name	Signature	Date

Minor Field Member(s), if applicable:

_____	_____	_____
Printed Name	Signature	Date
_____	_____	_____
Printed Name	Signature	Date

Gen. Studies Member(s): (For D.Ed. Students)

_____	_____	_____
Printed Name	Signature	Date
_____	_____	_____
Printed Name	Signature	Date

Special Member(s), if applicable:
(Attach memo of request and vitae)

_____	_____	_____
Printed Name	Signature	Date
_____	_____	_____
Printed Name	Signature	Date

Name and Signature of Graduate Program Head or Graduate Officer verifying above information:

_____	_____	_____
Printed Name	Signature	Date

Please note:

- (1) If the composition of the doctoral committee changes, a new committee appointment signature page must be resubmitted to the Office of Graduate Enrollment Services, but only the new committee member needs to sign it.
- (2) These policies and procedures pertain to Doctoral students; thus, this form is not required for Master's students.



DECLARATION OF MULTI-AUTHORSHIP WITHIN A THESIS

(This signed form should be available at the defense.)

CIRCLE ONE OF THE STATEMENTS BELOW:

1. The thesis *does not* contain section(s) that have been previously published, that are in review or in press in a journal, or that have been prepared in a format for immediate submission for publication.
2. The thesis *does* contain section(s) that have been previously published, that are in review or in press in a journal, or that have been prepared in a format for immediate submission for publication. The candidate is, however, the sole author of the section(s).
3. The thesis does contain section(s) that have been previously published, that are in review or in press, or that have been prepared in a format for immediate submission for publication. One or more of these sections is (will be) published under the name of more than one author. We realize that the Graduate School Thesis Guide specifically permits departments to accept such material in a thesis if the candidate is first author of the work and if the candidate's contributions are clearly and fully indicated in a preface. We realize that the Geosciences Graduate Program accepts the Graduate School standard for theses. The Graduate School standard has been fulfilled, and the indicated contributions of the candidate do represent his/her independent work – in acquisition of data, and writing (subject to normal review by advisor, committee, and colleagues).

Candidate: _____
(Signature)

Date: _____

Advisor: _____
(Signature)

Date: _____

Adopted by the Graduate Program Committee 10/29/89.

Signatory Page for Doctoral Thesis

We approve the thesis of Name.

Date of Signature

Name
Title
Thesis Advisor
Chair of Committee

Name
Title
(Special Member if applicable)

Name
Title

Name
Title

Katherine H. Freeman
Professor of Geosciences
Associate Head for Graduate Programs and Research



The GRADUATE SCHOOL

eTD Approval Form

Student Name: _____ ID #: _____

Address: _____

E-mail address: _____ Phone: _____

Degree: _____ Major: _____ Planned graduation date: _____

Thesis Adviser: _____ Chair of Committee: _____

Thesis title (use word substitutes for formulas, Greek letters, and other non-alphabetical symbols):

Student Agreement: I hereby certify that, if appropriate, I have obtained and attached hereto written permission statements from the owners of each third party copyrighted matter to be included in my thesis or dissertation, allowing distribution as specified below. I certify that the version I submitted is the same as that approved by my committee.

I hereby grant to Penn State and its agents the non-exclusive license to archive and make accessible, under the conditions specified below, my thesis or dissertation in whole or in part in all forms of media, now or hereafter known. I retain all other ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signed: _____ (student) _____ (date)

Student and Committee Agreement:

Part A. In addition to the unrestricted display of the bibliographic information and the abstract, we agree that the above-mentioned document be placed in the eTD archives with the following status (choose one):

- ___ 1. Release the entire work for Access Worldwide.
- ___ 2. Release the entire work for Penn State Access Only.
- ___ 3. Secure the entire work for a period of two years for patent and/or proprietary purposes. At the end of the two-year period, the work will be released automatically for access worldwide unless option 2 (above) is requested in writing. To change to option 2, the written request should be sent 30 days prior to the end of the two-year period to the Graduate School's Thesis Office, 115 Kern Graduate Building, University Park, PA 16802, or by e-mail to gradthesis@psu.edu.

Part B (optional). When and if the student signing this form becomes inaccessible, either of the following persons is authorized to serve as proxy to modify the release status of this work (thesis adviser or chair of committee are suggested as possible proxies):

Printed name of proxy: _____ E-mail _____

LETTER FOR MAJOR ADVISOR

Date _____

Associate Head
Department of Geosciences

Dear _____:

I request that _____ be approved as my major advisor for the M.S. / Ph.D. (M.Ed.) degree in Geosciences (Earth Sciences).

I consent to serve as major advisor for that student.

Sincerely,

Signature
Student

Please Print

Signature

Please Print

Faculty Advisor

Approved: _____

Date: _____

Associate Head

LETTER FOR THESIS COMMITTEE

Date _____

Associate Head
Department of Geosciences

Dear _____:

I request that the following faculty be appointed to serve on my thesis committee for the M.S. /M.Ed. / degree in Geosciences / Earth Sciences.

	Department
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

We have consulted with these faculty and they have consented to serve as committee members.

Sincerely,

Student

Approved: _____

Date: _____

Associate Head

CHANGE OF M.S., M. Ed. COMMITTEE / ADVISOR

Date _____

Student _____

Change advisor from _____ to _____

Change thesis committee membership

For the following faculty, please:

DROP

ADD

Signatures below confirm approval by all parties, including all former, continuing and new committee members:

		Date
_____	Present Advisor	_____
_____	New Advisor	_____
_____	Member	_____
_____	Member	_____
_____	Member	_____
_____	Member	_____

Approved: _____

Associate Head

**CANDIDACY EXAMINATION
DEPARTMENT OF GEOSCIENCES**

«Student»

SUMMARY OF THE CHAIR

Student

Evaluation of Student's Performance as a Ph.D. candidate

Quality of	Excellent	Very Good	Good	Fair	Poor
Propositions					
Oral Presentation					
Defense of propositions					
Background preparation for the Proposal Defense					

Vote: Pass _____ Fail _____

Recommended course of action if failed:

- _____ At the student's request, a second exam may be scheduled within two semesters.
- _____ Retake the exam after completion of a M.S. thesis (The student will remain on the Ph.D. track).
- _____ Terminate the student's status as a Ph.D. candidate (The student may transfer to the M.S. track).
- _____ Terminate the student's graduate student status (The student may not transfer to the M.S. track).

In case the student's Ph.D. Graduate Program is terminated, should a note to this effect appear on the student's transcript (circle one). Yes No

Recommendations on remediation if passed:

Background courses to be completed:

Courses in support of thesis work to be completed:

Recommendations to increase competency in English:

General recommendations:

Date

Chair of Candidacy Committee

«Chair»

This summary document will become part of the official student file and available to the student.

Assessment of English Competency at the Candidacy Examination

Statement of Department Policy

A complete statement of Department policy appears in the Bluebook. The Department standard reads as follows:

Students in the Geosciences Program will be expected to demonstrate proficiency in communicating scientific information and ideas in formal and informal professional settings. The important settings in which skills will be needed are oral exams (Candidacy and Comprehensive), oral presentations at Department Colloquia and national meetings, and teaching assignments in the cases of TA's. We expect spoken English to be of sufficient quality that listeners can concentrate on data and ideas rather than on the form of delivery, and that questions addressed to the candidate are readily comprehended. We expect oral presentations to be organized in a logical sequence.

We expect students to perform with a uniform standard of quality in writing. Documents should demonstrate correct grammar, spelling, and punctuation. Organization, sentence length, logical sequences of thought, clarity, and avoidance of jargon and colloquialisms are all components.

Assessment of English Competency

English competency is formally assessed at the Candidacy Examination and certified, if necessary, at the time of the Thesis Proposal. Assessment measures available to the Candidacy Committee include a report from the Initial Advisory Committee, essays and reports from Spring reviews of progress, the MS thesis/paper (if written at Penn State), the Candidacy proposals, and performance on the oral portion of the Candidacy exam.

_____ The Candidate exhibits proficiency in written and oral English consistent with the Department standard quoted above.

_____ The Candidate does not exhibit proficiency in written and oral English consistent with the Department standard quoted above. Competency should be formally certified at the time of presentation of the Thesis Proposal, but no formal remediation measures are required.

_____ The Candidate does not exhibit proficiency in written and oral English consistent with the Department standard quoted above. Remediation should include writing of two review papers under the supervision of the research advisor during the ensuing semester. It will be the responsibility of the research advisor to require an appropriate number of revisions of these papers. Competency should be formally certified at the time of presentation of the Thesis Proposal.

Other Recommendations:

_____ Date

Committee Chair, for the Candidacy Committee
«Chair»