

## **DOCTOR OF PHILOSOPHY DEGREE**

Consult the latest Bulletin of the Graduate Programs of the Faculty of Arts and Sciences (<http://www.pitt.edu/~graduate/>) for general regulations. The material presented here concerns procedures and requirements specific to the Department of Geology and Planetary Science.

### **ADMISSION**

Prospective graduate students must fulfill the requirements for admission to graduate study in the Graduate Programs of the Faculty of Arts and Sciences, described in the sections on Admission and Registration regulations in the Faculty of Arts and Sciences Bulletin. Successful applicants to the Department of Geology and Planetary Science may be admitted with full graduate status or with provisional status, depending on the undergraduate major area of study and grade point average (GPA). Full graduate status may be offered to students who have completed an appropriate undergraduate program in one of the natural or physical sciences related to Geology and Planetary Science and who have received satisfactory grades (generally B or higher) in science and mathematics courses. Students who have received a Master of Science degree from the Department of Geology and Planetary Science at the University of Pittsburgh and who wish to enter the Ph.D. program should submit a standard application to the Department.

An applicant with a GPA below 3.0 may be admitted with provisional status. Students admitted with provisional status are not eligible for a teaching assistantship. Transfer from provisional to full status may occur upon formal recommendation of the Department following satisfactory completion of four courses (twelve credits) for which graduate credit is earned with at least a 3.0 (B) average. To initiate change of status, the student's Initial or Major Advisor must complete a formal request to the Associate Dean of Graduate Studies that the student be transferred to full graduate status.

### **READMISSION**

A student who has not registered for at least one credit during a twelve (12) month period (without obtaining a formal leave of absence) will be transferred automatically to inactive status and must file an application for readmission to graduate study (and pay the application fee) before being permitted to register again. While on inactive status, a student is not eligible to use University facilities and should not expect to receive counseling by the faculty or active supervision by her/his advisor.

### **TRANSFER OF CREDITS**

The University of Pittsburgh may allow the transfer of some credits into a doctoral program, dependent upon approval by the Associate Dean of Graduate Studies. The Office of the Dean may accept as many as twenty-four (24) credits from a Master of Science degree or graduate study toward the Ph.D. at another institution. In recognition of graduate study beyond the M.S. degree awarded elsewhere, no more than twelve (12) additional credits may be accepted at the

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time of admission. All petitions for transfer of credits earned at another institution should be made within the first year of graduate study at the University of Pittsburgh. Transfer credits come under the same statutes of limitations as other degree requirements. Requests for the transfer of credits that are older than 10 years for a doctoral degree must be accompanied by a clear justification addressing the current relevance of the credited material relative to the graduate degree sought at the University of Pittsburgh.

## STUDENT ADVISEMENT

***Initial Advisor.*** Upon admission to the Department, each graduate student will be assigned a faculty member who will act as her/his Initial Advisor. The Initial Advisor will be chosen by the Department from those in fields most closely allied to the expressed interests of the student at the time of admission. The duties of the Initial Advisor are to familiarize the student with the University and the Department, to recommend a course of study designed to prepare the student for her/his graduate program, and to assist the student in the selection of a field of research and in the choice of a Major Advisor. The student may change advisor at any time. If the student wishes to change advisor, he/she should gain agreement from the new advisor, inform the former advisor, and submit a written notification to the Graduate Administrator.

***Major Advisor.*** After the student has identified a dissertation topic or area of specialization, she/he should select a faculty member to become her/his Major Advisor. The Initial Advisor may be selected as the Major Advisor. It is recommended that this decision be made no later than the middle of the student's second term of study. The student should meet with the faculty member to discuss possible research projects, and request that the faculty member become her/his Major Advisor. Following the student's choice of an area of specialization and Major Advisor, the Major Advisor should indicate to the Graduate Administrator in writing acceptance of this role.

## REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY DEGREE

***Course Requirements.*** The minimum course requirement for the Ph.D. degree is seventy-two (72) credits. These include lecture, laboratory, seminar, topics courses, and research credits. Only eight (8) credits numbered below 2000 may be applied toward graduation requirements. A minimum of thirty-six (36) credits must be from formal courses and at least eighteen (18) of the credits must be taken within the Department of Geology and Planetary Science. A minimum grade point average of 3.0 must be maintained for all formal courses taken. Students with full graduate status will be placed on probation if the cumulative grade point average falls below the minimum grade point level. If a Master of Science degree is awarded from the Department prior to admission, then at least forty-two (42) additional credits are required. Up to twenty-four (24) credits may be accepted from a Master of Science degree or graduate study toward the Ph.D. at another institution. In recognition of graduate study beyond the M.S. degree awarded elsewhere, no more than twelve (12) additional credits may be accepted at the time of admission. As deemed appropriate, some or all of these credits may be used to satisfy formal course requirements. The student must consult with her/his advisor in order to determine the appropriate number of transferable credits.

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**Colloquium.** All students must register for and attend the weekly departmental colloquium (GEOL 2015) during each term of residence. Colloquium attendance registers will be maintained.

**Statute of Limitations.** Requirements for the Ph.D. must be fulfilled within a period of seven calendar years or within five years if the student has received credit for a Master of Science degree appropriate to the field of study. Extensions may be granted upon approval of the faculty. Extension of the statute of limitations will be granted only for exceptional circumstances. The request must be approved by the student's Dissertation Committee and the Graduate Committee Chair and submitted to the dean for final action.

**Language Requirement.** There is no language requirement for the Ph.D. degree within the Department of Geology and Planetary Science.

**Initial Evaluation.** An initial evaluation is required of all advanced degree candidates. The initial evaluation is designed to explore the student's basic knowledge of the geological sciences (and related fields) and to identify areas in which improvement is needed. The initial evaluation will therefore guide coursework. Within the Department of Geology and Planetary Science, the initial evaluation takes the form of a written test administered simultaneously to all new graduate students usually at the beginning of the first term of residence (typically in late September). New Ph.D. students previously awarded the Master of Science degree from the Department are exempt from this requirement.

The examination will comprise questions contributed by Geology and Planetary Science faculty members and will cover topics taught within the Department. The Initial (or Major) Advisor will meet with the student within one (1) week after the examination and, if deficiencies are noted, will determine what remedial coursework is required. The advisor will prepare a written assessment summarizing the results of the examination and the meeting with the student. One copy of this report will be given to the student and another to the Graduate Administrator. Coursework suggested by the Initial (or Major) advisor must be completed with grades of A or B prior to the comprehensive examination.

**Yearly Progress Report.** Each student must submit a progress report form to the Graduate Administrator each Spring term (typically mid-to-late March). The form will contain a brief summary of academic and research progress, signed by the Major Advisor, and may include supplementary materials such as teaching evaluations or abstracts from professional meetings.

**Dissertation Committee.** The student's Dissertation Committee will consist of at least five persons responsible for scientific guidance and research oversight. The chair of the Dissertation Committee is the Major Advisor of the student, and at least three other members must be graduate faculty from the Department of Geology and Planetary Science. At least one additional committee member must be from another department within the University of Pittsburgh or from an appropriate program at another academic or research institution. It is not necessary to identify the external member at the initial evaluation, but the external member must be identified at the latest by the time of the Dissertation Overview. Membership of the Dissertation Committee must

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be approved by the Department Chair and the Associate Dean of Graduate Studies by submitting the appropriate form to the Graduate Administrator. The membership of the committee may be changed if appropriate or necessary, subject to the approval of the Department Chair and the Dean. Students are strongly encouraged to schedule annual meetings with the Dissertation Committee.

**Graduate Committee Review.** The Graduate Committee is responsible for reviewing the academic progress (completion of coursework, Dissertation Committee formation, etc.) of each graduate student once a year, during the Spring term (typically late March or early April). Each review will consist of a brief meeting between the student and the Graduate Committee during which the annual progress report form will be discussed and the student may raise any concerns. The student's Major Advisor will not be present during the meeting. After review by the Department faculty and Chair, the recommendations of the Graduate Committee will be communicated in writing to the student. A copy of the written recommendation will be provided to the student and also to the Graduate Administrator. If the academic progress of a student is deemed unsatisfactory, probationary continuation or termination of enrollment may be implemented. A student may appeal the decision in writing to the Department Chair.

**Comprehensive Examination.** The graduate student seeking the Ph.D. degree must complete a comprehensive examination administered by the Departmental members of her/his Dissertation Committee in order to demonstrate sufficient mastery of the field of interest and the ability to conduct dissertation-level research. The comprehensive examination should take place no later than the Fall term of the student's third year of enrollment, although students are encouraged to complete the examination as soon as possible following completion of most required coursework and after beginning dissertation research. The student is responsible for scheduling the examination. A student who is unable to complete all degree requirements within a three (3) year period after passing the comprehensive examination may be re-examined at the discretion of the Dissertation Committee with the approval of the Department Chair.

The comprehensive examination for the Ph.D. degree consists of both a written examination and an oral examination. The written comprehensive will take the form of a two (2) day closed-book examination and will consist of questions provided by the Dissertation Committee members. The principal focus of the questions will be material directly related to the major field of research. The Major Advisor will solicit and review questions from Dissertation Committee members. Day one of the written examination (scheduled for a continuous 8-hour period) will include only questions contributed by the Major Advisor. The second day of the examination will consist of questions solicited from the other Dissertation Committee members. The examinee shall neither interact with other students and colleagues with regard to the examination, nor consult books or on-line resources not explicitly authorized by the Dissertation Committee. Grading of the written examination by the relevant faculty members will occur on a scale of one (1) through five (5) where 1 = Fail, 2 = Poor, 3 = Good, 4 = Very Good, and 5 = Excellent. Students must receive a majority of "good" to "excellent" grades to pass the written examination. Successful completion of the written component of the comprehensive examination permits the scheduling of the oral examination. Students failing the written comprehensive must arrange a meeting with the

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Dissertation Committee to discuss the deficiencies and to propose a date for retaking the examination. Only one retake of the written comprehensive is allowed.

The oral comprehensive will be taken no more than three (3) weeks after successful completion of the written examination. Oral examination questions will focus primarily on the student's written comprehensive responses as well as the planned dissertation research and related fields, but may extend to additional subjects. The examination will be judged on the basis of the student's depth of understanding and knowledge of relevant scientific materials and her/his potential to conduct appropriate research activities. Grading of the oral comprehensive is pass/fail. Any student that fails the oral examination must arrange a meeting with the Dissertation Committee to discuss the deficiencies and to propose a date for retaking the examination. Only one retake of the oral comprehensive is allowed.

**Dissertation Overview.** Each Ph.D. student must prepare a written dissertation proposal for presentation to the Dissertation Committee at a formal dissertation overview meeting. The dissertation proposal will provide a concise statement of the purpose and scope of the student's dissertation, a detailed plan of research, and the expected significance of the work. The combined text and figures (excluding bibliography) for this proposal are not to exceed 15 pages. Formal presentation of the proposal should take place no later than six (6) months after the successful completion of the written and oral comprehensive examination. During this meeting, the Dissertation Committee will critique the research plan and proposed methodology and approve or reject the dissertation topic. Approval of the proposed research and the research design does not imply either the final acceptance of a dissertation prepared in accordance with the outlined plans, or restriction of the dissertation to the original proposal. Even after successful completion of the overview meeting, the student should keep the committee members informed of progress and provide all members additional formal opportunities to suggest possible improvements in research methodology or analysis. The student should also maintain frequent informal contacts with all members of the Dissertation Committee.

**Admission to Candidacy.** Following successful completion of the comprehensive examination, and completion of the dissertation overview, the student may apply to the Dean for Admission to Candidacy. Admission to candidacy constitutes a promotion of the student to the most advanced stage of graduate study and provides formal approval to devote exclusive attention to research and writing of the dissertation. Admission to Candidacy should occur at least eight (8) months before the dissertation defense.

**Dissertation.** Each Ph.D. candidate must prepare a dissertation demonstrating successful completion of the research project as well as competency in the methods and techniques of scientific investigation in the field of her/his area of specialization. The dissertation must be clearly, logically, and carefully written. The Major Advisor must approve of the content, format, and grammar prior to submission of the dissertation to the Dissertation Committee. The dissertation should contain an introductory statement, including appropriate justification of the research, a description of the methods and observations of the investigation, evaluation of the significance and meaning of the results, and a final summary. Each Ph.D. student must submit at

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least one manuscript to a peer-review journal prior to graduation and present research results at both a departmental colloquium and at a meeting of a national or international scientific organization.

The Major Advisor should ensure that the dissertation is in acceptable form before requesting review by the Dissertation Committee members. The dissertation must be submitted to each member of the Dissertation Committee at least two (2) weeks prior to the dissertation defense. The members of the Dissertation Committee should review and edit the dissertation prior to the final dissertation defense.

**Application for Graduation.** Each candidate for graduation must file an official Application for Graduation within the Office of Graduate Studies early in the term in which graduation is expected. Students are required to register for at least one credit in the term of graduation.

**Dissertation Defense.** Each Ph.D. candidate must formally defend her/his submitted dissertation. The student must provide notification of the defense at least three (3) weeks prior to the scheduled date to the Graduate Administrator, the Major Advisor and each thesis committee member. The Graduate Administrator will then advertise the defense and notify the Assistant Dean of Graduate Studies. The defense is a public meeting, and the notice should therefore list the title of the dissertation and the time and location of the event.

The Dissertation Committee conducts the defense of the doctoral dissertation. The student will begin the dissertation defense with a summary of her/his research topic and results that shall not last more than thirty (30) minutes. Following the oral summary and a general question-and-answer period, visitors will be asked to leave and the student will then defend her/his research by answering questions posed by the Dissertation Committee. Questions need not be confined to materials within and related to the dissertation. The dissertation will be formally accepted or rejected by the Dissertation Committee at the defense and the committee will decide what, if any, revisions should be made. A report on the results of the defense and on acceptance of the dissertation, signed by each member of the Dissertation Committee, must be submitted to the Dean of Graduate Studies for approval. Prior to submitting the report of the dissertation defense to the Office of the Dean, the Major Advisor must also ensure that the student has secured the necessary signatures on the form entitled "Checklist for Students Completing Requirements for an Advanced Degree" which then should be placed in the student's file.

The Major Advisor is responsible for final approval of the revised dissertation. After completion of the revisions, one electronic copy of the thesis must be submitted to the University Library System according to the specific requirements of the University's Electronic Theses and Dissertations Online System (<http://www.pitt.edu/~graduate/etd/>). In addition, one hard-bound copy of the thesis is required for departmental files and another copy is to be given to the Major Advisor. Students must also submit all required forms and documents as specified in the Arts and Sciences graduation packet (available within the Graduate Studies Office, 5141 Sennott Square).