



UNIVERSITY OF
ARKANSAS

DEPARTMENT OF GEOSCIENCES

GRADUATE STUDENT HANDBOOK

2015-2016

2015-2016 Graduate Student Handbook

The degrees offered by the Department of Geosciences are a Master of Science in Geology (MS), a Master of Science in Geography (MS), and a Doctorate of Geosciences (PhD). Each program has separate admission requirements, separate requirements for fulfilling the degree and separate graduate coordinators. This handbook describes the admissions and degree requirements for the Department of Geosciences at the University of Arkansas.

Department of Geosciences graduate students are required to read this handbook and sign the contract page at the back of this handbook that states that the student understands the procedures and guidelines, and agrees to abide by them throughout his/her tenure within the program. The signed contract will be placed in the student's file.

This handbook is designed to supplement the information provided in the University of Arkansas Graduate School Catalog which can be accessed online at: <http://grad.uark.edu/dean/governance/gradstudenthandbook.php>,

The Graduate School **Phone: 479-575-4401**
213 Ozark Hall **<http://grad.uark.edu/>**

The current Geosciences graduate coordinators are:

GEOLOGY	GEOGRAPHY	GEOSCIENCES
Doy Zachry	Fiona Davidson	Ralph Davis
Ozark 116	Ozark 115	OZAR 216
479-575-2785	479-575-3703	479-575-4515
dzachry@uark.edu	fdavidso@uark.edu	ralphd@uark.edu

The Department also is part of the interdisciplinary graduate programs in Environmental Dynamics (ENDY) and Space and Planetary Sciences (SPAC). ENDY offers only the PhD. SPAC offers the MS and PhD. Students may also obtain the MS in Geology or MS in Geography with a concentration in Space and Planetary Sciences. For additional information contact:

ENDY	SPAC
Steve Boss	John Dixon
225 Ozark Hall	219 Ozark Hall
479-575-7134	479-575-5808
sboss@uark.edu	jcdixon@uark.edu

The Geosciences office is located in 216 Ozark Hall. The members of the office staff are here to keep the department running smoothly and to help with whatever problems and concerns that may occur. Each staff member has specific responsibilities.

ADMISSIONS REQUIREMENTS

Applicants wishing to pursue a degree in the Department of Geosciences must be admitted to both the Graduate School and the Department.

If interested in a teaching assistantship, applicants must also submit an application packet to the Department of Geosciences which should include:

- Transcript from the applicant's undergraduate school(s).
- Letters of recommendation from three people familiar with the applicant's academic and professional skills.
- A statement of graduate and professional goals, including the applicant's reasons for pursuing an advanced degree.

DEADLINES:

MS Fall semester:	February 15
MS Spring semester:	October 15
PhD:	January 5

Each program also has these specific prerequisites:

MS GEOGRAPHY - Applicants must meet the following four requirements: satisfactory undergraduate preparation in geography, three letters from persons competent to judge the applicant's potential for graduate studies, satisfactory GRE scores, and a completed departmental application. In addition to these requirements, applicants should have adequate mathematical preparation at the undergraduate level, including statistics, algebra, and/or calculus. Those who do not meet these requirements may be admitted conditionally. Those with course deficiencies may enroll concurrently in graduate courses.

MS GEOLOGY - Applicants should have completed an undergraduate geology program similar to that required for the B.S. degree at the University of Arkansas and have satisfactory GRE scores. Applicants lacking an

appropriate background may satisfy deficiencies while enrolled in Graduate School. Applicants should submit application forms, three letters of recommendation, and a statement of their graduate and professional goals.

PhD GEOSCIENCES

- Minimum Undergraduate GPA: 2.85 on a 4.0 system
- Minimum Graduate GPA: 3.20 on a 4.0 system
- Minimum GRE Verbal: 153
- Minimum GRE Quantitative: 144
- Minimum GRE combined Verbal and Quantitative: 297
- Minimum GRE writing: 4
- International students only: a minimum score of 6.5 on the International English Language Testing System (IELTS), 79 on the Internet-based Test of English as a Foreign Language (TOEFL), or a 58 on the Pearson Test of English - Academic (PTE-A), taken within the preceding two years
- M.S./M.A. requirements: 24 units graduate courses, 6 hours thesis
- Recommendations: Three (3) letters of recommendation from individuals qualified to assess the applicant's academic potential
- Ph.D. course requirements: 24 units graduate courses; 18 hours dissertation; completed original dissertation research.
- No course with a grade of less than a C (graduate or undergraduate) will be accepted as fulfilling prerequisites.
- Acceptance by an adviser
- Other: Current Curriculum Vita; Statement of academic and research interests
- Submit application by Jan. 5 deadline for fall semester to assure consideration

REQUIREMENTS FOR MS in GEOLOGY

<http://catalog.uark.edu/graduatecatalog/programsofstudy/geosciencesdepartmentofgeos/>

Areas of concentration: General geology, space and planetary sciences

Instruction in geology at the graduate level focuses on preparation of students to become practicing professional geologists in industry or to pursue, without deficiencies, doctorates at established programs. Students intending to enter the industrial workforce are encouraged to maintain a broad perspective with an emphasis in an area of geology that has a demonstrated record of past employment, such as petroleum geology or environmental geology. The greatest strength of the program in geology at the University of Arkansas is instruction in practical geologic interpretation, with emphasis on field relationships. This instructional strength includes all levels of teaching and supports an active research program that serves to strengthen the research and communication skills of the students through writing assignments, oral presentations, and participation in professional societies.

Prerequisites to Degree Program: Applicants should have completed an undergraduate geology program similar to that required for the B.S. degree at the University of Arkansas. Those lacking an appropriate background may satisfy deficiencies while enrolled in Graduate School. Prospective students should submit application forms, three letters of recommendation, and a statement of their graduate and professional goals before February 15 for the fall semester and October 15 for the spring semester to assure their consideration. These dates are also deadlines for receipt of application for financial assistance.

Requirements for the Master of Science Degree: The program in Geology requires 30 graduate course credit hours, six of which will be derived from a thesis reporting the results of an original laboratory or field research problem. All course work, a thesis topic, and the final thesis must be approved by the student's thesis committee. This

committee is selected by the student and the student's thesis director and will consist of a minimum of three members. At least two of the committee members will be chosen from geology faculty whose areas of expertise coincide with the research interests of the student.

Each student will complete a core curriculum consisting of a minimum of 12 hours selected from the following courses:

GEOS 4053	Geomorphology (Sp)
GEOS 4063	Principles of Geochemistry (Fa)
or GEOS 5853	Environmental Isotope Geochem (Sp)
GEOL 4433	Geophysics (Irregular)
GEOS 4533	Petroleum Geophysics (irregular)
GEOS 4663	Low Temperature Geochemistry (Irregular)
GEOS 5123	Stratigraphic Principles and Practice (Irregular)
GEOS 5223	Sedimentary Petrology (Fa)

Each student must complete a minimum of 18 credit hours in geology courses, including one credit hour of GEOL 5001 Graduate Seminar, in addition to the six credit hours for the thesis.

Students who have completed some or all of these core courses as part of their undergraduate program must substitute additional elective courses, as approved by their thesis committee, to fulfill the minimum required 24 credit hours of course work.

To complete the requirements for the degree, the candidate must complete all course work with a grade-point average of 3.00, submit an acceptable thesis, and pass a comprehensive examination based primarily on a defense of the student's thesis.

Students should also be aware of Graduate School requirements with regard to master's degrees.

REQUIREMENTS FOR MS in GEOGRAPHY

<http://catalog.uark.edu/graduatecatalog/programsofstudy/geosciencesdepartmentofgeos>

Areas of Study: Human geography, physical geography, GIS, cartography, space and planetary sciences.

This program draws on a variety of faculty expertise in physical, environmental, human, and regional studies in geography as well as in cartography, remote sensing, photogrammetry, and computational aspects of geographic information science (GIS) or geoinformatics.

Prerequisites to Degree Program: Applicants must be admitted to the Graduate School and meet the following requirements: 1) satisfactory undergraduate preparation in geography, 2) three letters from persons competent to judge the applicant's potential for graduate studies, 3) satisfactory GRE scores, and 4) a completed departmental application. In addition to these requirements, students applying to the MS program should have adequate mathematical preparation at the

undergraduate level, including statistics, algebra, and/or calculus. Those who do not meet these requirements may be admitted conditionally. Applicants with course deficiencies may enroll concurrently in graduate courses. Those speaking English as a foreign language are encouraged to take the TOEFL with results reported to the department.

Degree Requirements: Requires a total of 30 semester hours. A minimum of 24 semester hours of course work (including a 7-hour core and 6 hours of quantitative or computational electives), six semester hours of thesis, and a comprehensive examination (defense of thesis) conducted by the candidate's thesis committee are required for all students who obtain an M.S. in Geography. Students should also be aware of Graduate School requirements with regard to master's degrees.

Core:

GEOS 5093 History of Geography (Even years, Sp)
GEOS 5333 Research Methods and Materials in Geography (Odd years, Fa)
GEOS 5011 Colloquium (Sp, Fa)

Quantitative and Computational Electives:

GEOS 4513 Intro to GIS Programming (Sp, Fa)
GEOS 4863 Quantitative Techniques in Geosciences (Sp)
GEOS 5033 Advanced Vector GIS (Irregular)
GEOS 510V Special Problems
ECON 4743 Intro to Econometrics (Sp)
CSCE 4523 Database Management Systems (Fa)
CSCE 4613 Artificial Intelligence (Irregular)
MATH 4153 Mathematical Modeling (Irregular)
MATH 4353 Numerical Linear Algebra (Sp)
MATH 4363 Numerical Analysis (Fa)
MATH 4503 Differential Geometry and Vector Calculus (Irregular)
MATH 4513 Advanced Calculus I (Sp, Fa)
MATH 4523 Advanced Calculus II (Sp)
STAT 4003 Statistical Methods (Sp, Fa)
STAT 5413 Spatial Statistics (Fa)
Other courses as approved by a Department of Geosciences Chair-appointed committee
GEOS 600V Master's Thesis (Sp, Su, Fa)

REQUIREMENTS FOR PhD in GEOSCIENCES

<http://catalog.uark.edu/graduatecatalog/programsofstudy/geosciencesdepartmentofgeos/> 24 course hours beyond the U of A MS/MA degree or equivalent.

- [GEOS 5023](#) Technical and Proposal Writing for the Geosciences
- It is strongly recommended that two courses be taken outside of the Department that are supplementary to the student's interests and dissertation topic. These may be 3000-level undergraduate courses, if approved by the Advisory Committee and the Graduate School.
- No more than 3 hours of Special Problems or Independent Research
- Dissertation - 18 hours to be taken after admission to candidacy.
- Any waivers to these requirements must be appealed to the Advisory or Dissertation committee and the departmental Graduate Adviser.
- Students should also be aware of Graduate School requirements with regard to [doctoral degrees](#).
- The student must maintain a 3.0 GPA in course work taken for the PhD degree.

The Doctor of Philosophy degree is primarily a research degree, but communication of that research is critical for professional development and required for most professional pursuits. To promote development of the communication skills, each student is required to teach labs and/or a course for at least one semester and to present scientific results at one or more national or international professional meetings.

PhD Candidacy Exams - There are two comprehensive exams: a written comprehensive exam and an oral defense of the dissertation proposal. Both exams are intended to evaluate the level of scholarship of the student by assessing the student's command of information learned in required courses and determining the adequacy of the student's intellectual preparation to engage in significant research leading to completion of the dissertation. As such, successful completion of these exams marks an important milestone in the student's progress toward the degree as she/he makes a transition from largely classroom-oriented study to independent research that is the hallmark of the doctoral tradition of academic achievement.

Students will take a comprehensive examination after they have completed the Graduate School residency requirement and have completed the one required departmental core course. The exam will be taken during the fall or spring semester when classes are in session, but not during final exams. At the time of the exam, the student must have a grade point average of 3.25 on 12 or more hours of course work taken beyond the master's degree. This exam must be taken at least one year prior to completing all requirements for the degree.

The Comprehensive Written Examination will be composed of two written works to be completed during a 30-day period at the beginning of the student's 3rd semester of enrollment in the Ph.D. program. The Chair of the Comprehensive Examination Committee will provide a written memo to the Graduate Coordinator indicating the starting date of the student's examination. No extensions to this time frame will be permitted except under the most extraordinary conditions. The first of the required written works will be a comprehensive, scholarly review of a topic relevant to the student's intended dissertation research. This written work will examine in critical detail extant knowledge in this topic area, significant concepts and

controversies related to this topic, and gaps in knowledge related to this topic that may lead to new, innovative research to enhance knowledge related to this topic. It is expected that the quality of this review paper will be such that it could be submitted for peer review to a relevant academic journal with minor or no revision. The paper should conform to formatting requirements of a specific academic journal to be determined and agreed upon by the Comprehensive Examination Committee. The paper should be of page length appropriate for that journal, double-spaced, with full citations, figures and tables compiled at the end of the manuscript. A typical manuscript prepared for submission to an academic journal will be approximately 25-30 pages of text with tables, figures, and references cited added as necessary.

The second written work to be assessed by the Comprehensive Examination Committee will be a research proposal composed by the student in the format typical of a National Science Foundation grant proposal. It is expected that the document will conform to all proposal formatting requirements as specified in the NSF Grant Proposal Guide (http://www.nsf.gov/publications/pub_summ.jsp). In order to make the writing tasks for this examination more manageable, proposals prepared by students will contain only the following sections as specified in the NSF Grant proposal Guide:

- 1) Project summary (NSF GPG item 2b)
- 2) Project descriptions (NSF GPG item 2d)
- 3) References cited (NSF GPG item 2e)
- 4) 2-page biographical sketch (NSF GPG item 2f)
- 5) Budget (GA salary, fringe benefits, travel, materials/supplies, other direct costs, facilities & administration costs, tuition)
- 6) Facilities and Equipment (this will be short, but should include access to computers, software, field equipment and vehicles of various kinds, instrumentation such as microscopes or other analytical devices)

The project description (including text, figures, tables) cannot exceed 15 single-spaced pages. The proposal should provide a detailed description of research of interest to the student, preferably related to the student's dissertation, and should be hypothesis

driven. The specific topic of the proposal should be agreed upon by the Comprehensive Examination Committee in consultation with the student.

The number of faculty members on the examining committee will be no less than four and no more than six. Should the student not pass the first exam, the student will have a second and final opportunity at a later date to be determined by the examining committee. Additional work may be required.

Upon completion of the written works, the student will provide each member of the Comprehensive Examination Committee with a copy (either hard copy or electronic version if requested by committee members). It is the duty of the Comprehensive Examination Committee to review both documents objectively, critically, and fairly to assess the student's preparation and scholarship regarding the assigned topics. Upon review of the written works, the committee will convene to discuss the strengths and weaknesses of the written works and to determine the student's overall performance in completing the assigned tasks. Evaluation will take the form of qualitative statements of "Excellent", "Very Good",

"Good", "Fair" or "Poor". Following evaluation of the written works, the committee will report directly their assessment to the student and the Graduate Coordinator. Students must receive passing assessments ("Good" or better) on both written assignments from at least 4 of the 5 committee members in order to be permitted to move on to the next phase of the qualifying examinations (oral defense of dissertation proposal).

Dissertation Proposal - Upon admission to candidacy (passing the comprehensive exam), the student will present to his/her Dissertation Committee a written and oral proposal of the dissertation topic for comment, suggestions, and approval. The dissertation advisor will chair the committee, unless prohibited by Graduate School conflict of interest rules. Successful completion of the proposal defense requires the positive vote of the committee. Normally this proposal will be completed by the third or fourth semester after matriculation and can only be delayed with the approval of the dissertation committee and the appropriate departmental Graduate Advisor.

REQUIREMENTS FOR MS in SPAC

<http://catalog.uark.edu/graduatecatalog/programsofstudy/spaceandplanetarysciencesspac/>

A student may choose to obtain the MS degree in Space and Planetary Sciences with a concentration in Geology or Geography. For specific program requirements, please see the Graduate Catalog of Studies or the webpage for Space and Planetary Sciences: <http://spacecenter.uark.edu>.

REQUIREMENTS FOR A CONCENTRATION IN SPAC

An MS student in Geography or Geology may choose to obtain a concentration in Space and Planetary Sciences. The student must fulfill all degree requirements for the Geology MS or Geography MS plus the concentration in Space and Planetary Sciences. For information on Space and Planetary Sciences, please see the Graduate Catalog of Studies or the webpage for the interdisciplinary Space and Planetary Sciences program: <http://spacecenter.uark.edu>

FINANCIAL ASSISTANCE

Departmental Teaching Assistantships: There are a limited number of teaching assistantships available for qualified students. Students who wish to be considered for an assistantship must have a complete application packet (acceptance into the Graduate School, three letters of recommendation, statement of goals and Assistantship application under "General Forms" on the Graduate School's website) on file in the Geosciences office by **January 5 for PhD applicants for admission in the fall semester; February 15 for MS applicants for admission in the fall semester and October 15 for admission in the spring semester.** Students who are unsure if their academic records would be competitive for consideration for assistantships may contact the Department of Geosciences directly. Students are advised that assistantship possibilities for entry in the spring semester are extremely limited. MS assistantships are generally awarded for a maximum

period of two years (the normal completion period for a Master's Degree) contingent upon adequate progress toward the degree. Additionally, assistantships can be withdrawn at the end of any semester if a student is demonstrably not carrying out his/her assigned duties. Duties normally include lab teaching, lab assistant duties, classroom assistance (grading, etc.) and limited research and service assistance. Duties are designed to account for 20 hours per week and the assistantship period is from August 15 to May 15. All students on assistantship will receive a 9-month stipend plus paid tuition for up to 21 hours of graduate credit per year. The stipend is paid in 10 installments (1/2 check August 31, full checks Sept-April, 1/2 check May 15.) Students interested in assistantships should contact the department for the current level of the Master's and PhD stipends.

ADVISORY COMMITTEE

All students are assigned an advisor on entering the program. The chair of the advisory committee may or may not become the student's principal advisor. The role of the principal advisor is to guide the student's program, both in terms of course selection and thesis research. ***During the first semester a student should ascertain which faculty member in the program would provide the best direction for his/her program and, in consultation with that person should establish a three person advisory committee for the MA and MS programs and a four to five person advisory committee for the PhD program.*** Students should file their **Advisory Committee form** (under "general forms" - <http://grad.uark.edu/forms/index.php>) with the Geosciences office and the Graduate School no later than the first week of the second semester.

Once the committee has been formed, the student should maintain regular contact with the principal advisor and should keep the rest of the committee informed of

THESIS RESEARCH

The primary requirement for almost all students in the program will be the satisfactory fulfillment of the thesis or dissertation. Students should begin to discuss possible topics as soon as they have identified an appropriate principal advisor. As soon as a proposal has been identified, the **Thesis Committee form** should be submitted to the Geosciences office and the Graduate School - again this form is available from the Graduate School or the Department of Geosciences. Any student planning to undertake research of human (i.e. survey research) or animal subjects or the use and storage of radioactive, toxic, or biohazardous substances must file the relevant forms and obtain prior approval from the appropriate Campus Research Compliance Committee before beginning Research. The student must file these forms at the same time that he/she submits the Thesis or Dissertation Committee form. The thesis must report the

RESEARCH COMPLIANCE

The University of Arkansas has established six committees to facilitate the review process designed to protect the rights and welfare of research participants and provide guidance on research integrity issues. The guidelines are dictated by state and federal laws and by policies of funding agencies. The six committees are: the Institutional Review Board (human subjects), the Institutional Animal Care and Use Committee, the Institutional Biosafety Committee, the Radiation Safety Committee, the Toxic Substances Committee, and the Conflict of Interest and Commitment Oversight Committee. Students who engage in research that

FINAL EXAMINATIONS/DEFENSE

Final examinations for all students will take the form of an oral defense conducted by the student's Committee.

his/her program progress on a monthly basis. Composition of the advisory committee varies by program.

MS Geology - the committee can be made up of faculty entirely from the Geology division, or can include an outside member of the principal advisor wishes.

MS Geography - the committee must include a member from outside the division of Geography.

PhD Geosciences - the committee is described on pages 4 and 5 of this handbook.

All faculty who serve on graduate committees must have graduate faculty status - it is not the responsibility of the student to ensure this, but it is useful if the student reminds the advisor of this fact as the committee is formed. The advisory committee is generally also the thesis committee but can be changed easily. However, once the thesis committee form has been submitted to the Graduate School it becomes more difficult to change the composition of the committee.

results of an original research problem on a topic, and using methodology approved by the principal advisor and the rest of the thesis or dissertation committee.

MS students must complete at least 6 credit hours of thesis and may not begin to take thesis hours until the Thesis Committee form has been filed with the Graduate School. PhD students must complete at least 18 hours of dissertation credit to be taken after admission to candidacy.

MS students should anticipate filing their Thesis or form at the beginning of their third semester. PhD students should file their Dissertation form after completion of the candidacy exams. ***At the absolute latest***, students must file the form ***at least three months prior*** to their anticipated defense date to allow sufficient time for the committee to have input into the thesis.

potentially requires review by any of these committees must file the appropriate forms and obtain approval by the relevant committee prior to initiating the research. Additional information is available on line at: <http://vpred.uark.edu/units/rssp/policies-and-procedures.php> /. Students should discuss with their major advisors if their research requires prior approval from one of these committees. If students and/or faculty advisors are unsure if approval is required, they can contact the Research Compliance officer in the Research and Sponsored Programs office.

Students should anticipate turning the drafts of their thesis into their principal advisor until he/she determines

that it is ready to be submitted to the rest of the committee. At that point the student should anticipate at least one month turn-around before the defense can be scheduled. Thus, a student who wishes to graduate in the Spring semester should turn in the defense copy of his/her thesis or dissertation to the committee no later than mid-March (see timetable in Miscellaneous). Exceptions may be made on a case-by-case basis, following agreement by the student and his/her committee. The time and date of the defense must be posted at least 5 business days in advance. The defense will consist of a short presentation of the research by the

student followed by an open period of questions from the general audience. The committee can then dismiss the general audience and close the defense to allow a period of questions from the committee. The student must bring the three signature pages for the thesis or dissertation (see the Graduate School Instructions for Thesis form) and the "Record of Progress" form (<http://grad.uark.edu/forms/degreeforms.php>) to the defense. The signature pages will be signed and returned to the student when the final draft is approved and ready to be turned into the Graduate School.

SUBMITTING THE COMPLETED THESIS or DISSERTATION

http://grad.uark.edu/dean/commencement/GTandDD_Guide.pdf

The link above is to the official *Guide for Preparing Theses and Dissertations*. After the document is accepted by the graduate school, information is mailed to the student regarding the digital submission. The Department of

Geosciences requests that each student **donate** one loose-bound paper copy or a digital version of their final thesis or dissertation, which the department will have bound for the department's library.

GRADUATION

A student cannot be cleared for graduation until an application for the degree has been filed and the appropriate graduation fee has been paid. (<http://grad.uark.edu/dean/commencement/index.php>).

If the student does not graduate in the indicated semester, the student must reapply for graduation by contacting the Registrar's office. Please refer to the Graduate School's Calendar for specific deadline dates.

The University of Arkansas offers a number of ceremonies for graduates who have completed graduation requirements. Graduate students are recognized at the All-University Commencement ceremony. Degree applicants

for the future summer and fall semester *may* participate with approval of their advisor. A student can have their diploma presented by an immediate family member (spouse, parent, child) who is a member of the academic faculty at the University of Arkansas, Fayetteville. Please contact the Graduate School for arrangements.

The Graduate School makes the effort to include as many graduate students in the Commencement Program as possible. Keep in mind that there are printing deadlines. Students are told that their name will be included if they apply for graduation by late February. All past degree recipients for the academic year are automatically included.

HONOR CODE AND ACADEMIC INTEGRITY

The following description is excerpted from the Graduate Catalog of Studies of the University of Arkansas and repeated in this handbook to ensure that students in Master Program in the Department of Geosciences understand their responsibilities and the gravity of any infractions. The All University Judiciary is defined, and its composition described in the Student Handbook. <http://grad.uark.edu/future/orientation/HONORCODE.pdf>

The mission of the Graduate School is to provide post-baccalaureate students with the opportunity to further their educational goals through programs of study, teaching, and research in an environment that promotes freedom of expression, intellectual inquiry, and professional integrity. This mission is only possible when intellectual honesty and individual integrity are taken for granted.

The graduate student at the University of Arkansas is expected to a) know and abide by the regulations for all students, as described in the Student Handbook published by the Vice Chancellor for Student Affairs, and b) know and abide by the regulations contained within the Academic Honesty Policy for Graduate

Students and the Research Misconduct Policy. It is expected that graduate students will refrain from all acts of academic and research dishonesty and will furthermore report to the Graduate School any acts witnessed.

The pledge of the Honor Code is this: "On my honor as a graduate student at the University of Arkansas, I certify that I will neither give nor receive inappropriate assistance on the work I do for my degree." Students will be asked to sign this pledge when they are admitted to the Graduate School. Faculty may also require students to sign this pledge before completing the requirements of a course or a program of study. Students will be asked to sign this pledge upon admittance to the Graduate School. Faculty, Department Chairs and/or Program Directors may also require students to sign this pledge before completing the requirements of a course or a program of study. The Department of Geosciences requires that students sign this pledge. They further require that the signed pledge be placed in the student's file. Lack of a signed pledge on file in the Department office may result in delay of graduation from the Master Program.

ANNUAL ACADEMIC REVIEWS

Near the end of the second semester of the student's program, he/she will meet with their committee advisor to establish that the student is making adequate progress toward his/her degree. A record of this meeting, the *Annual Academic Review* form (<http://grad.uark.edu/forms/student/reviewformfinal.pdf>), including date, attendance and outcome, will be placed in the student's file. Unsatisfactory progress may result in the student receiving a warning. Progress can be assessed again after one additional semester and lack of improvement may result in the withdrawal of assistantship support.

In accordance with the policies of the University of Arkansas Graduate School and the Graduate Council, it will be the policy of the Department of Geosciences to conduct an *Annual Academic Review* for each enrolled student. At a minimum the review will examine progress toward completing required course work with the minimum GPA defined by the Graduate School, completing thesis/dissertation requirements including but not limited to establishing Advisory and Thesis/Dissertation Committees as prescribed in the Geosciences Graduate Handbook, preparing a formal, written thesis proposal as prescribed in the Geosciences Graduate Handbook, conducting an initial meeting with members of the

Normal and Adequate progress is defined as a combination of the items listed below appropriate to the student's seniority and assistantship responsibilities within the program:

1. Establishing an advisory or thesis/dissertation committee.
2. Completing required core courses during the first year of enrollment and residence, satisfying any academic deficiencies.
3. Completing the required hours of course work per academic year, or comparable work toward completion of the degree.
4. Maintaining a minimum GPA as required by the graduate school and the individual departmental degree program.
5. Be working with advisor to secure funding for research leading to the thesis, making significant progress toward defining a thesis/dissertation topic.
6. Being in the process of writing a formal thesis proposal to be presented to advisory or thesis/dissertation committee.
7. Working with advisor to secure funding for research leading to the thesis/dissertation.
8. Conducting research related to the thesis/dissertation.
9. Writing thesis/dissertation.
10. Being on pace to complete the degree in required time frame (4 semester for MA and MS, 6 to 8 semesters for Phd.)
11. Performing assistantship duties satisfactorily.

Advisory and Thesis/Dissertation committees as prescribed in the Geosciences Graduate Handbook, conducting research related to the thesis/dissertation, writing the thesis/dissertation, and completing other specified requirements for the degree (e.g. satisfactory evaluations of teaching, participation in the Department or University of Arkansas service activities, etc.).

The *Annual Academic Review* will be enacted by the Department of Geosciences using this procedure: During the spring semester of each academic year, each graduate student will be reminded to initiate a meeting with his/her advisor for the purpose of evaluating student progress toward the degree. The student should plan sufficiently so that this review can be completed on or before April 15. The *Annual Academic Review* will consist of a face-to-face interview with the student. In situations where it may be impractical to meet the student face-to-face, the review may be conducted with the advisor via telephone or email correspondence, or other vehicle agreed to by the involved parties.

Upon completion of the review, the advisor will articulate his/her assessment regarding progress toward the degree directly to the student by indicating that the student is making normal progress, adequate progress, or inadequate progress.

Inadequate progress toward the degree is defined as a combination of the items listed below appropriate to the student's seniority within the program:

1. Core courses not completed during first 3 semesters of enrollment
2. Less than 12 hours of coursework per academic year or comparable work toward completion of the degree
3. Minimum grade point average falls below 2.85
4. Not being on schedule to complete degree during the 5th semester of enrollment (i.e. in 2.5 years)
5. Not establishing an Advisory or Thesis Committee
6. Not making significant progress toward defining a thesis topic
7. Not writing a formal thesis proposal to be presented to advisory or thesis committees
8. Not performing teaching duties satisfactorily
9. Academic deficiencies not satisfied

Following the *Annual Academic Review*, the form will

be completed to include written comments regarding the student's progress, as well as recommendations for continued progress or recommendations to remediate inadequate progress within a realistic time frame (since the review occurs during late spring semester, either end of summer or midway through fall semester might be a reasonable time frame.) At the conclusion of the review, the student and advisor will sign the form, and copies will be distributed to the student, the advisor, and the Chair of Geosciences. The *Annual Academic Review* forms will become part of the student's permanent file.

The Chair of Geosciences will report the progress of each student in the program to the Graduate Committee, including necessary remediation steps for those students whose progress was evaluated as inadequate. The Graduate Committee will make the final decision regarding student progress. Once this final decision is rendered, the Chair will forward the original signed review forms of all students to the Graduate School for inclusion in the students' permanent files.

Students who refuse to participate in the review process will be placed on short term probationary status while reasons for their refusal are heard. If adequate cause for refusing the review cannot be determined, and the student still refuses to participate in *Annual Academic Reviews*, a statement reporting the student's refusal to be reviewed will be forwarded to the Dean of the Graduate School, and dismissal proceedings will be initiated.

ACADEMIC DISMISSAL / ACADEMIC PROBATION

Graduate degree programs have the right to dismiss graduate students who a) do not make adequate academic progress; b) engage in academic or research misconduct; or c) engage in illegal, fraudulent, or unethical behavior as defined in the Code of Student Life. There may also be other unusual situations in which a student may be dismissed from a degree program. In each case, the dismissal should follow the following procedures:

Lack of Adequate Academic Progress - Students may be dismissed per the academic probation policy of the Graduate School, and students should familiarize themselves with this policy. In addition, students who have not been placed on probation, but who are not making adequate academic progress must be warned in writing of the possibility of dismissal. They will be given a clear statement about what must be done within a specified time period to alleviate the problem. These expectations must be reasonable and consistent with expectations held for all students in the program. If the student does not meet the requirements within the time frame specified, he/she may be dismissed by the degree program with notification to the student and the Graduate School. Students dismissed in this way will not necessarily be dismissed by the Graduate School. Students may appeal this dismissal to the Graduate School, following the procedures outlined in the Graduate Student Grievance Policy.

Academic or Research Misconduct/Illegal, Fraudulent, or Unethical Behavior - The process for dismissing students as a

If a student who receives an evaluation of inadequate progress fails to meet the minimum remedial steps specified by the review committee within the specified time frame, a *Report-of-Non-Progress* will be provided to the Chair of Geosciences by the Chair of the student's evaluation committee (ordinarily the principal advisor.) This report will provide details of the failed steps.

1. The *Report-of-Non-Progress* will be treated as confidential information and will be forwarded to members of the Graduate Committee for review. If a majority of the Graduate Committee members agree with the findings of the *Report -of-Non-Progress*, this report will be forwarded to the Graduate School for additional action
2. At each stage of this process, the student will be informed by the Chair of Geosciences about what actions are being taken. The student may appeal decisions regarding inadequate progress in accord with guidelines of the Graduate School at the University of Arkansas through the formal grievance process.

In developing guidelines for the *Annual Academic Review*, the Department of Geosciences recognizes that extenuating circumstances of employment, research funding, or other relevant conditions may impact on student progress. As such, the Department of Geosciences reserves the right to consider such circumstances on a case-by-case basis.

result of academic or research misconduct; or as a result of illegal, fraudulent, or unethical behavior is outlined in the Code of Student Life.

Other Situations - Departments may dismiss students for situations other than those specified above. When doing so, the department must notify the student in writing of the possibility of dismissal. If it is possible for the student to rectify the situation, he/she must be given a clear statement about what must be done within a specified time period to alleviate the problem. These expectations must be reasonable and consistent with expectations held for all students in the program. If the student does not meet the requirements within the time frame specified, he/she may be dismissed by the degree program with notification to the student and the Graduate School. Students dismissed in this way will not necessarily be dismissed by the Graduate School.

If the situation cannot be rectified, the student will be notified in writing of the grounds for dismissal and the date when the dismissal will be effective. This will normally be the end of the semester in which the student is enrolled, but the circumstances of the dismissal will be important in determining this date.

Students may appeal their dismissal to the Graduate School, following the procedures outlined in the Graduate Student Grievance Policy.

SAMPLE TIMETABLE

The following is the ideal timetable for a two-year Geosciences Master Program with fall entry:

Fall Entry (e.g. fall of 2016 for graduation in May 2017).

December 2015/January 2016 - begin application process.

February 15, 2015 - final deadline for all application materials

August 2015 - arrival in department.

Fall 2015 - take appropriate core courses plus electives and establish advisory committee with the **Advisory Committee Form**.

Spring 2016 - Continue with core and elective courses in consultation with Advisory Committee.

- Establish thesis/dissertation topic and file

Thesis/Dissertation Committee form and any necessary Research Compliance forms

- Conduct first annual review.

Summer 2016 - Conduct thesis research.

ASSISTANTSHIP CONTRACTS

All students who receive assistantships have a number of responsibilities in the department.

Assistantships are 9-month appointments which begin on August 15 and end each year on May 15. Students should expect to be available in the Department throughout that period. It is expected that students will be absent from the end of finals week in December until the week before classes start in January. All new students should report to the main office by August 15 to ascertain what their assigned duties will be. Returning students should report either to the main office or to their supervisors sometime during the week before classes begin. During the

STUDENT ACTIVITIES

Graduate Students are encouraged and expected to take part in the student activities of the department. There are many organizations that encompass both graduate and undergraduate students. SGE and GTU are the honor societies for Geology and Geography respectively, and graduate students are an integral part of these organizations. In addition, Supporting Women in Geosciences (SWIG) and the Association of Women Geoscientists (AWG) cover all the students in the department. There are student chapters of the American Association of Petroleum Geologists (AAPG) and the Society of Exploration Geophysicists (SEG). These organizations provide extensive service and social opportunities for all graduate students.

Department Colloquium - Graduate students are expected to attend the Geosciences/ENDY colloquia, which meet on Friday afternoons at 3:05 pm throughout each semester. Other colloquia may occur throughout the semester, and graduate students are strongly encouraged to attend all that their schedule will permit.

Professional Activities - The faculty of the Department of Geosciences expect that graduate students

Fall 2016 - Finish course work and begin to write thesis/dissertation.

Spring 2017 - Finish course work and finish writing thesis/dissertation. First draft delivered to major advisor by mid- February at the latest. Approved draft to Committee no later than mid-March. Defense late April for May graduation.

It is the student's responsibility to ascertain the exact deadlines that the Graduate School sets for the semester in which they intend to graduate. Students who fail to meet the deadlines for a May graduation should **NEVER** assume that they can defend over the summer. Summer defenses can only take place with the express **written** permission of all the relevant committee members. Students should be aware that most faculty are not on contract from mid-May to mid-August and may not be available.

semester, students are expected to fulfill their duties in a professional and competent manner. Lab TAs may only be absent in an emergency (or for professional commitments such as conferences) and must have made arrangements to have some other qualified student cover their labs. Non-teaching TAs must clear any absences with their supervisor. All TAs must discuss their work schedule with their supervisors before classes begin and they must post their work schedules in a visible location outside their offices and must be present in the department during those schedules hours. Failure to fulfill any of these conditions is grounds for the withdrawal of assistantships.

will be active in professional activities, particularly in professional meetings. Both Geology and Geography offer local, regional, and national meetings and the Graduate School offers limited travel funds for students who present papers at national meetings.

Office Space - A limited number of desks are available for graduate students. Spaces are allocated by the Chair of the Department in consultation with the Graduate Advisor(s) according to the following criteria:

- **First Priority** - PhD (GEOS/ENDY/SPAC) students who are pursuing research in Geosciences (i.e. their affiliated department is Geosciences or their dissertation advisor is a member of the Department of Geosciences) or teaching GAs, DDFs, DAFs, or other fellow (e.g. NSF, EPA, NASA, etc.)

- **Second Priority** - MS Geosciences students on TAs

- **Third Priority** - PhD (GEOS/ENDY/SPAC) students who are pursuing research in Geosciences (i.e. their affiliated department is Geosciences or their dissertation advisor is a faculty member of the Department of Geosciences) on non-teaching Assistantships.

- **Fourth Priority** - all other PhD students

- **Fifth Priority** - all other graduate students

Limited space means that office space is rarely allocated to any student that is not receiving department support (i.e. only priorities 1, 2, 3, and 4 get desk space.) Non-teaching GAs include all students on research assistantships (RAs.)

Students will be informed that they have desk space close to the start of classes. The allocation of individual desks is decided by the Chair in consultation with faculty members who are the supervisors of the students and the Graduate Advisor(s). You will retain your desk from one semester to the next unless notified by the Chair or your supervisor.

Good Citizenship - The Department of Geosciences has limited space to accommodate classrooms, laboratories, as well as the offices of faculty, staff and student offices. The student offices typically house desks or cubicles for several students, resulting in space shared by many. It is imperative that everyone treat his/her neighbor with respect to ensure tranquility and a comfortable environment for study and research. Do not

take over unclaimed space. If additional storage is necessary for scientific samples, contact the Department Chair or your major advisor. Do not rearrange the furniture, which is ergonomically placed, taking into consideration privacy, efficiency, overall space, and common work areas. Do not display materials that others may find offensive. Do not borrow items from fellow students without their permission. Be good citizens toward your colleagues in the Department of Geosciences.

Pets - Pets of any kind are prohibited in University of Arkansas buildings. Exceptions are granted only in the case of service animals for people with disabilities and animals used by academic departments for approved research projects, teaching purposes and artistic performances.

Alcohol - Alcohol is prohibited in any space occupied by the Department of Geosciences. This includes individual student, staff, and faculty offices, as well as laboratories, classrooms, and department vans. The policy is in keeping with that of the general alcohol policy of the University of Arkansas.

DEPARTMENT VANS

Vans are an integral part of the Department of Geosciences. As with all department equipment, vans are to be used only when authorized and only for legitimate university business. Priorities are for field trips associated with GEOL, GEOG, and GEOS classes. Vans must be reserved and signed out in the log book maintained by the Geosciences Office, Ozark Hall room 216. As a graduate student, particularly if you are a TA, you may be asked to drive a van for a field trip. To be eligible to drive a department van, you must have a clean driving record and a valid driver's license. There are forms which must be completed and signed as well as submitted to the Office of

Risk Management prior to driving any official, and other requirements.

Prior to departing on a field trip outside of Washington County, Arkansas, the filing of forms for insurance purposes is required. Sample forms are included in this handbook. Keys for the vans are checked-out from the Geosciences office, Ozark Hall room 216 when the proper forms are completed. The forms must be turned in to the office forty-eight (48) hours prior to departure to insure that the information is conveyed to the proper campus entities.

GRADUATE STUDENT CALENDARS FOR ACADEMIC YEAR 2015-2016

<http://grad.uark.edu/dean/calendar/index.php>

GEOSCIENCES FACULTY

- Mohamed Aly**, Assistant Professor, PhD Texas A&M, crustal deformation modeling, and geohazards assessment.
- Stephen Boss**, Professor & Director of Environmental Dynamics, PhD University of North Carolina, marine geology & geophysics, limnology.
- Jackson Cothren**, Associate Professor and Director of CAST, PhD The Ohio State University, geospatial modeling, geomatics.
- Matt Covington**, Assistant Professor, PhD University of California Santa Cruz, hydrogeology, geomorphology, karst, glacial hydrology.
- Fiona Davidson**, Associate Professor, PhD University of Nebraska, nationalism & European electoral geography.
- Ralph Davis**, Department Chair and Professor, PhD University of Nebraska, physical and contaminant hydrogeology.
- John Dixon**, Professor, PhD University of Colorado, weathering, periglacial geomorphology.
- Greg Dumond**, Assistant Professor, PhD University Massachusetts-Amherst, structural geology, crustal deformation.
- Song Feng**, Assistant Professor, PhD Chinese Academy of Sciences, climate change, paleoclimates.
- Tom Graff**, Associate Professor, PhD University of Kansas, retail geography & migration analysis.
- Margaret Guccione**, Professor, PhD University of Colorado, stream geomorphology & sedimentology.
- Phil Hays**, Adjunct Research Professor, PhD Texas A&M, geochemistry & stable isotope hydrogeology.
- John Hehr**, Professor, PhD Michigan State University, paleoclimatology, & climate change.
- Fred Limp**, University Professor & Leica Geosystems Chair in Geospatial Imaging, PhD Indiana University, geospatial analysis.
- Chris Liner**, Maurice Storm Endowed Chair Professor, PhD Colorado School of Mines, geophysics and petroleum geology.
- Tom Paradise**, Professor PhD Arizona State University, stone deterioration, hazards, cartography and visualization.
- Adriana Potra**, Assistant Professor, PhD Florida International University, ore geology and radiogenic isotope geochemistry.
- John Shaw**, Assistant Professor, PhD University of Texas Austin, stratigraphy and sedimentology.
- Xuan Shi**, Assistant Professor, PhD University of West Virginia, geoinformatics.
- Dave Stahle**, Distinguished Professor, PhD Arizona State University, tree-ring analysis & climate change, human environmental interactions, ancient forests
- Celina Suarez**, Assistant Professor, PhD University of Kansas, stable-isotope, low-temperature geochemistry, Add informationpaleontology.
- Jason Tullis**, Associate Professor, PhD University of South Carolina, remote sensing, biogeography.
- Doy Zachry**, Professor, PhD University of Texas, stratigraphy, sedimentary petrology.

ADJUNCT FACULTY

- Dorian Burnette**, PhD University of Arkansas, climatology.
- Falko Fye**, PhD University of Arkansas, climatology.
- Lynne Hehr**, MS Geology, University of Arkansas, education.
- Robert Liner**, MS Geology, University of Arkansas, petroleum geology.
- Mac McGilvery**, PhD Geology, University of Texas, petroleum geology.
- Doug Melton**, MS Geology, University of Arkansas, petroleum geology.
- Steve Milligan**, MS Geology, Colorado School of Mines, petroleum geophysics.
- Chris Moyer**, MS Geology, University of Arkansas, petroleum geology.
- Fred Paillet**, PhD University of Rochester, geophysics and hydrogeology.
- Jason Patton**, PhD University of Arkansas, environmental studies
- Ray Quick**, MS Geology University of Arkansas, environmental geology

INSTRUCTORS

- Paula Anderson**, MS Geology, University of Arkansas, instructor of General Geology
- Rashauna Hintz**, MA Geography, University of Arkansas, instructor of Human Geography.
- Erik Pollock**, MS Geology, University of Arkansas, Isotope Laboratory.
- Henry Turner**, PhD University of Arkansas, instructor of General Geology.

EMERITUS FACULTY

- J. Van Brahana**, PhD University of Missouri, agroforestry, surface and ground water processes.
- Malcolm Cleaveland**, PhD, University of Arizona, studies in dendrochronology and paleoclimate.
- Ron Konig**, PhD, Cornell University, structural geology, general geology.
- Walter Manger**, PhD, University of Iowa, Carboniferous ammonoids, biostratigraphy, stratigraphy.
- Richard Smith**, PhD, University of Northern Colorado, cartography.
- Ken Steele**, PhD, University of North Carolina, impact of land use and storms on aqueous chemistry, evolution of groundwater.

Degree Checklists - To Be Used Only as a Guide

Failure to meet these deadlines may result in a delay of graduation, probation, or dismissal from the program.

MS - Degree checklist

30	Graduate course credits
24	credit hours of coursework
6	credit hours of thesis research
End of 1st semester:	Advisory Committee Form
End of 2nd semester:	Thesis Committee Form
Every Spring:	Annual Academic Progress Form
As Needed:	Other Required Graduate School Forms (ex: Intellectual Property, Research Compliance)
End of 2nd or 3rd semester:	Thesis proposal presentation
End of 2nd or 3rd semester:	Written thesis proposal
End of 4th semester:	Written thesis - defended, amended, and submitted to graduate school
Completion of Oral Defense:	RECORD of PROGRESS form signed and submitted

PhD - degree checklist

24	course hours beyond MS degree = 54 credit hours
-	GEOS 5023 - Technical and Proposal Writing
-	18 credit hours of thesis research
End of 2nd semester:	Completion of 12 credit hours - prior to qualification of candidacy
Every Spring:	Annual Academic Progress Form
As Needed:	Other Required Graduate School Forms (ex: Intellectual Property, Research Compliance)
End of 4th semester:	PhD Candidacy exams (GPA must be at 3.25 on 12 credit hours)
	Written comprehensive exam
	Oral defense of dissertation
End of 6th - 8th semester:	Completion of 18 dissertation credit hours after qualification of candidacy
End of 8th semester:	Dissertation defense
	Written dissertation - submitted to graduate school
Completion of Oral Defense:	RECORD of PROGRESS - submitted to graduate school

Failure to meet these deadlines may result in a delay of graduation, probation, or dismissal from the program.



DEPARTMENT OF GEOSCIENCES

I certify that I have read and agree to abide by the procedures and guidelines established in this Graduate Student Handbook in Geosciences.

In addition, I will follow the Honor Code of the Graduate School of the University of Arkansas:

“On my honor as a graduate student at the University of Arkansas, I certify that I will neither give nor receive inappropriate assistance on the work I do for my degree.”

(printed or typewritten name of student)

(signature of student)

(date)

(signature of Department Chair)