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Thomas R. Paradise, Professor
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http://geosciences.uark.edu/

Degrees Conferred:
M.A. in Geography (GEOG)
M.S. in Geology (GEOL)
Ph.D. in Geosciences (GEOS)

Geography (GEOG) (M.A.)
Areas of Study: Human geography, physical geography, GIS, cartography, space and planetary sciences.

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 applicant’s potential for graduate studies, and 3) a completed departmental application. Students who do not meet these requirements may be admitted conditionally. Students with course deficiencies may enroll concurrently in graduate courses.

Requirements for the Master of Arts Degree: A student may choose one of two options to satisfy the requirements for a Master of Arts degree in Geography:

Geography M.A. with Thesis: A minimum of 24 semester hours of course work including core courses specified by the department, six semester hours of thesis, and an oral examination conducted by the candidate’s faculty committee.

Geography M.A. with Internship: A minimum of 30 semester hours of course work including core courses specified by the department, six hours of internship, evidence of research ability, and an oral examination conducted by the candidate’s faculty committee.

Geology (GEOL) (M.S.)
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: Students admitted to graduate study should have completed an undergraduate geology program similar to that required for the B.S. degree at the University of Arkansas. Applicants 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:

Select four of the following:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Semester</th>
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</thead>
<tbody>
<tr>
<td>GEOL 4053</td>
<td>Geomorphology (Sp)</td>
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<tr>
<td>GEOL 4063</td>
<td>Principles of Geochemistry (Fa)</td>
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<tr>
<td>or GEOS 5853</td>
<td>Environmental Isotope Geochemistry (Sp)</td>
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<tr>
<td>GEOL 4433</td>
<td>Geophysics (Irregular)</td>
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</tbody>
</table>
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.

**Geosciences (GEOS) (Ph.D.)**

**Primary Areas of Faculty Research:**

1. Basin evolution and analysis (including multiple aspects of petroleum geology that incorporate sedimentation, structural geology, stratigraphy and geophysics),
2. Crustal and mantle composition and tectonic evolution,
3. Neotectonics and dynamic geomorphology,
4. Geoinformatics (including GIS, remote sensing, GPS geodesy, and geospatial analysis),
5. Groundwater dynamics, karst hydrology and limnology, and
6. Paleoclimatology.

The Department of Geosciences focuses on research and education dealing with the nature, genesis, and history of the Earth and the global environment, the evolution of landscapes and biota at the Earth’s surface, and the advance of geospatial technologies. The Doctor of Philosophy degree is designed for students who are committed to scholarship in the geosciences and who wish to prepare for professional employment within the academic community, industry, or government. Geosciences research requires rigorous observation, quantitative analysis, and modeling in order to yield scientific results that are acceptable for publication in first-rate, internationally-ranked journals. Given the interdisciplinary nature of Geosciences, the Department of Geosciences encourages research including elements of space and planetary sciences, biological sciences, environmental sciences, physics and chemistry to address relevant problems at the boundaries of geoscience and other disciplines.

Applicants for the doctoral program must have completed the baccalaureate degree with a major in geosciences or an allied discipline. Students with academic preparation at the undergraduate or masters level in other disciplines of physical science, engineering, and mathematics are also encouraged to apply. All applicants must submit their scores on the Graduate Record Examination directly to the University of Arkansas Graduate School, provide three letters of recommendation from individuals qualified to assess the applicant’s academic potential, a personal curriculum vita, and a statement of academic and research interests.

Qualified students with a bachelor’s degree or a master’s degree may be accepted into the Ph.D. program. Academic requirements for admission to the program are listed in the table below. In addition, prospective applicants are encouraged to contact Department of Geosciences faculty with similar research interests to initiate dialogue regarding availability for mentoring, potential research topics, and research funding opportunities.

**Requirements for Admission to the Doctor of Philosophy degree in 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

**Course Requirements for the Doctor of Philosophy Degree:**

- 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 students 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 Advisor.

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.