GEOPHYSICS - DOCTOR OF PHILOSOPHY (PHD)

The basic purpose of the graduate program in the Department of Geography is to train scholars and professionals to produce and disseminate knowledge and to make outstanding contributions in the public and private sectors.

Students wishing to pursue graduate work in geography leading to candidacy for advanced degrees should read the Doctoral Degree Requirements (catalog.colorado.edu/graduate/degree-requirements/doctoral-degree-requirements/) section carefully.

Requirements
Prerequisites
For admission without deficiency and to meet the department mandatory requirements for a knowledge of basic geography, all entering graduate students are required to possess the knowledge presented in freshman-level introductory courses in physical and human geography.

Students may acquire this knowledge in any way they choose: by formally taking the introductory courses, by auditing the courses, by reading the textbooks themselves or by other means. This knowledge will enable the student to perform at the level expected in the PhD program's required core classes.

In addition to knowledge of basic geography, it is desirable that the student have coursework in at least two areas outside geography in cognate fields in the social and natural sciences. Students are encouraged to have some background in college math, statistics and computer skills.

Prior to acceptance to the PhD program, a student must have completed an MA or MS degree.

General Requirements
The PhD degree is not conferred merely upon the satisfactory completion of a course of study. The candidate must also demonstrate proficiency in some broad subject of learning, and be able to critically evaluate work in the field, show the ability to work independently in the chosen field and make an original contribution of significance to the advancement of knowledge.

The minimum requirements are 30 credit hours of coursework numbered 5000 or above and 30 credit hours of dissertation. Ordinarily the number of coursework hours and dissertation hours will be greater than 30 each. At least 20 of these hours must be taken at the University of Colorado; up to 10 credit hours from another institution may be transferred upon approval.

A 3.00 (B) average or higher must be maintained in all coursework.

Six semesters of residence are required, of which four must be at the University of Colorado. With department approval, students with a University of Colorado master's degree in geography may apply all credit hours from 5000-level courses or above (except thesis credits) to the PhD requirements.

Language Requirement
The department’s minimum language requirement is a demonstration of proficiency in one foreign language. Ways in which this requirement may be satisfied are determined by the student's Advisory Committee and may include timed translation, publication in the language and/or coursework. If more than the minimum proficiency is needed for library and/or field research, the choice and number of languages, as well as the required level of skill and methods of testing these skills, are determined and approved by the student's Advisory Committee. The language requirement must be satisfied before the comprehensive exam is taken.

Preliminary Exam
The Graduate School requires that all students in the doctoral program successfully pass a preliminary exam. In geography, this requirement is met by obtaining a grade of B or better in each of the three required courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 5152</td>
<td>History and Theory of Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 5161</td>
<td>Research Design in Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 5023</td>
<td>Advanced Quantitative Methods for Spatial Data or GEOG 5722</td>
<td>4</td>
</tr>
</tbody>
</table>

Following completion of the preliminary exam requirement, students undertake preparation for comprehensive exams.

Comprehensive Exams
Following successful completion of the preliminary exam, doctoral students must pass a comprehensive exam for advancement to candidacy for the doctoral degree. The comprehensive exam consists of two parts, including an exam on three subfields of geography with written and oral components, and completion of a written dissertation proposal and oral defense. Working together, the student and an Advisory Committee of three to five faculty set the subfield topics. The student creates a reading list for each subfield, and usually spends a semester reading and preparing for the subfields exam. The Advisory Committee sets the subfields exam questions and evaluates the written and oral components, and completion of a written dissertation proposal and oral defense. Upon successful completion of the comprehensive exam, a student can turn full attention to dissertation research and writing.

Dissertation
In addition to the minimum of 30 hours of coursework required for the doctorate, a student must register for a total of at least 30 hours of dissertation credit, with a maximum of 10 hours in any one semester. Coursework and work on the dissertation may proceed concurrently throughout the PhD program, but at no time shall a doctoral student register for more than 15 hours of 5000-level courses and above.

Following successful completion of comprehensive exams and admission to candidacy, students must register continuously. Students admitted to candidacy for degree will register for and be charged for a minimum of five dissertation hours each semester. Students may also register for classes in addition to the five dissertation hours.

After admission to candidacy, those not making use of campus facilities may register for three dissertation hours (part-time status). Continuous registration during the academic year will be required until completion of the dissertation defense. It is expected that the student and advisor will
consult each semester as to the number of hours for which the student will register, consistent with the classifications described above.