

Graduate Program of Hydrologic Sciences

Ph.D. Comprehensive Exam Guidelines

INTRODUCTION

Admission to candidacy confirms that a student has successfully completed the program's course requirements and university residency requirements. In order to gain admission to candidacy, a student must meet all the following requirements.

1. Hold at least a "B" average in all graduate work
2. Gain the advisory/examining committees' formal approval for the program of study, including dissertation development
3. Successful completion of the qualifying examination

Students pursuing doctoral degrees should file for candidacy no later than eight calendar months prior to graduation. Although the examination should be taken after completion of all course requirements, it may be taken after a minimum of 75 percent of the student's required course work beyond the bachelor's degree is completed.

The purpose of this document is to provide a set of guidelines for faculty and students for the comprehensive exam process. The goal is to provide students with a better idea of what is expected of them in terms of preparation for the comprehensive exam. This will lead to better overall performance on the exam and will provide the examination committee with a consistent "ruler" by which to judge performance.

The comprehensive exam should test a student's ability to:

1. To determine how well prepared the student is to conduct Ph.D. level research in the general area the student has chosen
2. To determine the student's ability to convey the concepts they have learned in written and oral venues

Number one above is generally done with the written portion of the exam, while number two is generally done with the oral part of the exam.

EXAM COMPONENTS

The comprehensive examination should cover the breadth of knowledge within the field of hydrology that apply to the student's dissertation topic and will consist of a written portion and oral examination. The exam will be developed and administered by the student's dissertation committee with the advisor serving as the chair. All committee members are expected to participate in both the written and oral portions of the exam. In the event that **one** committee member cannot attend the oral exam, he/she may provide questions to the committee chair. Therefore, a minimum of four committee members must be present for the oral exam, and all members must provide written and oral questions.

The written exam may be closed book or open book. The exam should cover concepts related to the student's research area.

Time limits for closed book exams should be limited to two hours and can be proctored by a committee member or the student's advisor. The candidate is expected to achieve the equivalent of an A grade.

Time limits for open book exams should be less than one day (typically eight hours). The open book exams are expected to provide an opportunity for the candidate to demonstrate (and even extend) their knowledge of a subject area closely related to their research. Examples might include a question(s) that would demonstrate the candidate's ability to synthesize ideas and concepts from advanced courses. Other examples might be to give the candidate a particularly challenging "homework problem" from a course that the student has taken.

The oral exam is conducted at least two weeks following completion of the written exam and is typically three hours in length. Each committee member will ask about three questions, usually taking turns around the table. When we grant a Ph.D. degree, we are, in essence, giving the student a potential license to teach at the university level. As a result, the oral exam is designed to test the candidates' ability to think and react to questions in an articulate and coherent manner. The student should be able to articulate his/her understanding of complex concepts in front of an audience.

Students must register for the comprehensive exam (1 credit) for the semester in which the exam is to be taken. Students should register for the exam according to their advisor's departmental affiliation (e.g. GEOL 795, NRES 795). Students with advisors residing at the Desert Research Institute or a non-UNR institution should register for the exam in the department with which their advisor holds adjunct status. Comprehensive exam credits may be counted in the total credits required for the degree.

Following successful completion of the examination, the student must submit an Admission to Candidacy Form, which is available at <http://www.unr.edu/grad/forms>. The student's advisory committee, graduate director of the program and the Graduate Dean must approve the form.

PREPARING FOR THE EXAM

The best advice for candidates studying for the comprehensive exam includes the following:

- Study fundamental material
- Study actively, not passively (don't read about concepts, but practice explaining concepts as if you were teaching on the subject)
- Get together with other Ph.D. students and/or your advisor and practice explaining simple concepts out-loud and using the board
- Feel free to contact committee members to ask which subject areas that might be included in the exam

- Don't forget to review undergraduate material in Physics, Chemistry, mathematics, and statistics

EXAM EVALUATION

After the completion of the written exams, each committee member must grade their portion of the exam within 6 days or less and notify the student's advisor whether or not the student successfully passed those questions. If a committee member feels that the student performed poorly on a certain component of the written exam, he/she may ask follow-up questions during the oral exam. If more than one committee member feels the student has failed the written examination, the committee should decide if the student should retake the written exam, proceed on to the oral examination, or be dismissed from the GPHS.

At the end of the oral examination, the committee will vote on the success or failure of the examination process. In the event that **two or more** committee members cast negative votes, the examination (oral and/or written) may be repeated once if the committee approves additional study.