

**Proposed HAS Graduate Examination Procedures**  
**Approved by Faculty Vote on 09.23.2016**

**PhD Qualifying Exams:**

- Purpose:
  - To test the student's basic understanding of their general field of study, ability to communicate their research interests, and potential for doing PhD-level research.
  - Provide feedback on graduate coursework that may help in student's research and/or career goals.
  - Increase students and faculty exposure to each other's research interests.
- **HAS MS students continuing on for PhD in HAS:** If students have successfully completed their MS degrees in HAS, received at least 2 A's and 2 B's in the core courses, and received an unanimous endorsement from their MS defense committee members [i.e. checked box on MS defense form], they may have the qualifying exam waived at the advisor's request.
- Requirements for in-coming PhD students without a M.S. degree from HAS.
  - **Written component\*:**
    - **Graduate Fellowship Research Application (GFRA).** Students must submit a short (typically 2-6 pages) research proposal in the format of one of the following graduate fellowship programs: NSF, EPA, NASA, or NOAA. *Alternative fellowship formats may be used with prior approval by the HAS Graduate Committee.* Proposals must be submitted no later than **February 1** of the student's 2<sup>nd</sup> semester, if starting in August; Proposals are due Sept. 1 if starting in January. Students are encouraged, but not required to submit the fellowship application to the funding agency.
    - *\*All written components for the PhD Qualifying or Comprehensive exams should have 1" margins, 12 point New Times Roman font (or similar), and be single-spaced.*
  - **Oral component:**
    - **Q&A with 4 Faculty following submission of GFRA.** Two weeks after submission of the Graduate Fellowship Research Application, students must schedule 20-minute individual meetings with 4 tenured/tenure-track faculty members in the department (3 in their program of study, and 1 from another PhD program within HAS). The meetings should all take place within 1 week if at all possible. The Graduate Academic Advisor will assign the 4 faculty members to the PhD Qualifying Exam Committee. Those faculty members will evaluate the student's research application prior to the meeting, and ask the student questions during the Q&A related to their research to test the breadth of their knowledge about their field of study and provide feedback on coursework potentially relevant for their PhD research and career goals.
  - **Grading:** The written and oral exam will be graded Pass/Fail. Students must receive a "passing" grade from at least 3 of the 4 faculty members on both the written and oral components to pass the qualifying exam. If students fail the written exam, they may submit a revised research proposal within one month of receiving notice that they failed the first exam. If students fail the oral exam, they may retake the oral exam within one month of receiving notice that they failed the first oral exam.

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**PhD Comprehensive Exams:**

- Purpose:
  - Evaluate student's breadth of understanding across degree (HYDRO, ATMO or HYDROMET).
  - Evaluate student's depth of understanding in their chosen field of research, writing and presentation ability, and ability to conduct original research.
  - Enable student's PhD Committee members (or Comprehensive Examination Committee) to provide feedback on research directions.
- Timing: Should be completed as soon as all non-dissertation credits and Ph.D. minor requirements have been completed (usually in the 2<sup>nd</sup> or 3<sup>rd</sup> year).
- Requirements:
  - **Core Courses:** Must earn at least 2 As and 2 Bs in the 4 core courses required by the student's PhD program (i.e. HYDRO, ATMO, HYDROMET).
  - **Written component\*:**
    - **Dissertation abstract.** Students must submit a 1-page abstract of their dissertation to their PhD comprehensive examination committee and the Graduate Academic Advisor to have on file with the Graduate College to initiate their PhD comprehensive exams.
    - **Manuscript/Publication or Research Proposal.** Student must submit either a first-authored research manuscript ("in prep", "in review" or "published"), or a research proposal at least 2 weeks prior to scheduling their oral PhD comprehensive exam:
      - **Research manuscript** ("in preparation" or "in review") formatted to be submitted to a peer-reviewed scientific journal. If the student already has a paper published from their PhD research, they can submit the paper to their examination committee and automatically pass this portion of the exam.
      - **Research proposal** (at least 10 pages, including figures/tables, but not including references; formatted in typical NSF EAR directorate style).
  - **Oral component:**
    - Presentation of student's research manuscript/paper or proposal (~30 minute presentation), followed by Q&A by committee members. 2 hours maximum.
  - **Committee members:** Should be the same as the PhD Dissertation Committee and include 3 faculty from HAS, and 1 faculty from minor department. External committee members may be included on the dissertation committee, and need not be included in the comprehensive exam.
  - **Grading:** The written and oral exam will be graded Pass/Fail. Students must receive a "passing" grade from at least 3 of the 4+ faculty members on both the written and oral components to pass the comprehensive exam. If students fail the written exam, they may submit a revised manuscript or proposal within two months of receiving notice that they failed the first exam. If students fail the oral exam, they may retake the oral exam within two months of receiving notice that they failed the first oral exam.