

Environmental Chemistry Ph.D. Comprehensive Examinations Plan

Modified April 2014 and June 2016

The timing of comprehensive examinations is decided by the advisory committee, but is typically in the summer after completion of the second year in program. The student must have completed their core courses in areas in which they will be examined before attempting the written examinations. Students who do not take the written examination at the time specified by the committee are automatically shifted into the M.S. program. The written comprehensive exams have two parts: written examinations and a written research proposal on the intended research for their Ph.D. dissertation. Only after passing the written comprehensive exams and having their research proposal approved by the committee, the student may schedule their oral comprehensive exam and request an outside examiner through the Graduate School. Additional details for each examination are outlined below.

Written Comprehensive Details:

- The three written examinations (four hours each) will be offered in the summer and are on topics selected from the courses you have studied covering breadth of Environmental Chemistry. However, these examinations are more synthetic and comprehensive than examinations in those courses. At least two of the examinations must be in defined core areas, as defined by the core courses in the catalog. The third examination may be related to any course or fundamentals related to the candidate's research area. The student must discuss examination topics with their committee at their annual committee meeting before the summer in which they will take examinations and have their exam topics approved by the committee. The department will then give a schedule of examination dates to the student. The rules for each examination (e.g. open or closed book, use of computers / online resources, etc.) will be defined by the exam writer for that year. After the examinations are taken, graded exams reside in the student's file in the departmental records. The student may look at their examination in the department office, but may not take the examination out of the office.
- The dissertation proposal must be 6-12 pages of figures and single-spaced text. References are not counted in the page count total but must be provided in a section following the proposal. The proposal provides the plan for the Ph.D. dissertation and must include:
 - A summary that states the broad significance and intellectual merits that is understandable by the public - consider the external examiner as the audience.
 - A detailed explanation of the scientific problem.

- Review of literature that summarizes the current state of knowledge in the chosen scientific area.
- Statement of broad goal and testable hypotheses or specific aims.
- Explanation of methods to be used and data to be acquired.
- Preliminary results.
- Planned activities with timeline and anticipated products.

Through this written exam, the student must demonstrate the ability to propose novel research that builds on current knowledge to address a significant question. The dissertation proposal must be handed to all committee members, who will have two weeks to grade (pass/fail) the dissertation proposal. Only when the committee passes the student on their dissertation proposal may the student schedule their oral examination.

Oral Comprehensive Examination Details:

After a student has passed their written comprehensive examinations, they should file the "Report on Comprehensive Examination" form with the graduate school. Only the written examination portion will be signed at this time. After that form is signed, the student will schedule for their oral comprehensive examination. The oral requires an external examiner that needs to be requested from the graduate school. The student will prepare an ~40 minute presentation describing their topic, their successes to date, and their dissertation proposal. Following the student's presentation, the committee and external examiner and student will enter a closed session where the student is examined orally on the topics of their chosen written examinations and their dissertation proposal. The student must bring the "Report on Comprehensive Examination" form to this meeting. The oral portion of this form will be filled out and signed by the committee.

Failure Policy:

A student who does not pass the examinations will be given a second opportunity to take the examinations. The consequence of failing the examinations on the second try is that the student will not be allowed to continue to the Ph.D. degree, although they may use their work to complete a different degree program. Failure of examinations may also affect student funding.