

Written Ph.D. Preliminary Examination Graduate Program in Plant Biology

2005 Guidelines

Structure of Examination

The written qualifying examination is comprehensive and focuses on the basics of plant biology which students should have obtained from the core courses Angiosperm Diversity (16:765:512), Principles of Plant Pathology (16:765:531), Plant Physiology (16:765:502), and Plant Molecular Biology (16:765:513). The examination will not repeat material from the core courses. Rather, four current research papers have been assigned for the examination, one from each area of the core curriculum, broadly defined as Molecular and Cellular Plant Biology, Plant Pathology, Organismic and Population Biology, and Horticulture and Plant Technology. In preparation for the Qualifying Examination students must thoroughly understand the contents of these papers and the references contained therein. Students should understand the biological basis and background for the research paper, the hypothesis or hypotheses that were tested, and the techniques used to test the hypothesis. Students should understand the logic, results, and interpretation of each experiment. The background for each of the authors' arguments must also be understood. All available means to understand the papers are acceptable. Students can consult with their faculty mentor, other experts, even with the authors of the papers. They can consult textbooks, review papers, or any other source of information. The only unacceptable tactic is to probe members of the Qualifying Examination Committee about the specific questions on the Qualifying Exam. The papers are available to students **for at least 10 business days (including 3 weekends) prior** to the Qualifying Examination. Qualifying Exam questions will relate directly to the contents of the research papers. The questions can focus on any aspect of the research papers including background, experimental rationale and logic, the actual results, observations, interpretation of results and observations, and conclusions. The exam will stress a synthesis of material and is designed to assess reasoning and problem solving skills and breadth of knowledge.

The written examination will be composed of four sets of questions, or sections. Each section will focus on one of the assigned research papers and is based on one of the core courses. Each section will consist of a series of questions relating to the research paper. Students are required to choose and sit for three of the four sections. Each section has a coordinator who is (are) responsible for the overall writing, grading and proctoring of each exam section:

Dates have not been assigned as of yet. Section order subject to change.

- **June , 2004**

- Room 138B Foran Hall**

- 9:00 AM to Noon:**

- Section I. **Plant Pathology** – Peter Oudemans

- 1:30 PM to 4:30 PM:**

- Section II. **Horticulture and Plant Technology** – Bingru Huang

- **June , 2004**

- Room 138B Foran Hall**

- 9:00 AM to Noon:**

- Section III. **Organismic and Population Biology** – Jim French

- 1:30 PM to 4:30 PM:**

- Section IV. **Cellular and Molecular Plant Biology** – Pal Maliga

At the beginning of each examination session, students will receive the appropriate set of questions and may work at their own pace. Students will be given paper, a scratch pad, and a clean copy of the journal article on which questions will be based. No references or other materials will be allowed. Students will be identified by social security number, not by name, and those who arrive late for the examination will not be given extra time.

Examination questions in each section will be in standard essay format and will total 100 points (for a total of 300 points for the entire written examination). A passing grade for each set of questions is 70%. To pass the preliminary examination, students must pass all three sections. A “high pass” will be awarded to students who score at least 90% on each of the three sections of the examination. The exams will be graded and returned to the student within 2 weeks of the exam.

Students are expected to take the written preliminary examination as soon as possible after they have completed their core coursework. The oral portion of the preliminary examination cannot be taken until the written examination has been passed.

Grievance policy

In the event that a student disagrees with the content, format, or grading of one or more questions, the student may discuss the issue directly with the professor responsible for that portion of the examination. If the problem is not then satisfactorily resolved, the student may bring the concern to the Preliminary Examination Committee, who, with the director of the Plant Biology Program, will meet with the student as a group. Decisions made by the committee at this time are binding.

November 2004