

The A-Exam in the Field of Plant Pathology

What is the A-Exam and how is it administered?

- The A-exam is the “Admission to Candidacy” examination for the degree of Doctor of Philosophy (PhD) in Plant Pathology.
- The PhD is the highest academic degree obtainable. It denotes a base level of preparation, ability, and performance sufficient to train others in the discipline. The A-Exam is the opportunity prescribed by the Cornell University Graduate School by which the student may demonstrate the above qualities, and thereafter continue pursuit of this degree.
- The purpose of the exam is to determine whether the student has the ability and proper preparation to continue to pursue the Ph.D. degree.
- At the discretion of the Special Committee, the examination may be oral or a combination of oral and written. Commonly in Plant Pathology, A-Exams are strictly oral.
- The exam is lead by the Special Committee Chair and should **not** last more than 3 hr.
- The exam generally begins with a very brief (5-10 minutes) summary of the student’s background, interests, goals, and research, which may then serve as a starting point for further discussion.
- The A-exam does **not** focus solely on the student’s thesis research, but rather on the items listed in the section “What is the A-Exam committee trying to learn about the student?”

When should the A-Exam be taken?

- The earliest an A Exam may be taken is after two semesters in a Ph.D. degree program or in a MS program leading to the MS and Ph.D. degrees. The Field of Plant Pathology strongly recommends that the A-Exam be taken **by the end of the fourth semester, or as soon as possible thereafter.**
- The completion of all coursework is **not** a prerequisite for taking the A-Exam.
- Unless special permission is obtained from the Dean of the Graduate School, all Ph.D. students must attempt the A-Exam before beginning their seventh semester (not including summers) of registration.
- Students must schedule the A Exam with the Graduate School at least seven calendar days in advance. This scheduling form requires the signatures of the DGS and all exam committee members.

Who administers the A-Exam?

- The A-Exam is conducted by the student’s Special Committee.
- The minimum number of Special Committee members is three (major professor and members representing each of the student’s two minor subjects). The Field of Plant Pathology requires that two additional faculty members serve on the A-Exam committee.
 - One may be an additional Special Committee member
 - At least one must be designated as a “Field-appointed member” by the DGS. The “Field appointed member” should represent an area of the Field not represented by other members on the A Exam committee.

- Members of the Graduate Faculty other than members of the Special Committee are welcome at all examinations as required by the Graduate School. The Special Committee Chair provides an opportunity for all Faculty Members to question the student.

What is the A-Exam committee trying to learn about the student?

The purpose of the A-Exam is to determine whether the student has the inherent ability and proper preparation to continue doctoral studies and attain the Ph.D. Faculty consider that successful Ph.D. candidates are generally proficient in the following areas and activities. The student's abilities and understanding in these areas will be evaluated during the A-Exam.

- Ability to reason through problems
- Ability to formulate and test hypotheses
- Ability to communicate ideas and concepts effectively
- Understanding of the important concepts in plant pathology (e.g., material covered in PL PA 301 and PL PA 601, PL PA 470, PL PA 602)
- Understanding of and the basic concepts in the student's specific area of research
 - Ability to discuss the pertinent research and literature in his/her area
 - Location of work and workers in the specific area
 - Mastery of the theory and mechanics of all techniques used (or planned) in his/her research
- Ability to discuss the major trends in Biology, Plant Pathology, and his/her specific area of research
- Ability to discuss how his/her research fits in with the bigger picture of his/her specific field, plant pathology, and biology
- Understanding of basic plant form and function
- Understanding of basic microbial (eukaryotic and prokaryotic) form and function
- Should understand elementary statistical concepts as well as concepts commensurate with the planned dissertation research
- Understanding basic aspects of cell biology, genetics and molecular biology (e.g., subcellular organization, mitosis, meiosis, transcription, translation, etc.)
- Understanding the basic principles of chemistry, biochemistry and physics (e.g., pH, molarity, gas laws, simple mechanics, solvent-solute relationships, redox Relationships, etc.)
- Understanding of the structures and functions of proteins and nucleic acids, prokaryote and eukaryote metabolism.
- Additional knowledge and skills may be required by the Special Committee.

Failure to convince the examination committee that one has mastered these areas can result in a failed A-Examination.

Preparing for the A-Exam

Common strategic errors made by students in preparing for the A-exam are (1) the excessive accumulation of factual information, (2) failure to meet committee members individually and discuss the expectations of individual committee members before preparing for the exam, and (3) insufficient practice in taking oral exams. The following list of suggestions is not inclusive, but should help students prepare for the A-exam in a less-painful fashion.

- A-exams may require you to draw upon what you have learned in various courses, but the questions asked are unlikely to resemble exams taken in those courses. A-exams will more likely require you to integrate information from several courses, or to apply what you have learned to synthesize an answer to a new problem. Therefore, students should review their courses, but don't "retake the course". Keep the focus on major principles and practical application of concepts.
- While it may be useful to discuss past A-exam questions and answers with other students, the content of the A-exam administered to **you** will reflect the interests and expertise of **your** examining committee. Meet with your committee members individually well in advance to discuss the exam. Ask for a few representative questions, and try to answer them "on the spot" to the satisfaction of the member. If you don't know the answer, ask the committee member to provide what would be an acceptable answer in the A-exam setting.
- While content and tone of various A-Exams may differ, they are alike in requiring students to "think on their feet". It is important to become skilled in answering questions orally to the degree and quality required to pass the A-Exam. Note well that **your** committee is the ultimate source of such information, and that they are the ones that will hear your answers to various questions. This aspect of the exam is often neglected, and the exam itself is a poor place in which to learn the lesson. Students should practice the above skills with their committee members and peers as opportunities arise.

Examination Results

- There are three possible outcomes of the A-Exam: Pass, Fail, and Conditional Pass.
- For a student to pass an examination, all members of the examining committee must approve. The A-Exam Committee reports its decision to the Graduate School (on a special form) within three business days of the exam.
- Typically, students bring the form to the exam where signatures of all A-Exam Committee Members can be collected.
- For "a Conditional Pass", the conditions must be provided in writing to the student and the Graduate School.
- If the student fails the A-Exam, re-examination is allowed only with the approval of the Special Committee not earlier than three months have elapsed since the failed exam. If re-examination will be allowed, the student is so informed at the end of the failed A-Exam.
- If the student fails the examination but has not yet completed an MS degree in Plant Pathology, the Special Committee may agree to grant the student a terminal MS degree only if the student's performance during the A-Exam is at least at the level of a passed MS exam.
- If a Special Committee unanimously fails a student on an examination and declines to allow reexamination or grant a terminal MS degree, the student may not continue in the Graduate School. The ex-student can appeal such decision to the General Committee of the Graduate School via a formal petition.
- If the student fails the examination and the minor subject members of the Special Committee, but not the Chair, oppose re-examination, the student can continue in the Graduate School only if the General Committee approves a petition to do so.
- If the Chair, but not all the minor subject members, fails the student on an examination and opposes re-examination (equivalent to the Chair resigning on academic grounds),

the student can continue in the Graduate School only if the student reconstitutes the Special Committee and General Committee approves his or her petition to do so.

- Graduate Faculty visitors at an examination are at liberty to inform the Dean in writing if they disagree with the judgment of the examining committee and wish to request a review of the case by the General Committee.

Final Note: Except for those enrolled in the Employee Degree Program, a student in a Ph.D. program is to complete all degree requirements in no more than seven years from the first registration in that particular degree program as required by the Graduate School. This may be extended by petition. Petitions should include a plan for completion of the degree.

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