

Comprehensive Examination: A student in good academic standing officially becomes a candidate for the degree of Doctor of Philosophy after passing the Comprehensive Examination. The main purpose of this examination is to determine the student's readiness to conduct independent scientific research. Additionally, the exam will identify weaknesses in the student's progress at the time of the exam. Students who cannot pass this exam to the satisfaction of the Examination Committee will not be recommended for continued study in the Ph.D. program.

1. The exam will be scheduled before June 30 of the second academic year. Any requests for a change in this schedule will be evaluated for approval by the IMP program committee.
2. An Examining Committee is convened by the IMP Ph.D. Program Directors. The student's thesis advisor will not be part of the Examining Committee but may participate in discussions regarding the student before the examination.
3. At least two weeks prior to the exam the student is expected to distribute a hardcopy of the written grant proposal (F31 format) to the members of the Immunology and Microbial Pathogenesis Examining Committee. In addition, an e-copy can be emailed, as per the request of examining committee members. This proposal, which forms the basis for the subsequent oral examination should be based on the student's anticipated thesis project. The Proposal should conform to the following guidelines:
 - a. **Fonts and margins:** minimum margin of 0.5", single-spaced with Arial or Helvetica font, no smaller than 11 pt in the text.
 - b. **Required Sections:**
 - i. Abstract/summary (no more than 500 words)
 - ii. Specific Aims (1 page maximum),
 - iii. Research Approach (6 pages maximum) containing i) Significance, ii) Innovation iii), Background, iv) Preliminary data and v) Research plan for each specific aim. **The research plan for each specific aim should contain a discussion of anticipated and other possible results, interpretations of possible outcomes, pitfalls and alternative approaches, and future directions.**
 - iv. Cited references (no page limit).
4. The student is expected to write the proposal entirely on his or her own, but it is strongly suggested that he/she consults with colleagues (e.g. other students, postdocs and faculty) regarding the content of the proposal. The student's thesis advisor can read the proposal once and give general advice on the strength and weaknesses but should not be involved in the writing of the proposal (e.g. providing previous grants on the same topic or editing).
5. The oral examination is scheduled for a minimum of two-hour period. During this time, the committee will evaluate the student on multiple components including: **1)** basic/ fundamental knowledge including materials covered in GC550 and IM505A, **2)** their ability to state clearly the hypotheses to be tested, **3)** in depth knowledge of background information and logic to support the significance of their hypotheses, **4)** the rationale and technical details of the experimental design, **5)** alternative approaches and interpretations based on hypothetical results, **6)** caveats and limitations of each experimental and technical approach discussed, **7)** the written document as a whole, and **8)** the oral presentation.
6. There are 3 possible outcomes of the examination, each of which will be determined by **a unanimous vote** of the Examination Committee:
 - a. **Pass:** If the members of the Examination Committee agree that the student has satisfied the 8 required components during the oral examination, the student will receive a grade of "pass" and be passed on to candidacy for the Ph.D.
 - b. **Conditional Pass:** Inadequate performance in up to 3 of the 8 sections described above will result in a "conditional pass". In this case, the student will be asked to revise the written document to address the inadequacies, or repeat the oral defense as appropriate. The Examination Committee will provide the student with a critique and outline the needed improvement(s). One of the committee members will be assigned to support the student and address any concerns or questions. The student has until **September 1st** after the initial oral examination to complete and distribute the revised proposal to the members of the Examining Committee, unless an extension is expressly authorized by the Examination Committee.

Dependent on the required improvement of the first examination, the Committee will reevaluate the proposal and/or the student's performance in an oral examination.

- i. If the majority of the Examining Committee agrees, the student is passed on to candidacy for the Ph.D.
 - ii. If the student is unable to satisfactorily improve the proposal or their oral exam, the potential for remediation and the format of any needed remediation exam, will be determined by the Examination Committee in consultation with the IMP PhD Program Committee. Failure to improve to the satisfaction of the Examination Committee and the IMP Program Committee will result in the student no longer being considered as a candidate for the Ph.D.
- c. **Fail:** Inadequate performance in any 4 or more components of the initial exam will result in a failure. In the case of failure, the format of a re-exam will be determined by the Examination Committee in consultation with the IMP PhD Program Committee and the student's thesis advisor. As above, the student will be provided with a critique and the needed improvements. One of the committee members will be assigned to support the student and address any concerns or questions. The student has until **September 1st** after the initial oral examination to complete the re-exam, unless an extension is expressly authorized by the IMP PhD Program Committee.
- i. If the majority of the Examining Committee agrees that the student passed the re-exam, the student will be passed on to candidacy for the Ph.D.
 - ii. If however, the student is unable to satisfactorily improve, the student will no longer be considered for candidacy for the Ph.D.