Students are required to pass a comprehensive preliminary examination for admission to candidacy for the PhD. This examination consists of preparation of a written research proposal and an oral exam, which covers the candidate's entire program of study. This document provides guidelines to be used by the student and the student's graduate committee during preparation for and administration of the examination.

**A. Timing**
The comprehensive preliminary exam is to be administered by the end of the 5th semester in the graduate program (Fall semester of the third year) or by the end of the 8th semester (Spring semester, fourth year) for students in the combined residency/graduate programs. Failure to comply with this requirement will result in the MIP Graduate Education Office placing a hold on registration. Students are encouraged to take the preliminary exam before or early during the 5th semester. The student is responsible for notifying the MIP Graduate Education Office (Academic Support Coordinator for Graduate Studies, B128 Microbiology) of intent to hold the examination. In addition, the student will provide the MIP Graduate Education Office with documentation (copies of the GS16 form, the proposal and the examiners’ evaluations) upon completion of the exam, regardless of the outcome.

The timeline for the examination is provided below:

- **10 weeks prior to the exam:** The MIP Graduate Education Office is notified of intent to take the examination and the date. **The student and adviser will identify an alternate committee member(s)** (see below: Examination Committee) and inform the Associate Department Head for Graduate Education. The Associate Department Head for Graduate Education will submit a petition to the Graduate School requesting substitution of committee member(s).

- **8-9 weeks prior to the exam:** The student will provide the examination committee with a one-page document describing the Specific Aims of her/his proposal. The student will meet with her/his graduate committee (including the advisor(s) and alternate committee member(s), discuss the exam format using this document as a guide, and set a date for the oral exam. The committee will review the Specific Aims and provide comments to the student (see D1 below). **The student will identify three of the core departmental areas (bacteriology, virology, molecular genetics, immunology, parasitology, vector biology and pathobiology) to be covered during the oral exam** (see D3 below).

- **6 weeks prior to the exam:** Revisions to the Specific Aims will be approved by the student's graduate committee. Student begins writing the proposal.

- **2 weeks prior to the exam:** The final proposal will be provided (electronic copy) to each committee member for evaluation, along with an electronic copy of the preliminary examination evaluation form.
2 weeks prior (continued): Before the exam, committee members will review the proposal, prepare related questions, and complete the evaluation form for the written portion of the exam.

Day of the Exam: Student and committee meet for the oral examination. Committee members provide their written evaluation forms for both the written and oral portions of the exam to the chair of the committee after the exam.

Within 2 days after the exam: The original, signed GS16 form must be submitted to the Graduate School. Copies of GS16 and the proposal will be provided to the MIP Graduate Education Office. Copies may be electronic.

Within 1 week after the exam: The chair of the committee will provide the student, other committee members and the MIP Graduate Education office with a summary statement describing the student’s performance in the examination.

Given this time line, the first committee meeting to discuss the Specific Aims should occur no later than the third week in October of the student’s fifth semester (or the third week in March of the eighth semester for students in the combined program).

Four weeks of concentrated effort are allowed for preparation of the written proposal.

B. Examination Committee
The examination committee should consist of the student’s graduate committee with the major adviser(s) replaced by an alternate member(s) selected in consultation with members of the Graduate Education Committee. The alternate committee member(s) should have similar expertise as the advisor(s), especially if remaining members do not have similar expertise. The MIP Associate Department Head for Graduate Education will submit a petition to the Graduate School requesting the substitution of committee member(s) for the major adviser(s) for the preliminary examination only. The Graduate School must approve the substitution prior to the exam. A committee chair should be identified to communicate directly with the student during preparation of the proposal and to provide a comprehensive written evaluation after the examination. The chair of the committee will be a regular member of the student’s committee. The outside of the department member of the student’s committee cannot serve as the chair. The student’s major adviser(s) may be present for the oral examination and receive a copy of the written proposal but may not influence the course of the examination, may not be present during the discussion of the student’s performance and may not vote as to whether the student passes or fails the exam. While the student’s advisor does not participate (ie: ask questions, vote) in the oral examination, the advisor(s) may be involved during preparation of the proposal (see section D).

C. Preparation for the Preliminary Exam
The MIP Department will offer a grant writing class (MIP643) in the spring semester every year. All 2nd year PhD students and 3rd year students in the combined programs are strongly encouraged to register for this class during which each student will prepare a research proposal on their own research in a format identical to that required for the preliminary exam. Assistance and advice from the adviser, peers and course instructor(s) are encouraged. No part of the proposal prepared during this class may be utilized in the preliminary exam. Students should also read the literature in their area of study and
start to formulate ideas and hypotheses for their research proposal up to 6 months ahead of the preliminary exam.

D. Preparation of the Proposal
Students are encouraged to discuss ideas and possible topics for the research proposal with their advisor, committee members and peers. The hypothesis should be based on the student’s original ideas and the student is expected to independently develop the experimental design and interpretation of the proposal. The student should rely on the literature and their own background knowledge to develop a strong, original hypothesis and design an experimental approach to test it. Potential pitfalls and alternative approaches should be considered and the techniques proposed should be appropriate. The experimental approach should rely mainly on techniques other than those the student routinely uses in their own research. For example, if the student’s research project extensively utilizes ELISA assays for TNF and IL6, these types of assay may not form the bulk of the experiments in the proposal, although they need not be completely avoided.

Seeking outside help: While preparing the proposal the student may consult with her/his advisor, committee members, faculty and peers on experimental approaches and analysis. If you don't understand the principles behind a specific experimental approach you are proposing you are permitted to seek advice from others.

D1. Evaluation of the Specific Aims
The student’s committee (includes advisor and replacement) is asked to carefully evaluate the Specific Aims before the student prepares the main proposal. Comments and suggestions should be communicated to the student during the committee meeting 8-9 weeks prior to the oral examination. The committee should not overtly suggest better experimental approaches or better hypotheses; it is acceptable to ask that the student formulate another hypothesis and develop new specific aims if those submitted are considered unacceptable. In particular the committee should:

a. Evaluate whether the student is proposing research in a relevant area that is neither too close, nor too far from her/his own research area. For example, a student working on replication of HIV-1 could propose to investigate replication of an alphavirus, or perhaps examine immunity to HIV-1, but it would be inappropriate to focus on replication of FIV. The proposal should not overlap significantly with other projects in the laboratory supervised by the student’s major adviser. In general, the subject matter of the proposal should be close enough to the student’s own area that the knowledge garnered will enhance the student’s understanding of her/his own research. The committee members are encouraged to use their discretion to determine whether the scope and aims of the proposal are appropriate.

b. Give the student guidance regarding the scope of the specific aims and make suggestions that could help focus the proposal. For example, if the student proposes too broad a study the committee members could suggest which Aims should be discarded and which expanded.

c. Be available for discussion during the proposal preparation.

D2. Format of the Proposal
A PDF version of the proposal template is provided on the MIP Graduate Program Website http://www.cvmbs.colostate.edu/ns/departments/mip/graduate/current_students.aspx. Please contact Heidi Runge for a Microsoft Word version of the proposal template. The entire document should not
Students who feel they are deficient in their written language skills are encouraged to consult the CSU Writing Center [http://writingcenter.colostate.edu/](http://writingcenter.colostate.edu/) for assistance. Students are also cautioned that the proposal should be an original, independently prepared document. Plagiarism of ideas or inappropriate use of passages from published documents are not acceptable. The policy and procedures regarding academic integrity at CSU can be found in the Graduate School Bulletin ([http://graduateschool.colostate.edu/current-students/bulletin.aspx](http://graduateschool.colostate.edu/current-students/bulletin.aspx)) and General Catalog ([http://www.catalog.colostate.edu/](http://www.catalog.colostate.edu/)). Suspected academic misconduct will be discussed with the student and the student’s advisor and reported to the Graduate School and the Office of Conflict Resolution and Student Conflict Services.

D3. The Examination

At the start of the oral examination the student will give a ~10-15 min presentation covering the material in the written proposal. The committee will then question the student to determine how well she/he understands the literature in her/his chosen field of study as well as the background information relevant to the written proposal. The committee will also test the student’s ability to think creatively and communicate her/his ideas orally. In addition to the material presented in the proposal the student will be questioned on three core areas previously selected by the student for her/his program of study: bacteriology, virology, molecular genetics/molecular biology, immunology, parasitology, vector biology and pathobiology (cancer biology, toxicology, prion biology).

D4. Overall Evaluation

An evaluation form is provided on the MIP Graduate Program Website. The proposal should not be evaluated as if it were being considered for funding. One goal of the preliminary exam is to ascertain whether the student understands their chosen field of study sufficiently that they can formulate an interesting and original hypothesis and develop a means to test it. The exam also tests the student’s ability to communicate their ideas effectively orally and on paper. The written proposal, the oral presentation and the student’s performance in the questioning period will all be evaluated.

D5. Failing the Examination

The student must pass both the written and oral parts of the examination in order to pass the preliminary exam. If performance in either portion is inadequate, the student fails the examination. In this case, if the committee agrees, the exam may be reexamined once and, for the reexamination, may be required to complete further work. The reexamination must be held not later than 12 months after the first examination. The examination must not be held earlier than two months after the first examination unless the student agrees to a shorter time period. Failure to pass the second exam results in dismissal from the Graduate School. The requirements to pass the second exam should be clearly defined by the committee and may include rewriting the proposal, taking additional classes and/or repeating the oral defense.