COMPREHENSIVE EXAMINATION POLICY

I. Scheduling of the Examination

Before admission to candidacy for the doctorate, students must successfully complete the written exam (Part I) plus an oral comprehensive exam (Part II). Students are qualified to take the comprehensive exams following successful completion of required courses, while maintaining an overall GPA of 2.5 and a GPA of at least 3.0 in departmental courses. The exam sequence will be scheduled once each year, beginning in early June, with the date determined by the Comprehensive Exam Committee (CEC), in consultation with the students taking the exam. In the event that a student fails the examination, the CEC may schedule an additional examination for a retake, in consultation with the student and the student’s advisory committee. Qualified students will indicate their intent to take the exam by responding to a notice from the Director of the Graduate Program approximately two months prior to the exam. Students indicating such intent are required to take the exam the next time it is offered, except for extraordinary (i.e., medical or personal) reasons.

II. Structure and Administration of the Examination

A. Written Exam

The Comprehensive exam will consist of two parts. Part I will be the written portion, given during Exam week. The written portion of Part II must be submitted within three months of being notified of successful completion of Part I.

**Part I:** This written exam is given over a period of three days. The exam will be compiled by the Comprehensive Exam Committee (CEC) and will consist of 12 questions chosen from those provided by the graduate faculty of the Department of Pharmacology and Toxicology. The first 10 questions will cover all the 10 topic areas listed below. Questions will cover the basic principles of pharmacology and toxicology as presented in all graduate pharmacology courses. A portion of the exam will be mandatory questions, which must be answered by all students. Each question is designed to be answered within one hour (see days 1 and 2, below) or one and a half hours (see day 3, below). The schedule for a typical exam is listed.

**Monday (or Day 1)**

9:00 a.m. to 12:00 noon

1. Basic principles: absorption, distribution, metabolism, excretion, time course and pharmacokinetics, dose response relationships.

2. Antimicrobials, anticancer drugs, carcinogenicity and mutagenicity.

3. Endocrine pharmacology and toxicology, GI pharmacology.
2:00 p.m. to 4:00 p.m.
4. Inflammation, antiinflammatory drugs, immunopharmacology and immunotoxicology.

5. Toxicology including drug development, safety/risk assessment, regulatory toxicology, hepatotoxicity, reproductive toxicology, dermal and ocular toxicology and specific toxicants (pesticides, metals, etc.).

Tuesday (or Day 2)

9:00 a.m. to 12:00 noon
6. Receptor theory, receptor/cell interactions, cellular mechanisms of toxicity.

7. Autonomic pharmacology.

8. Neuropharmacology, such as local and general anesthetics, sedative/hypnotics, anti-anxiety drugs, antipsychotic drugs, antidepressants and stimulants.

2:00 p.m. to 4:00 p.m.

10. Cardiovascular pharmacology and toxicology, diuretics, renal toxicology and pulmonary toxicology.

Wednesday (or Day 3)

9:00 a.m. to 12:00 noon
Two additional questions will be related to material taken from advanced graduate courses and will be administered on the morning of day 3.

Grading Policy (Part I)

Final decisions on passing or failing reside with the CEC. Their decisions are based largely on the following numerical guidelines. Students must pass at least 9 out of 12 questions with an overall average of 75% or greater to successfully complete Part I of the written comprehensive exam. A minimally passing grade is defined as 75 points or greater out of a possible 100 points per question. A marginal passing grade is defined as 75 to 79 points. Failing 4 or more questions or having an overall average lower than 75% is considered a failure of Part I. A student meeting all the above criteria for passing may nevertheless fail the exam, if many of the answers are scored as marginal passes.

Individual faculty members will grade their own questions. "Blind" grading will be used (i.e. the student's name will not appear on the test answer). Additionally, faculty are requested to communicate in a short paragraph their impression of the student's performance, reasons for passing, failing, etc. No information about their performance on individual questions is to be provided to any student prior to the final decision by the CEC.
Decision Process on Student Performance – Part I.

Following completion of Part I of the written comprehensive exam, the CEC will meet and consider each student's performance. The CEC will decide whether each student passes or fails the written comprehensive exam. For the great majority of cases, that decision will be based on the numerical criteria. When a student’s performance is not clearly passing or failing according to the numerical guidelines, the CEC will take into account other factors such as the number of questions with marginal passing grades of 75 to 79, the overall distribution of grades and the written evaluation of the student’s responses.

In the event that the decision of the CEC differs from that determined by the numerical criteria, a written explanation will be prepared. A copy will be given to the student, the student's advisor, the Director of the Graduate Program (i.e. that copy will be placed in the student's file) and the Chair of the Department.

Possible Outcomes - Part I

1. A student who passes Part I of the written exam will proceed to Part II.

2. In the event of failure of Part I of the written exam, the CEC in consultation with the student’s advisory committee will decide whether the student may take a second examination. Without exceptional circumstances, it is departmental policy that a student will only be allowed two opportunities to pass the written comprehensive exam.

3. In the event of a failing performance on Part I of the exam, the CEC has several options. The first option is to recommend that the student retake Part I of the exam the next time it is offered. The second option is to recommend that the student take a modified version of Part I of the exam. For example, the CEC may perceive that a student’s failure reflects deficiencies in several specific areas. Accordingly, it might be desirable to offer the student the option of retaking only a portion of Part I of the exam. In the case of the second option, the CEC must specifically state the objective criteria for passing a special or partial examination and the timetable for taking the examination. In the event that a student or a student’s advisor chooses not to take advantage of this option, then the student will be required to select the first option. The CEC will decide upon the date for the exam to be retaken in consultation with the student and the student’s advisory committee.

Part II. The student will submit a written research proposal covering any topic to their graduate advisory committee and to the director of the Graduate Program no later than three months after notification of successful completion of Part I of the written comprehensive exam. The research proposal must be typed and is limited to 10 single-spaced pages with a font size no smaller than 12 points and a one inch margin on all sides. The research proposal is designed to help the student focus on a research project, review the relevant literature in that area, and to learn how to design experiments to test specific hypotheses related to their
work. Although preliminary data can be included, this is optional and does not count against the page limit. The major point of the research proposal is to evaluate the student’s ability to critically evaluate a research problem.

The research proposal should contain the following sections with suggested page allotments noted in parentheses. Note that an extensive review of the literature is expected and the list of cited references is not counted against the page total:

1. Title page-include title, student’s name, advisor’s name and date submitted
2. Abstract (0.5-1 page)
3. Hypothesis and Specific Aims (1 page)
4. Background and Significance (3.5 pages)
5. Preliminary Data (optional; 2.5 pages; does not count against the page limit)
6. Experimental Approach and Methods (4.5 pages)
7. Literature Cited (no page limit)

**Grading Policy (Part II)**

The student's graduate advisory committee will evaluate the proposal and, within two weeks of its submission, vote as to whether or not they find the document acceptable. The student passes if there is no more than one dissenting vote. If two or more committee members vote to disapprove the proposal, it is returned to the student who will have an additional two weeks to submit the revised proposal. The student passes Part II of the written exams when there is no more than one vote to disapprove the submitted proposal. Once the student passes Part II their Oral Exam may be scheduled.

**B. ORAL EXAM**

The **Oral Comprehensive Examination** must be conducted within the four month period after notification of successful completion of Part I of the written comprehensive examination.

After successful completion of the written research proposal (Part II), the student can schedule the Oral Comprehensive Examination through the Graduate School Office. The Notice of Oral Comprehensive Examination form can be acquired from the Office of Graduate Education website at [http://www.medschool.vcu.edu/gp/procedures.html](http://www.medschool.vcu.edu/gp/procedures.html). This form should be signed by the student’s advisor and program director and must be **returned within 10 working days to the Office of Graduate Education (Sanger Hall, Room 1-058)** be sure to pay close attention to holidays, since they are not counted as working days.

The **Oral Examination** of the student will be conducted by the student's Graduate Advisory Committee and an appointed Dean's representative. In addition to the Graduate Advisory Committee and Dean’s representative, other interested faculty members may attend the examination, and may ask questions, where appropriate. The first round of questioning of the student will focus on the
written research proposal. A second round of questions will be comprehensive in nature and may deal with any issue.

**Grading Policy for Oral Examination**
At the conclusion of the oral exam, the student's graduate advisory committee and the Dean’s Representative will discuss the student's performance and vote on whether the student passes or fails this part of the exam. A failing grade will be assigned if two or more votes to fail the student are cast.

If the **Oral Comprehensive Examination** is not completed within the four month period after notification of successful completion of Part I of the written comprehensive examination, the student will receive a failing grade. Exception will be made only for compelling reasons, examples being as documented illness or family crisis. The final decision will be made by the CEC.

In the event that a student fails the oral examination, the School of Medicine policy will be followed - (see [http://www.medschool.vcu.edu/gp/procedures.html](http://www.medschool.vcu.edu/gp/procedures.html), page 20, last two paragraphs).

“Should the student fail the oral comprehensive examination, the examination may be retaken only on approval by the MCV Campus Graduate Committee. The request for such approval is brought to the MCV Campus Graduate Committee by the Graduate Program Director. The Faculty Advisor is responsible for consulting with the Advisory Committee (and the department as appropriate) to determine if the request for approval is appropriate and communicating the request to the Graduate Program Director. The Graduate Program Director is responsible for informing the Office of Graduate Education of the intent to seek the approval of the MCV Campus Graduate Committee. The Committee renders a decision on such a request in the course of its regularly scheduled meetings”.

### III. THE COMPREHENSIVE EXAMINATION COMMITTEE

#### A. Composition and Election

1. The committee will consist of five members: 3 elected members, the director of the Graduate Program or his designee and the past chairman of the committee.

2. Members will serve for three-year terms, with one new member being elected each July.

3. The entire faculty will elect a member to replace the retiring member. A member may serve more than one term, but may not succeed himself/herself. All members of the graduate faculty in Pharmacology and Toxicology are eligible candidates. Nominations will be based on criteria to maintain representation from various disciplines in the department (neurosciences, immunotoxicology and cancer).

4. The committee will choose its chairperson annually.
B. Functions of the CEC

1. The committee will solicit and assemble Part I of the written examination from questions submitted by the faculty.

2. The committee will decide whether each student's performance on Part I of the written exam is passing or failing. In the case of a failure, the CEC will make a recommendation, in accordance with the possible outcomes described above and to notify the director of the Graduate Program of successful completion.

3. The committee will have the responsibility of continually reviewing the examination format and procedures and for making recommendations to the faculty for revision of this document.

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