



Protocol for a CMDB Student's

WRITTEN PORTION OF THE QUALIFYING EXAMINATION

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Overview:

The CMDB doctoral program consists of two stages. The first interval is spent by the student fulfilling course requirements of the CMDB program and certain general requirements specified by the UCR Graduate Division. This phase is culminated by completion of the Written Portion of the Qualifying Examination before the start of the second academic year and completion of the Oral Portion of the Qualifying Examination before the end of the second academic year. When these requirements are met, the student is officially 'advanced to candidacy' for the Ph.D. The second stage of the program is devoted to independent study and research that will permit the student to write an acceptable dissertation. The doctoral dissertation must be an original research work in the candidate's chosen area of specialization. The student's Dissertation Committee will determine the acceptability of the dissertation. The Doctorate -- the highest degree the University of California can award -- is a research degree conferred on the recommendation of the Dissertation Committee which is nominated by the CMDB Program faculty in consultation with the student and officially appointed by the UCR Graduate Dean.

Written Portion of the Qualifying Examination Protocol:

Presented below is information on all phases of the CMDB Written Portion of the Qualifying Examination. This statement constitutes a formal policy of the Interdepartmental Graduate Program In Cell, Molecular and Developmental Biology at UCR, effective August 14, 2007.

Scheduling of the Written Portion of the Qualifying Examination

The specific dates for the administration of the CMDB Written Portion of the Qualifying Examination will be announced by June 1 of each academic year; these dates are proposed by the faculty Chair of the Written Qualifying Examination and then approved by the CMDB Program Director. The exam is given on three consecutive days (usually Monday-Wednesday) in early September before the start of fall quarter classes. The overall administration, supervision and grading of the Written Portion of the Qualifying Examination is carried out by the faculty members of the Written Qualifying Examination Committee; the members of this committee are nominated by the Program Chair and approved by the CMDB Executive Committee.

Description of the Written Portion of the Qualifying Examination

The CMDB Written Portion of the Qualifying Examination occurs annually over a 3 consecutive day interval in an early week of September. A four-hour period is allotted for the examination on each day, with the section on each day focused on one of the three principal disciplinary areas of CMDB. The schedule is typically that shown on the next page:

Monday	9 AM - 1 PM:	Cell Biology section
Tuesday	9 AM - 1 PM:	Molecular Biology section
Wednesday	9 AM - 1 PM:	Developmental Biology section

Each student will be required to answer two questions (each usually consisting of several parts) in each of the three disciplinary areas. Each student will have some choice in selecting the two questions he/she will answer, since at least four questions will be offered in each disciplinary area.

The examination questions will be prepared by the Written Portion of the Qualifying Examination Committee assisted by other CMDB faculty who are willing to submit questions. Students scheduled to take the examination must **NOT** approach any of these faculty with questions concerning what might appear on the exam. Exam questions will be a natural outgrowth of the material taught in the core courses [CMDB 200, 201 and 202, or their equivalents from other departments] and that presented in the CMDB-257 annual seminar series; however the questions will not be specifically duplicating that material. Other major advances in cell, molecular and developmental biology as reported in the scientific literature (especially in the leading journals such as *Nature* and *Science*) may also be included in the exam material.

The written examination will be closed book. However, each student may bring and use a general English dictionary, or a general English/foreign language translation dictionary. Scientific or technical dictionaries are prohibited. Although examinees will use a computer to write their answers, access to the internet is strictly prohibited. Use of any other electronic device (except the provided computer) is prohibited.

Each student will write her/his examination using MS Word or comparable word-processing program on a computer in a designated computer laboratory on the UCR campus. Typically, Watkins Hall room 2101 will be the designated computer laboratory. Answers to the questions must be typed, although hand-drawn figures can be used to supplement the text of the answer. At the end of the examination period each day, each student will print out their answers for that section of the examination on paper. Each question being answered must be clearly identified. The name of the student must not appear on the printed pages, but each printed page must show the last five digits of the UCR student identification number. In addition, each student must save and submit their answers on a floppy disk which is labeled with their UCR student identification number. The CMDB Program will provide blank floppy disks.

Procedure used to grade the Written Portion of the Qualifying Examination:

The Written Portion of the Qualifying Examination has only two possible outcomes, either a Pass or a Fail.

The examinations will be graded by the faculty comprising the examining committee, assisted in some cases by other CMDDB faculty who provided examination questions. Grading of each question will be done anonymously, i.e., the grader will not know the identity of the student who wrote the answer (each student is only identified by their student ID number). Each of the two answered questions in one of the three disciplinary areas [cell, molecular, or developmental biology] will be graded as either Pass or Fail, with no conditional or other intermediate outcomes. If a question is graded Fail by the grader, at least one additional faculty member shall independently grade the question, and the two proposed outcomes (Pass or Fail) shall be discussed by the entire official Written Examining Committee to reach a final decision as to whether the outcome for the question is a Fail or Pass.

A student will be considered to have Passed the CMDDB Written Portion of the Qualifying Examination if she/he receives the grade of Pass on at least five of the six questions (two questions in each of the three sections representing the disciplinary areas of Cell, Molecular, and Developmental Biology) which constitute the exam. If two or more of the six questions are graded Fail, then the student is considered to have Failed the Written Portion of the Qualifying Examination.

Each examinee will be notified in writing by the Chair of the Written Qualifying Examination Committee within 2 weeks of the finish date of the exam of their outcome. No appeals will be permitted. Examinees, however, may individually seek an appointment with the Chair of the Written Examination Committee to receive feed back about the quality of their exam performance and to see comments written by the graders of the exams.

Procedures When the Written Portion of the Qualifying Examination is Failed:

If a student fails in his/her first attempt at the Written Portion of the Qualifying Examination, the official Examining Committee shall determine whether the performance was such that the student should be allowed a second attempt at the examination. In most cases, the Examining Committee will allow the second attempt. However, if the overall performance of the student has been very poor, the Examining Committee has the authority to deny a second attempt, in which case the student is not allowed to continue in the Ph.D. program.

No student will be allowed a third attempt to pass the Written Portion of the Qualifying Examination. If a student fails in her/his first attempt at the written portion of the qualifying examination, and is allowed a second attempt at the examination, and again fails, then the student is not allowed to continue in the Ph.D. program.

Students who fail in their first attempt at the written portion of the Qualifying Examination in September and who are allowed a second attempt, shall take their second written

examination in the following January. The second examination will have the same general format and will be given under the same conditions as the first examination. That is, the examination will be closed book and given in three sections on three consecutive days with a four-hour period on each day focused on one of the three principal disciplinary areas of CMDDB. Unlike the case with the first examination, however, students taking the examination the second time might not be required to take all three sections. Each student retaking the examination would take one, two, or all three sections, depending upon his/her performance on the first examination in September. If a student scored pass on both questions in a section (Cell, Molecular or Developmental) or in two sections in September, then those pass scores can be carried forward to January, and that section or two sections would not need to be retaken.

Grading of the second attempt at the Written Portion of the Qualifying Examination in January will be conducted in the same manner as with the first examination in September, and the standards for passing the examination will also be the same. That is, a student will be considered to have passed the CMDDB Written Portion of the Qualifying Examination if she/he is graded Pass on at least five out of the six questions (two questions in each of the three sections representing the disciplinary areas of Cell, Molecular, and Developmental Biology). If two or more of the six questions are graded Fail, then the student is considered to have Failed the written portion of the Qualifying Examination. Depending upon the performance of the student in the September examination, however, the six graded questions might all be from the January retake or might be a combination of questions from the September and January examinations. The following examples illustrate some possible combinations for grading of the second examination.

Example A: Student A scores two passes in the Cell Biology section, one Pass and one Fail in the Molecular Biology section, and one Pass and one Fail in the Developmental Biology section in the September examination. With four Passes and two Fails on the September examination session, the overall result on the examination is Fail. Therefore the Examination Committee must decide whether it is appropriate to invite the student to a second round of the Written Examination in January. Student A is required to retake only the Molecular Biology and the Developmental Biology sections of the January examination. If the January retake result is two Passes in the Molecular Biology section, and one Pass and one Fail in the Developmental Biology section, then with the two Passes in Cell Biology from September carried forward, Student A now has five Passes and one Fail, so the overall result on the second examination is a Pass.

Example B: Student B scores two Fails in the Cell Biology section, two Passes in the Molecular Biology section, and two Passes in the Developmental Biology section in the September examination. With four Passes and two Fails, the overall result on the examination is Fail. Therefore the Examination Committee must decide whether it is appropriate to invite the student to a second round of the Written Examination in January. Student B is required to retake only the Cell Biology section of the January examination. If the January retake result is one Pass and one Fail, then with the two passes in Molecular Biology and the two passes in Developmental Biology from September carried forward, Student B now has five Passes and one Fail, so the overall result on the second examination is Pass.

Example C: Student C scores one pass and one fail in the Cell Biology section, one pass and one fail in the Molecular Biology section, and one Pass and one Fail in the Developmental Biology section in the September examination. With three Passes and three Fails, overall the result on the examination is Fail. Accordingly, none of these scores are carried forward, since there are not two Passes in any one disciplinary area. Therefore the Examination Committee must decide whether it is appropriate to invite the student to a second round of the Written Examination in January. In the January retake exam, student C is required to retake all three sections of the examination. Suppose the results on the January examination are two Passes in the Cell Biology section, one Pass and one Fail in the Molecular Biology section, and two Passes in the Developmental Biology section. With five Passes and one Fail, the overall result on the second examination is Pass.

Example D: Student D scores one Pass and one Fail in the Cell Biology section, one Pass and one Fail in the Molecular Biology section, and two Passes in the Developmental Biology section in the September examination. With four Passes and two Fails, the overall result on the examination is Fail. Therefore the Examination Committee must decide whether it is appropriate to invite the student to a second round of the Written Examination in January. In the January retake exam, student D is required to retake only the Cell Biology and the Molecular Biology sections of the January examination. If the result is two Passes in the Cell Biology section, and two Fails in the Molecular Biology section, then with the addition of the two Passes in Developmental Biology from September carried forward, Student D now has four Passes and two Fails, so the overall result on the second examination is Fail. Student D automatically is not allowed to continue in the Ph.D. program.

Example E: Student E scores two Fails in the Cell Biology section, two Passes in the Molecular Biology section, and one Pass and one Fail in the Developmental Biology section in the September examination. With three Passes and three Fails, the overall result on the examination is Fail. Therefore the Examination Committee must decide whether it is appropriate to invite the student to a second round of the Written Examination in January. In the January retake, the student is required to retake only the Cell Biology and the Developmental Biology sections of the examination. If the result is one Pass and one Fail in the Cell Biology section, and one Pass and one Fail in the Developmental Biology section and the carry forward of the two Passes in Molecular Biology from September, Student E now has four Passes and two Fails, so the overall result on the second examination is Fail. Student E is automatically not allowed to continue in the Ph.D. program.

The Next Step When the Written Portion of the Qualifying Examination is Passed:

Upon passing the Written Portion of the Qualifying Examination, each student should begin writing a research grant proposal on her/his Ph.D. project with the aim of defending this proposal during the Oral Portion of the Qualifying Examination before the end of the student's second year in the CMDDB doctoral program.