

Excerpt from CMDB Handbook

Oral Qualifying Examination:

The Oral Qualifying Examination is conducted by the Oral Qualifying Examination Committee acting on behalf of the UCR Graduate Division¹ and in accordance with the formal regulations and requirements of the Cell Molecular and Developmental Biology Interdepartmental Graduate Program. The Oral Qualifying Examination is taken after successful completion of the Written Examination and should be scheduled to occur before the end of the second academic year². The focus of the Oral Examination will be a Research Proposal written by the student that s/he proposes to carry out for her/his Ph. D. dissertation. This document serves as a basis for examination and assessment by the Oral Qualifying Examination Committee of the following: (a) the ability of the student to write a concise and clearly written research proposal, (b) the student's fundamental knowledge in the area of her/his research, (c) the student's ability to identify a meaningful research project, (d) the student's ability to design and carry out productive meaningful research, and (e) the student's sophistication in describing the scientific literature germane to the proposed project. The format of the Research Proposal will be based on NIH and NSF grant proposals; the specific details of the document are presented below. The Proposal should not exceed 18 pages.

The oral exam will be administered by an Oral Qualifying Examination Committee composed of five UCR faculty members appointed by the Graduate Dean from nominees formally proposed by the student and her/his Major Professor, and officially approved by the appropriate CMDB Graduate Advisor³. One member of the Committee, who is not a CMDB Participating Faculty member, will be designated as the 'outside member'⁴ while the other four members must be drawn from the roster of CMDB Participating Faculty Members. **The Oral Qualifying Committee should be nominated at least two months prior to the intended date of the Oral Qualifying Examination.**

The Oral Examination must be held on a single day. A passing performance requires that no more than a single Committee member vote to fail. If a student fails the Oral Qualifying Examination, the Committee should make a recommendation either for

¹ See the UC Riverside Graduate Division's Graduate Student Handbook:
<http://www.graduate.ucr.edu/>

² Domestic CMDB graduate students should plan to complete their Oral Qualifying exam no later than by the start of their second fall quarter (assuming that they matriculated in September). Foreign students who received Non Resident Tuition (NRT) support should complete the Oral Qualifying Examination by June 31st of their second year. Failure to do so may jeopardize or complicate NRT tuition costs for the fall quarter; see Ms. Kathy Redd or your Graduate Advisor for details.

³ The official Oral Qualifying Member Nomination form (a Graduate Division form) will be prepared by Ms. Kathy Redd in the Biological Sciences Graduate Student Affairs Center on behalf of the student, signed by the appropriate Graduate Advisor and forwarded to the Graduate Division.

⁴ The 'outside' member of the Oral Qualifying Committee, must be a voting member of the UCR Academic Senate who does not hold an appointment as a CMDB Participating Faculty. This person represents the faculty at large and acts as a "third party ensuring fairness".

or against a second examination. Ordinarily a second exam is not administered until at least three months have elapsed and within six months of the original exam. A third examination is not permitted⁵. A student who does not pass the oral qualifying exam may be dismissed from the program or may be allowed to complete a M.S. degree. The CMDB Executive committee, in consultation with the student's Oral Qualifying Examination Committee, will determine if transfer to the M.S. program is recommended.

Specifications of the CMDB Student's Research Proposal

The candidate's Research Proposal should be prepared according to the following guidelines and include the stipulated A through G sections.

- (a) The Proposal should not exceed 18 pages not counting the Title Page and the Literature Cited section. The space required for all figures and Tables is included in the 18 page limitation. The entire document should be typed single spaced in a size 12 font. The side, top and bottom margins should be set at 2.0 cm. Each page (including the title page) should be numbered consecutively in the bottom right corner. Each page, except the title page, should have a header that states in size 10 font, the student's first and last name followed by the words "CMDB Research Proposal", followed by the scheduled date of the Oral Qualifying exam; for example Scotty Bear, CMDB Research Proposal, March 25, 2007.
- (b) The Title page should include the following information:
 - (i) The following Statement must be placed at the top of the Title page in a size 12, bold font 'Research Proposal for CMDB Qualifying Examination on 'month, 'day', 'year'. This should be followed by the following items, spaced neatly down the Title page.
 - (ii) An informative title that captures the essence of the proposed research project; it should not have more than 120 characters + spaces and should be in a size 14, bold font.
 - (iii) The official UCR name of the Candidate.
 - (iv) The statement 'Major Professor' followed by the name of the candidate's Major Professor, followed by a signature line. Underneath the signature line the following should be typed "*Approved for distribution*".
 - (v) The full name and departmental affiliation of each of the five members of the Oral Qualifying Examination Committee.
- (c) Section A: titled HYPOTHESIS AND SPECIFIC AIMS; it is limited to only one page that provides the following information:

⁵ See the UC Riverside Graduate Division's Graduate Student Handbook:
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- (i) An Abstract (limited to 400 words) that includes the following:
 - (ii) A concise articulation of the dissertation's overall objectives and the specific goal(s) of the research proposed, e.g., to create a novel experimental design, to solve a specific problem, or to address a specific barrier in your field. You may choose to formulate your own hypothesis. This information is then immediately followed on the same page by the following;
 - (iii) An explicit listing of the titles of the Specific Aims in Section D of your Research Proposal. These titles should exactly match (word for word) the wording that is contained in Section D of the research proposal.
- (d) Section B: titled **BACKGROUND**; this section is limited to no more than five pages. This section should provide the following background information to the proposed Research Proposal.
- (i) A brief review of the literature that is appropriate to bring the Committee members up to speed with the 'state of the art' of recent research in the general area of your research proposal.
 - (ii) Appropriate citation of the available literature in this area. See comments on the bibliography formatting below.
 - (iii) This section may include figures and tables as are deemed to be helpful; their area must be included in the six pages allowable for this section.
 - (iv) All Figures and Tables should be separately numbered, in sequence, throughout the entire document.
 - (v) Each Figure and Table must have a title, and, if needed, a legend that provides appropriate further description to assist the reader in understanding the figure/table; e.g. reference to experimental methodology, that may or may not require reference citation(s).
- (e) Section C: titled **SIGNIFICANCE OF THE PROPOSED RESEARCH**. This section can be up to one page in length. In this section, the Candidate should include the following:
- (i) A concise description of the background leading up to the Research Proposal,
 - (ii) A critical evaluation of existing knowledge and identification of the gaps that the project is intended to fill.
 - (iii) A description of the importance of the proposed research by relating the Specific Aims to the long term direction of research in the field.
- (f) Section D: titled **RESEARCH DESIGN AND RESULTS OBTAINED TO DATE**. It can be up to eleven pages in length. It should include a layout in a logical fashion of the method of prosecution of the overall research objective being proposed for your Ph.D. dissertation and, also, it should include the

preliminary data you have already obtained. The section should contain the following.

- (i) This section should be subdivided into as many primary sub-sections as the Specific Aims that were listed in section A.
 - (ii) Each primary Specific Aim may be broken down into as many or few secondary sub-Specific Aims as the candidate feels appropriate or necessary for the experiments being proposed.
 - (iii) Each Aim and sub- Aim should provide some kind of Rationale statement, followed by a brief introduction and then a section titled Experimental design(s).
 - (iv) The presentation of Preliminary Data should include appropriate Tables with titles and brief legends and Figures and with figure titles followed by informative succinct legends.
 - (v) Remember that all figures and all tables should be separately numbered sequentially throughout the entire proposal.
- (g) Section E: LITERATURE CITED; the pages of this section are not included in the page limitation of 18 pages.
- (i) The literature citations should be formatted in a size 10 font and numbered consecutively in the order of their citation in the Research Proposal. They should be formatted as specified by the *Journal of Cell Biology* except that all authors names must be listed and should be in 'bold; 'go to the following URL <http://www.jcb.org/misc/ifora.shtml#References>
- (h) Other information. The following standard sections of NSF and NIH grants should not be included in the candidate's Research Proposal: Table of Contents; Budget Information, Biographical Sketches; Available space and equipment; Animal use assurances; Checklist, and Appendix.
- (i) Approval of Research Proposal by your Major Professor.
- (i) Prior to distribution of your Research Proposal to your Committee, you must obtain your Major Professor's signature on the Title Page indicating that it is "*Approved for distribution*".
- (j) Distribution of final Research Proposal. After signature approval has been obtained, a hard copy of your proposal should be given to all members of the Qualifying Exam Committee **at least one** week (7 days) before the scheduled examination. Also, deliver one copy of your Proposal to Ms. Kathy Redd's office in the Biological Sciences Graduate Student Affairs Center. Students are encouraged to speak with the Oral Qualifying Exam Committee Chair and members for advice on preparing for the exam.