

CANDIDACY EXAM REQUIREMENTS – *FOR ALL CHEMISTRY STUDENTS*

The goals of the candidacy exam (a.k.a. ‘oral’ or ‘qualifying’ exam) are to develop your ability to identify independently and analyze critically a significant scientific problem, to plan creative approaches to research problems, to learn a new area of research, and to learn to present and defend research proposals in oral and written form.

You need to complete your oral exam by the end of your second year of graduate studies. If you do not complete your candidacy exam before the start of the Fall quarter of the third year, you will be recommended for dismissal from the graduate program. If for any reason you need special accommodations, please notify the graduate office and file the necessary documentation before the end of the Winter quarter of your second year.

I. Assembling your written documents

A) The Proposal. Because a key aspect of the Candidacy Exam is to help you develop as an independent scientist, you must conceive of your proposal topic and write your proposal on your own. Your proposal must involve a topic in chemistry that is not directly related to your own dissertation research. The proposed research should not be too broad or too narrow, and should have a scope that is on the order of a PhD thesis project.

Once you have a suitable ‘idea’ and have learned enough about it to suggest that this will be a suitable subject for your proposal, you should have your research advisor approve that the general topic is not directly related to your dissertation research. *This is the only discussion you should have with your research advisor pertaining to your proposal prior to your candidacy exam, and your advisor will not be able to give you any proposal advice.* Next, the topic for your proposal must be approved by your Graduate Specialization advisor (or in some cases, another faculty member, as designated by your Specialization advisor). You should contact your Specialization advisor, or his/her designee, to schedule a brief appointment to outline your planned research proposal. Be sure to bring a copy of the Candidacy Proposal Approval Form (available soon from the Graduate Office) to the appointment. Once your proposal topic has been approved, turn in the signed Approval Form to the Graduate Office and begin assembling your detailed proposal. You may discuss your proposal with anyone you like, with the exception of your research advisor.

The proposal should be in the format required for federal grants such as NSF or NIH. The text (including Figures) must not be longer than twelve pages of double spaced typing (1 inch margins, 12 point Times font), but the reference section can be as long as necessary. A reasonable format would be as follows:

Specific Aims: Provide an overview of your proposal and specific objections (1 page max)

Significance: Describe why the proposed studies are important (1/2 – 1 page suggested)

Research Design and Methods: Describe your proposed studies, citing ample literature precedence to support your ideas, wherever applicable (roughly 9–10 pages)

Conclusions: Reiterate the goals of your proposal and convey expected outcomes (1/2 page suggested)

B) Research Summary. Your research summary should clearly and concisely describe (a) the goals of your thesis research project, (b) your accomplishments to date, (c) future directions, and (d) references. Your committee will closely evaluate all aspects of your research summary, but will be especially interested in “(b) your accomplishments to date”, to ensure you are making adequate progress toward your degree. Your research summary should be written either as a two-page/two-column, single-spaced, document (e.g., using the *JACS* template) or as a single-column, double-spaced, document that is approximately 5 pages in length (e.g. using the *ACS* article template). A full experimental section is *not* required.

C) Career Planning (NOT graded). Your exam meeting will also provide you with an opportunity to begin discussing your future plans and career trajectory. When you submit your written materials, also include a separate document that includes ~1 paragraph about your career aspirations. Note that this career supplemental document will NOT be graded. This is simply an opportunity for you to begin discussing your long-term goals.

II. Preparing for your oral exam

A) Selecting a committee. You should choose a faculty committee for your oral exam at least two months before you plan to have the exam. Most of this committee will also serve as your dissertation committee, so take that into account with your research advisor when selecting faculty members. Your faculty committee should consist of your research advisor, two other faculty members from Chemistry and Biochemistry (at least one of these members should be from your area of specialization), and the fourth faculty member may be from outside or inside the Department. Note that your eventual *dissertation committee* will consist of just three members: your research advisor and two other faculty members (typically a person from your area of specialization). Once you have selected an oral committee (and everyone has agreed to serve), you should find a date for the exam that is compatible with the schedules of your faculty committee. It is recommended that you first determine the availability of your advisor before attempting to schedule your exam. Next, complete an “Oral Committee Nomination Form” with the Graduate Student Affairs one month before the exam date.

B) Submitting your written materials. The written materials for your candidacy exam must be given to the faculty committee members seven days before your scheduled oral examination. Be sure to reserve a room for a three-hour time slot (even though the exams themselves seldom go longer than two hours) for your oral exam and let your committee know the exam location. Remind your committee about the time and room location 1-2 days before your exam.

III. The Oral Exam and Outcomes

A) Oral Exam. The oral exam itself consists of your presentation of the research proposal to your faculty committee. It is typically a very interactive format with questions from the committee members about the proposed research and about fundamental science questions related to your proposed research. Following the discussion of your proposal, the committee may also opt to discuss your research progress and accomplishments to date. Further questions may be asked to probe your general knowledge of chemistry and your ability to think on your feet. You may use whatever visual materials are necessary, but most students use PowerPoint presentations. It is highly recommended that you recruit fellow graduate students and postdocs to conduct mock examinations.

B) Outcomes. At the completion of the exam, you will be asked to leave the room while the committee members discuss the outcome of your exam. Each committee member will vote “passed” or “not passed.” The most common outcome of the exam is successful advancement to candidacy. However, if two or more committee members vote “not passed”, regardless of the size of the committee, you will not advance to candidacy at that time. If you are not granted an opportunity to retake your exam, you should discuss your options with the Graduate Student Affairs Office.

In extremely rare instances, a student who does not pass his or her candidacy exam may be granted the opportunity to retake the examination at a later date. This is only allowed if the majority of your committee (i.e., 3 faculty for a 4-person committee) offers you a retake at the time of your initial unsuccessful exam. If a retake is allowed, the committee will specify the terms of the student’s exam retake that could plausibly result in a “pass” outcome. The terms, which will be provided to you in writing, will either involve substantially modifying your proposal or writing an entirely new proposal, and will also require a new meeting with your original committee for defense of your proposal. The re-examination must take place within one academic quarter, or by the end of summer if the initial exam was taken in the Spring quarter. If you do not pass a retake opportunity you should discuss your options with the Graduate Student Affairs Office. Please note that a maximum of one exam retake opportunity is permitted by the UCLA Graduate Division.

The oral exam committee is principally interested in seeing that you have thoroughly researched and analyzed your proposal, that you are making solid progress towards your Ph.D. degree, and that you are able to function independently at the level expected for a second year graduate student. We hope that these guidelines will help you to have a successful and rewarding Candidacy Exam.