

Procedures for Admission to Candidacy

To be recommended for candidacy for the Doctor of Philosophy Degree, you must give satisfactory evidence of a high degree of proficiency in your primary field of interest. You must demonstrate an understanding and knowledge of the fundamentals of chemistry. This is evaluated in an oral examination, which must be held during or before your sixth term of residence (excluding summers). Effectively this is the end of spring term of your second year.

The primary purpose of the Candidacy exam is to explain your research thus far at Caltech and demonstrate that it is likely to lead to a successful PhD. The exam should also ensure that you have a thorough understanding of the project, including the necessary background literature. It should also be established that you can accomplish the future research.

The Candidacy exam also includes the discussion/critique of two original research propositions. Specifically, your creativity, clarity of thought in developing a research project, and ability to research and write a persuasive proposal will be evaluated. You will also be evaluated in general chemical knowledge emphasizing, but not limited to, topics related to the proposed research.

At least one week prior to your candidacy examination, you must submit the written research report and two original research proposals, one of which must be clearly out-of-field, to each of your committee members. *Please label your out-of-field proposition.*

During the oral examination, you must demonstrate scientific competence and professionalism in defending your written report.

Choosing a Committee: Your candidacy committee will be determined by the Chemistry Option Representative and CCE faculty. Your committee members should include your research advisor and two faculty members, one of whom must be outside of your primary field of interest. A faculty member outside of CCE may fulfill this role. The chair of your committee must be a faculty member of CCE but may not be your advisor. Selecting the chair is your choice but requires the consent of your research advisor and the member you select as chair. Before scheduling your exam, check with each committee member to determine a satisfactory date. Please note that this committee, plus one additional faculty member, will serve as your PhD examination committee.

Scheduling the Examination: You must schedule your Candidacy Examination with your committee about four weeks in advance at the latest, but it is recommended you schedule the examination as soon as you know who is on your committee. The examination must be held no later than your sixth term of graduate residence (end of spring term of your second year). When a date has been set for your candidacy exam, you are responsible for entering the details in [REGIS](#) (under the "Graduate Degree Progress" tab).

Forward a copy of your research report and propositions to each of your committee members no later than one week prior to your examination. You should also bring a copy of your documents with you to the exam.

Written Documents: Your research report should describe your research progress and accomplishments to date and your plans for future research. Two propositions must accompany the report; these should reflect your breadth of reading, originality and ability to see and propose solutions for valid scientific problems. One of the propositions must be outside the immediate field of your thesis research. The purpose of the out-of-field proposition is to expose you to research areas outside of your immediate field of research interest, to determine your ability to identify an important problem, and to evaluate your creativity. The out-of-field proposition should be in research of a nature that would clearly not be undertaken by your research group (or groups, for students with multiple advisors). Extensions of ongoing research in groups with similar research interests are also not allowed. The in-field proposition can be of a nature that one could imagine your research group(s) pursuing such a problem in the future. However, it cannot be simply the next logical step in your research or other members of your research group(s), and it must be an idea that is clearly original to you.

If the committee determines that neither proposition diverges sufficiently from the student's research interests, it may be deemed necessary for the student to choose another topic and rewrite a proposition for re-evaluation by the committee. To avoid misunderstandings, you should discuss your intentions with your research advisor at an early stage. NOTE: All research reports are limited to 30-double spaced pages and propositions to 15 double-spaced pages, including figures and tables. Typically, title pages, table of contents, supplementary information (if requested by the committee), and references are **not** included in the page limit.

After the Examination: Once you have passed the oral examination and the research report and propositions are satisfactory, your candidacy committee members will approve your candidacy examination results in [REGIS](#).

If you fail to pass the oral examination, or if your research report or any of your propositions are judged to be inadequate, you will not be recommended for candidacy.

To be admitted to candidacy at a future date, you will be required to follow the recommendations of your committee which may include correction of the deficiencies, additional course work, or scheduling of a new examination at a specified interval of time. In rare instances, it may be determined inappropriate for a student to pursue the Ph.D. degree.