

CBC Qualifying Exam Evaluation Rubric

Start of Block: Default Question Block

CBC Qualifying Exam Evaluation Rubric This form is intended to provide a common set of criteria for the assessment of the written report and the oral qualifying exam for advancement of candidacy for Ph.D. in the CBC graduate program. We recommend the committee chair complete this form on behalf of the committee during the close-door session of the exam. The results of rubric rating are used not only for the program's academic assessment, but also as feedback to the student on their academic progress. If you have any technical issues with this survey, please contact Jenny Xiang (zxiang@ucmerced.edu), who is the Substantive Change & Graduate Assessment Coordinator at UC Merced.

Page Break

Name of Student

Email of Student (The student will automatically get your rating report through email.)

Emphasis Area of Student (a drop-down list for them to choose)

- Biochemistry/Molecular Biophysics
- Computational Chemistry
- Materials Chemistry
- Organic/Organometallic/Inorganic Chemistry
- Physical Chemistry

Name of Faculty (If you fill this form on behalf of the committee, please list all the committee members.)

Emails of Faculty (You will automatically get a report of your responses through email. If you fill this form on behalf of the committee, please list email addresses for each faculty member who should receive a copy of responses, separated by a comma.)

Date (Month/Day/Year)

The following rubrics align with the PLOs of the CBC program, and the specific criteria for assessment are given under each PLO. The committee members are encouraged to discuss their expectations of the qualifying exam with the student during the annual committee meeting before the qualifying exam (typically, one in the summer of the student's second year).

Expectations for the five-level ratings (Satisfactory is considered as the passing level):

Excellent = At the level of a fresh PhD recipient

Good = At the level of a senior PhD student close to graduation

Satisfactory = At the level of a new PhD candidate, i.e., passing level for the qualifying exam

Needs Improvement = At the level of a MS recipient

Unsatisfactory = Needs Substantial Improvement (at the level of a BS degree recipient)

PLO 1: Possess the fundamental knowledge needed to understand and critically evaluate current research in their chosen subfield of chemistry. (Box 1 in the IDP)

	Excellent	Good	Satisfactory	Needs improvement	Unsatisfactory
The student identifies a meaningful research question, demonstrating a clear understanding of its relevance, importance, and novelty within the context of current work in the field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student can explain the research in the context of established frameworks (e.g., community consensus and existing models).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall rating for PLO1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PLO 2: Communicate fundamental concepts in their field as well as their own research effectively, in both written and oral form (Box 2 in the IDP) Written Communication

	Excellent	Good	Satisfactory	Needs improvement	Unsatisfactory
The report is well-organized, featuring appropriate sections such as the introduction, background, research plan, preliminary results, and conclusion, each with clear, descriptive headings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The report effectively uses figures, tables, and/or schematics to support the text, enhancing the reader's understanding of the content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The report motivates the proposed research, demonstrating clear purpose and relevance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The report is polished, with no grammatical errors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall rating for PLO2 written communication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Oral Communication

	Excellent	Good	Satisfactory	Needs improvement	Unsatisfactory
The presentation slides are thoughtfully structured and enhanced by figures, tables, and schematics that are accurately labeled and informative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student presents in a clear voice, delivering content with poise and control, maintaining a smooth flow throughout.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student clearly explains the concepts and results presented in their figures and tables.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student engages the audience effectively through consistent eye contact and confidently addresses questions with concise, scientifically accurate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

responses.
Overall rating
for PLO2 oral
communication

PLO 3: Conduct themselves ethically and responsibly in science-related professions. (Box 3 in the IDP)

	Excellent	Good	Satisfactory	Needs improvement	Unsatisfactory
The student gives proper credit to previous research in the field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
They cite references accurately, acknowledging collaborators and funding sources with appropriate recognition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall rating for PLO3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

PLO 4: Be proficient in laboratory, theoretical, and/or computational techniques necessary to contribute to knowledge in their chosen subfield of chemistry. (Box 4 in the IDP)

	Excellent	Good	Satisfactory	Needs improvement	Unsatisfactory
The student selects and can explain the methods well-suited to the research question, with accurate and appropriate models and/or design principles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The preliminary results generated by the student demonstrate their competency in conducting the proposed research, and their explanations and interpretation show that they understand the results they have generated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student provides sufficient details for the approaches they propose, demonstrating a strong grasp of the methodology.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The student acknowledges potential challenges in their methods and proposes viable solutions or alternative approaches.

The student incorporates necessary controls in their experimental or computational plan.

Overall rating for PLO4



PLO 5: Identify new research opportunities, plan effective strategies for pursuing these opportunities, and conduct research that makes a new contribution to knowledge in their chosen subfield of chemistry. (Box 5 in the IDP)

	Excellent	Good	Satisfactory	Needs improvement	Unsatisfactory
The student identifies significant knowledge gaps through a thorough evaluation of the current literature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The student demonstrates creativity and independence in designing experiments or simulations, and proposing future work to address the identified knowledge gaps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The research is designed not only to provide new scientific insights but also to open pathways for future research, advancing knowledge in their chosen subfield of chemistry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall rating for PLO5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please note any additional comments below (optional).

Survey questions end here. Click the right-arrow button at the bottom to submit.

End of Block: Default Question Block
