Comprehensive exam written document rubric – v2025

Student Name: _____ GAC Member:_____

Date of assessment:_____

Circle assessment for each characteristic listed. See page 3 for possible suggested improvements to each section.			
Characteristic evidence	Evaluation		
1. Summarize background literature, current state of knowledge, and align the research problem with research goals. (Learning Outcome 1)	Deficient	Area of Concern	Acceptable
2. Include a testable hypothesis that aligns with project goals, justified within context of current knowledge (gaps). (Learning Outcome 2)	Deficient	Area of Concern	Acceptable
3. Clearly describe research methods and how they will be used to test the hypothesis. (Learning Outcome 3)	Deficient	Area of Concern	Acceptable
4. Summarize current and/or anticipated results, if the hypothesis is correct. (Learning Outcome 4)	Deficient	Area of Concern	Acceptable
5. Clearly explain current progress and any results in context of literature precedent. (Learning Outcome 4)	Deficient	Area of Concern	Acceptable
6. Provides description of immediate next steps and longer-term plans for completing the research goals. (Learning Outcome 2)	Deficient	Area of Concern	Acceptable
7. Follow writing style and formatting requirements (including references) (Learning Outcome 7)	Deficient	Area of Concern	Acceptable

Comments:

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Our Ph.D. program learning outcomes:

1. independently learn new chemical principles and techniques beyond those typical of undergraduate academic training;
2. identify original and worthwhile chemical problems stated as research questions and hypotheses;
3. design and execute experiments as part of independent chemistry research investigations;
4. critically evaluate their data, results, and conclusions and those of others in the chemistry community;
5. identify potential problems in the responsible conduct of research and identify strategies for managing those problems;
6. articulate standards for laboratory safety in chemical research, assess potential hazards they may encounter in novel chemistry research, and develop effective strategies to mitigate those risks; and
7. communicate chemical knowledge, new models, and research results both orally and in writing for both technical and nontechnical audiences.

Guidelines for assessing this Rubric:

Satisfactory:	Addendum:	Fail:
• No Deficiencies • One or two Areas of Concern	• One Deficiency • One Deficiency and one Area of Concern • Three Areas of Concern	• Two or more Deficiencies • More than three Areas of Concern • One Deficiency and two Areas of Concern

Assessing the document review outcome:

A document review is considered passed when at least 2/3rds (or 66%) of the committee evaluates it as satisfactory.

Each GAC member's rubric counts as one vote on the outcome of this rubric.

- A single reservation vote yields a Satisfactory outcome
- Two reservation votes yield an addendum outcome
- One reservation and one fail vote yield an addendum outcome
- Two fail votes yield a failure on the exam

e.g.:

GAC Votes:	GAC Votes:	GAC Votes:	GAC Votes:	GAC Votes:
Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Satisfactory	Satisfactory	Addendum	Addendum	Fail
Satisfactory	Addendum	Addendum	Fail	Fail
⬇	⬇	⬇	⬇	⬇
Exam Outcome:	Exam Outcome:	Exam Outcome:	Exam Outcome:	Exam Outcome:
Satisfactory	Satisfactory	Addendum	Addendum	Fail

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Suggestions for improvement on the written comprehensive exam document can be provided in the comments section on Page 1 or noted below:

1. *Summarize background literature, current state of knowledge, and align the research problem with research goals.*
   - ☐ Add more details to understand the critical need for the research project.
   - ☐ Add additional references that are missing from the literature summary.

2. *Include a testable hypothesis that aligns with project goals, justified within context of current knowledge (gaps).*
   - ☐ Add information to justify the working hypothesis for the project.
   - ☐ Revise the hypothesis to make it testable.
   - ☐ Revise the hypothesis so that it is aligned with the research goals or methodology.
   - ☐ Include an explicit statement of the overarching goals for the research project.
   - ☐ Research goals statement should be revised so that they are clearly linked to literature precedent and state of the field.
   - ☐ Research goals statement should be revised to correct a misunderstanding of the chemical theory or principles.

3. *Clearly describe research methods and how they will be used to test the hypothesis.*
   - ☐ Revise the research methodology section to include more details on the process.

4. *Summarize current and/or anticipated results, if the hypothesis is correct*.
   - ☐ Provide additional details on the current results and/or anticipated results because current text is too vague.

5. *Clearly explain current progress and any results in context of literature precedent.*
   - ☐ Provide an interpretation of the research progress to date.
   - ☐ Add additional details on how the current research results relate back to the current knowledge in the field.

6. *Provides description of immediate next steps and longer-term plans for completing the research goals.*
   - ☐ Add concrete details of next steps toward the research goals.
   - ☐ Describe the longer-term plans to test the hypothesis or reaching research goals.

7. *Follow writing style and formatting requirements (including references).*
   - ☐ Proofread the writing for spelling errors, punctuation, autocorrects, etc.
   - ☐ Review sentence structure for subject-verb agreement, consistent tense, run on sentences, and other structural problems.
   - ☐ List the themes of each paragraph. If there are more than 2, consider starting a new paragraph.
   - ☐ Confirm that each figure, table, etc. has been numbered consecutively and has been called out and discussed further in the narrative.
   - ☐ Confirm that all work that has been published elsewhere or ideas/data that were not generated by the author(s) has been properly cited using appropriate conventions.
   - ☐ Document is over the word count; consider revisions to be more concise.
   - ☐ Include a title page – Title page should include a project title, student's name, names of advisors and GAC members, and the date the report was submitted.
   - ☐ Correct issues with formatting – correct font, font size, spacing.
   - ☐ Add references to the document.
   - ☐ Format references consistently throughout the document.
   - ☐ Visit the UI Writing Center for additional support and consultation on the document.