

Comprehensive Exam – v2024

Student Name: _____ GAC Member Name: _____

Date of assessment: _____

Circle your evaluation of each characteristic listed. Provide notes and feedback below as appropriate.			
<u>Characteristic evidence</u>	<u>Evaluation</u>		
1. Place the research project in context of prior literature and knowledge (Learning Outcome 2)	Major Deficiency	Minor Deficiency	Acceptable
2. Identify a gap in knowledge to be addressed by the research project (Learning Outcome 2)	Major Deficiency	Minor Deficiency	Acceptable
3. Provide a research question and an aligned testable hypothesis (Learning Outcome 2)	Major Deficiency	Minor Deficiency	Acceptable
4. Present and justify appropriate techniques/methods to test hypothesis (Learning Outcome 3)	Major Deficiency	Minor Deficiency	Acceptable
5. Articulate pitfalls or challenges in the research approach and how to overcome these issues (Learning Outcome 4)	Major Deficiency	Minor Deficiency	Acceptable
6. Describe new data, results, and conclusions (or those from prior works where appropriate) related to the hypothesis (Learning Outcome 4)	Major Deficiency	Minor Deficiency	Acceptable
7. Describe reasonable next steps in the research project based on prior work (Learning Outcome 3)	Major Deficiency	Minor Deficiency	Acceptable

Program learning outcomes are provided on the back of this form for reference. Outcomes 1 and 7 are crosscutting. Students are expected to utilize and communicate chemical principles, knowledge, and/or models that rationalize and explain their reasoning to receive an acceptable rating.

Comments:

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 your Rubric:

Satisfactory:

- No major deficiencies
- One or two minor deficiencies

Reservation:

- One major deficiency
- One major and one minor deficiency
- Three minor deficiencies

Fail:

- Two major deficiencies
- One major and two minor deficiencies
- Four minor deficiencies

Assessing the Exam Outcome:

Each GAC member's rubric counts as one vote on the outcome of the exam. An exam is considered passed when at least 2/3rds (or 66%) of the committee evaluates it as satisfactory.

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

e.g.:

GAC Votes:

Satisfactory
Satisfactory
Satisfactory
Satisfactory



Exam Outcome:

Satisfactory

GAC Votes:

Satisfactory
Satisfactory
Satisfactory
Reservation



Exam Outcome:

Satisfactory

GAC Votes:

Satisfactory
Satisfactory
Reservation
Reservation



Exam Outcome:

Reservation

GAC Votes:

Satisfactory
Satisfactory
Reservation
Fail



Exam Outcome:

Reservation

GAC Votes:

Satisfactory
Satisfactory
Fail
Fail



Exam Outcome:

Fail