

Appendix C: Rubric for oral comprehensive exam

Student: _____ GAC Member Name: _____

Date: _____ Advisor _____ / Co-advisor _____ (circle)

Graduate Program Learning Outcome	Performance Expectations				
1. Independently learn new chemical principles and techniques beyond those typical of undergraduate academic training	1a. Demonstrate knowledge of chemical principles related to research project	Deficient	Fair	Good	Excellent
	1b. Demonstrate knowledge of research techniques related to research project	Deficient	Fair	Good	Excellent
2. Identify original and worthwhile chemical problems stated as research questions and hypotheses	2a. Critically analyze the research literature to establish a gap in knowledge	Deficient	Fair	Good	Excellent
	2b. State a hypothesis or research question that addresses a gap in knowledge	Deficient	Fair	Good	Excellent
3. Design and execute experiments as part of independent chemistry research investigations	3a. Provide rationale for selected approaches that draws upon theory and prior research	Deficient	Fair	Good	Excellent
	3b. Plan future studies and relate them to prior work	Deficient	Fair	Good	Excellent
4. Critically evaluate their data, results, and conclusions and/or those of others in the chemistry community	4a. Evaluate data and results to derive conclusions from completed studies	Deficient	Fair	Good	Excellent
	4b. Situate findings in the context of research in the field and establish how findings advance knowledge	Deficient	Fair	Good	Excellent
5. Communicate chemical knowledge, new models, and research results orally for technical audiences	5a. Convey the purpose and significance of the research	Deficient	Fair	Good	Excellent
	5b. Use data and representations of data to support assertions	Deficient	Fair	Good	Excellent

Pass:

Both performance expectations of Learning Outcome 1 are assessed as Good or Excellent
No more than two performance expectations in Outcomes 2-4 are assessed as Fair
No performance expectations are assessed as Deficient

Reservation:

No more than two performance expectations are assessed as Fair
No more than one performance expectation is assessed as Deficient
The deficiency must be able to be addressed through a specific, targeted remediation

Fail:

Does not meet the guidelines for Pass or Reservation

Strengths:

Opportunities for Improvement: