

Note that students are expected to begin at level 1 or 2 in most categories and progress through the levels during the course of their program.

Student's Name _____

Date of Committee Meeting _____

Committee Member _____

Committee Chair _____

Category	Level 1	Level 2	Level 3	Level 4	Level 5
Research Project	At beginning of research project, little accomplished.	Has completed a meaningful portion of research, equivalent to at least one publishable figure.	Has completed a substantial body of publishable research, but slightly less than one first-author paper.	Has completed a large body of work, equivalent to one first-author paper in a reputable, peer-reviewed journal.	Has completed a large body of work, equivalent to one first-author paper in a reputable, peer-reviewed journal, plus additional significant work.
Experimental design	All experiments are designed by a mentor. Needs help understanding why experiments are done.	Most experiments are designed by a mentor, but has some ideas about approach. Grasps the purpose of experiments and appropriate controls with increasing frequency.	Needs help with big directions, but can then design appropriate experiments, including controls. Can reference sources for experimental design.	Can usually design appropriate experiments including controls, may need some help with some aspects of experimental design. Uses current papers to inform experimental design with increasing frequency.	Can design appropriate experiments given any new situation relevant to their work. Includes appropriate controls. Can identify broad new directions the research should take. Uses current papers as appropriate to inform experimental design.
Data Analysis	Needs help understanding how to consolidate, represent, and interpret data.	Can carry out some simple data analysis when prompted, some understanding of interpretation, attempts to interpret controls.	May independently put data together into figures, including appropriate labels and legends, and has a solid understanding of interpretation. May need help with some of the formatting, statistics, etc.	Usually independently puts data together, displays the data in an appropriate format, makes appropriate comparisons, uses the appropriate statistics, and draws reasonable conclusions. Often uses current papers to inform data analysis.	Always independently puts data together, displays the data in an appropriate format, makes appropriate comparisons, uses the appropriate statistics, and draws reasonable conclusions. Always uses current papers to inform data analysis as appropriate. Deep understanding of data.
Background knowledge	Limited understanding of general background knowledge from SCI 710, 720, & undergraduate coursework.	Reasonable understanding of some of the general background knowledge, particularly the most relevant to their research.	Solid understanding of most general background knowledge that is highly relevant to project, more limited understanding of other background knowledge.	Deep understanding of all general background knowledge that is highly relevant to project, adequate understanding of less-related background knowledge.	Deep understanding of all general background knowledge.

Category	Level 1	Level 2	Level 3	Level 4	Level 5
Knowledge of the literature	Limited understanding of the primary literature. May have difficulty reading papers or difficulty retaining information from papers.	Can correctly explain some of the papers that were given to the student by a mentor, acknowledges important discoveries with appropriate citations.	Can correctly explain most of the important papers given to the student by a mentor, cites papers appropriately, may find some new, relevant papers on their own.	Can correctly explain and critically evaluate a substantial body of papers, able to recall names of scientists and their important discoveries, often finds new relevant papers on their own.	Deep understanding of the key papers in the field, strong critical evaluation of papers, able to recall names of scientists and their important discoveries, consistently finds new relevant papers on their own, may know their specific area better than their Advisor.
Written Communication	Difficulty communicating ideas to others in or out of the field.	Adequate written communication, particularly for experts in the field, with occasional difficulty communicating.	Adequate to strong written communication, particularly for experts in the field.	Strong written communication within the field, adequate outside that field.	Clear and concise written communication appropriate for different audiences, including experts and nonexperts.
Oral Communication	Difficulty communicating ideas to others in or out of the field.	Adequate oral communication, particularly for experts in the field, with occasional difficulty communicating.	Adequate to strong oral communication, particularly for experts in the field.	Strong oral communication within the field, adequate outside that field.	Clear and concise oral communication appropriate for different audiences, including experts and nonexperts.

Research Ethics and RCR

- Has student successfully completed RCR training? Circle one: Yes | No
- Does student demonstrate awareness of and adherence to best practices in research ethics and RCR? Circle one: Yes | No

Anticipated Date of Defense, if known (month/year) _____/_____

Is student on track to defend on time? Circle one: Yes | In Doubt | No

If approval to defend is being granted within the next 3-6 months:

- Each Committee Member should initial their rubric to indicate approval to defend. Note that the levels listed in the handbook must be met.
- The Advisor should initial here to indicate that the student has given at least one poster or oral presentation at a regional or national scientific meeting (M.S. and Ph.D. student), AND that they have at least one first-author paper accepted (or with positive feedback from reviewers) (Ph.D. students only). _____

Specific comments (if any):