

Undergraduate Research Rubric Name: _____ Classification: _____ Semester of Research (e.g. 1st; 3rd): _____

	Mastery (3)	Meets Expectations (2)	Needs Development (1)	N/A*
Knowledge base	Has thorough knowledge of the background and motivation for project. Is familiar with relevant scientific literature.	Has a developing knowledge of the background and motivation for project. Has some familiarity with scientific literature.	Has an inadequate knowledge of the background and motivation for project. Has minimal familiarity with scientific literature.	
Technical skills	Shows skill in technical procedures and instruments. Is able to consistently reproduce high quality results.	Shows some skill in technical procedures and instruments. Quality of results may be inconsistent.	Does not display skill in technical procedures and instruments. Consistently fails to reproduce results.	
Critical thinking and problem solving	Interprets data, draws reasonable conclusions, and proposes the next experiment. Is adept at problem solving. Displays creativity.	Shows some understanding of experimental methods and theoretical outcome, but not always able to draw conclusions or propose the next experiment. Needs help problem solving.	Does not engage in critical analysis of experimental results. Can not problem solve.	
Independence, time management, and planning	Works without close supervision; manages time and projects; produce results in a timely manner. Generates ideas.	Sometimes requires supervision in the planning or executing of experiments. Usually efficient at completing experiments.	Unable to work without supervision; does not plan experiments or manage time. Inefficient at completing experiments in a timely manner.	
Collegiality and Collaboration	Works well with peers and supervisors; begins to mentor or train others; gives and takes constructive criticism well; respects differing backgrounds and points of view	Works well with supervisors; takes constructive criticism; respects differing backgrounds and points of view	Has conflict with coworkers and supervisors; does not apply constructive criticism for improvement of performance; does not respect differences	
Record keeping	Keeps complete, organized, and legible records.	Keeps complete records, but they may be disorganized or have legibility issues.	Does not keep complete records, or components are missing, inadequate, or have unexplained gaps.	
Terminology	Adheres to correct usage of chemical structures, formulas, equations and terminology.	Makes mistakes in the usage of chemical structures, formulas, equations and terminology that are minor.	Makes gross mistakes in usage of chemical structures, formulas, equations and terminology.	
Communication	Prepares oral and written reports that are complete, well-written or delivered, formatted appropriately, and include appropriate citations.	Prepares oral and written reports that may have minor errors in completeness, format, grammar or delivery, or citation; improves with feedback and revision.	Prepares reports that are incomplete, poorly formatted, poorly written or delivered, or missing references. Shows little improvement after feedback.	
Laboratory Safety	Follows correct safety procedures in the laboratory; actively seeks training or information when necessary.	Follows correct safety procedures in the laboratory after receiving training.	Needs to be reminded repeatedly to engage in safe laboratory procedures.	
Ethics	Understands and follows ethical conventions.	Shows a developing understanding of ethical conventions.	Careless or sloppy with ethical conventions.	

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*Inadequate opportunity to observe