Name: _____

Semester Research Rubric

Criterion	Proficient (80-89%)	Proficient (80-89%)	Developing (70-79%)	Beginning (<70%)
1. Research Design and Execution (30 points)	Develops a clear and feasible hypothesis appropriate for a semester-long project. Experimental design is well-structured, achievable within the timeframe, and includes proper controls. Methods are thoroughly documented, and results are analyzed using appropriate tools. Demonstrates an ability to adapt methods based on preliminary findings.	Hypothesis is clear and feasible but lacks depth or originality. Experimental design is adequate but may have minor flaws or lack proper controls. Documentation is complete but could be more detailed. Analysis is mostly accurate with minor errors in interpretation.	Hypothesis or design has gaps, such as being overly ambitious or lacking feasibility within the semester timeframe. Documentation is incomplete, and analysis contains significant errors or omissions.	Hypothesis is unclear or absent, experimental design is poorly structured, and methods are inadequately documented. Results are not analyzed effectively or lack interpretation.
2. Communication (20 points)	Communicates findings effectively through well-organized lab reports, oral presentations, and/or posters. Writing is clear, concise, and error-free. Actively engages with peers and mentors to discuss results.	Communication is adequate but may lack clarity or organization in some areas. Writing contains minor errors but conveys key ideas.	Communication is unclear or disorganized, with frequent errors in writing or presentation.	Poor communication of findings with little attention to clarity, organization, or audience.
3. Team Communication and Accountability (15 points)	Consistently communicates openly with team members, shares progress updates regularly, and holds self and others accountable for tasks. Proactively resolves conflicts and ensures team goals are met collaboratively.	Communicates effectively most of the time but may need occasional reminders to share updates or address accountability issues within the team. Resolves minor conflicts constructively.	Communication within the team is inconsistent, with occasional missed updates or lack of accountability for tasks. Struggles to address conflicts effectively.	Rarely communicates with team members, avoids accountability for tasks, and fails to address conflicts constructively, hindering team progress.
4. Data Management and Analysis (15 points)	Maintains thorough records of experiments using lab notebooks or digital tools. Analyzes data rigorously with attention to detail. Demonstrates an ability to identify trends and patterns in data relevant to the hypothesis.	Records are complete but lack organization or consistency across entries. Data analysis is adequate but may miss subtle trends or connections to the hypothesis.	Records are incomplete or disorganized, making it difficult to track progress over time. Data analysis contains significant flaws that limit interpretation of results.	Minimal recordkeeping and poor data analysis that fails to connect findings to the hypothesis or research goals.
5. Critical Thinking and Problem Solving (10 points)	Demonstrates creativity in addressing research challenges by proposing alternative approaches when experiments encounter obstacles. Integrates knowledge from literature effectively to refine hypotheses or methods during the semester project timeline.	Addresses challenges adequately but lacks creativity in proposing alternative approaches or integrating literature into experimental refinement efforts.	Struggles to address challenges effectively; limited ability to use literature for problem-solving or refining research methods during the semester timeline.	Minimal effort to solve problems; does not engage with relevant literature or adapt methods when experiments fail or encounter obstacles.
6. Professional Development and Ethics (10 points)	Adheres to ethical standards in data collection, analysis, and reporting throughout the semester project timeline. Actively seeks feedback from mentors and peers for improvement in research practices and communication skills.	Adheres to ethical standards but requires occasional reminders about proper data handling or reporting practices during the semester project timeline. Incorporates feedback adequately into work processes but does not actively seek it out independently.	Ethical lapses occur occasionally due to carelessness in data handling or reporting practices; feedback is not effectively implemented into work processes during the semester project timeline.	Frequent ethical lapses occur due to disregard for proper data handling practices; feedback is ignored entirely during the semester project timeline.

Final Lab meeting presentation:

Strengths:

Weaknesses: