

Research Proposal Rubric

Objective	Novice (1)	Intermediate (2)
Title and Title Page	Missing the title, author's name, or affiliation	<p>Contains all components, but has misspelling or improper placement</p> <p style="text-align: center;">OR</p> <p>Title has little to do with the project content or emphasis</p>
Introduction	<p>Provides background research into the topic, but does not describe the problem to be solved; fails to explain details to non-specialists.</p> <p>Does not include reference and discussion of earlier research pertinent to the project.</p>	<p>Provides background research into the topic and describes the problem to be solved.</p> <p>References most earlier research in the area.</p>
Problem	Does not address the problem or the extent to which the proposed research will resolve the problem.	Addresses the problem but may sometimes digress; does not completely address how completely the research problem will be solved in the time allotted.
Uniqueness of Project	Does not address the question of uniqueness of the research problem.	Addresses the uniqueness of the research but may not show adequate support for the claim of uniqueness.
Experimental Details OR Theoretical Analysis	1) Presents most of the procedures, techniques, instrumentation, special precautions, but several are missing, flawed or not sequential.	1) Presents most of the procedures, techniques, instrumentation, special precautions, but lacks one or two details or contains one or two flaws. Lacks one or two references of

	<p>1) Presents most of the theoretical or mathematical analysis, computer programs, but lacks some details. Has steps but some are missing or not sequential.</p> <p>2) Proposed data collection procedure will not answer the question, does not control relevant variables, or uses other inappropriate methodology.</p> <p>3) Plan incorporates no control studies.</p> <p>4) Plan does not address possible criticisms of the experimental plan and limits of the method to be employed.</p> <p>5) Serious safety/ethical/environmental issues are ignored</p>	<p>sources for procedures or instrumental methods to be utilized.</p> <p style="text-align: center;">OR</p> <p>1) Presents most of the theoretical or mathematical analysis, computer programs, but lacks some details or contains some flaws.</p> <p>2) Proposed data collection procedure includes includes one or two flaws and is not carefully planned.</p> <p>3) Plan incorporates inappropriate or inadequate control studies.</p> <p>4) Incomplete consideration of possible criticisms of the experimental plan, consequences, and limits of the method to be employed.</p> <p>5) Serious safety/ethical/environmental issues are addressed incompletely.</p>	
Timeline for Specific Research to Be Accomplished in One Semester	Does not outline the specific work to be accomplished in the time available.	Provides timeline for most of the work to be done, but is not specific enough to gauge whether the project will be completed in the time allotted.	
Conclusions and Summary	No explanation of how the project extends previous research or	Rambling or incomplete delineation of how the project extends previous	

	starts a new area of research.	research or starts a new area of research.	
References	<p>More than two literature references are incomplete or not properly numbered within text of the paper.</p> <p>OR</p> <p>Format of more than two literature references are incorrect or incomplete.</p> <p>OR</p> <p>No references are included.</p> <p>OR</p> <p>Neglects important sources or uses too few.</p>	<p>One or two literature references are incomplete or not properly numbered within text to the paper.</p> <p>OR</p> <p>Format of one or two literature references are incorrect or incomplete.</p> <p>OR</p> <p>One or two literature references significant to the paper are missing.</p>	
Organization of the Proposal	<p>Lacks two or more of the sections of the proposal: Title, Introduction, Problem, Uniqueness of Project, Experimental Details or Theoretical Analysis, Timeline, Conclusions and Summary, References.</p>	<p>Lacks one of the sections of the paper: Title, Introduction, Problem, Uniqueness of Project, Experimental Details or Theoretical Analysis, Timeline, Conclusions and Summary, References.</p>	
Writing Mechanics	<p>Paper has many errors that obscure meaning or add confusion.</p>	<p>Paper has errors but they don't represent a major distraction.</p>	

Expert (3)

Follows "ACS Guidelines for Preparing a Research Report": A single cover page includes a title which reflects content and emphasis of the project described in the report and includes essential key words; includes author's name on a separate line after the title followed by the author's affiliation (institution supporting the research), and possibly the origin of the report.

Provides background research into the topic and summarizes important findings from the review of the literature; describes the problem to be solved; justifies the study; explains the significance of the problem to an audience of non-specialists. Earlier research is appropriately referenced.

Addresses the problem with clarity and addresses how completely the research problem being addressed will be solved in the time allotted.

Describes clearly how the researcher knows that the proposed research is unique.

1) Succinct, clear description of the laboratory procedures, techniques, instrumentation, materials to be used and special precautions to be taken. References sources for procedures

and instrumental methods to be utilized.

OR

1) In proposals for theoretical work, proposes sufficient theoretical or mathematical analysis analysis to enable derivations and numerical results to be checked. Cites computer programs to be utilized from public domain. Describes new computer programs in outline form.

2) Proposed data collection procedure follows accepted standards and is carefully planned.

3) Plan incorporates appropriate control studies.

4) Plan considers possible criticisms of the experimental plan and addresses them.

5) Serious safety/ethical/environmental issues are addressed

Provides timeline for the specific work to be done in the time allotted.

Clearly delineates how the proposed research extends previous

research or starts a new area of research.

All literature references are included with reference superscripts in order of appearance in the paper. All references are cited in **one** of the formats described in *The ACS Style Guide* or standard journals. Formats are not mixed. Each reference contains complete information [authors, journal or book title, year, volume, page (also, editors, publisher, place of publication for books)]

Includes:

Title, Introduction, Problem, Uniqueness of Project, Experimental Details or Theoretical Analysis, Timeline, Conclusions and Summary, References.

Parallels method of scientific reasoning: Defines problem, creates a hypothesis, devises an experiment to test the hypothesis, conducts experiments, predicts conclusions.

Paper is free or almost free of errors of grammar, spelling and writing mechanics.