

Research Report Rubric

Objective	Novice (1)	Intermediate (2)
Title and Title Page	Missing the title, author's name, or affiliation	Contains all components, but has misspelling or improper placement OR Title has little to do with the project content or emphasis
Abstract	Is vague about the problem; does not provide a summary of the whole project or focuses on details rather than the essence of the project.	Summarizes problem, method, results, and conclusions but lacks some details or includes too many unnecessary experimental details.
Introduction	Provides background research into the topic, but does not describe the problem to be solved; fails to explain details to non-specialists.	Provides background research into the topic and describes the problem to be solved.
Problem	Does not address the problem	Addresses the problem but may sometimes digress
Experimental Details OR Theoretical Analysis	Presents most of the procedures, techniques, instrumentation, special precautions, but some are missing or not sequential. OR Presents most of the theoretical or mathematical analysis, computer programs, but lacks some details. Has	Presents most of the procedures, techniques, instrumentation, special precautions, but lacks some details OR Presents most of the theoretical or mathematical analysis, computer programs, but lacks some details.

	steps but some are missing or not sequential.		
Results	Lacks description of data and results. More than two features are lacking detail or not presented in clear, concise manner.	Data and results are explained with one or two features lacking detail. One or two features are not presented concisely and clearly in tables, figures, equations, charts.	
Discussion	Does not adequately explain findings; three or more explanations of results are missing; does not address the extent to which results have resolved the problem.	Presents a logical explanation for findings; one or two explanations are unjustified or not explained well. The extent to which the results have resolved the problem is poorly explained.	
Conclusions and Summary	No outline of the main conclusions of the project. No recommendations given for future research.	Rambling or incomplete outline of main conclusions of the project. Insufficient recommendations given for future research.	
References	More than two literature references are incomplete or not properly numbered within text of the paper. OR Format of more than two literature references are incorrect or incomplete. OR No references are included. OR Neglects important sources or uses too few.	One or two literature references are incomplete or not properly numbered within text to the paper. OR Format of one or two literature references are incorrect or incomplete. OR One or two literature references significant to the paper are missing.	
Organization of the Paper	Lacks two or more of the sections of the paper: Title, Abstract, Introduction,	Lacks one of the sections of the paper: Title, Abstract, Introduction,	

	Experimental Details or Theoretical Analysis, Results, Discussion, Conclusions and Summary, References.	Experimental Details or Theoretical Analysis, Results, Discussion, Conclusions and Summary, References	
Writing Mechanics	Paper has many errors that obscure meaning or add confusion.	Paper has errors but they don't represent a major distraction.	

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.

Briefly and clearly states topic, scope, principal findings, conclusions of paper in <200 words. Communicates the essence of the paper.

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.

Addresses the problem with clarity

Succinct exposition of the laboratory notebook; describes procedures, techniques, instrumentation, special precautions. Sufficiently detailed that other experienced researchers would be able to repeat the work and obtain comparable results.

In theoretical reports, includes sufficient theoretical or mathematical analysis to enable derivations and

numerical results to be checked. Cites computer programs from public domain. Describes new computer programs in outline form.

Equations, charts, figures, tabulated data, and reaction sequence schemes summarize the results and are used effectively to present results

Presents an analysis and interpretation of the results; explains the meaning of the results and how they relate to the objectives of the project. Addresses the extent to which the results have resolved the problem.

Succintly outlines the main conclusions of the project.
Gives recommendations for further research. Acknowledgements are given (if not given elsewhere in paper)

All literature references are included with reference superscripts in order of appearance in the paper. All references are cited in **one** of the fomats 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, Abstract, Introduction, Experimental Details or Theoretical

Analysis, Results, Discussion,
Conclusions and Summary, References.

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

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