

## Where to Find Help on Campus

Consultants at the **Hamline University Writing Center**, located in the basement of Bush Library, are eager to help you with all stages of your writing. We will work with you whether you have just received an assignment and have no idea how to begin or you have a finished draft and want help with revisions.

You can make appointments online at WC Online. Simply follow the instructions at:

<http://rich37.com/hamline>

We look forward to seeing you!



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# Science Writing



Scientific writing generally has two purposes: to inform the scientific community of new discoveries and to help the community arrive at a consensus about something. Scientists are less interested in eloquence; they are most interested in precision. Science writing emphasizes concrete nouns and measurable verbs, not adjectives and adverbs.

Science writing focuses on empirical data: actual observations, original experiments, and original calculations. Personal anecdotes are rarely included.

If you are writing for a science class, you are likely being asked to do two types of assignments: lab reports and literature reviews. A **lab report** is a straightforward account of an experiment's purpose, method, and results. A **literature review** is a summary and synthesis of what has been published on a topic. Often a literature review forms the first section of a larger paper.

### The IMRAD Format

The **IMRAD format** is an organizational structure often used to report on scientific research. The initials stand for **I**ntroduction, **M**ethods, **R**esults, **A**nd **D**iscussion. The IMRAD is common, but ask your instructor for specific style guidelines as well as the exact format he or she prefers.

### General Guidelines for Science Writing

In science writing it is common to offer a hypothesis at the beginning of a paper. What do you predict will be the outcome of your experiment, data collection, or calculation?

The following is the generally accepted format for scientific or mathematical reports:

#### *Title Page*

The title should describe clearly and concisely the content of your report. Avoid abbreviations, jargon, and wasted words such as "Studies on."

#### *Table of Contents*

Provide one only if the paper is longer than ten pages or is to be posted online.

#### *Abstract or Summary*

An **abstract** summarizes the major results of the study. To write it, you will need to extract key points from each section of your report. Abstracts are usually written after the rest of the report is completed.

State only the main objective of the study, and briefly outline the methods used. Provide the most important results and your major conclusions and their significance.

#### *Literature Review*

Use the present perfect tense when introducing studies: "Research has shown that . . ."

When discussing a specific study, use the past tense: "Samuels precipitated the enzyme . . ."

The passive voice is acceptable here: "Two chemical compounds were isolated from . . ."

See the Writing Center's *Literature Reviews* brochure.

#### *Methods or Approach Used*

State the problem under investigation. How did you study the problem? What materials did you use? What investigative steps did you take?

Provide enough detail so that the study can be replicated using your report as a guide.

Acknowledge the limitations of your methods.

#### *Results*

What did you observe? What happened? What changed? Was your original hypothesis confirmed or refuted?

#### *Discussion*

What do your observations mean? Take care not to overgeneralize your results or ignore the limitations of your study.

#### *Conclusions and Recommendations*

For each result, what conclusions can you draw? Give evidence. How do your results fit into a broader context?

#### *References or Sources of Information Used*

#### *Tables and Figures*

For both references and tables and figures, refer to whatever publication style guide you have chosen to use.

#### **Accessing More Information**

- The Writing Center at The University of Wisconsin – Madison: [www.wisc.edu/writing](http://www.wisc.edu/writing)
- Institute for Writing and Rhetoric at Dartmouth College: [www.dartmouth.edu/~writing](http://www.dartmouth.edu/~writing)

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Information for this brochure was adapted from:

Raimes, Ann. *Keys for Writers*. 5th ed. Boston: Houghton Mifflin, 2008.

"Scientific Reports." The Writing Center at University of Wisconsin – Madison. 27 Jan 2009. <[http://www.wisc.edu/writing/Handbook/Science Report](http://www.wisc.edu/writing/Handbook/ScienceReport)>.