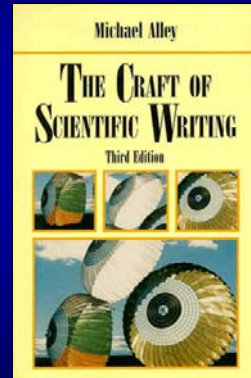
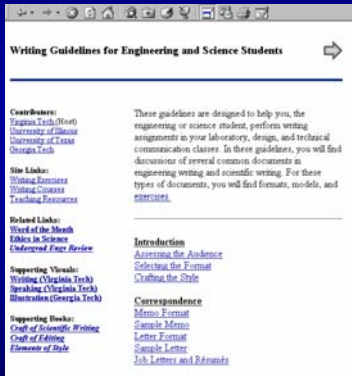


Scientific Writing: An Introduction



Writing Guidelines for Students
<http://writing.eng.vt.edu/>

The Craft of Scientific Writing
3rd edition (Springer-Verlag, 1996)

This presentation discusses the importance of scientific writing and introduces key principles

Importance of
Scientific Writing

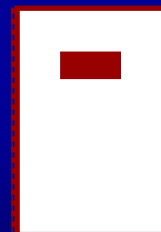


[Report, 1986]

Key Principles

audience

purpose



occasion



How well you communicate affects your career



Survey (Richard M. Davis)
Successful engineers spent 25% of work week writing



Survey (Wisconsin)
Professional engineers found writing their most useful subject in college



Survey (Virginia Tech)
Recruiters claim that engineers need more work on their writing



How well you communicate affects the well-being of others



[Report, 1986]

Explosion was caused by failure of O-rings in the solid rocket boosters

Engineers knew of O-ring problems well before fatal launch

Engineers failed to communicate seriousness of problem

Space Shuttle Challenger
(January 28, 1986)

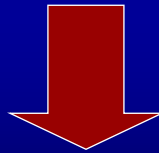


Scientists and engineers are called upon to communicate in many different situations

Reports
Articles
Proposals
Web Pages



Conferences
Lectures
Meetings
Posters



specific
technical
audiences

general
technical
audiences

non-technical
audiences



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Importance of
Scientific Writing

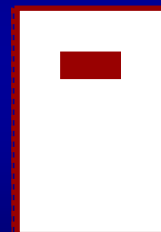


[Report, 1986]

Key Principles

audience

purpose



occasion



Scientific writing differs from other kinds of writing

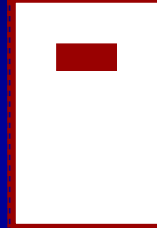
Subject Matter



Writing Constraints

audience

purpose



occasion

Purpose of Writing

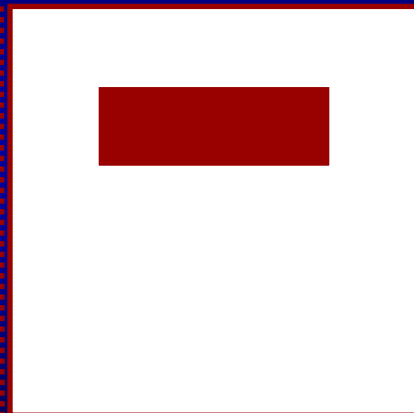


Writing Style



You should begin the writing process by analyzing your constraints

Audience



Who they are
 What they know
 Why they will read
 How they will read

Occasion

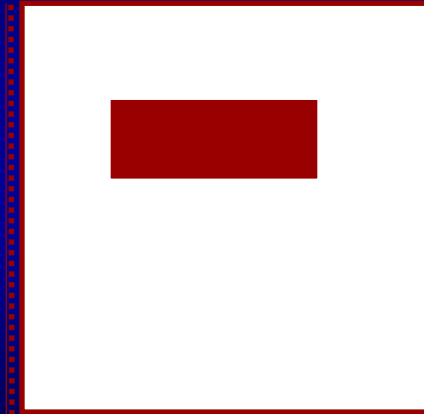
Format
 Formality
 Politics and ethics
 Process and deadline

Purpose

To inform
 To persuade



Three aspects of writing affect the way that readers assess your documents



Content

Style

Form



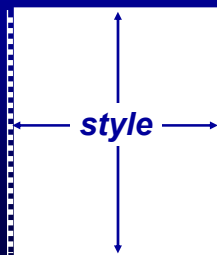
Style is the way you communicate the content to the audience



Illustration

words
wordswords
wordswordswordswords
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Structure



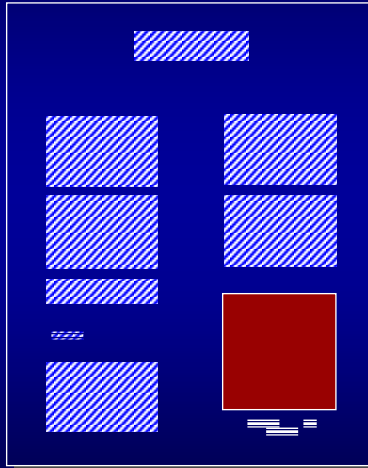
Language



Form embodies the format and mechanics of the writing

format

typography
layout



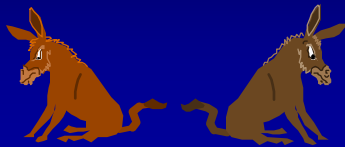
mechanics

grammar
usage
punctuation
spelling



We can split the writing process into stages

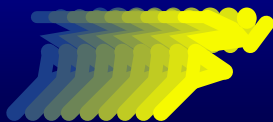
Getting in the Mood



Writing the First Draft



Revising, Revising, Revising



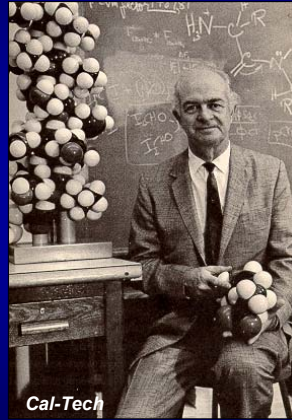
Finishing



**An excellent way to improve your writing
is to choose good models**



Maria Goeppert Mayer



Linus Pauling

