An Introduction to Engineering Writing and Speaking

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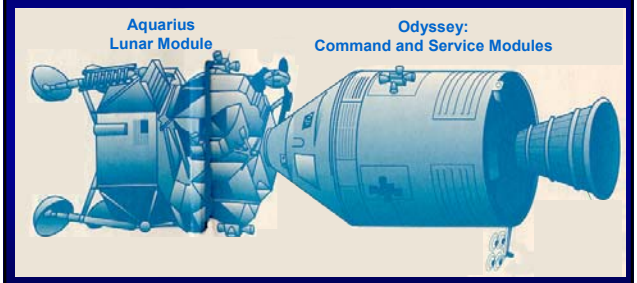
http://writing.eng.vt.edu/me2024/

With Apollo 13, NASA engineers were called upon to speak and write in different situations



As an ME student, you will called upon to speak and write in several different situations

Sophomore Year

Sophomore Design

Intro to Thermal Fluids

Junior Year

System Dynamics

Machine Design

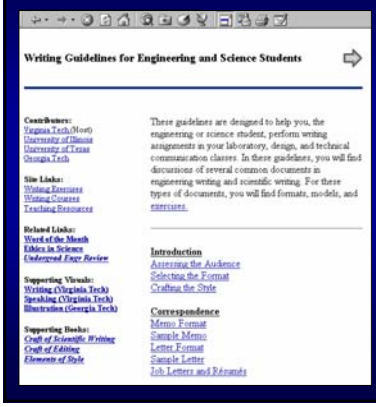
Mechanical Engineering Lab I

Senior Year

Mechanical Engineering Lab II

Senior Capstone Design

To help you communicate, though, the Department has several resources



- Sample documents
- Self-help exercises
- Slide templates
- Leading textbooks

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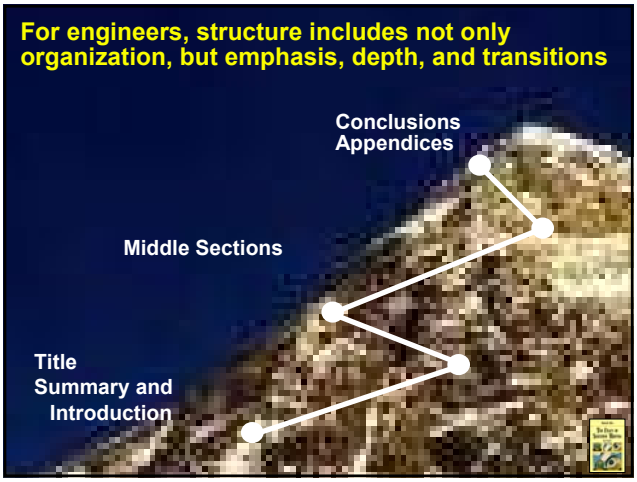
This lecture focuses on recognizing style issues that distinguish engineering writing

Structure

Language

Illustration

For engineers, structure includes not only organization, but emphasis, depth, and transitions



The title is the single most important phrase of the report

New Power Amplifier Coolant System Redesign

→

Redesign of the Coolant System for the New Power Amplifier

One section of the middle contains the methods for performing the work

Purposes:

(1) To establish credibility for the results

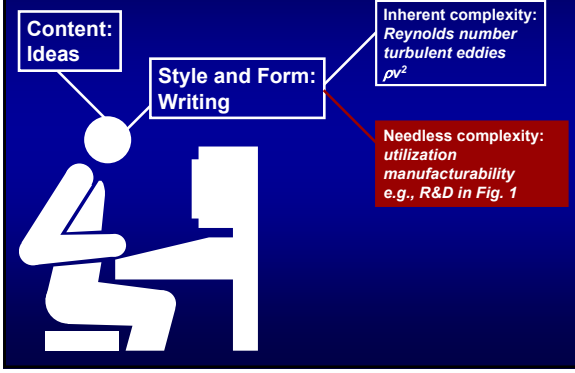
(2) To allow others to repeat the work

Structure:

Organization: often chronological

Depth: enough that others can repeat work

With language, keep it as simple as possible, yet no simpler



Needlessly complex language buries ideas

This study will consider why current solar energy systems, such as Solar One, have not reached the commercial stage and will find out what steps we can take to make these systems commercial.

The goal of this study is to develop a commerciali-zation strategy for solar energy systems by analyzing factors impeding early commercial projects (i.e., SOLAR ONE) and by identifying the potential actions that can facilitate the viability of the projects.

Also, ambiguities confuse audiences

We examined neat methanol and ethanol and methanol and ethanol with 10% water.

We examined four fuels: neat methanol, neat ethanol, methanol with 10% water, and ethanol with 10% water.

Illustrations can communicate information quickly and memorably to audiences

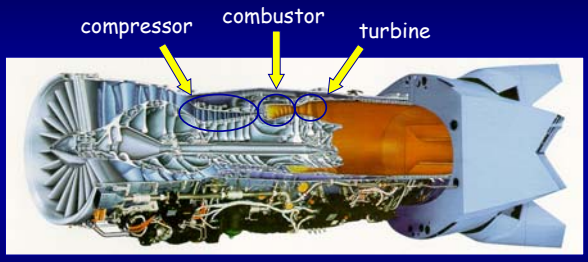


Figure 6. Cutaway of a gas turbine engine that shows the three main components: compressor, combustor, and turbine [Pratt & Whitney, 2002].

In summary, the way you write depends on your audience, purpose, and occasion

what do they know?
why are they reading?

what expectations do they have?
how will they read?

audience

purpose

to inform

to persuade

occasion

format

formality

deadline

process

Questions?