Lecture 40
Language Review: Mechanics

Lecture Outline:
- Capitalization
- Italics
- Abbreviations
- Acronyms
- Numbers
- Enumeration
- Symbols
- Equations
- Spelling

Capitalization:
Although there are many specialized rules for capitalizing letters, the following four are the most common.
Capitalize the first words of sentences, including sentences cited in quotations:
The QA engineer has been quoted as saying, "The main source of connector failure found in the analysis is seal deformation caused by pressures in excess of 1000 psig."
Capitalize proper names, including any particular person, object, place, project, institution, river, vessel, genus, culture, ethnic group, or formal job title.
Unless you are following a documentation style that specifies otherwise, capitalize titles of books, periodicals, published and unpublished reports, articles, and document sections.

Rules for Capitalizing Multiple-Word Titles and Proper Names
Unless you are following a documentation style that specifies otherwise, observe the following rules for capitalizing multiple word titles and proper nouns. Capitalize all nouns, pronouns, verbs, adjectives, adverbs, and subordinating conjunctions. Capitalize any word, regardless of the part of speech, if it is the first or last word of the title or subtitle or a proper name or if it follows a punctuation mark indicating a break in the title.

General Guidelines for Capitalizing Scientific Terms:
Each discipline has its own specific conventions for determining which terms should be capitalized. In general, scientific writing tends to minimize capitalized nouns.
Capitalize astronomical terms such as the names of galaxies, constellations, stars, planets and their satellites, and asteroids.
However, the terms earth, sun, and moon are often not capitalized unless they appear in a sentence that refers to other astronomical bodies.
–The sun is an ordinary star. Venus and Earth differ significantly in the composition of their atmospheres.
Do not capitalize medical terms except for any part of a term consisting of a proper noun:
1. infectious mononucleosis
2. brachial plexus
3. Parkinson's disease

Italics:
Example:
Titles of Journals, Books, Newsletters, and Manuals
The Journal of the American Chemical Society
Letters, Words, Terms, and Equation Symbols That Are Being Highlighted for Discussion:
If either 1 or 2 is negative, Equation8 describes a convex reflecting surface.

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How does one program the computer, for example, to pronounce the letter combination gh? In the word thorough, gh has no sound; in enough, it is pronounced f; in ghost, it is pronounced g.

—The term dielectric is used here to refer to all.

Foreign Words:
Against the criminally stubborn conviction of the professional officer corps that courage, élan, and naked steel must carry the day, the machine gun was the ultimate argument. Bohr returned to Göttingen as a Privat dozent working under Born. [In German all nouns are capitalized.]

--Richard Rhodes, The Making of the Atomic Bomb

The SPOT (for système probatoire d'observation de la terre) views the area in question every 2.5 days.

Emphasis
—The Chernobyl reactor surged from its standby level to 50 percent of its capacity in just 10 seconds.

Names of Specific Vessels
—Do not italicize the model's class, manufacturer, or model number

Abbreviations:
Unless you are following a style guide that specifies otherwise, observe the following conventions. Abbreviations, shortened forms of words, are commonly employed in scientific and technical writing. However, avoid unnecessary abbreviations, which can confuse a reader. Some abbreviations are always followed by a period. Always abbreviate certain words and phrases in your text. Those always abbreviated include Mr., Ms., B.A., Ph.D., B.C., B.C.E.

cf. (from the Latin for "compare")
et al. (from the Latin "and others")

Acronyms:
Unless you are following a style guide that specifies otherwise, observe the following conventions. Use acronyms to shorten phrases in order to save space or to avoid awkward repetition of phrases. Acronyms are abbreviations of the things they represent and are formed by combining the first, and sometimes other, letters of the principal words.

Examples:
AIDS -- Acquired Immunodeficiency Syndrome
RAM -- random-access memory
ROM -- read-only memory
DOS -- Disk Operating System
FTP -- file transfer protocol
HTML -- Hypertext Markup Language
HIV -- Human Immunodeficiency Virus

Numbers:
Unless you are following a style guide that specifies otherwise, observe the following guidelines in using numbers. In general, use Arabic numerals instead of words in scientific and technical writing for both cardinal and ordinal numbers:

• 3 subroutines
• 6 braces
• 61 amino acids
• the 3rd subroutine
• the 6th brace
• the 61st amino acid
British and American Formation of Numbers:
Form integers of two to four digits without any punctuation or spacing:

- 21 412
- 8024

Use the period (.) to indicate the decimal point and use an initial zero (0) for numbers less than 1.0:

- 31.3 1.41
- 0.414

Form numbers of five digits or more by using a comma (,) to mark off groups of three digits, starting at the decimal point:

1. 10,000 12,341
2. 12,341.34
3. 12,432,421

European and International Standards for Formation of Numbers
Form integers of two to four digits without any punctuation or spacing:

- 21 412
- 8024

Use the comma (,) to indicate the decimal point and use an initial zero (0) for numbers less than 1,0:

- 31,3 1,41
- 0,414

General Guidelines for Using Numbers in Non-technical Prose
When using numbers in nonscientific text, spell out numbers less than one hundred or numbers of any size that begin a sentence. In addition, spell out round numbers of any size and use Arabic numerals followed by the terms million and billion to express numbers larger than one million.

- seventy-three hours
- 173 hours
- nine hundred thousand

Form numbers of five digits or more by using a period (.) to mark off groups of three digits, starting at the decimal point:

- 10.000 12.341
- 12.341,34
- 12.432.421

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Enumeration:
Use enumeration in reports and other documents to identify sequences of chapters, sections, page numbers, figures and tables, equations, footnotes, and appendixes. Lengthy reports may contain and enumerate all these items. Any technical or scientific document of more than one page, however, will at least enumerate its pages, as well as any other of these elements that are present.
Chapter-Section Enumeration:
Of the two general enumeration systems widely used, the numerical system is clearer than the alphanumerical system.
In the numerical system, the reader can always locate his or her place in the document from the single decimal number.

Pagination:
Number the front matter in italic lowercase roman numerals (i, ii, iii, iv, and so on).
Normally, number the pages in the body of the document with Arabic numerals, starting with page 1.
Numbers sequentially through page n at the end of the text, including all back matter.

Tables and Figures:
Number tables and figures sequentially as Table 1, Table 2, Table 3, and so on.
In long documents, however, table and figure numbers are often prefixed with a chapter number:
Table 5-1 or Table 5.1, for example, refers to the first table of Chapter 5.

Symbols:
Use symbols consistently and in keeping with the common practice of your discipline.
Biology, chemistry, engineering, mathematics, and physics, among many other fields, have extensive and precise systems to present quantities, objects, and actions.
Check with a relevant style guide, textbook, or handbook.

Equations:
Unless you are following a style guide that specifies otherwise, observe the following conventions.
Integrate equations into the body of your document by including in the text one or more explicit references to each one and, if appropriate, a short explanation of each term.
An ion in crossed electric and magnetic fields drifts at right angles to both fields with a velocity of
\[ V_d = \frac{E_5}{B} \]
where \( V_d \) is the drift velocity, \( E_5 \) is the magnitude of the static field, and \( B \) is the magnetic field strength.
If \( V_d \) were to approach unity, the behavior of the electric . . .

Spelling:
Always proofread your document for misspellings.
If you are writing on a word processor, always use the spell checker but do not rely on it alone.
It cannot catch one word substituted for another (discreet for discrete) or a typographical error that is a word (cod instead of code).
Be consistent in the spelling of words in your document.
Use the same dictionary when writing your first draft as when revising or editing the document.
If you first learned British or Commonwealth English, be careful to use American English spellings of words rather than British forms.
The following list summarizes some of the most common differences between American English and British English spelling.
- Desk Dictionaries
- Unabridged Dictionaries
- ESL Dictionaries
- Technical Dictionaries