CSE/ISE 300 Writing  F08

- Time: Tue 12:50-1:45PM
- Location: Room 154  Light Engineering
- Required Books: The Elements of Style, 4th edition (2000), Authors: Strunk and White $10 (or $4 2007 reprint by Coyote)
- Online Technical Writing, Author: David A. McMurrey http://www.io.com/~hcexres/textbook/
- Instructor: Professor Larry Wittie
- Office: CS Building, Room 1308
- Phone: 631-632-8750 (not 2-8456)
- Email: lw@ic.sunysb.edu
- Office Hours: 2:00-3:30PM Tue & Thu or by appointment
- Course Homepage: http://www.cs.sunysb.edu/~cse300

- Paper 2 memo on New Computer postponed, due Tues 21 October in class.
- Next class, draft memo 2 - Why Our Firm Needs A New Computer For Me.
- Graded paper1 back next class My Favorite Gadget.
CSE/ISE 300

More Rules, Blake: Elements of Technical Writing

How to Write Units of Measure

Rules:

14. Write basic units of measure in word form and derived units in symbols. Use the short words for basic units. Derived units combine several units. They are best expressed as compounds of their short symbols unless the derived unit has a well-known word and special symbol. If so, use the special symbol for the word.

- a 5-second delay  
- an 8-pound baby  
- 100 meters

The acceleration of gravity at sea level is 32.2 ft/s², or 9.81 m/s².

- The dam supplies 10 MW of electricity at a frequency of 60 Hz.
  - not: 10 megaWatts
  - not: 10 million volt-amps
  - not: 60 Hertz
  - not: 60 cycles/s

15. Indicate multiplication of unit symbols by a raised dot (•), not a times sign (×), and division by a slash (/). For unit words, use a hyphen (-) to multiply and the word per to divide.

- Do not drop disks! Decelerations of 322 feet per second squared (10 Gs) can ruin them.  G is acceleration from gravity, 32.2 ft/s².
CSE/ISE 300
How to Write Units of Measure and Equations

Rules:

16. Write secondary units of measure in parentheses after the primary units. The primary units for scientific papers are metric. English units are secondary.
   G is the acceleration from gravity, 9.81 m/s\(^2\) (32.2 ft/s\(^2\)).

17. Use too few rather than too many equations.

18. Center and number equations on a separate line in your text, unless they are short and simple.
   The general first-order linear equation is
   \[
   \frac{dy}{dx} = p(x)y + q(x). \tag{2}
   \]
   Boltzmann’s entropy formula is
   \[
   S = K \log W. \tag{3}
   \]
   OR
   Boltzmann’s entropy formula is \( S = K \log W \).
CSE/ISE 300
How to Write Equations

Rules:
19. Keep all equal (=), multiplication (nothing or $\times$ or $\cdot$), plus (+), and minus (−) signs, and all division(−) lines on the same horizontal level. For a series of equations, vertically align the equal signs.

\[ A = A + \frac{B}{C} - \frac{D-C+1}{B} \]  
(4)

\[ x = x + 1 \]  
(5)

\[ y = x + y \]  
(6)

\[ z = y + z \]  
(7)

20. Punctuate words introducing an equation like any other words in a sentence. In particular, there is no reason for a colon (:) just before an equation in the text or on a separate line.

Boltzmann’s entropy formula is $S = K \log W$.
Albert Einstein’s most famous equation is $E = M C^2$
where $E$ is energy at rest, $M$ is mass, and $C$ is the speed of light.
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Boltzmann’s entropy formula is \( S = K \log W \).
Albert Einstein’s most famous equation is
\[ E = M C^2 \]
where \( E \) is energy, \( M \) is mass, and \( C \) is the speed of light.
Rules:

21. Use too few rather than too many symbols.

22. Define each symbol in your text, where you first use it. The definition may follow in parentheses () or within the text. If you use four or more symbols, define all again in a table after your text. Aqua regia (Latin for “royal water”) is a fuming mixture of one volume of concentrated HNO$_3$ (nitric acid) with three or four of HCl (hydrochloric acid). Neither acid alone can dissolve gold or platinum (the “royal metals”), but the mixture does readily.
CSE/ISE 300
How to Write Symbols

Rules:

23. Avoid using one symbol for two different meanings in one text. Write one symbol out fully or find a new symbol for one meaning. **No:** Superconducting computers operate at 4 to 5 K. It is hard to pack even 4 K bits of storage on a cryo-electronic memory chip. **Yes:** Superconducting computers operate at 4 to 5 Kelvin. It is hard to pack even 4 K bits of storage on a cryo-electronic memory chip.

24. Fit symbols grammatically into sentence structures. Symbols are substitutes for words and should be treated like words.

A group of \( N \) people on vacation in the seaside town \( A \) decide to visit friends staying in town \( B \), which is \( N \) km (kilometres) away along the coast. Some walk the cliff path at a steady \( N \) km an hour. The rest, one fewer than the walkers, go by car, which (not counting stops) averages 10 times the speed of the walkers.

The friends in the car stop for \( N \) minutes for fuel, then \( N \) times as long as that for coffee, and are further delayed for \( N \) minutes by a flock of sheep. They reach town \( B \) just one minute before the walkers. The road is much longer than the cliff path.

How long is the road from town \( A \) to town \( B \)? (20 km. \( N \) is 5.)
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Punctuation, Grammar, Abbreviation, and Capitalization

Rules:

25. Hyphenate (−) two words that form a compound adjective modifier before a noun, but not a single adjective preceded by a adverb (usually ending in -ly). Compound adjectives are often not hyphenated when they occur after the noun. Do not add hyphens to scientific terms, diseases, or biological names used as modifiers.

The Cray MTA-2 is a shared-memory multiprocessor. This up-to-date massively parallel computer system is state of the art. Scientists are worried that the bird flu epidemic in SE Asia may become a swine flu pandemic, killing humans worldwide in 2007.

26. Hyphenate two nouns used together to name a single thing. In

When first used in English, two nouns that form the compound name for a new idea are hyphenated to join them. After a few years, the hyphen is dropped to form a single dictionary word.

rail-road    railroad    data-base    database
space-craft    spacecraft    sea-level    sealevel
Rules:

27. In a series of three or more terms joined by a single *and* or *or*, use a comma after each one except the last. In particular, use a serial comma before the *and* or *or*.

- We teach the 3 Rs: reading, ‘riting, and ‘rithmetic.
- The qualifier exams cover math, software, and systems.
- There is nothing big, hot, or dog in the “world’s biggest hotdog”.

28. Omit the period at the end of a sentence within parentheses () within a sentence, but show any exclamation or question mark. If a parenthetical sentence stands alone as a whole sentence, put its final period inside the parentheses.

- The spike in the middle of Fig. 5.59 (see page 516) is caused by address page misses in the translation lookaside buffer.
- Tom (or was it Alice?) rebooted the system to fix the problem.
- Computers were as big as cows when I started computing. (That is a story for another day.) Soon computers will be invisibly tiny.