

# Slides from Writing Lecture 2 in ECE 3534

## Writing Component of ECE 3534

L2 S1

Keep it as simple as possible, yet no simpler.

Albert Einstein

Guidelines for Writing Assignments in ECE 3534

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The writing component of ECE 3534 is designed to have you practice and build upon the writing principles that you learned in your technical writing course. In ECE 3534, you must do the following:

1. write a formal report on [laboratory 2](#) (7.5% of grade), and
2. write a formal report on either [laboratory 3](#) or [laboratory 4](#) (7.5% of grade).

In using the outlines to write your reports, you are advised to incorporate the provided sentences exactly as they are written. You are also welcome to use the services of the [Writing Center](#). However, you are *not* allowed to look at any ECE 3534 reports written by other students in previous semesters. Such viewings are considered Honor Code violations and cause for charges to be levied in the Honor Court.

<http://writing.eng.vt.edu/ece3534/>



These writing lectures make you sensitive to the most common errors of style and form

### Structure

Outline questions not addressed  
Depth lacking  
Section transitions abrupt

### Illustration

Illustration not introduced  
Illustration misplaced  
Illustration not captioned

L2 S2

### Language

Not targeting audience  
Ambiguity  
Needless complexity  
Improper tone  
Discontinuity  
Stagnant sentence rhythms

### Form

Format not followed  
Major error (RO, Frag)  
Grammar error  
Punctuation error  
Usage error



## To target the audience, write the procedures as a narrative, not a set of instructions

### Procedures for Design

1. Load the contents of the A register into accumulator A and logically *and* it with \$01.
2. If the result is equal to zero (meaning that the LSB of A was a zero), then branch to our inline 'setlow' routine, which clears accumulator A and puts it into the B register.



### Procedures for Design

The second part of the laboratory called upon us first to read the level of a DIP switch and then to output that value to a TIL311 hex display. When the switch was open (state zero), the voltage was 5 V. Similarly, when the switch was closed, the voltage was 0....



L2 S3

## One common error in engineering writing is to make the writing needlessly complex

Content:  
Ideas

Style and Form:  
Writing

Inherent complexity:  
*Buffalo disassembler*  
*detailed schematics*  
*EEPROM*  
*\$006*

Needless complexity:  
*utilization*  
*e.g., Fig. 1*  
*PORT A*



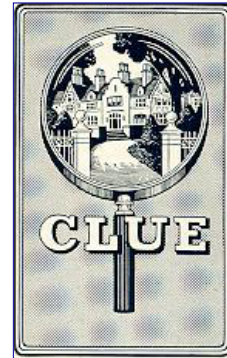
L2 S4

**When you write longer sentences,  
give the readers a clue**

The peak at 195 kHz is above the frequency range where this model is valid, so this resonant frequency can have much uncertainty.



Because the peak at 195 kHz is above the frequency range where this model is valid, this resonant frequency can have much uncertainty.



**L2 S5**

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**An ambiguity is a group of words that can have  
more than one meaning**

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.



**L2 S6**

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**Syntax often causes ambiguities,  
especially with adverbs**

**Only I tested the Labrador for rabies yesterday.**

**I only tested the Labrador for rabies yesterday.**

**I tested the only Labrador for rabies yesterday.**

**I tested the Labrador only for rabies yesterday.**

**I tested the Labrador for rabies only yesterday.**

**L2 S7**

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**Word choice can also cause ambiguities**

**We wanted to reduce the vibration  
of the fan at the exhaust as the  
exhaust ducting was cracking.**



**We wanted to reduce the vibration of  
the fan at the exhaust because the  
exhaust ducting was cracking.**



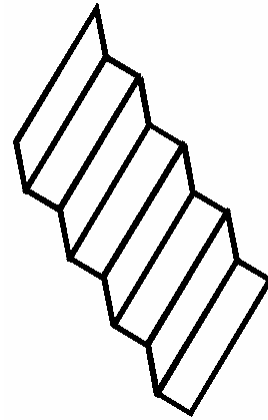
**L2 S8**

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**Not having commas after introductory phrases or clauses often causes ambiguities**

After the display loop runs it returns to check the status of the switch.



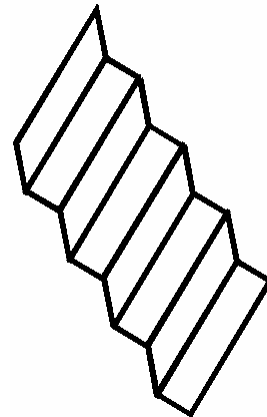
After the display loop runs, it returns to check the status of the switch.



L2 S9

**Also causing ambiguities are pronouns, particularly the pronouns *it* and *this***

Although engineers realized the design flaws in the Titanic soon after its sinking in 1912, the reasons for the severe damage inflicted by the iceberg remained a mystery until its discovery in 1985.



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L2 S10

Also causing ambiguities are pronouns, particularly the pronouns *it* and *this*

L2 S11

We wanted to load Port B with a 1 if the switch was high and with a 0 if the switch was low, which was easily done using a BRCLR statement with a mask of 1. This meant that if the low bit of Port A was clear, the code would output to Port B.



???????

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For these reports, the tone should be professional

L2 S12

...At this point, we realized that we had neglected at every step to test the program on its own. When we did test the program disconnected from a personal computer, the program went berserk. To our astonishment, when we reentered Buffalo, we discovered that our program no longer existed where we had stored it. Therefore, we have no way of knowing what the HC11 had been doing, but it certainly had been up to no good.

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**For these reports, the tone should be professional**

**L2 S13**

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**Informal: you, a lot, pretty straightforward**

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**When sentence openers do not vary, the sentences do not seem to connect**

**L2 S14**

Mount St. Helens erupted on May 18, 1980. A cloud of hot rock and gas surged northward from its collapsing slope. The cloud devastated more than 500 square kilometers of forests and lakes. The effects of Mount St. Helens were well documented with geophysical instruments. The origin of the eruption is not well understood. Volcanic explosions are driven by a rapid expansion of steam. Some scientists believe the steam comes from groundwater heated by the magma. Other scientists believe the steam comes from water originally dissolved in the magma. We need to understand the source of steam in volcanic eruptions. We need to determine how much water the magma contains.

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## Varying sentence openers allows for more kinds of transitions between sentences



L2 S15

Topic of Sentence

Time or place of action

Sentence



Manner of action

Subordinate action

Reason for action

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## Vary sentence openers to vary rhythm

subject-verb

Mount St. Helens erupted on May...

prepositional phrase

In minutes, the mountain emitted...

L2 S16

adverb

However, debate has arisen...

dependent clause

Although the exact time of the eruption surprised scientists, evidence had been collected...

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