

# Slides from Class Lecture 1

## Writing Component of ECE 3534

L1 S1

Keep it as simple as possible, yet no simpler.

Albert Einstein

Guidelines for Writing Assignments in ECE 3534

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Report Links  
[Sample Lab Report](#)  
[Evaluation of Lab Reports](#)  
[Grading Scheme](#)  
[Gray Areas](#)

Writing Lecture Links  
[Writing Lecture #1](#)  
[Writing Lecture #2](#)  
[Writing Lecture #3](#)  
[Key: Mechanics Exercise](#)  
[Key: Tense Exercise](#)  
[Key: Style Exercise](#)  
[General Writing Guidelines](#)

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/>



In this course, you have two writing tasks, which constitute 15% of the total course grade

L1 S2

**Introduction**

This report presents... Write an initial paragraph that introduces the scope of the report and makes an argument that this work is worth doing. As evidence, include an example application or reference an assertion made in a publication [Author, Year], or do both. Be sure to replace all blue type with your own words in black type.

The hardware for the laboratory consisted of... Consider referring to a figure (named Figure 1) that gives a general block diagram of the main components of the laboratory design. Finally, be sure to replace all blue type with your own words in black type.

**Figure 1.** Illustration title, which should be written as a phrase. Note that you might add a sentence to explain unusual details in the figure, such as the use of dotted lines to indicate additions during the second section of the laboratory.

The objective of the first design was to use the DevHC11 to write two simple programs, assemble them, load them into the HC11 memory, and then run them to verify their operation. In a sentence or two, elaborate on the objectives of this design. The objective of the second design was to... In a sentence or two, elaborate on the objectives of the second design. Finally, be sure to replace all blue type with your own words in black type.

This report presents both procedures for achieving these two designs and assessments of how well the designer worked. Also included in the report is pseudocode for the programs (shown in Appendix A), the listing files for the programs (shown in Appendix E), and a tutorial on indexing and array access (Appendix C).

1. Lab Report 2 (7.5%)

Format specified  
Outline supplied

2. Lab Report 3 or 4 (7.5%)

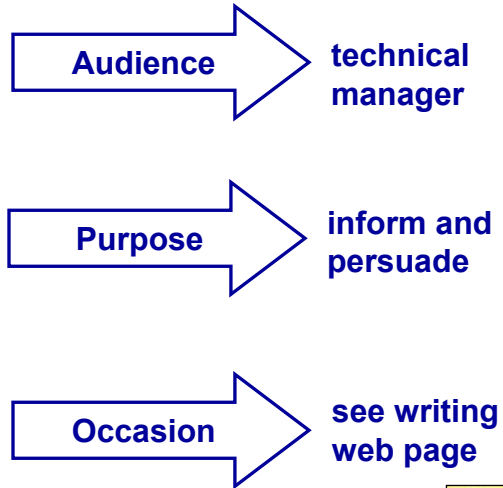
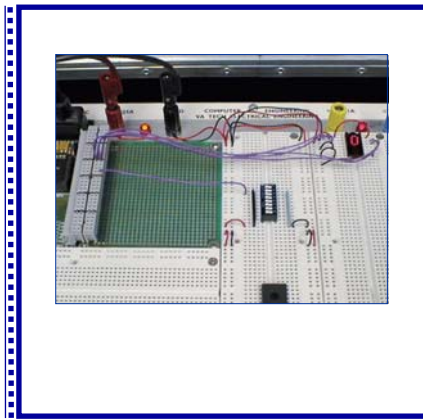
Format specified  
Outline supplied  
Illustrations collaborative  
Language individual



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

**The reports have a specific audience, purpose, and occasion**

L1 S3



**The writing lectures present ways to avoid the most common errors of style and form**

L1 S4

**Structure**

- Outline questions not addressed
- Depth lacking
- Section transitions abrupt

**Illustration**

- Illustration not introduced
- Illustration misplaced
- Illustration not captioned

**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



# For the reports, you are to use a format and organization given on downloadable outlines

L1 S5

**Introduction**

This report presents two designs that demonstrate some of the input, output, and general programming capabilities of the Motorola 68HC11 microcontroller, referred to here as the HC11. These designs made use of the HC11's input Port A and output Port B. In addition, these designs used a TTL311 hex display unit as the output device and a series of dual in-line package (DIP) switches as the input devices. Write a sentence or two in which you persuade your audience that this design is important (as evidence for your assertion, include an example application or reference a point made in your textbook [Spanner, 2002], or do both).

The hardware for the two designs consisted of ...

The objective of the first design was to use the DevHC11 to write two simple programs, assemble them, load them into the HC11 memory, and then run them to verify their operation. In a sentence or two, elaborate on the objectives of this design. The objective of the second design was to ... In a sentence or two, elaborate on the objectives of the second design.

This report presents both procedures for achieving these two designs and assessments of how well the designs worked. Also included in the report is pseudocode (or flow charts) for the programs (shown in Appendix A), and the listing files for the programs (shown in Appendix B).

**Section 1: Writing and Assembling Simple Programs**

The first design called for writing two simple programs, assembling them, loading them into the HC11 memory, and then running the programs to verify their operation. In a couple of sentences, elaborate on the goals of the two programs.

**Design and Testing of Simple Program 1**

In two or three paragraphs, describe the design of the first program. The organization of this subsection will be first a discussion of the hardware and then a

**Comment:** Major heading: Skip of 36 points (2 line skips) below and 24 points (two line skips) above. From the spacing of your headings so that the audience can see the hierarchy of sections. To hide all comments, click on "Markup," which is under "View."

**Comment:** Indent your paragraphs as about every single respected book publisher does. Also, notice that the format calls for a non/typetane for the text portion of the report.

**Comment:** You are to replace all text in blue with your own text (in normal type). To hide comments, click on "Markup," which is found under "View."

**Comment:** The standard theme for reference listings as engineers in other non/and reference listings in handouts, such as [1] or author-year reference listings as handouts such as [Spanner, 2002]. Because engineering students do not care about seeing the page number while they are reading the text, the actual page numbers are placed in the reference citations at the end. Note that disciplines such as English do things differently. Also note that the reference often occurs at the end of the sentence and before the period.

**Comment:** Note that extra space occurs between a paragraph and an illustration.

**Comment:** Put notes to use here when discussing the objectives of the project.

**Comment:** If your professor requests that you include flow charts rather than pseudocode, then make the substitution here, in Appendix B, and in the table of contents. Do not forget to remove these files.

**Comment:** This paragraph serves to make a transition from the major heading in the subsection. This paragraph repeats this sentence and provides background or assumptions that apply to all the subsections.

**Comment:** Subheading format of Arial bold, 12 point, 24 points of space appear above, and 12 points of space appear

**Your manager has given you sentences**

↓

**Use them**

↓

**To hide comments, click on "Markup"**

↓

**Look under "View"**


# For the proper depth, the text portion of the report should be between 5-6 pages

L1 S6

**Introduction**

This report presents ... Write an initial paragraph that introduces the scope of the report and makes an argument that this work is worth doing. As evidence, include an example application or reference an assertion made in a publication [Author, Year], or do both. Be sure to replace all blue type with your own words in black type.

The hardware for the laboratory consisted of ... Consider referring to a figure (named Figure 1) that gives a general block diagram of the main components of the laboratory design. Finally, be sure to replace all blue type with your own words in black type.



**Figure 1. Block diagram, which should be copied, as placed. How do you might with a sentence to explain essential details in the figure, such as the use of switches to indicate addresses along the central portion of the laboratory.**

The objective of the first design was to use the DevHC11 to write two simple programs, assemble them, load them into the HC11 memory, and then run them to verify their operation. In a sentence or two, elaborate on the objectives of this design. The objective of the second design was to ... In a sentence or two, elaborate on the objectives of the second design. Finally, be sure to replace all blue type with your own words in black type.

This report presents both procedures for achieving these two designs and assessments of how well the designs worked. Also included in the report is pseudocode for the programs (shown in Appendix A), the listing files for the programs (shown in Appendix B), and a manual on indexing and array access (Appendix C).

**The text goes from the introduction to the conclusions**

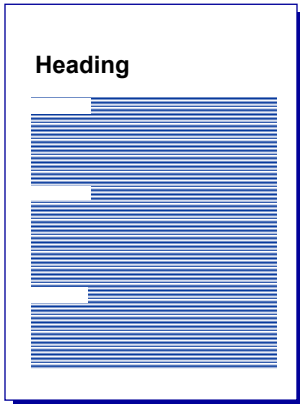
**This page limit includes figures and tables on those pages**

**The text does not include the front matter or the appendices**

## You should smooth the transitions into sections and subsections

### Introduction

The lab was divided into two parts.



### Introduction

This report presents a microprocessor design that connected the 68HC11 micro-controller to three different hardware components...



7

L1 S7

## The summary should orient the audience and provide key results

### Summary

This paper describes a new inertial navigation system that will increase the mapping accuracy of oil wells by a factor of ten. The new system uses three-axis navigation that protects sensors from high-spin rates. The system also processes its information by Kalman filtering (a statistical sampling technique) in an on-site computer. Test results show the three-dimensional location accuracy is within 0.1 meters for every 100 meters of well depth, an accuracy ten times greater than conventional systems.



8

L1 S8

Each citation at the end of the report should refer to a reference listing in the text

L1 S9

**Introduction**

[Spasov, 2002]

**References**

Armstrong, James, "Computer Engineering Laboratories Website at Virginia Tech," <http://www.ee.vt.edu/cel> (Blacksburg, VA: ECE Department, 2005), ECE 3534: Laboratory Assignments, Lab 2.

Microchip Technology, "Specification Sheet DS11109G for the 28C64A" (Chandler, AZ: Microchip Technology, 1994), pp. 14-17.

Spasov, Peter, *Microcontroller Technology: The 68HC11*, 3rd ed. (Englewood Cliffs, NJ: Prentice Hall, 2002), p. 243.

1

26

Illustrations consist of tables and figures

L1 S10

Table 1. Physical characteristics of planets [*Handbook*, 1969].

Planet	Diameter (km)	Year (earth days)
Mercury	5,100	88
Venus	12,600	225
Earth	12,800	365
Mars	6,900	687
Jupiter	143,600	4,333
Saturn	120,600	10,759
Uranus	53,400	30,686
Pluto	12,700	90,885

\*Data on Neptune not available

## Illustrations consists of tables and figures

L1 S11

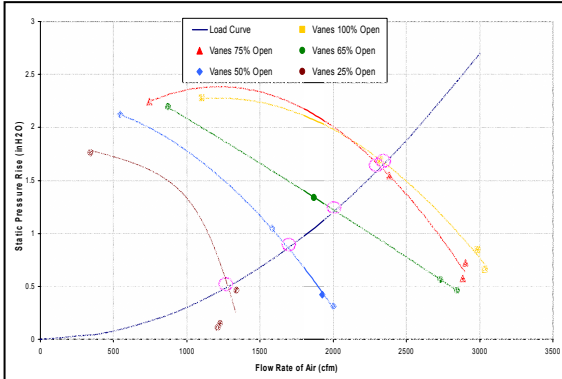


Figure 1. Static pressure versus flow rate for five settings on the inlet guide vanes. The circles show where the fan would operate for each setting.

11



## In formal documents, an illustration appears after the paragraph that introduces it

L1 S12

..., as shown in Figure 1 below.

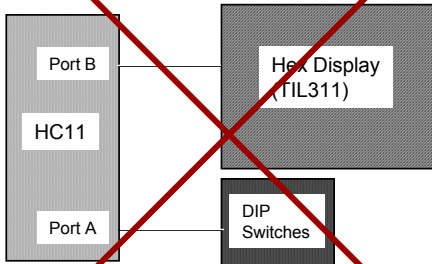


Figure 1. Simplified schematic of hardware.

..., as shown in Figure 1.

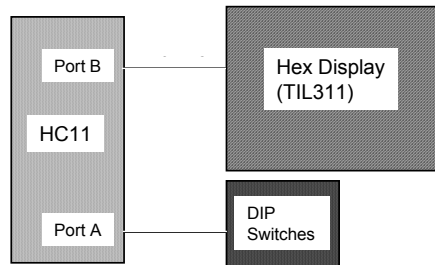


Figure 1. Simplified schematic of hardware.

12



An equation is part of the sentence that introduces it

The goal of the project was to find the strain on the rim of an aluminum can. This strain,  $H$  was found from equation 1:

$$H = \frac{V}{E}, \quad (1)$$

where  $V$  is the stress estimated by the computer code, and  $E$  is the modulus of elasticity.

13

L1 S13

A run-on (RO) is the incorrect joining of two sentences with a comma

Rubidium is more common in the earth than zinc, copper, or nickel, however, rubidium has no major uses.



Correction:

Rubidium is more common in the earth than zinc, copper, or nickel. However, rubidium has no major uses.

Rubidium is more common in the earth than zinc, copper, or nickel; however, rubidium has no major uses.

Although rubidium is more common in the earth than zinc, copper, or nickel, rubidium has no major uses.

14

L1 S14