

EE 231L Final - Formal Report

DUE: Friday December 7th (12/07/2018) by 2:00 P.M.

1 Overview

The final formal report for the NMT EE 231L (Digital Electronics lab) will be a typed IEEE specification paper. The paper is to detail the lab exercises used in developing the Verilog code (modules) necessary to build a functional computer (microcontroller) as well as the final lab; creating and implementing the computer. The report will be graded according to the grading rubric (Table 1) and is worth **20%** of your EE 231 lab grade. The paper should be written with the following specifications:

1.1. IEEE Style, as outlined in the [IEEE Template](#). Some of the specifications are: 12-point font, 1-inch margins, double column formatting, single spaced, top-left-corner page numbering, top-right-corner page titling, proper in-text citations, non-1st person perspective (**no I's, you's, me's, my's, our's, etc**), and should not include any images in the Abstract, Introduction, or Conclusion.

1.2. Sections:

- Abstract
- Introduction
- Background
- Results
- Conclusion
- References/Appendix

1.3. Include background information on each component of the computer and its operation. Components may include but are not limited to:

- Verilog programming (HDL)
- The Vivado ISE
- CCU (Computer Control Unit)
- ALU (Arithmetic Logic Unit)
- Registers (PC, MAR, IRX, ACCA, C, Z)
- Address Multiplexer
- Memory Block

The paper should be at least 4 pages long, not including any code/references/appendices.

NOTE: There will be a **5% PER DAY** penalty on any late papers, so get them in on time.

Formal Report Grading Rubric

Table 1

Section		Requirements	
Abstract (10 points)	Describes what is included in report	Brief, not overly lengthy	-
Introduction (10 points)	Short introduction on the computer	Possible applications of such a computer	-
Background (25 points)	Discuss Verilog programming	Discuss the Vivado ISE, and the various stages of creating modules	Fully describe and discuss each system component, including but not limited to: Lab 1, Lab 2, Lab 4, Lab 5, and Lab 8
Results (15 points)	Summarize end results of lab	Outline any problems encountered	-
Conclusion (5 Points)	Summarize main topics discussed	Summarize problems encountered	Summarize what was learned
Appendix/References (10 points)	Include all code	Well commented code! brief explanations for each section (may already be done if code is originally well commented)	Talk about applications and possible use in the future
IEEE Research Format (25 points)	1-inch margins 12-point font Double columns	4 pages in length Times Roman Font Single spaced Numbered pages (top right)	Include any additional references/large diagrams
			Descriptive, yet readable title proper section titling and numbering
			NOT written in 1st person Figure labeling In-text citations