

EE 308 Laboratory

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Office Hours: TR 1-2pm

Website: http://www.ee.nmt.edu/%7Eerives/308L_11/EE308L.html

Purpose

This lab will introduce you to the operations of the HCS12 microcontroller. You will learn how to load programs onto the microcontroller utilizing the CodeWarrior development environment through Hyperterminal, an application that creates a connection to talk to the microcontroller. You will also learn to program the HCS12 and utilize many of its features, such as register manipulation and communication with external devices.

Materials

Bound lab book (not a spiral)
HCS12 Microcontroller
Safety Goggles
Digital Wiring Kit
Black Pen

Requirements

Before coming to the scheduled lab time, the prelab MUST be completed. You will need to keep a complete lab book while in the lab. Most labs will be broken into parts. Once all parts of the lab are completed, a formal report will be assigned that will be over the lab. There will be a final report due at the end of the semester. SAFETLY GLASSES MUST BE WORN AT ALL TIMES IN THE LAB.

Completion Deadlines and Grading Policies

- Prelabs are due at the beginning of your lab session. If your prelab is not turned in at the beginning of lab it will not be graded and you will receive a zero for that prelab.
- Lab books are due 2 days after your lab section at 3pm.
- Programs written for the lab must be signed off by lab instructor to confirm it is working or 50% will be deducted from lab book grade.
- Reports are due one week after completion of lab at the beginning of lab. A reduction of one letter grade per day will be taken off for late reports.

Grade Breakdown

Prelabs – 30%
Lab book – 25%
Reports (3) – 30%
Final Report – 15%

Lab Book

The lab book is your record of what you have done in the lab. This is an important tool used to keep on track during a project as well as relay specific information. The lab book is used to keep a log of all problems and interesting issues encountered when working. This book will be your main resource when writing reports and describing what you are doing to any interested parties. The general rule of thumb for maintaining a good lab book is that you or any other engineer should be able to repeat the lab with the exact same results by only using your lab book with no outside resources or help.

Lab Book Outline

Include Table of Contents

Purpose

Setup Diagram (block diagram)

Introduction

Procedure

Results/Questions

Pseudocode and Code (commented)

Discussion/Conclusion

Formal Reports

A formal report is what you may experience in a design project in your later classes or while being employed. These reports are often a project deliverable that is required by the client before the contract is satisfied. The report should convey the status of the project in a manner that is readable by people of a non-engineering background (i.e. your boss).

These reports should be complete and honest about your work. Do not convey any false or misleading information.

Report Outline

Abstract

Introduction/Overview

Design Approach

Description of Subsystems

Results

Conclusion

Report Guidelines

12pt. professional type font, single-spaced

Include title page (title, name, class, lab session, date)

Numbered pages

Center all figures and number them with captions

Title each section of the report

Academic Honesty

All students are expected to demonstrate personal integrity. Collaboration with other students is strongly encouraged, however each student *must show his/her individual effort*. Exchange of information such as lab solutions/code from each other is strictly prohibited. Students exhibiting any form of academic dishonesty will be subject to penalties in accordance with NMT policies.

Refer to the academic honesty policy in your student handbook.