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Electrical & Computer Engineering Dept.   Lab 0 Report: Introduction & PCB Construction   Class #: 12378
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REQUIREMENTS NOT MET

N/A. All Requirements are met in this lab.

PROBLEMS ENCOUNTERED

For the prelab question x, I did not know the placement of the solder and soldering iron in the respected process of the question which required me to conduct some research which ultimately let me to the techniques of electrical circuit wiring, the bases of my answer to the question. Another problem encountered includes the soldering techniques where I had trouble seeing the process in my head from which it was mainly text base. The solution to this problem was to view several soldering videos to understand the process. I also hard problem viewing the texts on the Lab Policy and Syllabus page as the front is quite small, trying to fit a lot into a single page, requiring me to use the zoom in function.

FUTURE WORK/APPLICATIONS

Proper lab documentation and soldering techniques are valuable skills needed for future labs and assignments. Soldering the board is a necessary action in order to continue on with future labs and other assignments as it assembles the require components to be utilized. Knowing such technique allows for me to explore other basic components building when given more time and opportunity. Documentation will be needed for every lab report that will cover a different concept or hardware. This skill will span well beyond digital logic to other courses in the future. If given additional time, a chance of precise soldering, testing, and documentation can be completed to ensure or enhance the quality of building the toolbox's components and board.

PRE-LAB EXERCISES

i. How late can you arrive to lab and still be allowed to take the lab quiz?

> A student can arrive at most 10 minutes late for a lab and still be allowed to take the lab quiz. If they arrive more than 10 minutes after your lab begins, they will not be eligible to take the lab quiz.

ii. In general, when are your pre-lab submissions due on Canvas?

> Prelab submissions to Canvas are due 15 minutes prior to the beginning of the scheduled lab section time.

iii. How late can you arrive to lab and still be admitted?

> A student can arrive a maximum of 20 minutes late and still be admitted, but any later and they will be not be admitted to the lab room

iv. What is the minimum weighted lab average required for you to be eligible to pass the course?

> The minimum lab average that is required in order to be eligible to pass the course is 65%.

v. Can you drop this lab if you overslept? How about if a project for another class is due?

> Lab 0 is an essential lab that consist of building the toolbox's components needed for futures labs. Lab 0 should be done regardless of a) oversleeping or b) a project due for other class, however if the lab were to be skipped, since lab 0 will have the lowest grade, it will be taken as the dropped lab. Nevertheless, lab 0 would still have to be completed independently or through PI's office hours.

vi. Describe the lab makeup policy.

> The first missed lab cannot be made up. If there is a valid reason for missing this lab, then get the required documentation for the first missed lab and hold on to it. If second lab is missed, show Dr. Schwartz the written documentation for both, first and second missed labs. This documentation should be official, so that a make-up can be arranged for the second missed lab. Dr. Schwartz must be notified prior to the scheduled second missed lab or as soon as possible after your second missed lab.

> There is no excuse to reschedule the first missed lab other than an exam in another course or an officially sanctioned academic event. Dr. Schwartz must be notified at least 8 days prior to the exam or event so that an alternate lab time might be arranged.

vii. In which section of your pre-lab report should the screenshot required above be pasted?

> The screenshot required above is to be pasted in the Appendix section of the pre-lab report.

viii. In your pre-lab report, what should be included with every measurement, screenshot, etc.?

> Every measurement, screenshot, etc., should include relevant and descriptive caption and contain a heading following the format provided in item two of section 5f if it is from a computer-generated file that can support user-specified text. Also, student is required to use the explicitly specified filename for its respective file and all code submitted is to be commented. Screenshots of simulations are to be annotated with explanation of its function and result.

ix. Describe the process of taking measurements with a system such as an oscilloscope or logic analyzer. Additionally, include details regarding when precise frequency measurements are of interest.

All measurements taken with an oscilloscope or logic state analyzer (LSA) must utilize a correct time base, "i.e., if a non-periodic waveform is measured, the relevant waveform must be displayed on at least 75% of the measurement window, and if a periodic waveform is measured, at least two and no more than three periods of the waveform must be displayed on the entirety of the measurement window".

Whenever frequency measurements are of interest, only an oscilloscope should be used to perform the measurements. If a precise frequency is desired, no manual measurements of a waveform are allowed, user-defined cursors

x. In general, when soldering a wire to a pin, what should the soldering iron touch? What should the soldering iron not touch?

The soldering iron should not touch the solder while soldering parts in place. The solder is to be applied into the joint of the component and not on the iron directly while the iron is on the opposite side heating up the pin.

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PSEUDOCODE/FLOWCHARTS

SECTION X (1, 2, etc.)

N/A

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PROGRAM CODE

SECTION X (1, 2, etc.)

N/A

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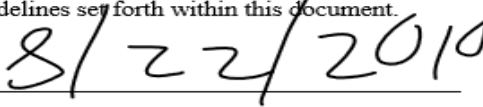Page 6/6   Revision: X   8/23, 2019

APPENDIX

Failure to do so will result in at least a ten-point deduction from the relevant lab grade.

13. If the student is to perform any hardware construction with any equipment not provided within the lab, it is the responsibility of the student to verify with either the course instructor or any of the Peer Instructors that the chosen equipment is appropriate. Moreover, the use of the soldering iron and solder provided from the *Introduction to ECE* course within the Electrical & Computer Engineering Department at the University of Florida is **prohibited** (since it is inadequate for our purposes and may damage our PCBs).

14. In the event of a broken part, it is the student's responsibility to find an equivalent part. The *Lab Engineer*, Eric Liebner (whose office is located in NEB 236), or the *Engineering Supervisor*, Michael Stapleton (whose office is located in NEB 239), can help the student with replacement parts, but the student must always **consult with the course instructor and/or Peer Instructor(s) first**. If a replacement part is given to the student, the student may need to purchase the same (or similar) component, as to replace the one provided.

15. Whenever writing software with the C programming language, the student must additionally uphold the following guidelines.

    i. Wherever applicable, the use of directives, group configurations, bitmasks, and macros defined within *Atmel* library files or within library files provided on the course website, is required, unless otherwise noted within a lab document.

    ii. The use of any functions or macros defined within the C standard libraries (e.g., `_delay_ms`, `_delay_us`, `sprintf`, `printf`) is **strictly prohibited**.

    iii. All software should be compiled with no optimization, unless otherwise noted in a lab document.

16. It is **required** that the student read this entire document before submitting any pre-lab assignment and before attending any lab session. Failure to follow or correctly understand any of the above rules and policies may result in a point deduction of any amount from a lab grade, where this point deduction may be determined by either the course instructor or any Peer Instructor(s) deemed qualified by the course instructor.

By signing this, the undersigned student acknowledges and affirms that he/she has read and understood the same and hereby certifies and agrees that he/she will abide by all lab rules, policies, and guidelines set forth within this document.

_____   8/22/2019

Signature of student   Date

Screenshot of Lab Rules & Policies Completed Signature Page

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EEL3744
@EEL3744

EEL 3744: Microprocessor Applications at the University of Florida, taught by Dr. Eric M. Schwartz

◎ University of Florida
🔗 mil.ufl.edu/3744
📅 Joined August 2012
🖼 13 Photos and videos

Tweets   **Tweets & replies**   **Media**

EEL3744 @EEL3744 · 2h
Remember that late assignments are not accepted and are not graded (i.e., will result in a grade of 0), specifically homework and lab. If your lab document is submitted late, you are not allowed to attend that lab.

EEL3744 @EEL3744 · Aug 22
The syllabus was just updated again (R2). The exam 1R and 2 dates were adjusted on the documents front page to match those on the last page.
♡ 1

EEL3744 @EEL3744 · Aug 21
Lab 0 was just posted on our website! Homework 0 is available on our Canvas page and is due by 8:59am on Friday!

EEL3744 Twitter Page