

# UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

## Department of Electrical and Computer Engineering

### GUIDELINES FOR WRITING LAB REPORTS

#### INTRODUCTION

A laboratory report can vary from the standard fill-in-the-blank type (e.g. standards based test results) to the comprehensive/formal report (e.g. resulting from the laboratory testing/research). The format of the report will depend on where the report lies between these extremes. However, a laboratory report always answer the questions below in a smooth and straightforward manner;

- What was the objective of the test or experiment?
- How the experiment was performed?
- What data/information was gathered?
- What is the implication/meaning of the data/information gathered?
- What conclusions could be drawn?

For the Undergraduate laboratory courses in the ECE department at UNC Charlotte the laboratory report is the communication vehicle used to combine the experimental data from the laboratory notebook with information from other sources (e.g. lab manual, reference books, research publications) to transmit what was learned during the experiments to the Lab Instructor.

#### GENERAL INSTRUCTIONS

Consistent formatting helps capture critical content in a way that is easy to convey, manage and review. To provide a basis for this consistency, prepare documents using the ECE Undergraduate Laboratory Report Template (in Microsoft Word) available [here](#).

#### *English Grammar and Stylistic Guidelines*

For most questions regarding style, refer to the IEEE Editorial Style Guide ([here](#)).

- The lab report should be in 12 point font, single spaced. Double space between sections. Boldface headings.
- Write in third person—no personal pronouns. Do not use personal pronouns in lab reports. Do not use “I”, “you”, “we”, “us”, “our”, or “my” in your lab reports.
- Place commas after prepositional phrases. This is the most commonly made error in punctuation. If your sentence begins with one of these commonly used prepositions, place a comma after the sentence phrase. Ex. after, at, before, by, except, for, from, in, of, on, since, to, with
- Write complete sentences with a subject and verb.
- Do not use imperative sentences (don’t give the reader instructions or commands).
- Use spell check.
- Do not quote from your lab manual, or use exact wording from the manual in your report. Write everything in the lab report in your own words.

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- On the weeks that you turn in a report based on multiple labs, all three labs should be under one heading. For example, in the Objective section, list Lab 2, Lab 3, and Lab 4 with an objective for each.
- Reports must be saved with the lab name and section and the experiment number followed by your last name and first initial. Here is one example - ECGR2156-90-exp1rpt-Cline-T.

### ***Report Organization***

ECE Undergraduate Laboratory Reports contain *front matter or title page* and *main text or body of the report*.

#### *Front Matter*

Course Number: Please indicate the course in which you are registered

Section Number: Please indicate section in which you are registered

Report Number: Please indicate the report number

Experiment Title(s): Include the experiment(s) number and title. Abbreviations should be avoided.

Author: First Name and Last Name

Date: The month, day and year that the report is submitted. (month,day,year or MM/DD/YYYY)

Lab Partner: First Name and Last Name

Honor Code: Honor code should be included and initialed.

#### *Main Text*

Objective: In this section, the overall purpose of the experiment is stated and should be written in complete sentences. For example, “The purpose of this experiment was to examine the analog computer and its functions”. DO NOT write “To examine the analog computer and its functions.”

Equipment List: Write a list of the equipment that was used.

Relevant Theory/Background Information: Provide a description of the background information, theories and/or equations that you went over in lab that pertain to the experiment. DO NOT write a series of equations in this section without any explanation of them.

Experimental Data/Analysis: In this section, you must write about the experiment you have just conducted. As in the previous section, do not write out a series of equations or tables with no explanation. Please ask your TA what they expect for content of this section. If your lab TA wants you to write the procedures you followed in the experiment, do not copy the procedures in the lab manual. DO NOT give instructions on how to do the experiment.

Example 1: Do not write “First, set up the analog computer to record...” as it is written in your lab manual. Write “The analog computer was set up to record...”

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Example 2: Do not write “Refer to table 2 for further details”. Write “Further details can be found on table 2”.

Conclusion: This section is for your final thoughts regarding the experiment. You can use this space to expand further on the implications of the outcome from the experimental data section. What did you learn from the experiment?

List of Attachments: Make sure you include a listing here of any attached graphs or charts. If you have no attachments to list, make sure you write “none” in this section.

References: Here include any reference material you used (textbook, etc.) in writing in this section. Do not use Wikipedia as a reference. Do not list the TA as a lab reference. If you have no references to list, write “none”.

Prepared by: Dr. Benny Rodriguez, Electrical and Computer Engineering on July 31, 2015.