

CSE 301L – Signals & Systems Lab

Lab Report Format Guide

Introduction

Welcome to Signals & Systems Lab. This Guide is designed to be used in preparing laboratory reports for CSE301L Signals & Systems Lab. It describes the structure of a good laboratory report, outlines the different sections of the report, and explains the need for each of them. It also introduces some standard conventions and rules for writing reports of professional quality.

Laboratory reports will be graded not only for technical content but also for writing and style. The quality of your written report will strongly affect your grade for the course. Students are required to follow the general rules in this guide and the specific format instructions given to them by their laboratory instructor.

For the practical works of MatLab programming, you have to complete lab activities assigned in each lab throughout the course. You'll have to submit lab report of previous lab in the following lab immediately after it; during which your instructor shall take necessary VIVA for your each lab. For the rest of your labs, please follow the reporting style as provided. Your lab report to be submitted should include the following topics.

1. Cover page (All pages except the title page should be numbered)
2. Lab Title
3. Objective(s)
4. Task Title
5. Problem Analysis
6. Algorithm
7. Flowchart (Optional)
8. Coding
9. Output / Graphs / Plots / Results
10. Discussion & Conclusion.

General Format

Your lab reports are to be typed, with normal one-inch margins. Be careful to have correct spelling and proper English grammar, as these will be taken into consideration when your report is graded. Your completed report should be stapled once in the upper-left corner before submission.

Report should be in a standard academic font i.e. Times New Roman, in **12pt** size. The paragraphs should be *Justified* aligned, the code should be *Left* aligned and the figures should be *Centered* aligned.

Need for Report Writing

According to recent nationwide surveys, engineers and other professionals in the sciences spend at least fifty percent of their time writing reports and memoranda. The quality of oral and written reports presented by working professionals is invariably one of the criteria used in performance evaluations, making the ability to write a good, professional-quality report is an essential and marketable skill. For these reasons, training and practice in report writing are important parts of your education.

Time Required for Report Writing

The most frequent complaint from students about laboratory courses is based on the perception that an excessive amount of time is needed for the preparation of laboratory reports, and that the return on this investment of time (in terms of the GPA) is not proportional. However, students who are able to report on their laboratory work in clear, organized reports receive higher grades than those who cannot. While report writing can indeed be time-intensive, the time is well spent because it provides students with the opportunity to develop or improve a skill that will be extremely valuable in their future careers.

A number of strategies can be deployed to lessen the time spent on writing reports. Many frustrations and problems related to report writing can be minimized by proper planning. It is essential that students schedule their weekly activities to allow enough time to write laboratory reports. The time required to complete a report varies for each individual. As you become more proficient, the time required decreases. Additionally, using word processing and one standard format in all the laboratory courses will increase your writing efficiency. For longer reports, time is usually spent most efficiently by working in more than one session. A rough draft is written first and set aside. The rough draft is then reconsidered, edited and polished into the final version after one or more revisions. The final version *must be proofread* carefully before submission. You should allow time to write, edit, and proofread the reports *before* the final versions are printed.

You are on the path to becoming professionals whose successful careers will be based in part on how well you can communicate in writing. Start practicing now!

Intended Readership

As a student, you can expect that the grader will read your report in its entirety, but professionals know that only a few experts in their own field will read a complete report—and only if they continue to be impressed by the relevance of each individual part of it. Reports are typically read by a number of different people, with differing backgrounds, interests and needs. Some individuals might be interested in the details of method, analysis, and interpretation. Others might be interested in the significance of the results and the conclusions that are drawn from them. At yet another level, a manager who seeks specific information to make important decisions about a project might look at only a brief summary of the report, together with a set of conclusions and recommendations. Professional laboratory reports are written to meet the needs of all these individuals.

Because they are an important part of your pre-professional training, laboratory reports should also be written to satisfy the needs of this varied readership. Thus, some repetition of information in different sections of the report, perhaps with a difference in emphasis or detail, is often necessary. As in all professional writing, clarity and precision in both language and calculations are essential in a laboratory report.