Laboratory Report Requirements

This is a laboratory course. The grade for each laboratory project is determined by

a) the *technical results*, e.g. a program that achieves the objectives of the lab,
b) the interactive *lab demo* and *discussion*,
c) the *lab report*.

The lab reports constitute the formal deliverables of your projects and experiments. The lab report component of the course is designed to satisfy (in part) the ABET 2000 requirement for technical documentation. The overall grade substantially depends on the completeness and the quality of the report. The reports must adhere to the required outline, which is as follows:

1. **Title page**: Lab title, section number, names(s), date.
2. **Lab summary**: Brief description of the overall lab and the main results. If the project is done by a team, describe the contribution of each team member (what he/she has done in the project).
3. **Objectives**: The description of the goals of the project and the overview of the external interfaces and intended observable results.
4. **Design** developed to meet the objectives (e.g., interfaces, pseudocode, system block-diagram, etc.) The design has to be documented at a high level of abstraction, but in a form suitable for deriving the detailed implementation. Note that the design does not deal with any code-level details (unless absolutely necessary for a specific lab), but has its focus on the architectural approach to the solution, giving its structure and "philosophy." Ideally one should be able to hand over a design to another team and have them develop the implementation.
5. **Implementation**: This part deals with the detailed, processor-specific and language-specific implementation of your design. This includes:
    a. An overview of the implementation done according to the design.
    b. The implementation details for the most important parts of your design and of the new parts of the implementation that are specific to this lab (when one lab builds on another)
    c. Code fragments that show the most important parts of the low-level implementation.
    d. The complete software listing goes in the appendix. Long listings are always relegated to an appendix only the key parts of your code or very short listings may be given inline in this implementation section.
6. **Results and discussions**: description of the results and/or observations asked for in the lab handout; include any additional or auxiliary results if they help to explain the main results. Some lab assignments will pose questions dealing with the analysis of the problem and/or the assessment of the results. The answers to these questions must be clearly given here as well.
7. **(Optional) Lessons**: Descriptions of problems or special conditions that hindered your progress, description of any noteworthy discoveries; this section is optional if you fully complete your lab, and it is required if you were not able to complete the lab.

These requirements apply to all lab reports. For simple labs, some of the sections might be very short, but they must be there. *Please take these requirements seriously*. Lab submissions consisting mainly of program listings are not acceptable and will be automatically assigned a grade of zero. Your design and implementation must be clearly documented – you cannot expect other people to read your code to figure out what you have done.