Lab Summary Grading Rubric

Lab grades in this course will be based on criteria clearly stated in the lab handouts. A large percentage of the grade will be determined by the quality of the summary written after the lab session. This reflects a reality of the engineering profession, namely that communication skills are almost always as important as technical competence. Three important categories will usually be assessed for each lab summary:

- Completeness and technical accuracy
- Organization, neatness, and style (professionalism)
- Spelling, grammar, and punctuation

The grading weight of each category could vary from one assignment to the next. Different categories and/or percentage weights might be used if the goals of the lab exercise warrant it. The rubrics used to determine each score are described below.

**Important:** Please note that the philosophy behind this scoring rubric is that the quality of written work must be above a threshold before *any* credit is given. That is, if the performance in a particular category is below the minimum acceptable level, then the score for that category will be zero. For example, a summary that has no introduction or conclusion would be given a score of zero in the “Organization, Neatness, and Style” category. Large numbers of grammatical errors would result in a score of zero in the third category. Remember that these writing assignments are meant to help prepare you for the professional world, where good communication is vital and in high demand. You need to be your own editor; your manager will not appreciate having to do that job for you. You must therefore develop good editorial skills and learn to anticipate the needs of your readers.

**Completeness and Technical Accuracy**

You should strive for both conciseness and accuracy in your summaries. Describe the equipment configurations and experimental methods that were employed, if appropriate. Explain circuit details that are not immediately obvious (which means you will have to develop a sense of how to judge what is obvious and what is not). If possible and if appropriate, present tabulated data (such as a series of measurements) in the form of a figure; a visual depiction of data is often far more useful than a table of numbers. Define all variables and symbols used in equations, figures, and text that are not universally known (e.g., where in the circuit is the “output voltage” measured?). Address poor or unexpected results and give legitimate explanations.

Scores in this category will usually be assigned at the following levels (5 = highest; 1 = lowest) based on the indicated likely responses from a manager:

- **5** Truly professional work. All key elements and data are properly documented, and a good discussion of implications is included. (This level is difficult to achieve.)
- **4** Good work with close adherence to guidelines, but one or two minor pieces of information are missing or are poorly documented. Your manager would have minor difficulty understanding your work.
- **3** Fair; significant quantities of data and/or many key elements missing or poorly documented. Your manager would have to meet with you to clarify some of the information you presented.
- **2** A starting draft at best. Your manager would have to spend significant time with you to revise it.
- **1** Most key elements and/or data are missing or are poorly documented. Your manager would give up reading the summary in frustration.
A few specific omissions are especially important and will lower scores in this category when they occur:

- Missing schematic diagram(s) of key circuit(s), if appropriate
- Missing figure(s) summarizing important measured data, if appropriate
- Missing citation of another author’s intellectual property (results in a score of 0 in this category)

**Organization, Neatness, and Style**

The summary should flow well and be easy to follow. Nothing should be left to the reader to figure out on his/her own. Use word processing software or very neat handwriting for the text. Figures and tables should be readable and created by a software package, if possible; however, neatly hand-drawn figures are acceptable. Equations should be typeset, if possible, but neatly handwritten equations are also acceptable. Use a professional, sophisticated tone. Avoid colloquialisms, but jargon is okay if it is mutually understood and acceptable in professional communication.

Scores in this category will usually be assigned at the following levels (3 = highest; 1 = lowest) based on the indicated likely responses from a manager:

3  No more than one or two minor issues; manager would probably approve releasing the summary in its current state if the deadline were near
2  One major issue or a large number of minor issues; manager would ask for significant revisions before releasing summary
1  Organization, neatness, and style issues would be unacceptable to a manager; draft should not have been submitted for approval

A few specific omissions are especially important and will lower scores in this category when they occur:

- Missing introductory and/or concluding text
- Incomplete or incorrect identifying information (names, course number, lab section (M or W), lab number, and lab date)

**Spelling, Grammar, Punctuation, and General Usage**

Be careful if you rely on your spell-checker; double-check it! Use consistent voice (passive, third person is recommended but not necessary), consistent verb tenses, and good transition phrases and sentences. Watch subject/verb agreement, watch word choice, and use punctuation properly (especially apostrophes and commas). Check for incomplete sentences, and revise awkward text.

Scores in this category will usually be assigned at the following levels (3 = highest; 1 = lowest) based on the indicated likely responses from a manager:

3  No issues or only a few issues; manager would probably approve releasing the summary in its current state if the deadline were near
2  A large number of issues that should have been caught by proofreading; manager would ask for significant revisions before releasing summary
1  Spelling, grammar, and punctuation issues would be unacceptable to a manager; draft should not have been submitted for approval