

## EET 365 ELECTRICAL POWER AND MACHINERY LAB Lab Reports

### General Information:

**All lab reports** should be submitted bound in a “bend tab” binder. A copy of the handout instructions should be under each report in your folder, so that the grader (and the student) can refer to it easily. The lab reports shall be in inverse order in your folder, with the latest report on top. The following list of do’s and don’ts apply to both formal and informal lab reports:

**Drawings** - All drawings (schematics) must be neat. Freehand drawings will result in point deductions.

**Grammar** - Spelling, punctuation and other grammatical errors will be marked and deducted. Do not use slang expressions (right on, way off, pretty close, etc.).

**Graphs** - All graphs must be neat (no freehand drawings). Axis scaling should be logical (e.g., a scale of 0.25V/division is ok, but 0.2319V/division is not). The axes should be labeled with the name and units (e.g., Armature Voltage in Volts). Each graph should have a descriptive title. If you draw the graph in landscape (i.e., with the paper turned sideways), you must orient it so that the three hole punch is at the top. Be sure to position the graph so that none of it is hidden by the binding. Parts of the graph under the binding are considered to be missing when graded.

**Typeface** - If the writing in the report is hand printed, use both upper and lower case letters as appropriate. Points will be deducted for reports written in all upper case. Write only on one side of the page. If typed (preferred), use 12 point courier, sans serif, or arial, double spaced, 1" margins on all sides.

**Collaboration** - Each student must do his/her own work. Computer-generated graphics may be shared, but title pages, writing and calculations must be your own work.

**Late Papers** - Five points per day will be deducted for late papers. Reports over 2 weeks late will not be accepted.

**Accuracy** - Be precise. Say “The measurement differed from the calculated value by 3%,” rather than, “Our measured values were very accurate.” Descriptors such as very, mostly, not very, almost, not quite and others add nothing to a lab report because they leave interpretation up to the reader.

## Informal Lab Reports:

Informal Reports should be neat; however, being type written is not a requirement. They must have a cover page as described below. Informal reports will be checked and graded at the time formal reports are submitted. Place the informal report, with a copy of the handout instructions under it, in your laboratory report folder, latest report on top.

Informal lab reports should contain the following material:

**Calculations** - Complete any calculations or analysis asked for in the handout instructions.

**Graphs** - Prepare any graphs requested in the handout instructions in pencil on engineer's graph paper.

**Answers to Questions** - Prepare and identify properly any answers to questions, discussion, or comments asked for in the handout instructions. The answers should be legible, but need not be printed or typed.

## Formal Lab Reports:

Each student will submit a total of four formal laboratory reports. The report numbers that will be in a formal format will be designated in the course syllabus. The lab reports shall be in inverse order in your folder, with the latest report on top. Formal lab reports should contain the following sections:

**Cover page** - "EET 365 Electrical Power and Machinery Laboratory", name, lab title, date, names of lab partners.

**Abstract Page** - A separate page, single spaced type, containing a few sentences defining what is in the paper.

**Introduction** - A few sentences describing the purpose (basis) of the experiment. This can include equations used in the experiment. For example, "Experiment 7 investigates the characteristics of the single-phase capacitor start motor. Parameters to be measured include torque versus speed, armature current, and starting torque. The equipment required for the experiment include a capacitor start motor, dynamometer, DC loads, strobrotachometer, rotor locking device, and various voltmeters, ammeters and wattmeters."

**Procedure** - A description of what was done, how measurements were made, what instruments were used for each measurement. This should contain enough detail that the experiment could be repeated using your written procedure alone.

**Summary and Conclusions** - This is requested in the "Presentation of Results" section of the lab assignment, but it actually should be a separate section of the report. Include general conclusions, problems encountered, assumptions made if necessary. In this section, you should answer the questions in the

**Presentation of Results** section of the lab assignment sheet.

## Most Common Report Errors:

- Some of your text, figure, or graph is hidden under the binding.
- On a plot, you simply connect the data points with straight lines. These should all be smooth curves. If you have a bad data point (that obviously is off the curve), do not bend the curve to force it to fit. A French curve helps in drawing smooth curves.
- Orienting a landscape page so that when the booklet is held with the binding at the top, the page is upside down.
- Failure to number pages.
- Missing "Summary and Conclusions" in a formal report.
- Common grammatical errors: Using the pronouns "I", "we" or "you", run-on sentences, slang, overuse of capitalization, contractions.
- Using non-descriptive adjectives such as "almost", "nearly", "very closely", "not far". Saying, "The result was very close to the calculated value." conveys no quantitative meaning. Instead, say, "The result of 525 milliamperes was 3% below the calculated value."
- Every graph must have a grid (If you are using Excel or Quattro, don't forget to switch on the grid! ..both of them.), a descriptive title ("Lab 8, P3" is a title, but it is not descriptive), and be labeled correctly. Be sure to submit only the required graphs. Graphs submitted that are not requested will be graded also. Each graph must have a unique title. For example, in Lab 8, naming them all "Lab 8 Graph" is not acceptable.
- Writing on the back of a page. It will result in two deductions because a) you have written on the back and b) any material on the back of a page is considered to be missing.