

WEEK 2      STEADY-STATE OPERATING DATA**Objectives**

To continue to observe steady-state performance of the system. To understand any disturbance functions (loads) for the system. Introduction to word processing, equations & graphics for Microsoft Word.

**Lab Assignments**248 Position Control

Continue to get the parameters for your system.  
Section 001--Get operating curve for unpainted spring.  
Section 002--Get operating curve for painted spring.

249 Speed Control

Section 001--Get operating curve for two banks of lights.  
Section 002--Get operating curve for one bank of lights.

303 Temperature Control

Section 001--Get operating curve for CWS of 20 GPH.  
Section 002--Get operating curve for CWS of 30 GPH.

307 Level Control

Continue to make the measurements mentioned in Week 1 assignments.  
Section 001--Get operating curve auxiliary pump left off.  
Section 002--Get operating curve for 4000 cc/min inlet.

308 Pressure Control

Section 001--Get operating curve for two open ducts.  
Section 002--Get operating curve for three open ducts.

309 Flow Control

Section 001--Get operating curve for the manual valve closed.  
Section 002--Get operating curve for the manual valve open.

**Results**

Plot a graph of the output function versus the input function. Probably five (5) to ten (10) data points will be useful for this. Indicate the error in the output function by putting 95% confidence error bars on the points you plot.

Put a copy of the SSOC and the results of your error analysis on the bulletin board near your laboratory system. These graphs also go in the lab report described below.

Disk File Suggestion: For all your data files that you save this week, start their names with "W2" (meaning week #2)

**Word processing assignment**

Prepare a lab report following the format on the next page. Each section in a report is to start on a new page.

Double space the text in paragraphs. Put page numbers at the bottom of the pages (except the cover page).

This assignment is due at the beginning of the next scheduled lab meeting.

If the report is lacking some substantial component, it will not receive a grade.

If you are smart, you will save this report on a disk and modify and build from it through the rest of the semester.

**Week 3 Report**

Report is due at the beginning of Week 3 lab meeting.

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REPORT CONTENTS**Title Page**

Includes "UTC," "Engineering 329," Title, Your Name, Your partners' names, Date

**Introduction**

In the first paragraph, it tells briefly what was done and for what purpose. In the second paragraph, it tells how the report is organized.

**Theory and Background**

Describes the engineering theory of the lab, including equations and schematic diagrams

**Procedure**

Describes what was done in the physical lab

**Results**

Describes what you observed, the data. Includes tables and graphs. Each table and graph must be explained.

It builds on the "Procedure;" the "Procedure" section must describe how all the results in this section were obtained.

It includes results of experiments: estimates of errors of the results, SSOC

**Discussion**

Tells the significance of the experiment and the results. It builds on the "Results;" the "Results" section must include all the results that are discussed in this section.

**Conclusions and Recommendations**

Describes what principles were demonstrated by the experimental results. It builds on the "Discussion;" the "Discussion" section must prepare the reader for all conclusions that are mentioned in this section.

**Appendices**

Includes raw data, references & other things that interrupt the "flow" of the report. Anything that is in an appendix (except "references") must be mentioned someplace in the report.

**Attachments**

Include a sheet for each team member that describes the contribution to the work in the laboratory.

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Disk File Suggestion: For all your report files that you save this week, start their names with "RW3" (meaning report for week #3)