

TCLab Report Grading Sheet

Name _____ Date _____ Score ____/100

	Max	Score	Comments
Organization that includes appropriate headings	10		<p>Abstract (1 paragraph overview) Introduction (Objective, methods, apparatus) Theory (models, parameter regression, controller design) Results and Discussion (model discussion, comparison of 1st principles / empirical models, controller tuning) Conclusion (summarize main results)</p>
Quality of communication – clarity, precision, conciseness, spelling, grammar	10		<p>Avoid switching between 1st and 3rd person. Concise: 2 pages max for report (this is a big challenge). Include appendix with source code for modeling, parameter estimation, and controller. Appendix may also include additional details to support the report but should not include the raw data. Check for spelling or grammatical errors. It is a good idea to read the report out loud once before submitting.</p>
Clear objective in introduction with appropriate detail of experimental methods and apparatus	10		<p>What is the objective of the TCLab and the results? What should the audience to do, think, or feel differently because of this document? What are the OP, PV, SP? No need to include a photo of the device but do describe it your own words with a couple sentences. Discuss the significance (“why”) not just the procedure (“what”) for the methods.</p>
Appropriate figure(s), graph(s), tables(s) to adequately support results and conclusions	20		<p>Include figure (under) and table above) headings. Label trends and include x-labels and y-labels. Figures should not have a title. Annotate figures to highlight specific information that is important to support the conclusions. Trends are distinguishable when printed in black and white or when viewed by those who are color-blind. Tables do not report raw data but are synthesized summaries of results or comparisons.</p>
Results and Discussion with appropriate analysis, accurate results, clear logic, and persuasive arguments	40		<p>Derive 1st principles model and show how it compares with empirical model. Answer questions such as (1) is radiative heat transfer significant? (2) is heater to temperature response a first order or second order response? (3) what disturbances affect the system? (4) what 1st principles parameters are uncertain and can be adjusted to match data? (5) what controller tuning parameters are best? (6) what controller performance criteria are used to judge best performance?</p>
Clear conclusions and recommendations supported by the data	10		<p>Summarize main results with an emphasis on recommended actions as a result of this study. What are the limitations of the results and recommended future work or extensions that should be considered?</p>