

PC221 Analog Electronics I

Lab Evaluation Results

Wilfrid Laurier University

Terry Sturtevant

Winter 2013

This evaluation for the purpose of evaluating my teaching methods and your impressions of the labs. It is anonymous and you can omit any question(s) you don't wish to answer.

Labs in this Course

Choose the answer which best expresses your feelings about the labs.

1. Being required to demonstrate things in the lab was
 - 29%** useful to summarize important sections of each lab
 - 0%** a good way to have part of the lab mark assigned
 - 71%** both of the above
 - 0%** neither of the above

Winter 2013

**PC221 Analog Electronics I
Lab Evaluation Results
Wilfrid Laurier University**

2

2. The post-lab requirements were

0% well-chosen to test what was learned in the lab

14% reasonable to be able to do after doing the lab

86% both of the above

0% neither of the above

3. Keeping a lab notebook was

29% a good idea because it kept all important information in one place

0% easy to learn to use productively

71% both of the above

0% neither of the above

4. Using the lab notebook for lab tests was

29% helpful for the tests

0% good for helping to know what to write in the notebook in the labs

71% both of the above

0% neither of the above

0% The notebook wasn't really needed for the tests.

5. The lab web page was

0% organized and easy to follow

14% better than having a printed lab manual

71% both of the above

14% neither of the above

Winter 2013

6. Doing analysis, measurement, and simulation for different circuits
- 14% made me see how they all fit together
 - 29% helped me have confidence that my results were correct
 - 57% both of the above
 - 0% was usually a waste of time; especially after the first couple of labs
7. Working with similar circuits two weeks in a row (e.g. DC and AC circuits, RC and LC filters, regular and Zener diodes)
- 14% made the second weeks' labs easier
 - 29% made the comparison of the two circuits more clear
 - 57% both of the above
 - 0% was pretty much irrelevant
8. After using *Kirchhoff's laws and phasor analysis* for the circuits in these labs,
- 29% I feel pretty confident doing that from now on.
 - 71% I could do what I had to do in the labs again, but I'm not sure I could do it well for bigger circuits.
 - 0% I don't think I could do it like I did in the lab without following the lab instructions again.
 - 0% I was never really clear on how to do it in the lab.
9. For doing *Kirchhoff's laws and phasor analysis*
- 43% I'd prefer doing it by hand using algebra.
 - 14% I'd prefer using a computer algebra package like Maple or Maxima.
 - 29% I'm pretty comfortable doing it either way.
 - 0% I'm not very comfortable doing it either way.
 - 14% I'd like to use a computer algebra package, but I'd need more instruction about how to use it first.

PC221 Analog Electronics I
Lab Evaluation Results
Wilfrid Laurier University

4

For the following questions, use the following scale to indicate how much you agree with the statement that you feel comfortable with the tasks in question:

- (a) disagree strongly
- (b) disagree
- (c) neither agree nor disagree
- (d) agree
- (e) agree strongly

10. **0% 0% 0% 14% 86%** I feel comfortable using a digital meter to measure the *DC offset* of a waveform.
11. **0% 0% 0% 57% 43%** I feel comfortable using a digital meter to measure the *amplitude* of a waveform.
12. **0% 0% 0% 29% 71%** I feel comfortable using an oscilloscope to measure *DC offset* of a waveform.
13. **0% 0% 0% 29% 71%** I feel comfortable using an oscilloscope to measure the *amplitude* of a waveform.
14. **0% 0% 0% 14% 86%** I feel comfortable using an oscilloscope to measure *period and frequency*.
15. **0% 0% 0% 43% 57%** I feel comfortable *using the oscilloscope math functions*, for instance to measure voltage across a component.
16. **0% 0% 0% 0% 100%** I feel comfortable using a function generator to *produce specific waveforms*.
17. **0% 0% 0% 14% 86%** I feel comfortable *wiring* a circuit from a schematic diagram.
18. **0% 0% 14% 29% 57%** I feel comfortable *converting between amplitude and RMS values* for a given waveform.
19. **0% 0% 0% 71% 29%** I feel comfortable *sketching a waveform* from digital multimeter measurements.

Winter 2013

For the following questions about using *LTspice* or *CircuitLab* in these labs, use the following scale to indicate how much you agree with the statement that you feel comfortable with the tasks in question:

- (a) disagree strongly
 - (b) disagree
 - (c) neither agree nor disagree
 - (d) agree
 - (e) agree strongly
20. 0% 0% 14% 29% 57% I understand when, why, and how to show *DC* voltages and currents in a circuit.
21. 0% 0% 14% 43% 43% I understand when, why, and how to show *time-varying* voltages and currents in a circuit.
22. 0% 14% 14% 43% 29% I understand when, why, and how to show *frequency dependence of* voltages and currents in a circuit.
23. 0% 0% 0% 86% 14% I understand when, why, and how to do *DC Sweep* analysis.
24. 0% 29% 14% 57% 0% I understand when, why, and how to *add models* or *change model parameters*.
25. 0% 0% 14% 29% 57% I am comfortable *measuring waveform properties*.
26. 0% 0% 14% 71% 14% I am comfortable *figuring out* how to use unfamiliar features on my own; i.e. without formal instruction in the lab exercise.

PC221 Analog Electronics I
Lab Evaluation Results
Wilfrid Laurier University

6

27. The lab tests were

29% at a reasonable level of difficulty

29% a good test of important concepts

43% both of the above

0% neither of the above

28. Having each person work with a slightly different circuit from anyone else for the lab tests

100% was a reasonable way to get people to do their own work

0% still made it easy for people to copy from each other

0% wasn't necessary; people would have worked independently anyway

0% wasn't necessary; the lab tests were really easy anyway

0% wasn't necessary; the lab tests were too hard anyway.

For the following questions, use the following scale to indicate how much you agree with the statement:

- (a) disagree strongly
 - (b) disagree
 - (c) neither agree nor disagree
 - (d) agree
 - (e) agree strongly
29. **0% 14% 0% 57% 29%** I liked doing the video project more than regular labs or lab tests.
30. **14% 0% 0% 57% 29%** I think the video project was a good alternative to a lab test.
31. **14% 0% 0% 43% 43%** After doing the video project I understood the material better than before I did the project.
32. **0% 0% 29% 29% 43%** I liked evaluating the other projects.
33. **14% 14% 0% 29% 43%** I liked the feedback I got from the other students who evaluated my project.
34. **14% 0% 0% 43% 43%** I think a similar video project would be a good idea in other courses like PC/CP200.
35. The labs were
- 50%** a good complement to the lectures
 - 17%** a good reinforcement of the lectures
 - 17%** both of the above
 - 17%** pretty disconnected from the lectures and not much use
 - 0%** Both the labs and the lectures seemed pretty useless.

PC221 Analog Electronics I
Lab Evaluation Results
Wilfrid Laurier University

8

36. Comparing these labs to the labs in PC/CP200, I thought
- 0% these labs were more useful
 - 0% these labs were less useful
 - 86% the two labs fit together well
 - 0% both the labs seemed pretty useless.
 - 14% I don't remember the PC/CP200 labs to be able to compare. (or, I didn't take PC/CP200.)
37. Did the similarity in format and expectations to the PC/CP200 labs help you in these labs?
- 71% Yes, quite a bit.
 - 14% Yes, but only a little.
 - 0% No, but neither one seemed very hard.
 - 0% No, this was like a completely different endeavor.
 - 14% I don't remember the PC/CP200 labs to be able to compare. (or, I didn't take PC/CP200.)
38. Given the difference between this course and PC/CP120 in *content*, i.e. analog vs. digital electronics,
- 43% the difference in the labs were reasonable (or, I didn't take PC/CP120.)
 - 14% the PC/CP120 labs were better because of the project
 - 14% this lab with both the tests and video project was better than PC/CP120 with the project
 - 29% the approach seemed similar in both labs anyway
 - 0% both labs were a disappointment

Winter 2013

39. In general,

14% I like labs more than other people in my courses.

0% I like labs less than other people in my courses.

57% I like labs about as much as other people in my courses.

29% I have no idea what other people in my courses think about labs.

40. In order to improve teaching beyond my own courses, I'd like to be able to share the results of these evaluations with other instructors, students, etc. May I have your permission to do that?

100% Yes, I'd be glad if any improvement could come from this.

0% Yes, this is anonymous enough that I don't mind how the results are used.

0% No, this isn't anonymous enough for me to be comfortable with the results being shared.

0% No, even though this is anonymous I don't want the results to be shared.