

Advanced Laboratory
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Physics 381 and 382

Comments about the Creative Project and the Error Paper

Creative Project

For the Creative Project you are to devise an experiment that you can do in advanced lab - using the equipment available there or with equipment you can beg, borrow or steal from other people in the department.

Creative means you dream up the project yourself. There are no guide lines except we want you to display originality and the research skills you learned in the lab. You should get quantitative results - that means numbers that can be statistically analyzed. Most creative projects are too ambitious and if we think you won't be able to finish or if it won't work, we will tell you. We will also tell you if the project is too trivial.

A creative project can also be the extension of an experiment that already exists in the advanced lab or a new experiment that we can add to the list.

You need to submit a proposal to your instructors who will approve, disapprove or give you advice about the project. We want the project to be interesting to you and one that can be done in the allotted time.

Error Paper

The error paper should report the results of an experiment or a study you do that demonstrates some extra skills with statistics. You can devise an experiment to show how Gaussian, Lorentzian, Bernoulli, Poisson etc, statistics works. You can do a theoretical calculation showing how certain models can be proven or explained with statistics. You can write a computer program that performs a particular statistical calculation involving a data set. The paper should be about 3 - 5 pages long and well written.