

# Proposal Guideline for the Independent Project

Lucas Illing, Spring 2008

All of you will at minimum complete three experimental projects. Two projects are to be chosen from the guided experiments. These will introduce you to the existing component type instrumentation that can be used, potentially, for the independent projects. The independent projects are open in nature but, naturally, there are constraints in terms of time and resources.

On the course webpage I have listed a few independent projects/theses that have been done in the past. You may either choose a topic from the list or you may propose your own topic. In either case, you have to take part in the proposal process so that we can best match aspirations and resources.

## Proposal Process:

1. A draft proposal (white paper) from everyone is due by the end of the first week.
2. We will attempt to form groups and a tentative schedule during the second week.
3. A detailed proposal from each group is due by the end of the third week.

**Draft Proposal** One page or less. It has to contain

1. Title and name
2. A succinct statement of the problem: What is the physics question that you are going to study?
3. Feasibility statement: What equipment is needed? Is it available?
4. References

**Detailed Proposal** has to contain

1. Title and names of group members
2. Problem statement: Be succinct.
  - What is the question that you are going to study?
  - Why is it important?
  - Provide the context. How does it relate to previous work?
3. Procedure section: Be realistic.
  - Describe the experimental approach. What is the experimental design? What steps are needed to achieve the goal? Outline the proposed approach to data analysis.
  - List the equipment that is needed and, if possible, when it will be needed.
  - Provide a timeline, *i.e.* when will you have completed the different steps in the procedure?
4. References

As a first resource you may consult past Reed theses and also the American Journal of Physics. (Although Wikipedia is great, it can't be your only reference.)