

Physics 432/532

Project Guidelines

- The primary goals are
 - to choose a project which you find fun and interesting
 - to understand what you are doing; for example, if you were to simply copy a complicated design from some reference, chances are that you wouldn't really understand how it works
- Prepare a short proposal consisting of a circuit diagram and a statement of what the function of the circuit is. **Turn in your proposal by Feb. 22.** Keep a copy of this plus all project work in your lab notebook.
- Please consult with me.
- Arrange an appointment with me to evaluate the finished project in the lab. At that time you will need to demonstrate the working circuit (if indeed it does work!), what are its problems, limitations, or expansion possibilities. **This needs to be done on or before March 10.**
- **A final writeup will be turned by March 17** which includes the proposal, the relevant lab notes, and a description of results, etc. You decide the exact format, and whether to write on separate pages or in your log book. In any case, it should be clear and legible: A 432/532 student 5 years from now should be able to look at it and understand what you did.
- Grades will be based on the idea, how well it works, and the writeup.
- For a complex project, we can agree ahead of time on a satisfactory state of completion, even if the ultimate goal is not realized.
- By default, the lab will be open during the usual lab hours. If you need to be there at other times, please make an arrangement with your TA or with me.
- In most cases, it will be best to start building your project using the small unpowered prototype boards in the lab. Identify it as yours and put it out of the way between times you work on it.
- If you do want to build a permanent circuit for personal use, you will be responsible for purchasing components (besides cheap resistors, etc). Buy your own circuit board, or look through what we can offer. We can arrange to have a soldering iron available in the lab.
- Your circuit can be based on an existing design, but should not be a duplicate.
- Possibly useful references include: "Radio Electronics" and "Popular Electronics". The radio Amateur's Handbook might be useful. You should reference any ideas you pull from an outside source in your proposal. Reference material will be placed in the lab for your reading enjoyment. Even better: Come up with your own idea and come to talk to me about how it might be implemented.