Syllabus for the Research Group dealing with Renewable Energy

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Grades: you will be provided a grade based upon your work in this course. First and foremost, if you are not a good participator and do not join in the learning effort, you will be rewarded with a low grade for that particular class period of 0. Otherwise you will receive a satisfactory participation grade for that class. Total weekly points for this will be 40.

If you happen to use your cell phone out of your pocket (or it rings) you will receive a reward of 0 points for that class and your cell phone will be returned to you after upward bound is completed.

What we will be learning: the physics of energy which is needed to understand renewable energy which we will apply specifically to a solar water heater.

I need to emphasize the word physics here and in order to understand energy, we will need to start somewhere so we will start at the very beginning of physics and work up to some thermodynamics. However, you will need to learn some scientific techniques and also, as a neat benefit, you will have the opportunity and necessity to work with the UNIX operating system in the lab (my lab, at least).

Our overall class project will be the construction of and some measurements on a simple solar water heater. Among the things I want to accomplish is to dispel some commonly held notions about renewable energy, again based upon solid physics which you must learn.

At times, you will need to write a short paragraph summarizing what we have done and email this to me. The submissions will only be in pdf format, and I'll teach you how to make that possible. These will count as part of your grade each week. Total weekly points for this will be between 10 and 20.

During the last week of class, you will make a group presentation of the project. This means that as far as construction of the solar collector goes, we need to have finished that by the end of week 3. It won't be so hard to do this though.

So we have 3 weeks to do the real important things: teach fundamental physics, do some simple labs and get you into understanding heat transfer.