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Engineering 90: Fall Memo: Project Topic Selection

The culmination of my time at Swarthmore will begin as I plan out my Engineering 90 project this fall, and prepare to work on it in the coming spring. To be blunt, I have spent many hours looking through IEEE publications, Wired, and various other current sources to find inspiration – yet I have not come across a project that has, so to speak, excited me beyond all means.

However, my taking Engineering 91: Dynamics has deeply impacted my decision on how angle I would like to approach the Engineering 90 project. Previously, I limited myself to Electrical Engineering and occasional Computer Engineering – and struggled in both. My reintroduction to Dynamics this fall has proved equally difficult, yet I find myself increasingly aware of a fundamental interest in the problems.

Thus, I would like to work in the electrical mechanical field. One possible route I am interested in looking in for possible projects is biomedical engineering. However, I am also open to more general electrical mechanical projects such as an optimization control circuit board for a motor to be used in a Hybrid – Electric Vehicle, or for another device. These are again just ideas in my mind, and the extent to which I could possibly involve myself in with reference to their individual scope and size – remains beyond my current subset of knowledge. Another idea I have considered is a winch for a sailboat that would direct the sails based on optimized angles to catch the wind creating an electronic sailboat. The requirements would be some sort of controlling device to bring in the rope, a spool of some sort, and then an optimization done by some circuitry based on wind direction relative to the boat with feedback coming from a monitor of the boats velocity and acceleration.

In terms of my plans for next semester, I will be completing my Sociology and Anthropology Thesis and taking one or two additional credits in the form of a thesis, directed reading or regular class. I will of course be taking Engineering 90. In addition, I may take German 5 to maintain my speaking and possibly sit in on / take control theory depending on my project, the time I will need to put into it, and the application of control theory to my final engineering project.

At the end of this semester I will have taken: E6, E11, E12, E15, E28, E41, E72, E73, E77, E78, and E91. E90 will be my 12th Engineering class.