

FALL SEMESTER FINAL

PART 1: TAKE-HOME ESSAY

Every class has its own shape or form to the way it is taught. The curriculum is strictly based upon the subject, and nothing else. In science, you may do a little math, but that's included in experiments, maybe to put together a formula for the right substance, but you would never learn how to build an automobile engine. Along with that curriculum, the procedures are simple. You learn about what you're going to learn, then you learn them, and put them to use. This year, in my engineering class, the highest of the Endeavour engineering classes, Design Engineering, we learned only one thing, the art of electronics. With that one subject, you can build complex features, which is exactly what we are doing this year.

The very first day of school, after we were given the syllabus for the year, which included rules of the class, as well as procedures for certain things, our teacher, Mr. Steve Kliewer, had us take notes on how to write a good formatted paper, as well as English-related solutions for writing the perfect paper. As we carefully copied the white board, I wondered why we were taking notes that were about English grammar, punctuation and overall good English writing. Little did I know that we would have to write many professionally produced papers for projects. The next week, we were given our task, as well as a process to go through, and some due dates to follow.

We were told that the class from the year we followed had entered a contest to invent something. Out of a large number of schools from around the nation, we had been narrowed down to the semi-finals. Our job as the following class was to brainstorm an idea that we could invent, using problems from around our community. Through the process of a couple days, we narrowed our search to one, a water quality sensor device. The fine details we would have to tack on as we continued into the year. So, from the beginning of the year to about a month through, we got our mission briefing, started our search, found our target, and are in the process of shooting it down.

In the middle of September, we started our plans, which would be directly reflected in our Grant Proposal, describing everything about our invention, so that we might get the \$10,000⁰⁰ allotted for the top 10 contestants. Everybody was given a specific job in the class, regarding the application. To name a few, there was the secretary, who wrote meeting minutes, as well as voting decisions and regular discussions, the treasurer, who keeps track of the money once we get the grant, and the webmaster, who published our works on the web for Paso to see, as well as the other contestants. No job had two people working on it, so there were quite a few, but you get the basic idea. After the grueling task of sending the grant application, we learned that we had another task to do before October 16, when we

FALL SEMESTER FINAL

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received the word that we got the top 10 award, that we could invent something, patent it, and showcase it at the end of the year. The new task you ask? A complex, but easy completion of an electronic motherboard, using the PC as the controller. Yes, the task was almost as confusing as that last sentence. Read on. I insist.

The presumably easiest electronic piece of equipment I have ever used, the micro-controller looked like a daunting task, but just a mere bobble in my daily life,. The chapters got harder as we progressed, but still doable. The program that we looked at, completed questions, exercises, and projects out of was actually a book transferred to the computer for our ease. During the waiting period, we worked on it every day, learning so much about electronics, I didn't think I would retain it, as we did have five other classes. Obviously, I found out that it was of some help, and would prove to be a success, as we completed it in no time, thanks to a partner. Once we got that finished, nowhere near before the application notice arrived, but still fast enough to retain it, we were given our next mission. Involving the micro-controller still, another book to learn how to convert all that analog into digital. But before we could complete that, we needed to start on the actual invention.

With the \$6000⁰⁰ that we supported with evidence of what we needed, we divided into groups, in order to get a bigger picture of the components, and understand the individualism of it all. We have been in our groups for only a couple weeks, but have accomplished so much. Along with my group, sensors, we have researched sensors manufacturers, quoted prices for the most efficient sensors, by means of energy consummation, amount of energy consummation, temperature operation, as well as many other statistics regarding the operation and control of the sensors. As we met in our group, we organized jobs to be done, and distributed them among ourselves.

Onto analog/digital, we were all surprised that there were only four chapters of the whole book, and four chapters of which we had pretty much completed in the last book. It was all previously learned procedures. Completing them would have took about three days consecutively, but the current work we were doing on the invention robbed from the time we would have been able to complete the book with.

Multi-tasking was a big part of our class during the books, grant application, and the invention itself, trying to find products to add to our module, finding prices, uploading the budget request, progress reports and expense reports, but it all worked out to be a big lesson, for we were much stronger in the end of the first semester, than we had ever been in any part of our schooling career.. The invention process shaped us into sharp, young individuals, able to multi-task in a rough environment: the high school. Although each project has had its own complex list of tasks, hard and

FALL SEMESTER FINAL

PART 1: TAKE-HOME ESSAY

easy, there are too many features to list, so I will sum up the year in a sentence. In the beginning, we were told of an invention to be patented, so we learned how to deal with electronics, as well as a professional way to write it down, and then divided into groups to research the individual components, to showcase the whole project at the end of the year.

Now the actual question that was asked of me: In what ways has this semester been useful to you? Well, I'll start with the grant proposal application. It taught us really how to write a professional proposal, not a cheap, cheesy way like the English classes teach you. Then, the analog/digital and the what's a micro-controller programs, which taught how to manipulate an electronic device other than the usual remote or buttons, but how they actually transmit the signals. Then, the whole invention. It wasn't a great help actually. Just kidding, it was the most help of the whole semester. It put all of our learning to use. All of it will be useful for our college application, stating that we invented something of somewhat challenging parts, such as electronics and computer-aided programs. And, for me, I just may be an engineer in the military, which is the way to go to keep this knowledge contained. As for the next semester, I hope it will be just as challenging and such a learning experience as the last. Neville, signing off...