



A High Privilege **Profile of Robert C. Holcombe**

“Engineering is a great profession. There is the satisfaction of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings homes to men or women. Then it elevates the standard of living and adds to the comforts of life. This is the engineer's high privilege.”

--Herbert Hoover (1874 - 1964)

Who I Am

There's no greater honor to me than to be among those responsible for the greatest advances in the modern world; to be among engineers. I'm Robert Holcombe, aspiring Mechanical Engineer. For my interests, to be discussed, mechanical engineering was the clear choice. Purdue being not only among the finest engineering schools in the country, but in my home state no less, the choice was again clear. Here, I decided I could find the widest range of opportunities, the broadest perspective of the global engineering challenges facing humanity today, and the deepest pool of knowledge and experience from which to learn, all in one spectacular environment. I've yet to be disappointed in my decision.

Of the reasons for the choices I've made, opportunity tends to be the strongest behind each. I'm an active member of Purdue's ASME chapter, one of the finest in the region. I was given the opportunity to attend an ASME sponsored Student Leadership Seminar; a formal get together for the sake of collaborating with regional chapters, swapping ideas, and aiding up-and-coming chapters in the quest to build their own programs. I learned a lot about networking, formal interaction with colleagues, leading design teams, building professional friendships, and being a strong contributor toward common ends. Within ASME, I'm also involved in the monthly Red Cross Blood Drives and other community service projects, as well as the Human Powered Vehicle Challenge.

What I've Done

Education has always been important to me; I see it as the means to almost any end I seek, in that I'll be knowledgeable enough to find a way there. As I progressed through high school I began to gain higher and higher respect for the power of knowledge, and I began to seek my own paths to higher knowledge through the opportunities I found at school. I took honors English my first three years, advancing to AP English my senior year. Strong English skills make me a stronger, more fully rounded engineer, and person besides that. To that same end, I was a member of the Air Force JROTC for two years. As Flight Commander, and Drill Sergeant of the honor guard, I learned to lead, to be lead, and to effectively talk up and down the chain of command, which I feel will translate well to a business setting. Later in high school I enlisted in a four hour per week internship at a local Mechanical Engineering firm, while trying my hand at statistics, ACP Calculus, and ACP Finite Math for the fun of it, striving to challenge myself. In addition to these, I took part in introductory Engineering courses in our school's Project Lead the Way Program, designed to prepare students for college engineering. Here I learned such skills as project planning, meeting design constraints, working in a CAD environment (Autodesk Inventor), and technical writing and presentation.

My acceptance to Purdue I consider paramount in my achievements, because it was the ultimate gratification to all the work I put into high school. Here I've gotten so many opportunities to learn such a broad variety of things. Freshman Year I took Honors English, to hone my writing skills at a college level. I learned programming in two computer languages, I got experience working with a team on engineering projects, broadened my CAD experience to another major industry platform, Catia, learned physics at a level that pulled together all the chemistry and basic physics I'd already learned, and began seeing the world in Calculus terms. I'm currently in a basic Mechanics course, and my friends and I joke about how everything we see, we can't look at without seeing moments and forces. From here, I plan to specialize my ME degree somewhat toward the automation industry, because I see that as the future of production among other things. I'll be enrolled in design, material property, mechanics, electronics, and other similar courses in the near future, as well as the occasional art course to keep the other side of the brain strong.

Outside academia, I've got a strong mechanical background as a result of my evolving interests. I've grown up on motorcycles, learning to race, fix, adjust, interpret, readjust, and be patient with them all the while. I fly gliders, so strict discipline and adherence to rules of both safety and physics are engrained in my being. I also enjoy hand built projects, mostly wood, but machine shops are fun too, and I've spent a lot of my life around that, because dad's an Engineer and a "do-it-yourselfer." A lot of what I've learned about building and planning projects I've gained through hands-on, at-home experience.

Where I'm Headed

Ultimately, my plan is to have a career that is the summation of my experiences, my credentials, and my interests. My ideal career involves sitting at a desk no more than three days per week; otherwise I'm in the field, on a production floor, in a laboratory, or working in a shop on the next big thing. This is how I see myself. Realistically, of course, deskwork may be my primary task, but ideally there's hands-on work involved. I'd rather not be another cog in the machine, but rather a hand helping turn it. That is to say, I'd rather be involved in all steps of a project, not confined to strictly design work, or testing, or research, or optimization, but involved in all those and more.

On the grander scale of things, I'd like to be involved in automation because it is the next great step in the business world, and it's already begun. Computers have incredible capacity to aid in optimizing so much in our world, from healthcare to production to military applications. Optimization means greater efficiency, which is the underlying goal of the planet; to get the same output with less expenditure or input, in terms of natural resources, waste, man power, money, energy, etc. Higher general world efficiency is a necessary part of our future, and automation is a part of the means to that end. The ethical concern that is a cleaner, more efficient planet is among the greatest that face the coming generations of engineers, and is one that can be overcome. To take part in this is to take part in a great and noble cause, and to see it through is an engineer's high privilege.