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4MAT – EGR 303

# Section 1: Service-Learning Executive Summary

Chapter 1 introduces service-based learning in one’s community. The author appeals to the readers emotions by describing why it helps not only the community organizations involved but the student volunteers as well. Our communities sometimes lack the expertise of technical jargon or higher-level knowledge and will try and contact educational institutions to fill this void. Service learning is defined as learning that enhances material covered in a classroom environment through service to underserved communities. There are examples of when the U.S. government has taken initiative to try and address the issues of underserved communities. For example, the Morrill Act of 1862 created a land grant for universities that was dedicated to service to the state and its citizens as the main part of its mission. While the Community Act of 1960 advocated for service learning and defined the legal definition of “service-learning”. Service based learning requires educational expertise and connections with the community which results in a deeper understanding of the course content, an appreciation of ones discipline, and an enhanced sense of civic duty. In other words, the core components are service, academic content, partnership, and mutual learning. One other important part of service-based learning is when the student practices the metacognitive activity of reflection. By reflecting on our experience with the community we can better understand and appreciate engineering. Understanding the balance between service and learning is important when beginning to volunteer. While instructors sole role is to teach in a classroom environment, it is to be more of a coach in a service-learning environment. The addition of social context that is almost always foreign to students requires some level of coaching from a more experienced person, in this case it is most likely our professors. In chapter 2 the author introduced the profession of engineering in a societal context. A description of many different engineering professions was given with their role in our society today. The author is trying to point out that engineering is ubiquitous within our culture and society. Project based ideas are shown to the reader illustrating the different applications of the fields talked about within the chapter. A lengthy section on ethics is talked about which describes the way in which engineers are expected to act as defined by the National Society of Professional Engineers (NSPE). In conclusion, being a socially responsible engineer is important in the context of service-based learning because the purpose is to help not hurt the communities we are working with.

# Section 2: Personal Reflection

As a transfer student at Cal Baptist the material read reiterates what most of my professors try and convey through lecture or lab, that experiences foster opportunities. In Dr. Donaldson’s class students are told stories from Donaldson’s life as an engineer, Christian, and college student. Almost always these stories are getting the student to think about life outside of the classroom. I think it’s a shame that in most of my high school experience that civic responsibility was rarely stressed. One of the only times I was exposed to helping the community would be my experience in AFJROTC in high school. Cadets would serve their community by going to foster care centers and helping older people. Other ways I served my community was within my church where I would feed homeless people and give them company. Community organizations need students now more than ever because of what COVID has done to our society. This year has proven to be one big adjustment where social interactions are eliminated due to closing of establishments and social distancing. However, this is not a reason to ignore social opportunities as humans social interactions are at the core of our being. I think chapter 2’s section on ethics is important for any student to learn. Many of us are not formally shown how to act and behave as an engineer and the NSPE’s guiding principles serve as invaluable information. Green engineering is important when talking about long term engineering consequences such as global warming. Minimization of resources (effort) and maximation of product (result) is itself a mathematical problem because it requires better explanations and solutions.

# Section 3: Questions

1. How many universities genuinely promote service learning? Is Cal Baptist in the minority on this topic or are other universities trying the same approach?
2. Besides the experience how does a student justify service-based learning? In other words, sometimes the time spent on a service project can outweigh the time spent learning in class material.
3. Does monetary compensation for a service project go against the purpose of service learning?

# Section 4: Personal Application

Upon reading the material I will get in to contact with the ACM club on campus about opportunities in the Riverside area. Tutoring or helping students learn can be an option but COVID restrictions might limit opportunities this year. Look to service-based projects that could be done remotely that would still provide the same amount of experience as in person opportunities. I will also start to become vocal in clubs on campus as this is a step forward to communicate with the culture and people on campus. Cal Baptist has a thriving atmosphere and there are many people that could provide much wisdom for me.