**ENMA 301**

**Journal 5**

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The ninth week of the course involved a presentation on *Systems Engineering*, its definition, constitution, and areas it is applied in. Being a Computer Engineer myself, I like to know the specifics that differentiate my field from the rest of engineers. I had a few questions in mind so this presentation was a good opportunity for me to learn what takes place in the field of Systems Engineering. The presenters went over the purpose of *Systems Engineering*, its elements, implementation, and the methodology revolving around it. To an extent, a selection of my questions were answered with the information given.

Multiple definitions of *Systems Engineering* were given but the simplest out of the bunch was explained as the “application of theory and positive knowledge to design, build, and maintain purposive artifacts”. *Systems Engineering* crosses multiple disciplines including these of electrical and mechanical however, I did not hear anything about Computer Engineering (I am not too sure if this is because my field is relatively new). The purpose behind the field was said to help reduce the risk of failure while ultimately increasing the profitability of a system. By making use of *Systems Engineering*, we can provide better documentation on projects, we are able to create more adaptable and resilient systems, and if done correctly, we can reuse the processes implemented from project to project. The methodology of the field involves the problem-solving process using comprehensive, iterative, and recursive factors. These are then applied sequentially through all stages of development. It was stated that many engineering efforts fail because of a simple cause; failure to correctly identify a problem. Sometimes, problems are given solutions but because they were not identified correctly in the first place, the solution given ends up breeding more problems. This is where the implementation of the methodology comes in. The acronym “SIMILAR” is used to help solves such problems. “S” stands for stating the problem, “I” for investing alternatives, “M” for modeling the system, the second “I” for integration, “L” for launching the system, “A” for assessing performance, and finally “R” for re-evaluation. Each letter was given a very brief explanation.

To give an honest opinion on the presentation, I would have to state how it was very short and lacked thorough information. Towards the middle, the presentation became very stale with the repeated usage of slides. Comparing the presentation to the PowerPoint given by the professor highlighted key topics that could have been introduced or elaborated furthermore by the presenters. Even though there were some aspects that could have been worked on, I still believe the presentation had its good points. It was quite simple, which in most cases is the best approach when explaining something to an audience. It also had interesting and some funny pictures from the start that helped draw my attention. Compared to most of the other presentations given, this one did not stand out too vividly.