# Reflective Essay - Professional Skills Development

Through this course, I have learned various valuable lessons that I believe will have a positive impact on both my personal and professional life. Participating in a course dedicated to holistic development of professional skills has offered me an opportunity for growth and has broadened my perspective towards various important aspects. In this reflective essay, I describe my experience participating in the Graduate Professional Skills course while highlighting the different key learning outcomes that are often missed by other traditional graduate courses.

Firstly, through this course I have learned how to set achievable goals in both my personal and professional life. This started by defining a mission statement with the aim to summarize succinctly the impact I would like to have through my career. After much deliberation I came up with the following: “Science-oriented Engineer and Engineering-oriented Scientist. I aspire to pursue interdisciplinary research in the field of space-instrumentation to develop novel instruments to improve our understanding of various space weather phenomena.” Deliberating over this statement, and putting dedicated time and effort into thinking about my life-goals helped me form a clear objective I would like to pursue. While thinking about the mission statement, I realized that I love hands-on engineering, and would like to use it to create a positive impact in the scientific community. This helped me form a long term vision for my career using which I could create more short-term milestones/goals.

As a part of one of the course assignments I also completed a character study on Richard Feynman a Nobel-prize winning physicist whom I look up to. To complete the character study, I read two auto-biographical books by Feynman, "Surely You're Joking, Mr. Feynman!" and "What Do You Care What Other People Think?". Reading this book I realized that Fynman had a very inquisitive nature and loved experimenting with various thoughts and ideas. Further, he also was a fun-loving person who had various hobbies including playing Bongo drums. This made me realize that a healthy work life balance is indeed very crucial to a sustainable successful career. Reading about his contributions to numerous engineering projects, including his analysis and involvement in the NASA Challenger mission, inspired me further to pursue interdisciplinary research in Engineering and Space Physics.

Keeping the long-term mission-statement in mind, I created short-term goals that I aimed to achieve during this course (and during my M.Sc. degree). Learning about

SMART goals, and incorporating them into my plan helped me to convert esoteric/elusive goals to more realizable and practical targets. I divided my goals into academic and personal and created an implementable plan to achieve them. Going through this process made me realize a very close analogy this process has to the scientific space mission design process. For example, a scientific satellite mission begins with a mission statement, which may be a broad/fundamental scientific question that the mission aims to answer. Then, so as to meet this goal, a Science Traceability Matrix is created, which breaks down the border scientific goal into traceable measurement parameters. Based on this, the instrument measurement requirements are generated that then dictates the design. Through this course I realized that such methods can be applied to one's professional and personal life as well. By creating a systematic plan for my goals I was able to set feasible deadlines and meet my goals more efficiently. The academic goals I set during the course were to improve my ability towards reading and writing journal articles, conference papers and abstracts. In addition I also set a goal to become more confident in my research presentations, lab meetings, as well as interactions with friends and colleagues. Based on the learning from this course, I tried to achieve this by proactively presenting my work at different conferences. During this course,I have presented work at conferences (DASP at the Canadian SpaceAgency) and also attended a summer school (GRIDS at TRIUMF, UBC). Coupling real life experiences with lessons learnt during the course have allowed me to become a more confident speaker and presenter.

In addition to academic goals, this course also helped me to define and achieve personal goals. The personal goals I created were to step out of my comfort zone by trying new hobbies, exploring new places and making sports/exercise a regular part of my life. To achieve this goal, I have visited four different Canadian provinces so far in my Masters (with the aim to visit the rest before my graduation). Traveling to different places including Nanaimo, Whistler, Banff, Toronto, Montreal to name a few has broadened my horizon and given me immense exposure. I also tried performing at an Open Mic music event in Edmonton, which was an exhilarating experience. I also learned a new racquet sport (squash) and have been playing regularly. Overall, through this course I have realized the importance of work-life balance. I appreciate the importance of having a good routine and hobbies. Through these I feel that my productivity in the workplace has also improved. During the course I also took the Clifton strengths assessment, which resulted in my strengths as Achiever, Learner, Self-Assurance, Relator and Activator. Taking the test and introspecting on the results helped me realize my strengths and boosted my confidence. A key takeaway from this

course has also been to introspect regularly and this has helped me to characterize my strengths as well as realize my weaknesses, so as to proactively improve.

To summarize, the professional skills development course has overall been a very enriching experience for me. I feel that it is a very good complement to the other International Space Mission CREATE courses, and together has given me a platform for holistic development and learning in both my professional and personal life.