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Teaching Statement

My interest in teaching and education has started during my undergraduate studies, and my pedagogical experience has evolved over time as I gained more experience from each teaching duty I had. My first teaching experience was as a Teaching Assistant at Memorial University of Newfoundland (MUN) during which I was fortunate to observe the teaching practice of well-qualified professors. I was responsible for leading tutorials, marking assignments, and help the students in their projects. As I enjoy teaching and its associated activities, I used to provide an extensive feedback on the student work within a tight timeline. After two years of being a TA, I was awarded the outstanding TA award in May 2013 based on the positive recommendations of both professors and students.

In May 2013 and while still being a Ph.D. student in my last year at MUN, I was offered a one-year Adjunct Professor position to teach senior undergraduate modules related to my Ph.D. research (i.e., digital communications, computer networks, and wireless communications). In the beginning of this role, I tend to focus on explaining main concepts and ideas of the subject and on solving various problems to the students clearly and in a simplified manner. Later, after the first semester, I realized it is more important to develop the students critical thinking capabilities and problem-solving techniques and to reduce the mathematical anxiety, especially to the undergraduate students, rather than focusing on solving numerical problems. To achieve this target, I involved the students in the learning process by asking them questions and encourage them to ask questions, by giving more practical and technical examples from the real world, and more importantly by unifying the seemingly disparate concepts. In particular, I recognized that many electrical engineering concepts that are repeated in several modules may initially appear to be disparate ideas. For instance, in Wireless Communications courses, the wireless receivers employ filters to receive the signals of interest and block other unwanted signals. While in Digital Communications courses, the same filters are used to maximize the signal-to-noise ratio at the receiver. Moreover, in Digital Signal Processing courses, several efficient ways exist to implement such filters. Hence, I like to show the cohesive nature of these filters by presenting their applications in various courses. This unification approach reduces the students' mathematical anxiety and allows them to focus their effort on the developing of the problem-solving techniques, instead of spending time to understand the same concepts and mathematical analysis over gain, merely because it was presented in a different way or using a different notation. After adopting this teaching practice, the official students' feedback was positive and encouraging and many students acknowledged this way of teaching to be very efficient and meet their expectations.

After joining Ulster University as an Assistant Professor, I realized that teaching in higher education is a complex and multifaceted task that includes face-to-face teaching, curriculum design, use of digital technology, designing engaging students' assessments, and postgraduate supervision. At my role at Ulster University, my view on teaching and learning practice has evolved and now I view students as partners that have to be actively engaged in the teaching and learning activities to better understand the global context of their studies and be prepared to the job market. Thus, a clear understanding of the students' needs is crucial to deliver the teaching and learning outcomes. At Ulster University, I taught three courses with diverse students' requirements. For instance, in Communications I and II, I conducted a brief survey at the beginning of the semester and I realized that most of the students are working part-time in various telecommunication industries. They came with different expectations that the module somehow should cover topics related to their industry. This is a challenging task as the field of communication is ever-growing and we have a short end-of-term exam to test the students' knowledge, and hence, the learning outcomes may not properly be achieved. In addition to a final exam, this course has a mid-semester class test that in my view tests the students' in a way similar to the final exam. I requested to change the coursework for this course to include a research project that covers various telecommunication topics needed by the students. The topics that I suggested for the research project match the recently announced themes of Innovate UK and include 5G communication systems, drone-based communications, applications of artificial intelligence in future networks, and wireless body area networks. The students' feedback were very positive and encouraging. Another challenging task I faced at Ulster University is teaching large-size classes and design appropriate assessment. I taught Electrical Engineering Fundamentals for first year students with a class size of approximately 175 students. After analyzing the poor performance of students in previous years, we realized that the assessment coursework during the semester was not engaging and does not continuously measure the students understanding. That said, I adopted a clicker-based system to test students' knowledge, at the end of each lecture and seminar, by presenting a simple electrical circuit for the student to analyze and then pick the correct answer. This technique was proven to be effective in engaging the students in the learning process, as well as, encourage them to study for each lecture and seminar. The students' feedback at the end of the module was very positive and the success rate have improved significantly compared to previous years. However, there were some ripples and a percent of the students were not fully satisfied. This is something that I am keen to improve in future.

Also, at Ulster University, I actively participate in the revalidation process of the computing systems program. I proposed and designed a module COM444: Communications and Networks for undergraduate students that covers a range of new wireless technologies. This was an enriching experience for me and I gained a lot about designing modules, choosing suitable assessment type for the students' cohort, engaging the stakeholders, and balance the coursework over the semester and with respect to other modules.

At University of Saskatchewan, I already prepared to teach courses on the following subjects: digital signal processing, digital communications, communication theory, wireless communications, stochastic process, signals and systems, and computer networks. I am also open to prepare to teach other subjects are required by the department.

My commitment for being an excellent teacher in higher education is sincere. I am an Associate Fellow of the Higher Education Academy and currently enrolled in the course of post-graduate

certificate in higher education practice (PgCHEP) that I expect to finish by the end of this year and hold the full fellowship. My understanding of, and practice in, effective learning, teaching, and assessment and feedback have been well developed. I am looking forward to continuing my commitment to excellent teaching at University of Saskatchewan.