Over the last year I have completed 15 units of coursework, I have attended several seminars and I have also been researching in the fields of algebraic topology and differential geometry.

As per the requirements of the programme, I have completed 15 units of coursework including Differential Geometry and Algebraic Topology in the first semester of 2014 and Lie Groups and Lie Algebras, Functional Analysis and Finite Geometry III in the second semester of 2014. Completing all of the required coursework in my first year will not only help take pressure off deadlines this year, but has also served to give me a much richer understanding of the field of pure mathematics and has greatly improved the effectiveness of my research.

In addition to the coursework, I also attended the seminars relevant to my field such as the differential geometry seminars, the complex geometric analysis seminars given by Nicholas Buchdahl and the postgraduate seminars as regularly as possible. These seminars were an invaluable source of information and I intend to continue attending all available seminars offered in the year coming to further improve my knowledge in the field of pure mathematics, specifically algebraic topology and differential geometry.

As well as the above progress, I have also spent much of this last year completing research in the fields of algebraic topology and differential geometry; specifically relating to topics in equivariant cohomology. The outlined purpose of the project I have undertaken was to extend the work of Dupont in his paper 'Curvature and Characteristic Classes' to prove a classical result by Cartan using a different method. Following my research proposal, which was submitted in August of 2014, I have met all of the goals of my project as stated in the research timeline. In the year that has passed I have studied classical bundle theory, completed an in depth study of Dupont's monograph 'Curvature and Characteristic Classes' and I am now in the process of studying equivariant de Rham theory via several sources including 'Supersymmetry and Equivariant de Rham theory' by Guillemin and Sternberg, 'On the Chern-Weil homomorphism and the continuous cohomology of lie groups' by Bott, 'Equivariant cohomology and the Cartan model' by Meinrenken and others.

Over the past year I have written up several reports on the papers I have studied. Once I have finished my study of equivariant de Rham theory I will have completed enough research to complete all of the background chapters of my thesis. As such, there should be no major changes in deadlines with regards to thesis writing.

Concluding the study of equivariant de Rham theory, the purpose of my project, to extend Dupont's work, will be the final phase of research. Given the current work I have undertaken the work I have already completed, I believe that I am on track to finish this project in the time left.