Syllabus for MATH 6150F (Spring 2017)
Coxeter Systems and Iwahori-Hecke Algebras

Instructor:	Eric Marberg, emarberg@ust.hk Office: Rm 3492 in Math Department, Lift 25-26
Lectures:	Mondays and Wednesday, 3:00PM - 4:20PM
Location:	Rm 5506, Lift 25-26
Website:	http://www.math.ust.hk/~emarberg/Math6150F/
Office hours:	See website.
Prerequisites:	MATH 5111 (Advanced Algebra I) Some exposure to representation theory and combinatorics would be helpful, but is not strictly necessary.
References:	Reflection Groups and Coxeter Groups by Humphreys Combinatorics of Coxeter Groups by Bjorner and Brenti Characters of Finite Coxeter Groups by Geck and Pfeiffer
Outline:	The first part of the course will cover the classification of finite reflection groups, the abstract theory of Coxeter systems, and the construction of Iwahori-Hecke algebras, mostly following Humphreys's book. The goal is to supplement this introductory theory with topics close to active research, as time allows: for example, complex reflection groups, Kazhdan-Lusztig theory, combinatorics of reduced words, Schubert calculus.
Grading:	Homework assignments every 1-2 weeks