MTH 527
Representation Theory of the Symmetric Group
Spring 2016

Instructor: Ben Salisbury, Assistant Professor
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Office: Pearce 206H
Office Hours: Tuesdays 12:30–1:45pm, Wednesdays 11am–12:15pm, and by appointment

Meeting Times. TuTh 9:30–10:45am in Pearce 225.

Course Text. Bruce E. Sagan, *The Symmetric Group: Representations, Combinatorial Algorithms, and Symmetric Functions*, second edition, Graduate Texts in Mathematics, vol. 203, Springer, New York, 2000.

Bulletin Description. Representation theory of finite groups, Specht modules, combinatorics of Young tableaux, and symmetric functions.

Homework. Homework will be assigned occasionally throughout the semester. Late homework will *not* be accepted. Completion of the homework using LATEX is *strongly encouraged*!!!! A LATEX template for the homework will be posted on BlackBoard when each set is assigned.

Exams. There will only be one exam: the final exam. Absolutely no make-up exams will be given without prior permission of the instructor. Validity of excuses is determined by the instructor. If an emergency happened on an exam day, a notice within 24 hours is required in order to make up the missed exam. No technology, besides a writing utensil, is allowed during the exam.

Homework	Bi-weekly assignments	50%
Presentation	See below	30%
Final Exam	May 3, 2016, 10:00–11:50am	20%

Presentation. Each student will be required to write a short paper (no more than 10 pages) and give a short presentation (no more than 30 minutes) on a topic related to the subject studied in class. Some possibilities include modular representation theory, Coxeter groups, Hecke algebras, application to algebraic geometry, group representations in physics, group representations in chemistry, and more!