MA 5A: INTRODUCTION TO ABSTRACT ALGEBRA

FALL 2014 MWF 9-9:55, 151 SLOAN

• **Instructor:** Pei-Yu Tsai
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  – Office Hours: Wednesdays 2-3 pm by appointment (tentative), additional hours will be announced on the course website.

• **Teaching Assistant:** Maria Nastasescu
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  – Office: 158 Sloan
  – Office Hours: TBA

• **Course Information**
  – Course Website: http://www.math.caltech.edu/~2014-15/1term/ma005a/
  – Textbook: Dummit and Foote, *Abstract Algebra*
  – Prerequisite: basic set theory, high school algebra

• **Grading**
  – 50% Homework, 25% Midterm, and 25% Final.
  – Tentative dates for take-home Midterm and Final: Nov. 1st, Dec. 10th

• **Homework Policy**
  – The homework will be announced weekly on the course website. Due on the next Tuesday at noon.
  – You are encouraged to collaborate for the homework but they need to be turned in written in your own words and own reasoning.
  – In solving homework problems you will wish to quote theorems and lemmas from class and the text. Results from the text in sections not yet covered cannot be quoted unless you supply your own proof. The same holds for results from other texts not covered in class.
  – Homework should be handed in into the Ma5a mailbox next to the Math department office on the second floor of Sloan.
  – At most one late homework set will be accepted, and except in unusual circumstances, only if arrangements have been made with me in advance. Other than in exceptional circumstances, homework will not be accepted more than a week after the deadline.
• **Tentative syllabus**
  – Week 1- integers and congruences
  – Week 2- groups and examples
  – Week 3- subgroups
  – Week 4- Isomorphism Theorems
  – Week 5- Isomorphism Theorems and the symmetric groups
  – Week 6- (midterm) group actions
  – Week 7- Sylow Theorem
  – Week 8- direct products and semi-direct products
  – Week 9- abelian groups (thanksgiving holiday)
  – Week 10- recap
  – Week 11- reading period and final exam