MA 437: Applications of Algebra  
Spring 2018

Location:  
SAS Hall 2225  
TH 10:15–11:30

Instructor:  
Ricky Liu  
riiliu@ncsu.edu  
SAS Hall 3264

Office hours:  
TW 1–2 (tentative) or by appointment

Prerequisites:  
MA 403 or MA 407, MA 405

Required textbook:  

Course webpage:  
http://www4.ncsu.edu/~riiliu/437  
The course webpage contains useful information about the course, including the syllabus, assignments, and schedule (tentative).

About the course:  
This course will present several applications of linear and abstract algebra to real-world problems. Topics (with approximate schedule) include: error correcting codes (4 wks); cryptography (4 wks); quantum computing (4 wks); Markov chains and ranking (3 wks); additional topics as time permits.

Grading:  
Grades will be based on homework (50%), quizzes (20%), and a final project (30%).

Homework:  
Homework will be assigned roughly weekly, due at the beginning of class. Homework will not be accepted through email without prior approval. Late assignments will not be accepted. Collaboration is encouraged, but you are expected to write up your solutions independently. Use of outside resources is not allowed.

Quizzes:  
There will be short quizzes (≤ 20 min) every 2–3 weeks to test basic understanding of the
material. Quiz dates will be announced during the previous class as well as on the course website.

**Final project:**
The final project will be a short expository paper (≈ 5 pages) on a topic selected by the student subject to instructor approval. It will be due on Tuesday, May 8 by 11am. A list of some possible topics will be distributed later in the semester.

**Attendance:**
Students are expected to attend every course meeting. No accommodations for missed assignments or exams will be made except as described by NC State regulations at http://policies.ncsu.edu/regulation/reg-02-20-03.

**Academic integrity:**
Students are expected to follow the ethical standards described by the Code of Student Conduct policy and Pack Pledge at http://policies.ncsu.edu/policy/pol-11-35-01 with respect to completion of homework assignments and exams.

**Statement for students with disabilities:**
Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Services Office at Suite 2221, Student Health Center, Campus Box 7509, 919-515-7653. For more information on NC State’s policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at http://policies.ncsu.edu/regulation/reg-02-20-01.

**N.C. State Policies, Regulations, and Rules (PRR):**
Students are responsible for reviewing the NC State University PRR’s located at http://oucc.ncsu.edu/course-rights-and-responsibilities which pertains to their course rights and responsibilities.