SYLLABUS FOR MATH 7262 ALGEBRAIC THEORY II, SPRING TERM 2015

Instructor: Assistant Professor Dr. David J. Grynkiewicz
University email: djgrynkw
Office: Dunn Hall 376
Office Hours: WF 11:20 – 12:20 and by appointment
Website: www.diambri.org/GrynkMathematics.html

Class Meeting Times: MWF 10:20 – 11:15
Room: Dunn Hall 203
Final: Monday May 4, 08:00 – 10:00

Textbook: *Algebra* by Serge Lange, Revised 3rd Edition. (Graduate Textbooks in Mathematics series, though there are other alternative printings of the same text available).

Course Summary: This is the 2nd part of a demanding course designed to introduce PhD students to the beginnings of higher level abstract algebra. The level of increased abstraction reflects this. Students with weaker algebra backgrounds or who find themselves struggling with this increased level of difficulty are encouraged to form study teams, consult the supplemental textbook *Abstract Algebra* by Dummit and Foote (which covers less material but with greater exposition), and make regular use of office hours. The course should help prepare students for the PhD qualifying exam in Algebra at the university of Memphis. We will deal mainly with core topics involving R-modules, Fields and Galois Theory, including most of Chapters III and V as well as the beginning of Chapters VI and XVI. A small amount of additional material will be supplemented from other sources.

Grading Scheme: Grades will be based upon Homework Average (50%), a mid-term (20%) and a Final Exam (30%). Homework will be assigned every one to two weeks. Students may collaborate and help each other on the homework, but each student must write up the solution independently in their own words.