

SYLLABUS FOR MATH 7261 ALGEBRAIC THEORY I, FALL TERM 2015

Instructor: Assistant Professor Dr. David J. Gryniewicz

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Office: Dunn Hall 376

Office Hours: F 12:30 – 13:30 and by appointment

Website: www.diambri.org/GrynMathematics.html

Class Meeting Times: MWF 11:30 – 12:25

Room: Dunn Hall 231

Final: Monday December 7, 10:30 – 12:30

Textbook: *Algebra* by Serge Lang, Revised 3rd Edition (Graduate Textbooks in Mathematics series, though there are other alternative printings of the same text available) AND/OR *Abstract Algebra* by Dummit and Foote. We will follow the text of Lang with supplemental material from Dummit and Foote. The latter is written in more student-friendly style but covers less material.

Course Summary: This is the 1st 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. 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 Groups and Rings.

Students with weaker algebra backgrounds or who find themselves struggling with the 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**, which can be rescheduled as need be. Any student receiving less than 80% on the Homeworks and/or exams is expected to make use of these options.

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. The lowest Homework score will be dropped.