

**MAT 599**  
**Spring 2016**

Instructor: Professor Dan Zacharia

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Lecture: MW 3:45–5:05, 100 Carnegie

Office hours: MW 10:00–11:30.

Also by appointment, and any time my door is open.

**Text:** *Galois Theory* 4th ed, by Ian Stewart.

**Prerequisite:** MAT 531 and 534 and permission of instructor.

**Course Description:** This course is on a topic in mathematics, for students who are more advanced and also more interested in mathematics. Obtaining a grade of A or A- in the course serves as partial fulfillment for Distinction in Mathematics. This semester we will investigate fields and Galois theory.

(1) Many class days will be seminar-style, with each student speaking in turn and the others participating actively with questions. To prepare, you will need to read portions of the textbook, working out fuller explanations of each paragraph, as advanced math can be quite concise. In class, you will lecture in turns. We will go as slowly as necessary in order to fully understand each part. You should ask about every little thing that is not clearly said. The speaker should make sure he/she does not lose the audience at any point. It takes experience to realize how slowly one needs to go! It is also okay for the speaker not to have understood every single part of the reading. Anything not understood should be worked out during the lectures by the audience and speaker jointly. Most important: We should all shed both our egos and our insecurities for this joint work. We should ask anything we like, even many times; we should interrupt and correct things as needed, so that we get the fullest and best result out of the lectures. Everyone will get many things wrong; we can only progress by feeling comfortable enough to fail in front of each other.

(2) On other days we will pause lecturing to develop the material further by working on problems in groups (both concrete examples and proofs). You will finish these and hand them in the following week.

**Schedule:** Although we may occasionally deviate from this, the schedule will be:

- (1) Lecturing on Mondays.
- (2) Working on problems on Wednesday.

So your homework schedule will be: Prepare lecture notes for Mondays. Finish and write up previous week's problems by Wednesday.

There may be some homework assigned, maybe to complete examples, but the main work will be reading the text and preparing your own notes to lecture from.

**Grading:** The final grades will be computed from the following (approximately equally):

- (1) The lectures (this includes your lecture preparations, your lecturing, and your participation in the audience during lectures), and
- (2) Your work on problems (this includes participation in group work and your homework).

There will be no final exam as this is a seminar class.

**Academic Integrity:** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>

**Students with Disabilities:** If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS),

<http://disabilityservices.syr.edu>

located in Room 309 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact your instructor privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time.

**Faith Tradition Observance:** SU's religious observances policy can be found at

[http://supolicies.syr.edu/emp\\_ben/religious.observance.htm](http://supolicies.syr.edu/emp_ben/religious.observance.htm)

Under the policy, students are provided an opportunity to make up any examination, study, or work requirement that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. There is an online notification process available on MySlice.