

TOPICS IN GALOIS AND COGALOIS THEORY
SNSB Spring 2011

INSTRUCTOR: Prof. Dr. *Toma Albu*
Office: Room 616
Phone: 021-319-6506/Ext 128
E-mail: Toma.Albu@imar.ro

LECTURES: Thursday 16:00 – 18:00 in Room 306

PROBLEM SESSIONS: Thursday 18:00 – 20:00 in Room 306

OFFICE HOURS: Thursday 15:30 – 16:00, & by appointment

TEXTBOOK: T. ALBU, “*Cogalois Theory*”, A Series of Monographs and Textbooks, Marcel Dekker, Inc., New York, 2003, 368 pages.

COURSE DESCRIPTION: The purpose of this course is to present some selected chapters of *Galois Theory* followed by an introduction to its dual counterpart, called *Cogalois Theory*. Cogalois Theory is a new research area in Field Theory born about 25 years ago, with interesting connections and applications to Algebraic Number Theory, elementary Field Arithmetic, graded algebras, and Hopf algebras. We will cover, with some omissions, the Chapters 1-8 of the textbook.

HOMEWORK AND EXAM: Homework will be assigned every week but will be not collected, and you will be expected to explain your solutions on the board in problem sessions (PSs) to get credit. Questions you may have concerning the homework will be answered in PSs or my office. There will be a final exam on Saturday, June 11, 2011, 11am, in Room 306.

GRADING POLICY: Your grade will be determined as follows:

- attendance in lectures and PSs 5%;
- activity in PSs 15%;
- presentation of assigned results 20%;
- final exam 60%.

FINAL EXAM QUESTIONS: Most of the problems in the final exam will be patterned after those worked out in the text, those done in class, and of course, the assigned problems. In addition, there will be questions of a conceptual nature drawn from the class notes and text material.