

## Math 541

### Algebra

FALL 2010

**Instructor:** Shamgar Gurevich, 317 VV.

**Time and Location:** TR 11:00-12:15, Room B105 VV.

**Office Hours:**

Tuesday 12:15 - 1:15

Thursday 10:00 - 11:00

**Texts:** The main sources for the course are the lectures and the book "Abstract Algebra" by Dummit and Foote. I will use also other sources: "Algebra" by M. Artin, "Lectures on Linear Algebras" by Gelfand, "Symmetry" by Weyl, "Group Theory and Physics" by Sternberg.

**Syllabus:** Motivations, Groups, Symmetry, Representation Theory, Rings, Modules, Fields, Applications to problems of disciplines outside of mathematics.

**Grading:** There will be weekly assignments which will be due in two weeks, a midterm exam, a final exam, a notes submission and a project. They will count toward the grade as follows:

Assignments	30%
Notes	10%
Project	10%
Midterm	20%
Final	30%

**Attitude:** In our course we will study basic algebraic structures and some of the problems that motivated their appearance.

The attitude will be to help you to develop your way on how to think about some mathematical objects that appears in the formulations and solutions of various problems. We will learn that good problems and their mathematical formulations are the key ingredient in finding solutions, and we will develop abilities to express ourselves mathematically, including, writing computational results and proofs.

**Good Luck!**