

Supersymmetry Physics 731

Course Information

Departement of Physics
McGill University
<http://www.physics.mcgill.ca/~frey/phys731>

Winter 2007
MW 1:30-3PM
Rutherford 326

Instructors

Instructor	Office	Email
Keshav Dasgupta	321	keshav
Marc Grisaru	312	grisaru
Guy Moore	313	guymoore

Andrew Frey 327B frey
Anke Knauf 327B knauf
Omid Saremi 327C omid

Offices are in Rutherford, and emails are @physics.mcgill.ca. Office hours are by appointment. There is no teaching assistant.

Grading

The grade for the course will be 60% homework and 40% participation, which includes reading assignments. For each reading assignment, you should turn in a list of your questions to the lecturer the day before the class meeting. These questions will form part of your participation grade.

Since there is no grader for the class, you will grade another student's assignment each week, based on a rotating schedule. Solution sets will be posted below, with the assignments. You should turn in graded assignments to Guy Moore.

Assignments

As noted above, each class meeting will have a reading assignment, which should be completed *ahead of time*. You should turn in a list of your questions to that meeting's instructor one day before the meeting. Reading assignments will be listed on the course webpage.

Also, there will be approximately weekly homework assignments, which will be posted on the webpage. These will generally be due one week after they are assigned.

Topics

We will cover the following topics as an introduction:

- Poincaré Symmetry & Representations
- SUSY as Generalization of Poincaré
- Supermultiplets
- Superspace & Superfields
- Building supersymmetric Lagrangians.

We will also cover as more advanced topics most or all of the following:

- Extended SUSY, Seiberg-Witten theory
- Superspace methods
- Nonrenormalization and other exact results
- Supergravity
- SUSY in dimensions other than 4
- Phenomenology: MSSM
- SUSY breaking

Academic Integrity

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism, and other academic offences under the Code of Student Conduct and Disciplinary Procedures: see www.mcgill.ca/integrity for more information. Somebody made us add this footnote.