

Physics 415 - Introduction to Nuclear and Particle Physics

Dr. Ian Balitsky, Spring 2014

1. Information:

- Office: OCNPS 323
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- Office hours: Tue and Thu 1:00-3:00 p.m.

2. Textbook:

- A. Das and T. Ferbel, *Introduction to Nuclear and Particle Physics*, 2nd ed., (World Scientific, 2003-2006)

3. Grade (out of 100%):

- Homework: 40% (collaboration is permitted only at the stage of discussion)
- Midterm : 20%
- Final (comprehensive): 40%

4. Course Outline: Chapters 1-11 and 13 of the textbook

- Rutherford scattering
- Nuclear phenomenology
- Nuclear models
- Nuclear radiation
- Applications of Nuclear Physics
- Energy Deposition in Media
- Particle Detection
- Accelerators
- Properties and interactions of elementary particles
- Symmetries
- Discrete transformations
- Standard Model