

PHY 690I: Cosmology

Course Handout

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Instructors

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Course timings:

Lectures: T 12h - 13h, M Th 10h - 11h.

Prerequisites:

PHY 432A: Quantum Mechanics II

PHY 412A: Statistical Mechanics

Course Contents: Broad topics that will be covered in this course are as follows.

- ◇ The Expanding Universe
 - ▷ The Dynamics of Spacetime
 - ▷ Cosmological Solutions
 - ▷ Inflation
- ◇ The Hot Universe
 - ▷ The Cosmic Microwave Background
 - ▷ Recombination
 - ▷ The Hot Big Bang
- ◇ Structure Formation
 - ▷ Density Perturbations
 - ▷ Power Spectrum

References: Below-listed books will be useful for the contents of the course.

- ▷ Introduction to Cosmology, B. Ryden, 2nd ed., Cambridge University Press.
- ▷ Modern Cosmology, S. Dodelson & F. Schmidt, 2nd ed., Academic Press.
- ▷ Cosmology, D. Baumann, Cambridge University Press.