

**402-0389      Spring 2019      Prof. R. Brandenberger**

## **PHYSICS OF THE VERY EARLY UNIVERSE**

### **Goals**

The aim of the course is to prepare beginning graduate students for research in theoretical cosmology, and to give students in related areas interested in cosmology the background to follow the field.

### **Topics Covered**

The following are suggested topics to focus on. Student input is welcome.

- \* Overview of Standard Big Bang Cosmology
- \* Inflationary Cosmology
- \* Theory of Cosmological Perturbations
- \* Cosmic Microwave Background Anisotropies
- \* Gravitational Waves
- \* Reheating in Inflationary Cosmology
- \* Topological Defects in Cosmology
- \* Alternatives to Inflation
- \* Elements of Superstring Cosmology

### **Format**

**Meeting Time: Wednesday: 8:45 - 10:30, Room HIT F11.1**