

## 3C74 - TOPICS IN MODERN COSMOLOGY

### Prerequisites

There are no prerequisites for this course other than standard physics and mathematics taught at second year level of the Physics degree. In particular, students are not required to have any knowledge of astronomy or cosmology.

### Aims

1. To introduce the subject of modern cosmology using an approach that is grounded in physics rather than mathematics.
2. To present the basic theoretical framework of cosmology.
3. To compare the latest observations of the Universe with theoretical predictions.

### Objectives

On successful completion of this course, students should be able to:

- describe the constituents of the Universe.
- understand its evolution from the Big Bang to the present day.
- discuss the formation and importance of the Cosmic Microwave Background.
- discuss the problems of observational measurement, for example the Hubble constant and the density parameter.
- appreciate the controversies encountered in cosmology today; for example, the values of the density parameter and the cosmological constant.
- appreciate how these controversies may be resolved in the future with new observational techniques.