

**Module:** **Elective Advanced Lectures:**  
**Modern Astrophysics**

Module No.: astro850

**Course:**  **Advanced Topics in Cosmology**

Course No.: astro8507

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	2+1	4	ST

**Requirements for Participation:**

**Preparation:**

General Relativity and Cosmology at the level of the Theoretical Astrophysics & Cosmology courses of the first semester.

**Form of Testing and Examination:**

Oral examination, successful exercise work.

**Length of Course:**

1 semester

**Aims of the Course:**

This course will build on Theoretical Astrophysics and Cosmology and introduce students to advanced concepts in cosmology with a focus on the understanding of galaxy redshift surveys. The aim of the course will be to cover the basics needed to understand the current literature and start research work in the field.

**Contents of the Course:**

The course consists of two parts: (1) A theoretical discussion of the evolution of matter perturbations from Inflation to the present day, (2) An introduction to observational techniques in galaxy surveys.

**Recommended Literature:**

Notes presented in the lectures will come from a diverse set of sources and will form the main material for the course.

Additional literature:

Modern Cosmology - Scott Dodelson (Fabian Schmidt)

Cosmological Physics - John Peacock

Cosmology - Steven Weinberg