

Modules:

astro830 **Elective Advanced Lectures**
 astro840 **Observational Astronomy**

Course:**Observational Cosmology**

Course No.: astro845

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

Requirements:**Preparation:****Form of Testing and Examination:**

Requirements for the examination (written or oral): successful work with the exercises

Length of Course:

1 semester

Aims of the Course:

Students with B.Sc. in Physics will be introduced to past and current experiments in cosmology, with some bias toward radio- and submillimeter astronomy

Contents of the Course:

Brief history of cosmology and its initial discoveries: cosmic expansion, cosmic microwave background. Overview of modern cosmological experiments, their major aims and technology. Aims: constraints on Big Bang and dark energy, CMB power spectrum and polarization, Sunyaev-Zeldovich effect, Supernova Ia distance measures, structure /cluster /galaxy formation, epoch of reionization, high-redshift galaxies and quasars. Experiments: APEX, LOFAR, Planck, Herschel, ALMA, SKA. Techniques: bolometer, HEMT

Recommended Literature:

B. F. Burke; F. Graham-Smith, An Introduction to Radio Astronomy (Cambridge University Press 2002)
 J. A. Peacock; Cosmological Physics (Cambridge University Press 1998)
 Contemporary Review Articles