



<http://fy.chalmers.se/~marek/courses04/2005-universe-of-galaxies>

Universe of Galaxies 2005

Grundkurs AS0030/FFM450 (5 points)

LECTURER: Marek Abramowicz
=Professor of Astrophysics

FIRST LECTURE IN 2005:

=Tuesday, January 25th= 10:00, room FL73

=No lecture on Tue 01 Mar

=TRIP TO ONSALA
=RADIO OBSERVATORY

A bus will take students from Chalmers to Onsala. Radio-telescopes will be shown, and a lecture on Onsala's activities given. Coffee and buns will be provided. The bus will arrive back to Chalmers at about 5pm.

Date will be announced later.

ALL LECTURES IN FL73:

Tuesdays 10:00-11:45

Thursdays 13:15-15:00

BOOK: B.W. Carroll & D.A. Ostlie
An Introduction to Modern Astrophysics.
Addison-Wesley (1996)

→Lecture notes on line
→Web resources linked

THE COURSE will be given in English. Knowledge of physics and mathematics only at the level of a Swedish gymnasium is assumed.

EXAM: written exam. 20 exam questions will be announced two weeks before the exam. Four out of these 20 will be asked at the exam.

=Jan 25 Tue: Basic concepts in physics and astrophysics relevant to this course. Measuring distances in our Galaxy.

=Jan 27 Thu; Remainder of basic facts about stellar structure and evolution. General view of our Galaxy.

=Feb 01 Tue: Understanding distribution of matter and rotation in our Galaxy. Matter distribution in our Galaxy.

=Feb 03 Thu: Morphological and physical properties of normal galaxies. How "normal" are such galaxies?

=Feb 08 Tue: Fundamental concepts relevant to astrophysics of black holes. Circular motion around black holes. Efficiency of accretion. Eddington luminosity.

=Feb 10 Thu: Basic observational facts about Quasars and other active galactic nuclei. Jets, superluminal motion.

=Feb 15 Tue: Accretion disks around black holes.

=Feb 17 Thu: Observational cosmology: redshift - magnitude, redshift - angular size. Microwave background radiation.

=Feb 22 Tue: Cosmological models. Critical density.

=Feb 24 Thu; Dark matter. Dark energy.

=Mar 03 Thu: The Big Bang and the history of the Universe.

=Mar 08 Tue: Problems with the Big Bang. Inflation.

=Mar 10 Thu: Formation of structures in the Universe.

