

SYLLABUS for course ASTB03, Winter 2018

Title: Great Moments in Astronomy
Lecturer: Prof. Pawel Artymowicz
location and time: Mon 7-9pm in MW110

Calendar of lectures (L1-L24) and exams

Organization of the course.

A tour of our Universe.

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The ancient anonymous discoverers of sky cycles and planets,

from Cassiodorus to Copernicus

Greek atomists predict plurality of worlds: Leukippus, Democritus

Platonists: from Pythagoras, via Plato and Aristotle to Ptolemy

The telescope race: James Lick
The 1920s Great Debate: the different universes of Curtis and Shapley
Hubble and the world of galaxies.
19th century women find the way to measure the universe

Einstein and astronomers
Meter sticks to measure the universe
The realm of galaxies

The realm of galaxies
Friedmann, Lemaitre, Hubble and the expanding universe
White dwarfs and black holes arrive on a steamship from India

Pulsars: Discovery and physics
Black holes: history of the concept
Black holes: low-mass black holes as endpoints of stellar evolution
Supermassive black holes
The dark dominance: dark matter

The dark dominance: dark energy in modern cosmology
Extrasolar planets. Wolszczan, Mayor, Marcy, and others.
Current understanding of solar and extrasolar systems.
SETI (search for extraterrestrial intelligence)
Space missions.

?? Apr FINAL EXAM:

2.5 hr duration, TBA
