Institut für Meteorologie
Summer Semester 2017

UNIVERSITÄT LEIPZIG

Course announcement and syllabus

Climate Dynamics

(Master-Pflicht-Modul P4)

Instructors:	Johannes Mülmenstädt (Lecture) Tom Goren (Exercises)
Location:	Seminarraum, vor dem Hospitaltore (Lecture) CIP-Pool (Exercises)
Zeit:	Wednesdays, 15:30—17:00 (Lecture) Wednesdays, 12:30—14:00 (Exercises)
Start date:	Wednesday, 12 April 2017 (Lecture) Wednesday, 26 April 2017 (Exercises)
Topics:	Radiation and greenhouse effect; dynamics and general circulation of oceans and atmosphere; internal variability; forcing and feedbacks; anthropogenic climate change
Exam:	Oral (30 min.) in July, by appointment
Textbooks:	Peixoto and Oort (1991): Physics of Climate Hartmann (1994): Global Physical Climatology Stewart (2005): Introduction to Physical Oceanography (open-source textbook)

Syllabus

12 April	Introduction
19 April	Radiation
26 April	Atmosphere
3 May	General circulation of the atmosphere
10 May	General circulation of the oceans I
17 May	General circulation of the oceans II
24 May	Lithosphere, biosphere, cryosphere

31 May	Internal variability; ENSO
7 June	Forcing and feedbacks in the climate system
14 June	Robust projections of climate change
21 June	Uncertainties in climate projections due to clouds and aerosol
28 June	Attribution of climate change to anthropogenic activities
5 July	Social aspects of climate change; Review