

Course announcement and syllabus

Climate Dynamics
(Master-Pflicht-Modul P4)

- Instructors: [Johannes Mülmenstädt](#) (Lecture)
[Tom Goren](#), [Johannes Quaas](#) (Exercises)
- Location: Seminarraum, vor dem Hospitaltore (Lecture)
CIP-Pool (Exercises)
- Time: Wednesdays, 15:30–17:00 (Lecture)
Wednesdays, 12:30–14:00 (Exercises)
- Start date: Wednesday, 6 April 2016 (Lecture)
Wednesday, 20 April 2016 (Exercises)
- Topics: Dynamics of oceans and atmosphere; budgets of energy and momentum; energy cycles; general circulation of the oceans and atmosphere; modes of internal variability; forcing and feedbacks; anthropogenic climate change
- Exam: Oral (30 min.) in July/August, 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

- 5 April Introduction
- 12 April Atmosphere
- 19 April Ocean I
- 26 April Ocean II
- 2 May Land, biosphere, cryosphere
- 9 May Radiation

- 16 May General circulation
- 23 May Internal variability; ENSO; tropical dynamics
- 30 May Feedbacks
- 7 June Robust projections of climate change
- 14 June Attribution of climate change to anthropogenic forcing
- 21 June Uncertainties in climate projections due to clouds and aerosol
- 28 June Social aspects of climate change
- 5 July Review