

Summer Semester 2017
Introduction to Computational Physics (UKWR2)

Lecturers: Ralf Klessen, Rainer Spurzem

Location Wed 9:15-10:45 INF 227 KIP Hörsaal 2,

Fri 11:15-12:00 INF 308 Physik HS-Gebäude, Hörsaal 2

The Lecture will be offered in **English Language**. There will be one tutorial in German, others in English.

Lecture Time Plan

(subject to change depending on progress of lecture)

Wed 9.15	Fri 11.15	Tutorial Sheet	Spurzem	Klessen	Chapter-Number: Topic
19.4	21.4.	1		x	Introduction, 1-3: Practical Exercises/Mathematica
26.4	28.4.	2		x	4: Ord. Diff. Eqs. I: Two-Body Problem, Elementary Euler
3.5.	5.5.	3		x	6: Ord. Diff. Eqs. II: Runge-Kutta (2,4,higher) and more
10.5.	12.5.	4		x	5. Linear Algebra I / Matrices / Eigenvalues
17.5.	19.5.	5		x	5. Linear Algebra II / Householder / QR-QM, ...
24.5.	(26.5.)	6		x	5. Linear Algebra III quantum mechanics, Schrödinger-Eq.
31.5.	2.6.	7	x	x	6: Ord. Diff. Eqs. III: Population Dynamics / Stability I
7.6	9.6.	8	x		6. Ord. Diff. Eqs. IV: Lorenz-Attractor, Nonl. Dynamics
14.6.	(16.6.)	9	x		6. Ord. Diff. Eqs. V: Lorenz-Attractor, Nonl. Dynamics
21.6.	23.6.	10	x		8: Random Numbers
28.6.	30.6.	11	x		9: Monte Carlo method
5.7.	7.7.	12	x		9: Monte Carlo methods, Ising Model
12.7.	14.7.	-	x		9: Ising Model II
19.7.	21.7.	-	?	?	Preparation Week (lecture?) Outlook
26.7.	28.7.	-			Exam Week (no lecture)