

Summer Semester 2016
Introduction to Computational Physics (UKWR2)

Lecturers: Rainer Spurzem, Ralf Klessen

Location Wed 9:15-10:45 Phil12 GHs,

Fri 11:15-12:00 INF 308, KIP, Hörsaal 2

The Lecture will be offered in **English Language**. There will be one tutorial in German and one 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
20.4	23.4.	-		x	Introduction, 1-3: Practical Exercises/Mathematica
27.4	29.4.	1		x	4: Ord. Diff. Eqs. I: Two-Body Problem, Elementary Euler
4.5.	(6.5.)	2		x	6: Ord. Diff. Eqs. II: Runge-Kutta (2,4,higher) and more
11.5.	13.5.	3		x	6: Ord. Diff. Eqs. III: Population Dynamics / Stability I
18.5	20.5.	4		x	6. Ord. Diff. Eqs. IV: Lorenz-Attractor, Nonl. Dynamics
25.5	(27.5.)	5		x	6. Ord. Diff. Eqs. V: Lorenz-Attractor, Nonl. Dynamics
1.6	3.6.	6	x		6. Ord. Diff. Eqs. VI: Advanced Methods, Numerov, SPH, GPU??
8.6	10.6.	7	x		Advanced Methods? Heat Transport? GPU?
15.6	17.6.	8	x		5. Linear Algebra I / Matrices / Eigenvalues
23.6	25.6.	9	x		5. Linear Algebra II / Householder / QR-QM, ...
29.6	1.7.	10	x		5. Linear Algebra III quantum mechanics, Schrödinger-Eq.
6.7.	8.7.	11	x		8,9: Random Numbers, Monte Carlo method
13.7.	15.7.	12	x		9: Monte Carlo methods, Ising Model
20.7.	22.7.	-			Preparation Week (lecture?) Outlook
27.7.	29.7.	-			Exam Week (no lecture)