

**Summer Semester 2018**  
**Introduction to Computational Physics (UKWR2)**

**Lecturers: Ralf Klessen, Rainer Spurzem**

**Location Wed 9:15-10:45, Fri 11:15-12:00, INF 227 KIP Hörsaal 2**

The Lecture will be offered in **English Language**.

**Lecture Time Plan**

(subject to change depending on progress of lecture)

Wed 9.15	Fri 11.15	Tutorial Sheet	Spurzem	Klessen	Chapter-Number: Topic
18.4	20.4.	1		x	Introduction, 1-3: Practical Exercises/Mathematica
25.4	26.4.	2		x	4: Ord. Diff. Eqs. I: Two-Body Problem, Elementary Euler
2.5.	4.5.	3		x	6: Ord. Diff. Eqs. II: Runge-Kutta (2,4,higher) and more
9.5.	(11.5.)	4		x	5. Linear Algebra I / Matrices / Eigenvalues
16.5.	18.5.	5		x	5. Linear Algebra II / Householder / QR-QM, ...
23.5.	25.5.	6		x	5. Linear Algebra III quantum mechanics, Schrödinger-Eq.
30.5.	(1.6.)	7	x	x	6: Ord. Diff. Eqs. III: Population Dynamics / Stability I
6.6	8.6.	8	x		6. Ord. Diff. Eqs. IV: Lorenz-Attractor, Nonl. Dynamics
13.6.	15.6.	9	x		6. Ord. Diff. Eqs. V: Lorenz-Attractor, Nonl. Dynamics
20.6.	22.6.	10	x		8: Random Numbers
27.6.	29.6.	11	x		9: Monte Carlo method
4.7.	6.7.	12	x		9: Monte Carlo methods, Ising Model
11.7.	13.7.	-	x		9: Ising Model II
18.7.	20.7.	-	?	?	Preparation Week (lecture?) Outlook
25.7.	27.7.	-			Exam Week (no lecture)