

Particle Physics

Syllabus

Dozent: Prof. Guy D. Moore
S2/11 (Schlossgartenstraße 2) 303
guydmoore@gmail.com

Assistant: Jillur Rahman: S2/11 302
Marc Barroso: S2/11 306

Lecture: Tuesday/Friday 13:30 – 15:10
ZOOOOOMMMMM

Course Webpage:

https://theorie.ikp.physik.tu-darmstadt.de/qcd/2021_teilchenphysik.html

Book: Griffiths, **Introduction to Elementary Particles**

Homework will be assigned Fridays and due the next Friday. The assistants will have a Zoom help session on Wednesdays, which will be arranged separately once the semester begins; the first such meeting and the first homework due date are in the second semester week.

Topics:

- Overview of particle physics (1 lecture)
- Relativistic kinematics and Special Relativity
- Symmetries
- Feynman calculus
- Quantum Electrodynamics
- Quarks and Quantum Chromodynamics
- Weak interactions
- Gauge theories

Homeworks and the Exam

Each student will be graded on all but their one worst homework assignment. If the total for these assignments is above 60% of possible points, then they will get a 0.3 or 0.4 point bonus in their final grade (a 2,0 becomes a 1,7 and a 1,7 becomes a 1,3).

The Exam: The exam will be closed-book and no electronic devices will be allowed. However, each student will be allowed two sheets of A4 paper, hand-written front and back. These will be collected with the exam papers, so please make scanned copies before the exam!