

Tutorial overview for “Tests des Standardmodells der Teilchenphysik” 2014-15

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This is a *provisional* outline of the topics we will cover in the tutorial sessions. There is some flexibility in both the topics and the dates, the final schedule will be decided as we progress through the year.

1. Groups and symmetry
2. Relativistic quantum mechanics
3. Gauge theory
4. The Higgs mechanism
5. Calculating cross sections and Feynman rules
6. Precision electroweak measurements
7. The parton model of hadrons
8. Quark masses and mixings
9. Neutrino mass
10. Modern particle detectors
11. Discovery of the Higgs boson
12. Measurements of the Higgs boson
13. Extended Higgs sectors
14. Naturalness in the Standard Model
15. The future of the energy frontier