• Standard Model (almost)
  – Overview of the Standard Model gauge theory
  – Electroweak symmetry breaking & the hierarchy problem
  – Electroweak radiative corrections & precision tests: the little hierarchy problem
  – Flavour sector
    * Flavour & CP violation, $K$, $B$
    * Neutrinos

• Extensions of the Standard Model
  – Grand Unified Theory
  – Supersymmetry
  – Extra Dimensions

• Collider Phenomenology (focus on LHC)
  – Basics of hadronic collisions
  – Review of analytic techniques to compute observables
  – Numerical tools to compute observables at LHC