

Georg-August-Universität Göttingen	6 C 6 WLH
Module B.Phy.1512: Particle physics II - of and with quarks	
Learning outcome, core skills: After successful completion of this module, students should be familiar with the properties and interactions of quarks as well as with experimental methods and experiments which lead to their discovery and are used for precise studies.	Workload: Attendance time: 84 h Self-study time: 96 h
Course: B.Phy.1512.Lec Particle physics II - of and with quarks (Lecture)	4 WLH
Course: B.Phy.1512.Ex Particle physics II - of and with quarks (Exercise)	2 WLH
Examination: Oral examination (approx. 30 minutes) B.Phy.1512.Mp: Particle physics II - of and with quarks Examination requirements: Concepts and methods along with specific implementations of statistical methods in data analysis. Properties and discovery of quarks, discovery of W and Z bosons at hadron colliders, the top-quark, CKM mixing matrix, decays of heavy quarks, quark mixing and oscillations, CP-violation, jets, gluons and fragmentation, deep-inelastic scattering, QCD tests and measurement of the strong coupling α_s .	6 C
Admission requirements: none	Recommended previous knowledge: Introduction to Nuclear/Particle Physics
Language: German, English	Person responsible for module: Prof. Dr. Arnulf Quadt
Course frequency: each summer semester	Duration: 1 semester[s]
Number of repeat examinations permitted: three times	Recommended semester: Bachelor: 6; Master: 1 - 2
Maximum number of students: 30	