

## Quark Distributions Functions (T) - physics7506

<i>Course</i>	Quark Distributions Functions (T)
<i>Course No.</i>	physics7506

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture	English	2	3	WT

### Requirements for Participation:

**Preparation:** Quantum Field Theory (physics755 or equivalent)

**Form of Testing and Examination:** oral examination

**Length of Course:** 1 semester

**Aims of the Course:** By the end of the course, the student should be able to understand the formal parton model, renormalization of parton distributions, and current attempts to compute them on the lattice.

**Contents of the Course:** Deep Inelastic Scattering; The Operator Product Expansion; Basics of the parton model; The formal parton model; Quark distributions and quasi-quark distributions; One loop corrections and renormalization; Lattice attempts to compute PDF

### Recommended Literature:

Elliot Leader, Enrico Predazzi: An introduction to gauge theories and modern particle physics.

Cambridge Monographs on Particle physics, Nuclear Physics and Cosmology 1996.

John Collins: Foundations of Perturbative QCD.

Cambridge Monographs on Particle physics, Nuclear Physics and Cosmology 2011.

Anthony W. Thomas, Wolfram Weise: The Structure of the Nucleon. Wiley-VCH Verlag Berlin 2001.

R. K. Ellis, W. J. Stirling, B. R. Webber: QCD and Collider Physics.

Cambridge Monographs on Particle physics, Nuclear Physics and Cosmology 2003.

PDF version of this page.