

Statistical Methods of Data Analysis (E) - physics716

Degree - M.Sc. in Physics (PO von 2014)

<i>Module</i>	Elective Advanced Lectures: Experimental Physics
<i>Module No.</i>	physics70a

<i>Course</i>	Statistical Methods of Data Analysis (E)
<i>Course No.</i>	physics716

Category	Type	Language	Teaching		Semester
			hours	CP	
Elective	Lecture with exercises	English	2+1	4	ST

Requirements for Participation:

Preparation:

Form of Testing and Examination: Requirements for the examination (written): successful work with the exercises

Length of Course: 1 semester

Aims of the Course: Provide a foundation in statistical methods and give some concrete examples of how the methods are applied to data analysis in particle physics experiments

Contents of the Course: Fundamental concepts of statistics, probability distributions, Monte Carlo methods, fitting of data, statistical and systematic errors, error propagation, upper limits, hypothesis testing, unfolding

Recommended Literature:

R. Barlow: A Guide to the Use of Statistical Methods in the Physical Sciences; J. Wiley Ltd. Wichester 1993

S. Brandt: Datenanalyse (Spektrum Akademischer Verlag, Heidelberg 4. Aufl. 1999)