

Module:	Elective Advanced Lectures: Experimental Physics
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Module No.: physics70a

Course:		Statistical Methods of Data Analysis (E)
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Course No.: physics716

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

Requirements for Participation:
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Preparation:

Form of Testing and Examination:

Requirements for the examination (written): successful work with the exercises
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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)