

<b>Module:</b>	<b>Elective Advanced Lectures: Experimental Physics</b>
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<b>Module No.:</b> physics70a
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<b>Course:</b>	 universität <b>bonn</b>	<b>Statistical Methods of Data Analysis (E)</b>
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<b>Course No.:</b> physics716
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Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	2+1	4	ST

<b>Requirements for Participation:</b>
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<b>Preparation:</b>
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<b>Form of Testing and Examination:</b>
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Requirements for the examination (written): successful work with the exercises
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<b>Length of Course:</b>
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1 semester
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**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)