

## Syllabus for Statistical methods and error analysis.

1. Probability distributions
2. Statistical and systematic uncertainties
3. Estimators - fitting
4. Probability and confidence intervals

The textbook for the lectures is:

Statistics – R. J. Barlow (John Wiley & Sons)  
and the following are additional resources

- 1) A Practical Guide to Data Analysis for Physical Science Students – L. Lyons (Cambridge University Press)
- 2) Statistical Data Analysis - G. Cowan (Oxford Science Publications)
- 3) Chapter 4 of Techniques for Nuclear and Particle Physics Experiments: A How-to Approach - W. R. Leo (Springer-Verlag)
- 4) Data analysis techniques for HEP, Fruhwirth et al (Cambridge University Press)
- 5) Particle Data Group, Review of Particle Properties, Sections 37 and 38
- 6) SLUO lectures on statistics (Frank Porter and Roger Barlow) <http://www-group.slac>.
- 7) RooFit: <http://roofit.sourceforge.net/>
- 8) RooStats: <https://twiki.cern.ch/twiki/>