

Course Synopsis: HEP Computing

Aim:

Provide a basic introduction to the HEP computing environment, and augment this sufficient information so that students have the ability to look for alternate resources to continue developing skills.

Overview:

Introduction to UNIX, scripting and the use of ROOT for data analysis:
Total contact time of 10 times 1 hour lectures.

Lecture 1:

Intro to UNIX 1: Introduce the concepts of files and directories. List and describe by example a number of simple UNIX commands for manipulation of files and directories (`cd`, `mkdir`, e.t.c.). Communication with remote machines.

Lecture 2:

Intro to UNIX 2: Text editing utilities and an emacs command crib sheet. Introducing the `sed` and `awk` commands. The most prominent environment variables and the use of aliases. Archiving files using `tar`.

Lecture 3:

Intro to UNIX 3: Review the relationships between the most important concepts and commands covered in the Lectures 2 and 3. Introduce web resources.

Lecture 4:

Introduction to scripting 1: Scripts; what are they, how do you write and run them? An introduction to `tsh`.

Lecture 5:

Introduction to scripting 2: Special characters, and a crash course in PERL.

Lecture 6:

Introduction to ROOT: how to start and quit from ROOT, and some BASIC concepts.

Lecture 7:

Introduction to ROOT: Files, histograms, trees and macros.

Lecture 8:

Introduction to ROOT: Making new files and reading back entries in a tree.

Lecture 9:

Introduction to ROOT: Compiling a stand alone ROOT executable.