

An hands-on course based on Geant4 with emphasis on high energy physics.

Class will cover all aspects of Geant4 from basic installation through advanced topics and will be interspersed with examples that build a progressively more complex application.

Participants are expected to have a reasonable knowledge of C++.

Outline of the G4 course:

- **General Introduction to G4**
 - What is G4 ?
 - Review of user documentation
 - Geant4 as a toolkit
- **Geant4 Kernel and basics of the toolkit**
 - Run, Event, Step
 - Particle and Physics processes
 - User classes
- **Geant4 geometry construction**
 - Materials
 - Volumes
- **Geant4 physics**
- **Particle Generation**
- **How to use ROOT to store and process generated data.**
- **Simple Examples**
- **Applications and real life problems.**

Software required for this course:

1. Ubuntu Operating System
2. CERN ROOT Analysis Framework
3. Geant4 toolkit