

## **Sistemi Elettronici applicati agli Esperimenti di Fisica**

Crediti 3

Fisica delle Alte Energie e Astrofisica

Periodo: Marzo -Maggio o Aprile-Giugno (da definire con gli studenti)

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### ABSTRACT:

Electronics in modern experimental apparatus is the conjunction between detector and computer.

Electronic systems allow digitization in the numerical form of physical quantities.

The development of a new detection technology of a physical quantity always passes for the development of the relative electronic readout, therefore the electronic system is an integral part of an experiment, therefore it must be understood in detail even if purchased in the catalog.

Only thanks to the electronic and attached computer systems it was possible to manage and design the great experimental apparatus of modern physics.

During the course, there will be an introduction to electronic systems and a study of real cases, there will be an introduction to the programming of modern microcontrollers using the Arduino development system, and their use in the control and data acquisition in experimental physics.

The physics motivations and their solutions will be described  
electronics for experiments such as Delphi(CERN), KLOE (LNF), Auger(Argentina), Atlas(CERN), LHCb (CERN)

SuperB, MAYA (ArduSiPM) not that any problem proposed by the students themselves.