



**ISTITUTO DI ISTRUZIONE SUPERIORE
"MICHELE GIUA"**



Ind. CHIMICO-MATERIALI E BIOTECNOLOGIE AMBIENTALI – INFORMATICO –
LICEO SCIENTIFICO opzione SCIENZE APPLICATE

Via Montecassino 09134 **CAGLIARI** Tel (070) 500786 – 501745 Fax (070) 520794
email : catf04000p@istruzione.it PEC : catf04000p@pec.istruzione.it
Cod. Fisc. 80014350922

Programma del Corso CISCO CCNA "Introduction to Networks Fundamentals"

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

Students who complete Introduction to Networks will be able to perform the following functions:

- Understand and describe the devices and services used to support communications in data networks and the Internet;
- Understand and describe the role of protocol layers in data networks;
- Understand and describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments;
- Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 networks;
- Explain fundamental Ethernet concepts such as media, services, and operations;
- Build a simple Ethernet network using routers and switches;
- Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations;
- Utilize common network utilities to verify small network operations and analyze data traffic.