

CISCO CCNA, CERTIFICATE OF ACHIEVEMENT

The Certificate of Achievement (COA) in Cisco CCNA (COA in Cisco CCNA) provides students with core knowledge and practical hands-on experiences either to be employed in the fast emerging and high in-demand Networking profession or pursue a higher degree in Networking and Communication or related fields. This program will cover basic key areas of networking including switching techniques, layering principles, network elements, address schemes, network protocols, reliability, error control, flow control, latency, bandwidth, loss tolerance, routing and forwarding, encoding and framing, network security, and other emerging topics. Also, it will cover basic concepts of LAN and WAN. Students will use a variety of tools to solve real-life cases in the domain of Networking. The COA in Cisco CCNA is following the ACM recommendations of Competencies for Networking and Communication (NC) curricula.

Course ID	Title	Units/ Hours
Required Core Courses		
CS V41	IT Fundamentals	4
CS V61	Cisco CCNA Networking I	4
CS V62	Cisco CCNA Networking II	4
CS V63	Cisco CCNA Networking III	4
Total Units for the Certificate		16

Year 1		
Fall Semester		Units/Hours
CS V41	IT Fundamentals	4
CS V61	Cisco CCNA Networking I	4
Units/Hours		8
Spring Semester		
CS V62	Cisco CCNA Networking II	4
Units/Hours		4
Summer Semester		
CS V63	Cisco CCNA Networking III	4
Units/Hours		4
Total Units/Hours		16

Upon successful completion of this program, students will be able to:

- Explain the fundamental principles of Networking including network protocols and applications, reliability, address schemes, routing and forwarding, encoding and framing, network security, and other emerging topics.
- Develop well-designed networks to provide end-to-end communications according to the network's requirements in terms of reliability, latency, bandwidth, loss tolerance, and security to solve real-life problems.
- Explain ethical issues related to Networking including user privacy, transparency in data collection/usage and network policy, and Artificial Intelligence (AI) bias.
- Analyze short- and long-term trends in a selected topic using credible research sources.
- Develop and justify strategies for preparing for and adapting to projected changes in the field so they will be a life-long learner beyond the classroom.