

Certificate: System Administration**Certificate Description:**

This certificate is designed to provide students with a foundational knowledge of server and network administration to prepare for entry level positions, or an internship, in the system administration field. This certificate is developed and granted by BYU-Idaho.

Course Code	Course Name	15 Credits
CIT 240	Networking	3 Credits
CIT 241	Networking Design I	3 Credits
CIT 270	Systems Security I	3 Credits
CIT 352	Operating Systems I	3 Credits
CIT 353	Operating Systems II	3 Credits

Course Descriptions:***CIT 240 (3 credits) – Networking***

This course teaches general networking principles to provide an understanding of data communication protocols, transmission systems, media, and software.

CIT 241 (3 credits) – Networking Design I

This course teaches the principles of network standards and architectures that correspond to the Interconnecting Cisco Networking Devices Part 2 (ICND2) standard. Students will learn the configuration and use of networking devices and protocols including LAN switching technologies, IPv4 and IPv6 routing technologies, WAN technologies, infrastructure services, and infrastructure maintenance.

CIT 270 (3 credits) – Systems Security I

The purpose of this course is to provide the student with an overview of the field of information security and assurance. Students will be exposed to the spectrum of security activities, methods, methodologies, and procedures. This course offers a comprehensive guide for anyone wishing to take the CompTIA Security SY0-401 Certification Exam. It provides an introduction to the fundamentals of network security, including compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. The course covers new topics in network security as well, including psychological approaches to social engineering attacks, Web application attacks, penetration testing, data loss prevention, cloud computing security and application programming development security.

CIT 352 (3 credits) – Operating Systems I

This course provides a fundamental understanding of computer operating systems focusing on Linux.

CIT 353 (3 credits) – Operating Systems II

This course provides students with the administration skills to plan, install/configure, manage, and troubleshoot a Windows Server Environment.

Outcomes:

- Install, configure, and troubleshoot network routers and switches
- Install, configure, and troubleshoot Linux and Windows servers
- Describe and apply security principles and how they can be applied to both network and servers

Potential Employment:

- Desktop/IT Support
- Windows system administrator
- Linux administrator
- Network support
- Network engineer