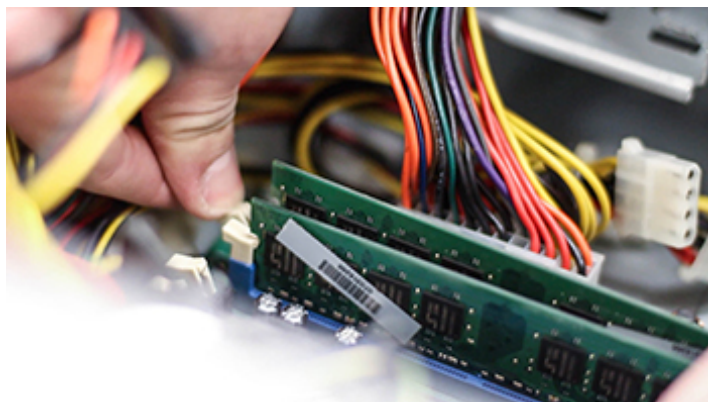


INFORMATION COMMUNICATIONS TECHNOLOGY



ICT is an academic discipline concerned with the study of Computer network design, management, and security as it applies to various business operational needs. The skills developed within this discipline include the application of theory to real world problems, effective business communication both verbal and written form. Understanding how to share knowledge with both technical and non-technical audience.

Transfer requirements in Information Technology or Systems are available in the Counseling Center.

In all cases, students should consult with a counselor for specific transfer requirements.

Career options include positions entry level positions as Help Desk Support Technician, and Network Support Technician. With more experience and education options include Network Administrator, and Network Engineer. A higher degree may be required to meet minimum job requirements depending on the position (Network Administrator, and Network Engineer).

Contact Information

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Related Areas of Study: Computer (<https://catalog.cos.edu/areas-study/computer/>) and Computer Science (<https://catalog.cos.edu/areas-study/computer-science/>)

Associate Degree

- Associate of Science in Information Communication Technology (AS) (<https://catalog.cos.edu/areas-study/information-communications-technology/associate-science-information-communication-technology-as/>)

Certificates

- Certificate of Achievement in CISCO CCNA Academy (<https://catalog.cos.edu/areas-study/information-communications-technology/certificate-achievement-cisco-ccna-academy/>)
- Certificate of Achievement in Computer and Network Support (<https://catalog.cos.edu/areas-study/information-communications-technology/certificate-achievement-computer-network-support/>)

For a complete list of courses and descriptions visit: COURSES (<https://catalog.cos.edu/course-descriptions/>)

ICT 201 PC Repair and Maintenance

4unit(s)

Hours: 3 Lecture/Discussion Hours:
3 Lab

This course prepares the student for CompTIA A+ certification, which includes the latest foundation-level knowledge and skills needed by today's computer support professionals. It is the starting point for a career in the Information Technology industry. This international, vendor-neutral certification is accredited by the International Organization for Standards (ISO) and the American National Standards Institute (ANSI). CompTIA A+ certification proves competence in a technician's ability to perform essential IT tasks such as installation, configuration, diagnosing, preventative maintenance, basic networking and security. It also confirms a technician's understanding of customer service and communication skills needed to work with clients.

ICT 210 Introduction to Microsoft Windows Server

4unit(s)

Hours: 3 Lecture/Discussion Hours:
3 Lab

This course provides the student with networking, security, and system administration information needed to implement a Windows Server infrastructure. It covers the basics of installation and configuration, storage, network infrastructure, network components, network protocols, server roles, Active Directory Domain Services (AD DS), Group Policy, IT security, server security, network security, security software, monitoring server performance, and maintaining a Windows Server. This course includes the foundational level knowledge to prepare students to start a career or cross train in Microsoft Windows Server technologies.

ICT 211 Microsoft Windows Server Part 2

4unit(s)

Hours: 3 Lecture/Discussion Hours:
3 Lab

This course is designed to help make network and server infrastructure easier to manage, more resilient, more efficient, and more secure. The curriculum will discuss consolidation of server environments, a move to a hosted/cloud-based model, challenges of information and communication technology storage, virtualization workloads, virtual machine density, mobility, and availability, virtualization of applications, and network and server performance.

Advisory on Recommended Preparation: ICT 210 may be taken concurrently.

ICT 212 Advanced Windows Server

Hours: 3 Lecture/Discussion Hours:
3 Lab

This course provides in-depth coverage of the 70-412 certification exam objectives and focuses on the skills necessary to administer Windows Server 2012/R2. Upon completion of this course, students will have an in-depth knowledge of Windows Server 2012/R2, including Enterprise Active Directory, advanced DNS and DHCP, DAC, IPAM, server high availability, disaster recovery, certificate services, AD FS, and AD RMS. Both the original release of Windows Server 2012 and the R2 release are covered.

Advisory on Recommended Preparation: ICT 210 and ICT 211.

ICT 221 Cisco Academy 1

Hours: 3 Lecture/Discussion Hours:
3 Lab

This is the first of four classes in the Information and Communication Technology CISCO Academy Certificate Program. Instruction includes: safety, networking, protocols, standards, LANs, WANs, OSI models, cabling, cabling tools, routers, Ethernet, IP addressing, and network standards.

ICT 222 CISCO Academy 2

Hours: 3 Lecture/Discussion Hours:
3 Lab

This is the second of four courses in the Information Technology CISCO Academy Certificate program. Instruction includes, but is not limited to: interfacing routers, networking terminology and protocols, network testing, programming and configuring routers, IP addressing and sub-netting, and internetworking router protocols.

Prerequisites: ICT 221 or equivalent college course with a minimum grade of C.

ICT 223 CISCO Academy 3

Hours: 3 Lecture/Discussion Hours:
3 Lab

This is the third course in the Information Technology CISCO Academy Certificate program. Instruction includes switching technologies; routing terminology and protocols; interface standards; programming and configuration of routers; VLANs; IP addressing and network standards.

Prerequisites: ICT 222 or equivalent college course with a minimum grade of C.

ICT 224 CISCO Academy 4

Hours: 3 Lecture/Discussion Hours:
3 Lab

This is the fourth course in the Information Technology CISCO Academy Certificate Program. Instruction includes the following: LAN switching; WAN encapsulation methods; ISDN routing; programming and configuration of routers; network security; and UNIX interoperability.

Prerequisites: ICT 223 or equivalent college course with a minimum grade of C.

4unit(s)

ICT 230 Network Security Fundamentals

Hours: 3 Lecture/Discussion Hours:
3 Lab

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.

Advisory on Recommended Preparation: ICT 201 and ICT 220 or equivalent college course with a minimum grade of C.

ICT 235 Introduction to Virtual Computing

Hours: 3 Lecture/Discussion Hours:
3 Lab

This course will provide a working knowledge of the leading virtualization products. In addition to learning how to install and use the products, you learn how to apply virtualization technology to create virtual data centers. Utilize management software to administer multiple host systems, and implement a virtual desktop environment. Leveraging cloud computing technologies to build or extend the data center and provide disaster recovery services will be introduced.

Advisory on Recommended Preparation: ICT 221 and ICT 210 or equivalent college course with a minimum grade of C.

ICT 240 Introduction to Cloud Computing

Hours: 3 Lecture/Discussion Hours:
3 Lab

ICT-240 Introduction to Cloud computing will provide the skill and knowledge necessary for students to understand, evaluate, roll out, and maintain various cloud service models. Cloud platforms covered include AWS, Google Cloud Platform, and Microsoft Azure.

4unit(s)

4unit(s)

4unit(s)

4unit(s)

Information Communications Technology

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M.S., Boston University

Ph.D., Capella University