Computer Science - Computer Systems Support (AAS)

Associate in Applied Science

Minimum of 61 credit hours

Do you have a natural curiosity about how computers and their programs work? Do you like to put your knowledge to good use helping others? Are you a good communicator, or would you like to become one? Then, a career as a computer systems support specialist would be a good choice for you! At Oklahoma City Community College, you can earn an associate degree in applied science or a certificate of mastery in computer science with a computer systems support option. Either program option will get you out of school quickly and into the job market. Just talk with a faculty advisor about which would be the best choice for your lifestyle and career goals. OCCC provides a strong foundation in computer science and is a National Center of Academic Excellence in Information Assurance.

Course Sequence

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Course Grouping

Major Courses: (36 credit hours):
Computer Science: CS 1153 (C), CS 1333 (C), CS 1353 (C), CS 1413 (C), CS 2153 (C), CS 2183 (C), CS 2283 (C), CS 2303 (C), CS 2403 (C), CS 2503 (C), CS 2713 (C), CS 2763 (C)

General Education Courses: (18 credit hours)
Communications: ENGL 1213 or ENGL 1233 or COM 1123 or COM 2213
Computer Science: CS 1103 (C)
English: ENGL 1113
Mathematics: MATH 1503
History: HIST 1483 or HIST 1493
Political Science: POLSC 1113
Life Skills Courses: (1 credit hour) Life Skills: SCL 1001
Support Courses: (6 credit hours) Computer Science electives (C)

Program Notes

Notes: This Technical and Occupational program is designed to prepare students to enter the job force following completion. See Technical and Occupational Programs in the general information section of the catalog. Must have a grade of “C” or higher in all Computer Science courses.
Degree Program Course Descriptions

COM 1123 - Interpersonal Communications
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits The student will be able to identify why certain things happen as they do when two or more individuals come together to communicate for a specific purpose. The student must attest to his or her ability to understand the principles of interpersonal communication with emphasis on dyads, small groups, analysis of communication models and nonverbal communication, applying understanding to the major types of interpersonal communication problems in the work environment and in daily human relations.

COM 2213 - Intro to Public Speaking
Prerequisites: ENGL 0106 or adequate placement score
3 Credits Given the principles of effective listening and speaking, the student will assimilate those skills into his or her physical and psychological worlds. After being exposed to public, business and professional speaking, the student will apply the principles of invention, organization, style, and delivery through practical exercises and will use the principles of rhetorical criticism in discussing speeches delivered in class.

CS - Computer Science Elective
3 Credits Computer Science elective

CS 1103 - Introduction to Computers and Applications
Prerequisites: MATH 0103 or adequate math placement, ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits This hands-on course affords students a basic understanding of computers and their application. Upon completion of this course, the student will be able to demonstrate the ability to use a computer operating system, an office suite, productivity tools, as well as the Internet at an introductory level. Advanced Standing is available. This course satisfies the computer proficiency requirement.

CS 1153 - Introduction to Computing Technologies
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0103 or adequate math placement
3 Credits Students will learn fundamental concepts of computing technologies. Topics will include computer hardware, operating systems, application software, networking, information security and privacy, information systems, program development, database management systems, social aspect of computing technologies, and cloud computing. This course satisfies the computer proficiency requirement.

CS 1333 - Database Management Applications
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0203 or adequate math placement
3 Credits The student will use a selected database management program to create and edit database files. The student will also search, organize, and build reports, forms, and templates with the database files. This course satisfies the computer proficiency requirement.

CS 1353 - Computer Operating Systems
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0203 or adequate math placement; prerequisite or co-requisite CS 1103
3 Credits Students will learn the following important areas through a combination of lectures and hands-on projects: installing, maintaining and optimizing Windows operating systems, troubleshooting Windows and applications, connecting to and setting up a network, Windows resources on a network, computer security strategies, mobile devices, and client-side virtualization. A+ Certification Preparation Course. This course satisfies the computer proficiency requirement.

CS 1413 - Computer Hardware
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0203 or adequate math placement; prerequisite or co-requisite CS 1103
3 Credits Students will learn the following through class lectures and hands-on projects: identification, configuration, maintenance, troubleshooting, and repair of PC hardware including mainboards, BIOS, processors, memory, storage devices, peripherals, and printers. Other IT-related issues such as networks, safety and environmental concerns, customer relations, and professionalism are also presented. A+ Certification Preparation Course. This course satisfies the computer proficiency requirement.

CS 1553 - Support Windows Operating Systems
Prerequisites: MATH 0203 or adequate math placement, CS 1353 or by evaluation
3 Credits Students will learn how to install, configure, and troubleshoot basic networking hardware, protocols, and services and to describe the features and functions of networking components. This course satisfies the computer proficiency requirement.

CS 2183 - Linux
Prerequisites: MATH 0203 or adequate math placement, CS 1103 or by evaluation
3 Credits This course is an introduction to the Linux operating system for users. It is designed for those with a DOS/Windows operating system background with little or no knowledge of Linux. Topics include the development of Linux: basic Linux operating system concepts; a comparison of Linux to MS Windows; frequently used Linux programs and utilities, shells, editors, and tools; X window GUI and applications; Linux and the internet; setting up Apache web server software; basic HTML and CGI programming for Linux; use of virtual machine software to create virtual machines of guest operating system on top of host operating system. Linux+ Certification Preparation Course. This course satisfies the computer proficiency requirement.

CS 2283 - Introduction to Virtualization
Prerequisites: CS 1353 or by evaluation
3 Credits This course covers fundamental concepts and practical knowledge of virtualization technology. Students will learn to install and configure virtualization software, manage virtual networking and storage, deploy, manage, and migrate virtual machines, manage user access to the virtual machine infrastructure, monitor resource usage, increase scalability, apply patches, and manage higher availability and data protection. Students will gain hands-on experience through using virtualization software platforms. This course satisfies the computer proficiency requirement.

CS 2303 - Networking Technologies
Prerequisites: MATH 0203 or adequate math placement, co-requisite CS 1103 or by evaluation
3 Credits Students will learn how to install, configure, and troubleshoot basic networking hardware, protocols, and services and to describe the features and functions of networking components. A foundational knowledge in the important areas of media and topology, protocols and standards,
network implementation, and network support will be developed using a combination of lectures and interactive assignments. Network + Certification Preparation Course. This course satisfies the computer proficiency requirement.

CS 2403 - Computer Support Services
Prerequisites: ENGL 1113; MATH 0203 or adequate math placement and 9 credit hours of Computer Science courses.
3 Credits Students will demonstrate their understanding of planning, implementing, and maintaining a support center for both internal and external users of computer hardware and software. The main topics will include: the Help Desk, design of hardware and software specifications, performing a needs assessment, design of evaluation instruments, creation of both technical and non-technical documentation, working with customers in a support role, and ethical standards for the computing professional. This course satisfies the computer proficiency requirement.

CS 2503 - Network Administration
Prerequisites: CS 1353
3 Credits The students will use a network operating system to create and manage a local area network. The topics to be covered include creating and administering user and group accounts, managing network resources and administering permissions for files and folders, setting up and administering the printing environment, using the auditing functions, backing up and restoring files and folders. Preparatory course for certification through Microsoft. This course satisfies the computer proficiency requirement.

CS 2713 - Principles of Information Security
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures; MATH 0203 or adequate math placement; CS 1353
3 Credits Students will complete a comprehensive overview of network security, with an introduction to a variety of security problems faced by the computing industry. This course is mapped to the CompTIA Security+ Certification Exam. The course covers topics in general security concepts, communication security, infrastructure security, cryptography basics, and operational/organizational security. This course satisfies the computer proficiency requirement.

CS 2763 - Network Security
Prerequisites: MATH 0203 or adequate math placement, CS 1353 and Co-requisite: CS 2303 or CS 2503
3 Credits Students will learn topics related to network vulnerabilities and defense. Topics include network and computer attacks, ethical hacking, penetrating testing, desktop and server vulnerabilities, securing embedded systems, web server security, wireless security, cryptography, and network protection systems. This course satisfies the computer proficiency requirement.

ENGL 1113 - English Composition I
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits The student will write well-developed compositions which demonstrate the principles of unity, coherence, and organization and which contain specific details and vivid language. The students will locate library material and incorporate researched materials into compositions.

ENGL 1213 - English Composition II
Prerequisites: ENGL 1103 or ENGL 1113 taken within the last year, with strong encouragement for immediate continuation.
3 Credits In this advanced writing course, students will create essays that explore and evaluate a variety of issues and perspectives suggested by fiction, poetry, drama, essays, and other types of cultural texts. Students will refine and augment the writing techniques they learned in ENGL 1113 or ENGL 1103 to develop well-reasoned, well-structured arguments in a clear, fluid, and engaging prose style.

ENGL 1233 - Technical Writing for the Workplace
Prerequisites: ENGL 1113 or ENGL 1103; MATH 0203 College Prep Math II or adequate Math Placement Test Score
3 Credits This course will expose students to technical communication and will allow students to practice professional methods of writing in the workplace. In addition to constructing technical documents appropriate for use in professional and job-related environments, students will learn about rhetorical methods for presenting technical information in ethical and formal prose designed for clear and effective communication with employers and colleagues. This course will equip the student with written and oral communication skills necessary for sharing information and discussing content in professional settings; developing an awareness of technical genres; utilizing technological platforms for constructing documents; using visuals and graphics professionally; writing professional correspondence; constructing reports; designing project proposals; and composing instructions. This course satisfies the computer proficiency requirement.

MATH 1503 - Contemporary Mathematics
Prerequisites: MATH 0313 or adequate math placement. Pre or Co-requisite ENGL 1113 or ENGL 1103
3 Credits A study of the mathematics needed for critical evaluation of quantitative information and arguments (including logic, critical appraisal of graphs and tables); use of simple mathematical models, and an introduction to elementary statistics. This course satisfies the computer proficiency requirement.

POLSC 1113 - American Federal Government
Prerequisites: ENGL 0203, adequate placement score, or by meeting determined placement measures
3 Credits A study of the principles, structure, processes and functions of the United States federal government.

SCL 1001 - Success in College and Life
Prerequisites: ENGL 0106 or adequate reading/writing assessment scores
1 Credit Students will learn best practices for academic, career, and personal success. Students will discover their individual strengths, interests, and values to create a personalized plan; select and utilize resources that are applicable to their growth and success; and engage as active and responsible members of the academic community. This course should be taken during a student’s first semester of college.
work at Oklahoma City Community College and is a required course in degree plans to satisfy the Life Skills requirement.