COMPUTER SYSTEM TECHNICIAN

Department of Applied Computing & Electronics
Certificate of Applied Science (C.A.S.) Program

Program Description:

The Computer System Technician Certificate Program provides a technical education for individuals interested in pursuing entry-level positions in the information technology industry. The explosion of computer information technology continues to fuel a high demand for computer support specialists. The program curriculum includes course topics covering computer hardware, operating systems, software development, Internet technologies, networking, telecommunications, and application software. Technical classes are delivered using a lab-based, project-oriented, hands-on approach. Soft skills involving problem-solving, business organization structure, customer service, and writing are emphasized.

The program partners with the Computer Technology Industry Association (CompTIA) in offering the industry-based A+ certification. The CompTIA A+ certification is the industry standard for computer support technicians. The international, vendor-neutral certification proves technical competence to employers. CompTIA A+ certified technicians are recognized as having excellent customer service and communication skills to work with clients. Academically prepared students can complete this Certificate of Applied program and CompTIA A+ industry certification in one year. All credits earned in the program fulfill partial requirements for the Associate of Applied Science (A.A.S.) degree in Computer Technology through The University of Montana.

Student Outcomes:

Upon completion of the program students will:

- Effectively utilize information technology as a research and productivity tool.
- Demonstrate proficiency in supporting end-users by designing, installing and maintaining the hardware, software, and networking technologies used for information technology.
- Identify the societal impact of information technology and apply appropriate best practices for security and safety.
- Demonstrate the workplace skills of effective communication, problem solving, collaboration, critical thinking, and leadership.

Related Job Titles:

- Computer System Technician
- Computer Support Specialist
- Help Desk Technician
- Computer Repair Technician

Related Occupations (U.S. Department of Labor Occupations Handbook):

- Computer Support Specialists and Systems Administrators http://www.bls.gov/oco/ocos268.htm

Industry Certification Opportunities:

- CompTIA A+ Certified Computer Support Technician

Further Educational Opportunities:

The Computer System Certificate of Applied Science is a first step for individuals interested in building a technical skill set for a career involving Information Technology. It is part of a laddered credential approach involving a one-year certificate, industry certification, a two-year associate degree, and a four-year baccalaureate degree. The 31 credits completed in the Computer System Certificate fulfill partial requirements for an Associate of Applied Science (A.A.S) degree in Computer Technology, and a Bachelor of Applied Science (B.A.S.) degree.

Computer System Technician Certificate Curriculum Sequence*:

Course	First Year	Spring	Autumn
BUS 103S	Principles of Business	-	3
CRT 111	Fluency in Information Technology	3	-
CRT 112	Operating System Fundamentals	3	-
CRT 121	Introduction to Programming	-	3
CRT 151T	Networking Basics	3	-
CRT 172	Introduction to Computer Modeling	-	3
CRT 210T	Advanced Operating Systems	-	3
CRT 285T	PC Hardware Support	-	3
CRT 289T	Professional Certification A+	-	1
M 095	Intermediate Algebra	3	-
WRIT 101	College Writing I	3	-
	Total	**15**	**16**

*Curriculum is subject to change depending upon course availability.

Course Descriptions:

BUS 103S Principles Of Business 3 cr. Introduction to the world of business. Examines capitalism, the economic environment, the types of business organizations, management, marketing, production, labor, financing, and business/governmental relations. Credit not allowed for both BUS 103S and BADM 100S.

CRT 111 Fluency in Information Technology 3 cr. Offered autumn and spring. Prereq., CRT 100 or demonstrated computing experience. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CRT 111 and CS 111.

CRT 112 Operating System Fundamentals 3 cr. Offered spring. Prereq. CAPP 120 (CRT 100) or demonstrated computing experience. Introduction to operating system concepts through the use of contemporary software. Emphasizes file system management, networking, installation, maintenance, management, and disaster recovery practices using both the command interpreter and graphical user interface.

CRT 121 Introduction To Programming 3 cr. Offered autumn and spring. Prereq., CRT 103T, MAT 100. An introduction to programming and problem-solving methodologies using Visual BASIC. Techniques include problem identification, logic planning, program coding, and program debugging. Structured programming and documentation techniques are stressed.

CRT 151T Networking Basics 3 cr. Offered spring. Prereq., CRT 101 or demonstrated computer experience. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming; Ethernet and network standards; and wireless technologies.

CRT 172 Introduction to Computer Modeling 3 cr. Offered autumn and spring. Prereg., MAT 100 or demonstrated computing experience. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and databases for data analysis. Formal presentation of results. Credit not allowed for both CRT 172 & CS 172.

CRT 210T Advanced Operating Systems 3 cr. Offered autumn. Prereq., CRT 112T, 126T. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.

CRT 285T PC Hardware Support 3 cr. Offered autumn and spring. Prereq., CRT 103T, CRT 112T. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.

CRT 289T Professional Certification 1 cr. Reviews objectives of an information technology industry-based professional certification. A thorough review of certification objectives, preparation strategies, and exam strategies will be covered. Course can be repeated for different industry-based professional certifications.

M 095 Intermediate Algebra 3 cr. Offered autumn and spring. Prereq., M 090 (MAT 005) or appropriate placement score. Topics include linear equations and systems of linear equations, inequalities, applications and graphing; polynomials; rational expressions and equations; radicals, rational exponents and complex numbers; quadratic equations; introduction to exponential and logarithmic functions. Credit does not count toward Associate of Arts or Baccalaureate degrees.

WRIT 101 College Writing I 3 cr. Offered every term. Prereq., WRIT 095 or passing score on placement test. Instruction and practice in both the expository writing and research process. Emphasis on the use of specific techniques of writing to develop style, unity, clarity, and force of ideas, and structure. Students are expected to write without major errors in sentence structure or mechanics. Grading A-F, or NC.