Information Technology

Associate in Applied Science Degree

The Information Technology A.A.S. degree program, based on guidelines developed by the Association for Computing Machinery, prepares students for entry-level jobs and careers in positions that support computing in a networked environment.

The degree and the four concentrations prepare students for a wide variety of positions such as network cabling specialist, network technician, network administrator, help desk specialist, PC technician, microcomputer technician, technical support specialist, and customer service representative.

Successful graduates will be able to:

- explain computing practices and procedures commonly found in an organization;
- use printed and online documentation;
- understand, install, and configure computer and Internet hardware and software;
- describe and understand network topologies, protocols, and standards;
- describe the organization of the Internet;
- sit for the A+ and Network+ certification examinations;
- describe and use the basic tools for computer and network security;
- employ problem-solving skills to troubleshoot and correct problems;
- work effectively as individuals and in teams to install and implement complex integrated IT systems;
- demonstrate effective written and oral communication skills.

Admission to this degree program requires a high school diploma or its equivalent, at least one year of high school algebra, and basic computer literacy. Applicants must demonstrate competency in English, reading, and mathematics as determined by placement testing. Individuals who do not meet these admission requirements should plan their curriculum with an IT faculty advisor.

The A.A.S. degree program was not developed as a transfer curriculum; however, graduates have successfully transferred to and graduated from the New Jersey Institute of Technology (NJIT). Students who are interested in such opportunities should discuss their interests with an IT faculty advisor as early as possible during their program at MCCC.

Successful graduates in the **Network Engineering Technology** concentration (A4710) will be able to:

- prepare for important industry certifications, including A+, NET+, Server+, Security+, Linux+, Microsoft's MCTS, MCITP, MCSA, and MCSE, Cisco's CCNA, and the CISSP.
- install, configure, manage, upgrade, and secure PCs and local area network hardware and software;
- understand network management and connectivity as well as internetworking protocols and standards; implement and troubleshoot complex networks;
- install, deploy, and administer Windows and Linux desktop and server operating systems, and Cisco routing and switching equipment;
- implement TCP/IP for cross-platform and Internet connectivity, and identify security risks and control resource access using various security techniques.

Successful graduates in the **Programming** concentration (A4730) will be able to:

- apply procedural and object-oriented technologies to implement interactive applications;
- program in at least two languages that are frequently used in business, such as Visual Basic and Java;
- design and implement databases and write programs that open, read, update, delete, and close such databases.

Successful graduates in the **Help Desk Technology** concentration (A4720) will be able to:

- troubleshoot and maintain hardware and software;
- train others in and explain the use of professional and business productivity software;
- clearly and concisely explain the use of software in person and via telephone;
- assist in the evaluation and installation of new and upgrade applications software;
- take and pass the MCDST and the MOS examinations.

Successful graduates in the **Website Technology** concentration (A4740) will be able to:

- design and implement a website using traditional coding and automated development tools;
- incorporate server and client scripting languages to build guest registers, shopping carts, and checkout systems;
- host a website using both a UNIX and a Microsoft Windows environment;
- incorporate audio, images, video, and animation into a website.

NOTE: All program listings are subject to periodic updates. Please consult your program advisor, academic division, or **www.mccc.edu/programs_degree**

Program **A4700**
CIP 110201

Programs **A4710** CIP 521299
A4730 521201
A4720 521201
A4740 521201

A.A.S. Core Curriculum

Code	Course (lecture/lab hours)	Credits
ENG 101	English Composition I (3/0)	3
IST 102	Computer Concepts with Programming (2/2)[1]	3
NET 102	Introduction to PC Hardware and Software (2/3)	3
NET 104	Fundamentals of Computer Networks (2/2)	3
— —	**Concentration elective**[2]	3
ENG 112	English Composition II with Speech (3/0)[3]	3
IST 143	HTML and Website Development (2/3)[A]	4
NET 103	IT Essentials (2/3)	3
MAT —	Mathematics elective[4]	4
— —	**Concentration elective**[2]	3
BUS 209	Business Letter/Report Writing (3/0)	3
— —	General Education elective[5]	3
— —	General Education elective[5]	3
— —	**Concentration elective**[2]	3
— —	**Concentration elective**[2]	3
IST 251	Management of Computer Technology (3/0)[B]	3
HPE 110	Concepts of Health and Fitness (1/2)†	2
— —	Cooperative Education or Technical elective[2,C]	2-3
— —	General Educational elective[5]	3
— —	**Concentration elective**[2]	3
— —	**Concentration elective**[2]	3
		63-64

[1] Students who lack experience with office software may substitute IST 103 or IST 101 and 109.

[2] Concentration or Technical electives may be selected based on a specified concentration (at right) or from any IST, CIS, COS, or NET courses not already included in the core curriculum.

[3] Students who are considering transfer to a four-year degree program should consider substituting ENG 112 (which may not transfer) with ENG 102 and CMN 111 or 112.

[4] MAT 135 is recommended for students intending to transfer to a baccalaureate degree program, and certain IST courses require it as a prerequisite. MAT 140 is acceptable for students who do not plan to transfer. Other mathematics courses can be considered in consultation with an academic advisor.

[5] General Education electives should be selected with an IT faculty advisor.

- One must be from either Social Science, Humanities, or Historical Perspective categories of General Education courses.
- The other two may be selected from Social Science, Humanities, Historical Perspective, or Diversity and Global Perspective categories.
- Students considering transfer should complete a Science elective.

†HPE 111 is an acceptable alternative.

Concentrations

Network Engineering Technology

Code	Course (lecture/lab hours)	Credits
NET 120	Windows Desktop Operating System Administration (2/2)	3
NET 130	Interconnecting Network Devices (2/2)	3
NET 212	Linux (2/2)	3
NET 240	Network Security (2/2)	3
NET 124	Network Infrastructure Administration (2/2)	3
NET 230	Advanced Switched Networks (2/2)	3

In addition to the above requirements, students pursuing the Network Engineering Technology concentration should complete the following in their Core Curriculum (at left):

[A] Substitute NET 122 (Windows Server Operating System Administration) in place of IST 143.

[B] Substitute NET 126 (Network Directory Services Administration) in place of IST 251.

[C] Substitute NET 214 (Mastering Linux) or NET 244 (Network Defense and Countermeasures) in place of the Technical Elective.

Note: Additional NET courses are offered on a limited basis, and may substitute for one or more of the above Concentration electives.

Programming

Code	Course (lecture/lab hours)	Credits
IST —	Programming elective (2/2)	3
IST —	Programming elective (2/2)	3
IST —	Programming elective (2/2)	3
IST —	Database elective (2/2)	3
— —	Technical elective	3-4
IST 297	IT Capstone Project (1/3)	3

Help Desk Technology

Code	Course (lecture/lab hours)	Credits
CIS 173	PC Applications Database (2/2)	3
CIS 175	PC Applications Spreadsheets (2/2)	3
CIS 182	PC Applications Presentations (2/2)	3
IST 111	Introduction to Help Desk Support (1.5/5)	4
— —	Technical elective	3-4
IST 290	Help Desk Practicum (1/5)	3

Website Technology

Code	Course (lecture/lab hours)	Credits
IST 137	Introduction to Java Programming (2/2)	3
IST 145	Scripting for the World Wide Web (2/2)	3
IST 238	Intermediate Java Programming (2/2)	3
NET 212	Linux (2/2)	3
IST 245	Building e-Commerce Websites (2/2)	3
IST 297	IT Capstone Project (1/3)	3

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