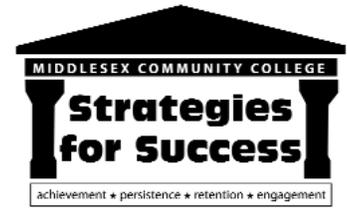




# Strategies for Success Advising Guide: Information Technology Major



This advising guide includes information that will help you to explore your academic and career interests and determine whether the **Information Technology major** will support your long-term goals.

## Exploring Your Options

Before deciding upon a major, you should take some time to explore your interests and develop your long-term academic, career, and personal goals. You should meet with your advisor at least 3 times per semester. Below, is a listing of activities to help you with your self-exploration and identify your interests. These activities are for your first year or during your first 30 credits at MCC.

- \_\_\_ During the first few weeks of your first semester at Middlesex, schedule an appointment to meet with your advisor to get acquainted, discuss your future plans and how the Information Technology program can help you to achieve your goals.
- \_\_\_ Complete the Focus2 online career assessment tool which is located on our website at [www.middlesex.mass.edu/careerservices/FOCUS2.htm](http://www.middlesex.mass.edu/careerservices/FOCUS2.htm). After completing FOCUS2, schedule a meeting to discuss your results with a Career Counselor. Call 1-800-818-3434 or visit the Academic, Career and Transfer Centers in Lowell and Bedford to schedule your career counseling appointment.
- \_\_\_ Review the career biographies which are located on the Career Services website at [www.middlesex.mass.edu/CareerServices/voc.biographies.htm](http://www.middlesex.mass.edu/CareerServices/voc.biographies.htm)
- \_\_\_ Mid-Semester; schedule an appointment with your advisor to review your academic progress. Also, use this time to discuss your progress toward meeting your academic and career goals
- \_\_\_ Before the semester ends, schedule an appointment to meet with your advisor to discuss the classes you will take the following semester. (Early November to plan for Spring Classes, Early April to plan Fall and Summer classes.)
- \_\_\_ Complete the “Which MCC Technology Program is Right for Me” worksheet.

## Which MCC Technology Program is Right for Me?

There are four major areas of specialization in the computer technology field:

### ■ Servers:

A computer connected to a data network that provides services to users. For example: A student logs into the MCC web site; the student is contacting an MCC computer (the Web Server) that runs MCC's Web site and replies to the student's computer. The Server computer includes three things:

- **Operation System:** Such as Windows XP or Linux or Unix: programs that enable the server to run Application programs
- **Application Programs (aka Applications for Apps):** Programs that provide actual services to users. A

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Web site is an application; video games on a PC or any other computer is an Application.

- **Network Connection:** Set of programs that enable the server computer to communicate to users through a data network (Local Area Network in classroom) or Internet if accessing a server from home or other location off campus.

### ■ **Computer Application:**

Applications are computer programs that perform a useful function. The applications are typically accessed by multiple users. Examples of applications include:

- Microsoft Word, PowerPoint or Excel programs
- Webpage programs
- Video games
- Music files
- Facebook and many others

### ■ **Databases:**

Databases are special types of applications that keep track of data. Student course registrations and grades are stored in a database. A database application is a program that “talks” to a database and “commands” it to perform a specific job or function.

### ■ **Data Network:**

Data networks consist of wiring in the classrooms or workplaces, wiring on campus and access to Internet services for long distance data communications. It also includes specialized devices that enable data communications such as Switches (enable computer communications within a room or a floor); Routers (enable communications between buildings on a campus and connect to Internet Services Provider (such as Verizon or ATT, etc). A Network administrator works almost exclusively on Switches and Routers and helps to configure Servers to properly connect to the Data Network.

**Review the chart below to determine which MCC Technology program matches your interests in the field.**

What are you interested in learning?	Information Technology Transfer	Information Technology General	Computer Science Transfer	Computer, Software & Networking Technology	Engineering Science Transfer
<b>I want to work with servers and learn how to...</b>					
Maintain and administer operating systems (Linux or Windows)	✓	✓			
<b>I want to work with computer applications and learn how to...</b>					
Maintain and administer applications such as databases	✓	✓			
Develop application programs for servers			✓		
Design and build server hardware systems				✓	✓
Maintain server hardware and software				✓	
<b>I want to work with databases and learn how to...</b>					
Design and develop database applications			✓		✓
Maintain and administer database applications	✓	✓			

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What are you interested in learning?	Information Technology Transfer	Information Technology General	Computer Science Transfer	Computer, Software & Networking Technology	Engineering Science Transfer
I want to work with the internet and data networks and learn how to...					
Administer data networks, switches and routers that enable people to use the internet	✓	✓		✓	
Design and develop switch and router software			✓	✓	
Maintain data networks switch and router software	✓	✓		✓	
Maintain data networks switch and router software and hardware				✓	✓
Identify hardware and software systems that make the Internet possible				✓	✓
Learning how tele-communications enable the world-wide Internet				✓	✓

Once you have identified which technology program is the right “fit” for you, review the program course requirements. Visit [www.middlesex.mass.edu](http://www.middlesex.mass.edu) and select Academic Catalog and Programs of Study.

At this point you can go one of two ways; The *Career Path* which is committing to your Associates Degree and then looking for a job after graduations or the *Transfer Path* continuing your education and transferring to a Bachelor’s degree granting institute. Your advisor will guide you in the path you choose and help you reach your goal while ensuring that you meet your graduation requirements.

### The Career Path

The **Information Technology General Studies Associate in Science in Liberal Studies degree** is designed to prepare students for employment in a variety of entry-level information technology positions.

Graduates of the Information Technology Program are prepared to:

- Write and debug a simple computer program;
- Develop and query a database;
- Install and administer and secure a network;
- Display workplace skills such as teamwork, communication and problem solving

AND

- Use knowledge acquired at MCC as a foundation for continued study and/or practical application;
- Interpret and analyze information in order to engage in critical thinking and problem solving;
- Communicate, use information, and employ technology effectively;
- Communicate an understanding of the world from a global perspective;
- Demonstrate social responsibility within the college community;
- Demonstrate the capacity for on-going personal and professional development

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Below is a listing of sample information technology jobs, duties, degree requirements and transfer institutions.

Job Title	Job Duties	Degree Requirements	Sample Transfer Options
Database Administrator	Coordinate changes to computer databases. Test and implement the database applying knowledge of database management systems. May plan, coordinate, and implement security measures to safeguard computer databases.	Typically, a Bachelor's Degree from a 4-year college (some are 5 years) is required to be considered for this occupation.	Univ. of Phoenix, AZ. Rochester Inst. of Tech. NY La Salle University, Philadelphia, PA
Network Systems Administrator	Plan and manage computer systems that provide information services to multiple workstations located in different physical sites. Test the hardware and software and monitor system usage to assure rapid and trouble-free service to users.	Most employers of software technicians prefer to hire applicants with a two-year associate degree in computer sciences or information systems. A working knowledge of the most current programming languages is essential.	
Computer Applications Engineer	Formulate mathematical models of information processing systems to solve scientific and engineering problems. Consult with potential system users to identify the types of data to be fed into the computer and answers needed.	The usual requirement for this occupation is a bachelor's or associate degree in computer science or information systems. Courses in business administration, operations analysis & statistics are essential.	UMass Amherst, Boston & Lowell, MA Northeastern University, Boston, MA Plymouth State University, Plymouth, NH
Computer Customer Support Specialist	Design & implement plans for improving an organization's computer-based information processing and accounting systems. Train the firm's employees to use the new computer software. Test the new systems' performance and accuracy before turning it over to the customer.	The usual requirement for this occupation is a bachelor's degree in computer sciences or information systems with courses in business administration. An associate degree can qualify you for assistant jobs.	Suffolk University, Boston, MA Regis College, Weston, MA, Daniel Webster College Nashua, NH
Computer Network Engineer	Help manage the flow of information between two or more linked computers so persons using remote computers can simultaneously use databases and document files and use e-mail. Install and test computer and communications media, hardware and software.	Most employers require completion of either a technical institute certificate program that takes 18 to 20 months or a 2-year college associate degree program. Course-work includes computer hardware and software, networking operations, network wiring and electronics, local area networks (LAN's) and wide area networks (WAN's).	
Computer Programmer	Write the detailed instructions (programs and software) that list in a logical order the steps the computer must follow to organize data to solve a problem. Determines how to capture and	Many programmers obtain a 2-year associate degree from a college for an entry position. However, the majority of programmers hold a 4-year bachelor's degree in computer science or information	Tufts University, Boston, MA Univ. of Southern Maine, Portland, ME Vermont Tech. College, Randolph Center, VE

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Job Title	Job Duties	Degree Requirements	Sample Transfer Options
Computer Programmer (cont.)	enter information needed and summarize computer results in reports & displays.	systems. The trend has been toward the requirement of a bachelor's degree.	
Computer Software Technician	Develop and write software programs that are then transferred onto computer memory chips. They then install the memory chips on printed circuit boards used within the computer. Prepare training materials to teach computer operators how to use new programs.	Most employers of software technicians prefer to hire applicants with a two-year associate degree in computer sciences or information systems. A working knowledge of the most current programming languages is essential.	Wilmington College, New Castle, DE Grantham University, Kansas City, MO Oregon Inst. of Tech., Portland, OR
Webmaster	Webmasters use Internet computer-based software to improve business decision-making in an organization and market the organization's products and services on the Internet. They decide how management should use the World Wide Web, e-mail and Internet newsgroups.	An associate or bachelor's degree in computer science or information systems complemented with a WebMaster certificate or specialized coursework in Internet and Website technology is necessary. Courses should include Internet software languages, Website design using graphics and audio-visual techniques, Website setup and maintenance and information security. Courses in marketing and advertising will strengthen your credentials.	Westwood College, (17 locations), CA Rochester Inst. of Tech., Rochester, NY Castleton State College, Castleton, VT

### The Transfer Path

The **Information Technology Transfer Associate in Science in Liberal Studies degree** is designed for students who wish to pursue a bachelor's degree in an IT-related field. The program qualifies for *MassTransfer*, which guarantees credit transfer to Massachusetts state colleges and the University of Massachusetts.

Below, is a list of suggested steps you should take as you prepare to transfer to a bachelor's degree conferring institution.

- \_\_\_ Work with your advisor to create a Transfer Plan. Identifying and applying to a Bachelor's Degree program will be your focus. You'll need to research academic programs of interests, colleges that offer these programs and be aware of deadlines for admissions, financial aid, and housing deposits (if you are interested on living on campus). The transfer process can be complex. Your advisor and transfer counselor can help you with this process.
- \_\_\_ Schedule an appointment to meet with a transfer counselor to learn about the transfer programs that are available to you as an MCC student, such as Mass Transfer, transfer/articulation agreements with other colleges, and other programs. Also, ask about the Common Application and the benefits of using this form. Call 1-800-818-3434 or visit the Academic, Career, and Transfer Centers in Lowell or Bedford to schedule your appointment.
- \_\_\_ If the transfer institution that you are applying to requires that you write a college essay, make an appointment with a tutor in the writing center to help you edit and review your essay. Remember the essay reflects who you are as a student and is also a sample of your writing ability.

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- \_\_\_ Look for transfer scholarships that may be available. Consider applying to the MCC Foundation Scholarships. The deadlines for these MCC scholarships are typically at the end of the fall semester.
- \_\_\_ Meet with your advisor before your last semester to make sure you have met all your intensive values and curriculum requirements and to ensure that you are ready for graduation.

### **MCC Advising Resources:**

- Career Services: [www.middlesex.mass.edu/CareerServices](http://www.middlesex.mass.edu/CareerServices)
- Vocational Biographies: [www.middlesex.mass.edu/CareerServices/voc.biographies.htm](http://www.middlesex.mass.edu/CareerServices/voc.biographies.htm)
- Transfer Services: [www.middlesex.mass.edu/Transfer](http://www.middlesex.mass.edu/Transfer)
- MassTransfer: [www.mass.edu/masstransfer](http://www.mass.edu/masstransfer)
- College Board Match Maker: [http://collegesearch.collegeboard.com/search/adv\\_typeofschool.jsp](http://collegesearch.collegeboard.com/search/adv_typeofschool.jsp)
- Financial Aid: [www.middlesex.mass.edu/FinancialAid](http://www.middlesex.mass.edu/FinancialAid)
- Foundation Scholarships: [www.middlesex.mass.edu/foundation/scholarships](http://www.middlesex.mass.edu/foundation/scholarships)



**Program Contact Information:**  
Neil Sheer, Associate Dean, Technology Programs • [sheern@middlesex.mass.edu](mailto:sheern@middlesex.mass.edu) • 781-280-3820