

Careers

Computer scientists research, develop, design, and test computer software, hardware, and systems for scientific and technical applications. Computer software engineers design and develop the software systems that control computers; computer hardware engineers work with circuit boards, computer chips, keyboards, modems, and scanners. Computer operators oversee the operation of computer hardware systems, and must be able to solve problems that occur during operations.

A computer science student who goes on to finish a four-year degree is generally qualified for a well-paying profession in the technical data processing field.

Salary

Median annual earnings of computer operators were \$31,070 in 2004. Entry-level positions for candidates with an A.A. include computer operator and PC maintenance technician with salary ranges from \$27,250 to \$39,500 in 2005.

According to the National Association of Colleges and Employers, starting salary offers for graduates with a bachelor's degree in computer science averaged \$52,464; starting salaries for software engineers in software development ranged from \$63,250 to \$92,750 in 2005.

Job Outlook

Employment of computer hardware and software engineers is projected to increase, due to demand for computer consultants for businesses that need help managing, upgrading, and customizing increasingly complex systems through 2014.

Education & Training Options

(See reverse for computer science and technologies curricula.)

■ Degree

Montgomery College offers an associate of arts degree (A.A.), in computer science or information systems. The program is designed for students who plan to transfer to a four-year degree program in computer science or for students in mathematics, science, or technical areas who wish to acquire skills in computer software development.

■ Certificate

A certificate program is offered in computer programming. See Web Careers in *Montgomery College Catalog* for additional careers in Web design, Internet games, Web technologies, and Web programming.

■ Workforce Training

Students who want to enter the workforce instead of pursuing a degree should follow the College curricula or consider one of the certificates offered by the department. These curricula and certificates were developed in conjunction with local professionals. Most employers, however, expect an employee in the computer science or information systems fields to have at least a bachelor's degree.

■ Skills Upgrade

If you currently have a degree in computer science and want to upgrade skills, review the upper-level computer science and technology courses in the *Montgomery College Catalog* under "Course Descriptions."

Contact @ MC

Rockville Campus240-567-5184
www.montgomerycollege.edu/Departments/cpsciv

Computer Science

(continued)

Degrees, Certificates, and Letters of Recognition

Montgomery College is authorized by the Maryland Higher Education Commission (MHEC) to offer four degrees (associate of arts, associate of science, associate of applied science, and associate of arts in teaching) and certificates. In addition, the College recognizes students who satisfactorily complete certain course sequences with letters of recognition.

Some curricula are offered at all campuses, whereas others are limited to one or two. When a curriculum is offered at a specific campus, it is indicated by G for Germantown, R for Rockville, or TP for Takoma Park/Silver Spring.

Admission to Montgomery College is open to all.

Math, English, and reading assessment tests are required prior to registering. (Some students may be exempt from assessment. Consult the *Montgomery College Catalog* for criteria.) Financial aid and scholarships are available to qualified candidates.

Take the next step.

Complete an Application for Admission form (online @ www.montgomerycollege.edu/admissions/mcadmiss.htm) or call 240-567-5000 for information.

Computer Science (R): 107 Computer Science and Technologies A.A.

General Education and Other Requirements (33 credit hours)

English foundation	3
Health foundation	1
MA 181 Calculus I	4
Speech foundation	3
Arts distribution	3
Arts or humanities distribution	3
Behavioral and social sciences distribution	6
Humanities distribution	3
Natural sciences distribution	7

Computer Science Fundamental Requirements (16 credit hours)

CS 103 Computer Science I	4
CS 204 Computer Science II	4
CS 256 Introduction to Discrete Structures	4
MA 182 Calculus II	4

Computer Science Electives (11 credit hours)

Select from the following courses:

CS 110 Computer Concepts	3
CS 136 Systems Analysis and Design	3
CS 140 Introduction to Programming	3
CS 210 Computer Security	3
CS 216 UNIX/LINUX Operating System	3
CS 226 Introduction to Object-Oriented Programming with C++	3
CS 249 Advanced Object-Oriented Programming with C++	3
CS 269 Computer Science and Technologies Internship	1-4
MA 284 Linear Algebra	4

Students should consult an adviser regarding requirements at transfer institutions.

Total credit hours 60

(more)

Computer Science

(continued)

Information Systems: 109 Computer Science and Technologies A.A.

General Education and Other Requirements (49–52 credit hours)

AC 201	Accounting I	4
AC 202	Accounting II	4
EC 201	Principles of Economics I	3
EC 202	Principles of Economics II*	3
EN 101	Techniques of Reading and Writing I	3
	English foundation	3
	Health foundation	1 (3)
	Mathematics foundation	3 (4)
	Speech foundation	3
	Arts distribution	3
	Arts or humanities distribution†	3
	Behavioral and social sciences distribution	6
	Humanities distribution†	3
	Natural sciences distribution	7

Specialized Requirements (15-17 credit hours)

CS 110	Computer Concepts	
or		
	CS elective	3 (4)
CS 136	Systems Analysis and Design	3
CS 140	Introduction to Programming	3
CS 2xx		
or		
CS 103	Intermediate Programming Language ‡	3 (4)
BA 210	Statistics for Business and Economics *	
or		
MA 116	Elements of Statistics**	3

Total credit hours 64–69

* If this course is not required by a specific transfer institution, substitute a CS course in advanced programming or another CS course.

† A specific transfer institution may recommend a foreign language.

‡ Choose CS 103, CS 213 (Java), or CS 226 (C++) as appropriate for a specific transfer institution.

** If this course is not required by a specific transfer institution, substitute MA 181 (or higher) or a CS course in advanced programming or another CS course.

Computer Programming Certificate: 108

CS 110	Computer Concepts *	3
CS 140	Introduction to Programming	3
	Intermediate languages†	6 (7)
	Advanced language‡	3 (4)
	CS elective or department-approved CA elective	3

Total credit hours 18 (20)

* May be replaced by another CS course with department consent.

† Select two courses from CS 103, CS 213, CS 215, CS 226, or other department-approved language.

‡ The advanced language must correspond to one of the intermediate languages chosen.