

Undergraduate Certificates Computer Science

The certificate programs in Computer Science are designed for those who work with computers at their workplace and wish to sharpen their skills in specific areas. All the courses are part of the undergraduate curriculum. In order to earn a certificate, a minimum grade point average of 3.0 must be maintained within the program. At least 50% of the courses must be completed at Fitchburg State College. The department must approve all other courses.



Computer Use and Applications Certificate

This certificate provides basic computer literacy skills in the usage of Internet, e-mail and a popular operating system. In addition, word processing, spreadsheets, databases and presentation graphics are studied in detail.

CSC 1050	Internet Communications	3 S.H.
CSC 1100	Computer Applications	3 S.H.
CSC 1300	Intro. to Spreadsheets and Databases	3 S.H.
Total for Certificate		9 S.H.

Web Development Certificate

The Internet plays a crucial role in the information revolution. It is used increasingly for personal and business communications, for commerce and exchange of ideas, and as a source of information and entertainment. This certificate provides the knowledge and skills needed to make the best use of what the Internet can offer and to create professional quality web pages.

CSC 1050	Internet Communications	3 S.H.
CSC 1150	Basics of Web Design	3 S.H.
CSC 2150	Advanced Web Design with Scripting	3 S.H.
CSC 3250	Advanced Topics in Web Development	3 S.H.
Total for Certificate		12 S.H.

Applied Programming Certificate

This certificate introduces the programming languages that are used to program small and large businesses applications.

CSC 1000	Intro. to Programming	3 S.H.
CSC 1500	Computer Science I	3 S.H.
CSC 1550	Computer Science II	3 S.H.
CSC 2700	Business Programming	3 S.H.
Total for Certificate		12 S.H.

Admissions Resources

E-mail: gceadvisor@fsc.edu

Web site: www.fsc.edu/gce

For E-Advising



fsc.edu/gce/virtualadvisor

High Level Languages Certificate

This certificate introduces the high level programming languages, at the assembler level, at the structured programming level and at the object-oriented programming level.

CSC 1500	Computer Science I	3 S.H.
CSC 1550	Computer Science II	3 S.H.
CSC/ MATH 1900	Discrete Mathematics	3 S.H.
CSC 2560	Systems Programming	3 S.H.
CSC 3500	Object Oriented Programming	3 S.H.
Total for Certificate		15 S.H.

Java Programming Certificate

Java is a very elegant and popular object oriented programming language. In addition, it is platform independent and simplifies programming for the Internet, distributed networking, database access, embedded systems and client/server computing. This certificate provides for building programming skills from very basic to advanced web programming with Java.

CSC 1500	Computer Science I	3 S.H.
CSC 1550	Computer Science II	3 S.H.
CSC/ MATH 1900	Discrete Mathematics	3 S.H.
CSC 2560	Systems Programming	3 S.H.
CSC 3050	Web Programming with Java	3 S.H.
Total for Certificate		15 S.H.

Microsoft Foundation Classes Certificate

Microsoft Foundation Classes (MFC) provides the Application Programming Interface (API) for creating applications for Win32 platforms. This certificate provides the knowledge and skills needed for creating Windows applications.

Note: Completion of this certificate also allows awarding of the High Level Languages Certificate.

CSC 1500	Computer Science I	3 S.H.
CSC 1550	Computer Science II	3 S.H.
CSC/		
MATH 1900	Discrete Mathematics	3 S.H.
CSC 2560	Systems Programming	3 S.H.
CSC 3500	Object Oriented Programming	3 S.H.
CSC 3550	Windows Programming with MFC	3 S.H.
Total for Certificate		18 S.H.

Database Systems Certificate

Database systems have evolved for managing large-scale information securely and efficiently. This certificate provides in-depth knowledge of how databases work, where they are used and how to program databases for information storage and retrieval.

CSC 1000	Intro. to Programming	3 S.H.
CSC 1400	Computer Information Systems	3 S.H.
CSC/		
MATH 1900	Discrete Mathematics	3 S.H.
CSC 2400	Database Systems	3 S.H.
CSC 4550	Database Programming	3 S.H.
Total for Certificate		15 S.H.

Computer Hardware Certificate

This certificate provides the theoretical background in computer hardware needed for more advanced topics such as Data Communications, Digital Signal Processing and Embedded Systems.

MATH 1300	Precalculus	3 S.H.
CSC 1600	Intro. to Electronics	4 S.H.
CSC 1650	Digital Electronics	4 S.H.
CSC 3300	Assembly Language	3 S.H.
CSC 2600	Computer Organization	4 S.H.
CSC 3600	Microprocessors	4 S.H.
Total for Certificate		22 S.H.

Software Engineering Certificate

Software Engineering is one of the fastest growing professions as we move from the Industrial Revolution to the era of Information Technology Revolution. The graduates of this certificate not only acquire good programming skills, but also understand the life cycle of a software product and how to design software for efficiency, maintenance and upgrades.

Note: Completion of this certificate also allows awarding of the High Level Languages Certificate.

CSC 1500	Computer Science I	3 S.H.
CSC 1550	Computer Science II	3 S.H.
CSC/		
MATH 1900	Discrete Mathematics	3 S.H.
CSC 2560	Systems Programming	3 S.H.
CSC 3500	Object Oriented Programming	3 S.H.
CSC 3700	Algorithms and Data Structures	3 S.H.
CSC 4400	Software Design	3 S.H.
Certificate		Total for 21 S.H.

Library Services: The Amelia V. Gallucci-Cirio Library

The Library is located in the Hammond Building and provides daily services.

Web Site

The FSC Library maintains a home page (www.fsc.edu/library) on the Internet to provide information about the library such as hours, online reference services, research inquiries, and access to the library's catalog.

Online Resources

The library maintains subscriptions to electronic journals and databases that include indexes and abstracts; access to thousands of electronic journals with full-text articles; reference titles; and relevant subject based web-sites. They are available from the library home page and from off campus.

Materials Collection

The library houses an extensive collection of materials to support course work and faculty needs, including approximately 238,000 books, 1,300 print periodical subscriptions, and the complete ERIC document collection (online and microfilm).

Reference Services

The reference desk provides service daily. You can also call the Reference Desk (978-665-3223) or stop by the library for assistance.