



After Graduation

Upon graduation, students are equipped with the knowledge to work in many domains of computer science , including: **game development, application development, software architecture, software engineering, or consultants in software companies or institutions with IT departments** such as *universities and banks*. Many of our graduates open their own **startups**. Others pursue their **graduate studies** in AUB or abroad.

To learn more about the Computer Science Department:

Web www.aub.edu.lb/fas/cs

Email cmps@aub.edu.lb

**Faculty of Arts
and Sciences**

Tel +961 1 343 002

Fax +961 1 744 460

Web www.aub.edu.lb/fas

Email fas@aub.edu.lb



COMPUTER SCIENCE

***Undergraduate
Program***

***Quantitative
Sciences***

Computer Science is the science of using computers to solve problems. It is about data, programs, computers and people.

Computer Science is a young discipline that is very rich in challenges and applications due to its applicability in almost all disciplines such as medicine, engineering, natural sciences, media, arts and entertainment.

Sample Courses

CMPS 200

Introduction to Programming

Through a disciplined approach, students are introduced to computer programming and problem solving utilizing a block structured high level language.

CMPS 278

Web Programming and Design

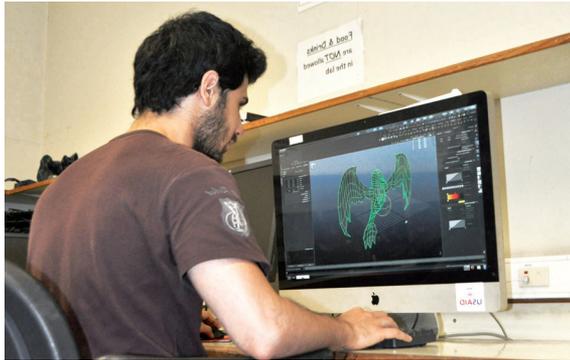
Introduces students to the fundamentals needed to program on the internet, and the state of art technologies used in designing and developing rich multi-tiered web based applications.

CMPS 253

Software Engineering

Introduces students to the process of building large, correct and efficient software in a systematic and quantifiable way.

Computer Science prepares students for advanced study and professional careers in the dynamically changing world of computing and information technology.



Computer Scientists take abstract problems, and determine how they can be solved using **computers** and **complex algorithms**; they then create tangible applications and devices that are easy to use to solve these problems.

Curriculum

Computer Science is much more than just programming. Programming is merely the process of developing and implementing various sets of instructions to enable a computer to do a certain task. The more important aspect of computer science is **problem solving**, an essential skill for life. Computer Science courses are divided into **theoretical** as well as **practical courses**, both of which aim at enriching the students' *problem solving and analytical skills*, allowing them to work with contemporary technologies and analyze/decipher future ones.

In their *first year*, students get introduced to programming in **Java**, a high level object oriented language that is widely used in development. Students also take fundamental Math courses that include calculus and discrete math.

In their *second year*, students get exposed to more programming paradigms and languages such as **C, C++, C#, Prolog, and Python**. They also cover core computer science courses, such as *Data Structures, Computer Architecture, Software Engineering, and Database Systems*. Students also have the option to take electives in, *Web Development, Artificial Intelligence, Computer Networks, Computer Graphics, and Parallel Computing*.

In their *third year*, students cover advanced courses such as **Operating Systems** and **Theory of Computation**. They also take a capstone course that aims to enhance their skills with practical experience giving them the opportunity to integrate knowledge accumulated in different courses to deliver a complete efficient software product.

Research Opportunities

The department encourages students in their third year to get involved in **research projects** with one of the department research groups. The department also has a **solid Master program** whose graduates work in **top companies** in the region or move to **Europe** or **North America** to complete their **Ph.D.** in prestigious universities. Every semester, the department offers a *good number of scholarships for its top graduate students*.

Among other areas, ongoing research projects involve *data mining, image processing, artificial intelligence human computer interaction, information retrieval, networking and security, optimization, software design and reliability, and theory*.

CMPS 277

Database Systems

Introduces students to the recent mechanisms used in storing and using data. Databases constitute an integral component of almost all modern applications.

CMPS 285

Computer Graphics

Introduces students to Interactive Computer Graphics and 3D Modeling. Computer graphics finds direct applications in game development and visualization.

CMPS 287

Artificial Intelligence

Introduces students to the techniques that enable computers to behave intelligently. It entails the creation of intelligent machines that work and react like humans.

CMPS 284

Computer Networks

Lays the fundamentals of communication between distant users and machines.