

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Purpose and objectives

The primary purpose of the bachelor's degree program in Computer Science is the development of analytical skills, acquisition of knowledge and understanding of systems, languages and tools required for effective computation-based problem-solving. The skills and knowledge acquired support both a successful work career in the computing industry as well as further education in computation related disciplines. Our core courses offer a broad base so that students who complete this program of study can continue to acquire new skills and advance in any specialization of computer science in either a workplace or graduate study.

Intended learning outcomes

Upon successful completion of this program of study, its graduates will:

- demonstrate knowledge and understanding of essential facts, concepts, principles, and theories relating to computer science and software applications;
- use effectively the most common software applications to fulfil everyday tasks;
- understand fundamental computer science principles that allow for easy adaptation as computer science evolves;
- apply knowledge of mathematics, science and computing;
- demonstrate knowledge of contemporary issues in computing;
- show an ability to use the techniques, skills and modern computing tools necessary for computer science practice;
- identify, formulate and solve computer related problems;
- develop the necessary skills needed for procedural problem solving and algorithm construction using algorithmically reasoning;
- design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;
- possess practical and theoretical knowledge of computer science and software engineering;
- perform object-oriented programming to develop solutions to problems demonstrating usage of classes, objects, data abstraction, encapsulation and inheritance;
- be able to apply the principles and concepts of OO programming and write well-designed OO programs;
- comprehend the logic design and computer design fundamentals;
- explain the principles, methods and techniques of systems development;
- become familiar with fundamental data structures and with the manner in which these data structures can best be implemented;
- identify the need for development of computer-based information systems to support an organization's objectives and strategic plans;
- learn the digital system fundamental principles and their application to the modern computer architecture and design;
- recognize and apply the process of designing web systems;
- design and implement efficient database systems using the methods taught including E-R diagrams and normalization from a given scenario;
- Obtain a solid theoretical foundation of the design, architecture and functionality of operating systems and of its interactions with the underlying computer hardware and overlying user programs;
- respect the professional standards of ethics expected of computer scientists and software engineers and appreciate the social impact of computing;
- demonstrate the ability to develop and focus on one topic in writing assignments and present ideas in an organized, logical and coherent form;
- communicate effectively - both orally and in writing; and
- recognize the importance of and possess the skills necessary for life-long learning.

Credit Requirements

The program requires a minimum of 240 ECTS credits as follows:

	Credits
General Education Requirements	54
Mathematics Requirements	30
Major Requirements	132
Free Electives	24
Total	240

COURSES OFFERED

General Education Requirements

Course code & title

CSC102 Computer Applications (6)
ECO101 Principles of Microeconomics (6)
ENG101 English Communication (6)
ENG102 English Writing (6)
ENG201 Advanced English (6)
GRE101 Modern Greek (6)
GRE201 Modern Greek II (6)
HST101 European History (6)
HST102 History of Cyprus (6)
PHI101 Introduction to Philosophy (6)
POL101 Political Studies (6)
PSY101 Introduction to Psychology (6)
SOC101 Principles of Sociology (6)

Mathematics Requirements

Course code & title

MTH102 Statistics (6)
MTH103 Calculus (6)
MTH104 Discrete Mathematics (6)
MTH202 Calculus II (6)
MTH203 Linear Algebra (6)

Major Requirements

All 96 credits from the following:

Course code & title

CSC101 Fundamentals of Information Technology (6)
CSC103 Computer Programming (6)
CSC105 Digital Logic (6)
CSC112 Computer Programming II (6)
CSC202 Data Structures and Algorithms (6)
CSC203 Management Information Systems (6)
CSC205 Systems Analysis and Design (6)
CSC206 Computer Organization and Architecture (6)
CSC210 Web Programming (6)
CSC302 Databases (6)
CSC307 Software Engineering (6)
CSC308 Operating Systems (6)
CSC407 Data Communications and Computer Networks (6)
CSC410 Introduction to Artificial Intelligence (6)
CSC414 Computer Science Project I (6)
CSC415 Computer Science Project II (6)

36 credits from the following:

Course code & title

CSC310 Programming in Java (6)
CSC311 Mobile Computing Programming (6)
CSC312 Human Computer Interaction (6)
CSC313 Advanced Web Programming
CSC314 Game Design and Development (6)
CSC416 Network Security (6)
CSC417 Cloud Computing, IoT and Wearable Technologies (6)
CSC419 Introduction to Machine Learning (6)
MAJ101 Internship (6)

Free Electives

The student is free to take any course offered by the College.