Computer Science

The Computer Science program at Haigazian University offers the Bachelor of Science (B.S.) degree.

On completion of their degree, Computer Science students will be able to:

- Design, implement, and evaluate computer programs that solve significant computational problems.
- Use Data Structures and develop algorithms to solve complex computational problems.
- Analyze problem complexity and design new algorithmic solutions when faced with new problems.
- Design and implement different software systems.
- Design and implement different database systems.
- Design and develop E-commerce and web-based systems.

- Understand and analyze modern computer hardware and software systems.
- Understand the specific design decisions regarding computer architecture, operating systems, and memory structures, and evaluate those design decisions.
- Focus on a specific area of interest by selecting from a variety of elective courses on advanced system programming, web and mobile computing, Geographical Information Systems, Artificial Intelligence, network programming, and others.

B.S. degree in Computer Science: In addition to the general education requirements, the Computer Science Department requires a minimum of 55 credits in computer science and 12 credits in mathematics. All computer science students must pass each of CSC 202 and MAT 201 with a minimum grade of 70 in order to register in higher level courses in the major.

The Department also offers the following minors:

- Minor in Computer Science (18 credits): CSC 202, CSC 204, CSC 236, MAT 270, and any two CSC courses (excluding CSC 266).
- Minor in Data Science (18 credits): CSC 202, CSC 252, CSC 256, CSC 282, MAT 233 and one CSC course (excluding CSC 266).

Students minoring in Computer Science or Data Science should complete at least 9 credits of their minor at Haigazian University. Students minoring in Computer Science or Data Science should score a minimum grade of 70 in CSC 202. For more details regarding minors, kindly refer to the Minors section of the catalog.

General Education (30 cr.)

Core requirements for all HU students are listed on page 58.

Required Courses (43 cr.)

CSC 200	Introduction to Computing	1 cr.
CSC 202	Computer Programming	3 cr.
CSC 204	Advanced Computer Programming & Data Structures	3 cr.
CSC 233	Logic Design of Digital Systems	4 cr.
CSC 236	Design and Analysis of Algorithms	3 cr.
CSC 238	Discrete Structures	3 cr.
CSC 239	Concepts of Programming Languages	3 cr.
CSC 240	Computer Architecture and Assembly Language	3 cr.
CSC 256	Database Systems	3 cr.

CSC 263	Software Engineering	3 cr.
CSC 271	Operating Systems	3 cr.
CSC 274	Data Transmission and Computer Networks	4 cr.
CSC 281	Theory of Computation	3 cr.
CSC 291	Computer Internship	1 cr.
CSC 299	Capstone Project	3 cr.

Elective Courses (12 cr.)

To be chosen in consultation with the student's advisor from the following:

CSC 237	Design and Analysis of Object-Oriented Programming	3 cr.
CSC 241	Machine Learning and Computational Statistic	3 cr.
CSC 242	Data Mining	3 cr.
CSC 243	Programming for Data Science	3 cr.
CSC 244	Big Data	3 cr.
CSC 251	Numerical Analysis	3 cr.
CSC 252	Introduction to Data Science	3 cr.
CSC 276	Network Security	3 cr.
CSC 278	Web Programming and Design	3 cr.
CSC 279	Mobile Application Development	3 cr.
CSC 280	Advanced Database Management Systems	3 cr.
CSC 282	Introduction to Artificial Intelligence	3 cr.
CSC 283	Computer Graphics	3 cr.
CSC 285	Compiler Design	3 cr.
CSC 286	Systems Programming	3 cr.
CSC 288	Operations Research	3 cr.
CSC 289	GIS for Computer Science	3 cr.
CSC 290	Advanced Computer Networks	3 cr.
CSC 295	Foundations of Parallel and Distributed Systems	3 cr.
CSC 297	Selected Topics in Computer Science	3 cr.
CSC 298	E-Commerce Technology	3 cr.

Mathematics Requirements (12 cr.)

MAT 201	Calculus and Analytic Geometry III	3 cr.
MAT 202	Differential Equations	3 cr.
MAT 219	Linear Algebra	3 cr.
MAT 233	Statistics	3 cr.