## CURRICULUM INTEGRATION AND INDUSTRY ENGAGEMENT

The Department places strong emphasis on bridging academic learning with real-world application. The curriculum is designed to cultivate both technical excellence and professional readiness through direct engagement with industry.

### Undergraduate Program

Students are introduced early to key areas of the discipline and its practical applications:

• CS202: Explorations into Computer Science - A second-year course offering insights into major fields within Computer Science, enhanced by guest lectures from industry affiliates who share their expertise and career paths.

• CS343: Software Engineering - A project-based course where student teams develop solutions to real-world software challenges in collaboration with local industry partners.

**• CS500: Summer Internship - A structured internship opportunity, running since 2019, where students gain hands-on professional experience with companies and organizations across Cyprus, enhancing both technical and soft skills.**

• Final-Year Project (Bachelor Thesis) - A two-semester research or development project under faculty supervision, with the option of co-supervision by an industry expert to ensure relevance and practical impact.

### Graduate Program

Graduate studies further blend academic learning with professional and research experience:

• CS670: Research Methodologies and Professional Practices (MSc in CS) - A seminar-based course that explores research ethics, methodologies, and career development, featuring guest talks by academic and industry leaders.

• Capstone Project (MSc in Data Science) - A culminating real-world project conducted in collaboration with research labs or industry partners, designed to sharpen students' technical, analytical, and collaborative skills.

The Department actively engages in joint research projects that drive innovation and facilitate technology transfer. Many MSc and PhD theses are developed in close collaboration with industry:

• Master Thesis - A research-intensive project under faculty guidance, often shaped in partnership with industry to address current challenges and opportunities.

• PhD Dissertation - Doctoral research that frequently contributes to joint academic–industry initiatives, driving innovation and technology transfer.

University of Cyprus
Department of Computer Science

## CONTACT US:


+357 22892700

www.cs.ucy.ac.cy

cs@ucy.ac.cy

www.facebook.com/csdeptucy

https://www.linkedin.com/company/csdeptucy/

https://twitter.com/csdeptucy

Department of Computer Science,
University of Cyprus (New Campus), P.O. Box 20537,
1678, Nicosia, Cyprus

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FACULTY of PURE and APPLIED SCIENCES

## INTRODUCTION

The increasing importance and applicability of Computer Science have contributed to rendering the Department of Computer Science as one of the most dynamic and competitive departments of the University of Cyprus, that has also gained international recognition. The Department of Computer Science is one of the five departments of the Faculty of Pure and Applied Sciences of the University of Cyprus, consisting of 22 faculty members. The high quality of the knowledge provided by the Department, as well as its reputation, are proven by the constant high interest shown by candidates. In the last years, the Department accepts 90 undergraduate and 20-25 postgraduate new students every year. The Department's commitment to excellence extends to cutting-edge research, with its programs and initiatives attracting over €21 million in funding the last ten years from both public sources, such as the European Union and national funding agencies, and private industry partners, ensuring continuous innovation and impact in the field. Strong ties with industry further enhance the Department's impact, offering students valuable opportunities through internships, collaborative projects, and strategic partnerships. With more than 2,090 graduates to date, the Department continues to play a vital role in shaping the digital future of Cyprus and beyond.

## GOALS OF THE DEPARTMENT

The Department of Computer Science aims at:

- Contributing to international research on computer science.
- Fostering knowledge in all computer science fields (via teaching and the Department's international presence).
- Being a leader in the effective application of computer science in the local industry and services in the wider Cypriot area.

## ACADEMIC EXCELLENCE

Via the continuous efforts of the Departmental personnel on teaching, research, the improvement of computer equipment and on attracting new staff members, the Department of Computer Science has established itself on international level.

The Department is characterized by the constantly updated programme of study, the instructor to student ratio, the fruitful link between teaching and research, and the continuous connection with the labor market. The quality level of the Department is supported by the following objective measures:

- A large number of graduates have received recognition by the Cypriot and the international academic community, and the labor market.
- The scientific outputs of the members of the Department are presented yearly in peer reviewed journals and scientific conferences in computer science, they gain international recognition and are cited by the international scientific community and the industry.
- A large number of research and development programmes where the Department participates are funded by EU, as well as national and international organisations.
- Memoranda of cooperation have been signed with companies that utilize computer science technologies, semi-governmental bodies, and start-ups, with the aim of connecting, on the one hand, students with the labor market and on transferring, on the other hand, knowledge and innovation via the pioneering research conducted at the Department by its academics and researchers. In the framework of their studies, students have the opportunity to perform an internship in a real working environment.
- Computer Science students can study abroad for up to two semesters through Erasmus+, with travel costs covered and a monthly allowance provided. Partner countries include Greece, Spain, Portugal, Germany, and more. Opportunities also exist to study in third countries via Erasmus+ International, participate in exchanges with Texas A&M University in the USA, and join programmes funded by Huawei in China.

## KNOWLEDGE AREAS

- Computer Architecture
- Networks and Systems Security
- Database Systems and Data Management
- Computer Graphics and Virtual Reality
- Internet Computing
- Computer Networks and Distributed Computing
- Theoretical Computer Science
- Artificial Intelligence and Machine Learning
- Software Engineering

## PROGRAMS OF STUDY

Both the undergraduate and the postgraduate programmes of study have been designed in order to address the latest developments in the area computer science and offer to students a complete programme that puts equal emphasis on theoretical background, technological knowledge and experimental methodologies of computer science. The capabilities and the high educational level of our graduates are recognized by the local labor market but also internationally, as our graduates show distinguished performance either by being employed in the local industry after their graduation or by pursuing postgraduate degrees at top universities in Europe and the United States.

**On undergraduate level, the department offers:**

- ***BSc in Computer Science*** (in Greek)

During their studies, undergraduate students attend a number of compulsory and elective courses and have the opportunity to follow one of the provided specializations:
Computer Networks, Fundamentals of Computer Science, Big Data and Internet Computing, Real World Computation, Artificial Intelligence, Software Engineering, Digital and Embedded Systems.

**On postgraduate level, the department offers:**

- Doctoral programme of studies
- Master programmes:

- ***Master in Computer Science*** (in Greek)
- ***Master in Cognitive Systems*** (in English online, offered jointly by the Open University of Cyprus, the Department of Computer Science and the Department of Psychology of University of Cyprus)
- ***Master in Data Science*** (in English, offered jointly by the Department of Business and Public Administration, the Department of Computer Science and the Department of Mathematics and Statistics of University of Cyprus)
- ***Master in Artificial Intelligence*** (in English, offered jointly by the Department of Electrical and Computer Engineering and the Department of Computer Science)