Computer

Engineering Department

Email: info@sharif.edu

Website: http://ce.sharif.edu/

Address: Department of Computer Engineering, Sharif University of Technology, P.O. Box 11155-9517, Tehran, Iran.

Telephone number: +98 21 6616 6600

In 1985, the first independent Department of Computer Engineering in the country was established at Sharif University of Technology. Initial undergraduate programs were "Software" and "Hardware" majors. Corresponding masters programs were initiated in 1987. The portfolio was later expanded by the PhD program in 1997. MSc in Artificial Intelligence, BSc and MSc in Information Technology were added in 1998 and 2002 respectively. In 2016, the department unified all its undergraduate majors under BSc in Computer Engineering. The department boasts several Gold Medals in regional ACM ICPC programming contests, RoboCup Robots Soccer World Championships, and establishing national initiatives such as FPGA design contests and AI Challenge among others. The department is famous for its large-scale industrial projects in addition to excellence in research.

Undergraduate Course Structure

1st year	2nd year	3rd year	4th year
• Math. (I), (II) • Physics (I), (II) • Discrete Structures • English Language • Digital Design • General Workshop • Computer Workshop • Physics (II) LAB • Computer Programming	• Data Structures and Algorithms • Engineering Math. or Linear Algebra • Technical Presentation • Digital Design LAB • Fundamentals of Electrical and Electronic circuits • Computer Architecture • Probability & Statistics • Advanced Programming • English Language for Computer Engineers • Diff. Equations • Computer Structure and Language	• Operating Systems • Compiler Design • Digital System Design • Digital System Design LAB • Database Systems • Computer Networks • Computer Networks LAB • Artificial Intelligence • Computer Architecture LAB • System Design and Analysis • Three courses from Group I	• Data and Network Security • Operating Systems LAB • BSc project • Internship • Four courses from Group I • Four courses from Group II

Group I: Advanced and Specialist Courses	Group II: Elective Courses
Object Oriented Programming, Signals and Systems, Real-Time Systems, Design of Algorithms, Software Engineering, Computer Simulation, Advanced information retrieval, Microprocessors, VLSI Design, Data Communication, Information Technology and Ethics, Theory of Machines and Languages, Design of Programming Languages, Information Technology Project Management	Numerical Computation, Digital Electronics, Computer Measurement and Control, Hardware description languages, Electronics, Advanced Digital Design, Linear Feedback Control, VLSI LAB, Microprocessors LAB, Digital Electronics LAB, E-Commerce, Application Engineering, Strategic Management and Planning, Multimedia Systems, 3D Computer Vision, Advanced Topics in Software Engineering, Software Engineering LAB, Computer Graphics, Web Programming, Theory of Computation, Agile Software Development, Advanced Topics in Hardware Engineering, Industrial Automation LAB

Graduate Programs

M.Sc.

- Software Engineering
- Computer Architecture
- Artificial Intelligence and Robotics
- Computer Networks
- Secure Computing
- Algorithms and Computation
- Bioinformatics

Ph.D.

- Computer Engineering

Graduate Research Fields and Facilities

To facilitate in-depth practical study of different aspects of computer engineering, several educational laboratories are devoted to providing hands-on laboratory experience to undergraduate and graduate students. A number of these laboratories are listed below:

- Algorithms and Combinatorics
- Architectural Support for Emerging Technologies
- Bioinformatics
- Circuit and VLSI Design
- Cloud and Green Computing
- Computer Vision, Graphics, and Visualization
- Database Systems
- Dependability and Fault-Tolerant Systems
- Distributed and Pervasive Computing
- Electronic Design Automation and HW/SW Co-design
- Embedded and Real-time Systems
- Energy and Environment-Aware Systems
- Hardware Security
- High Performance Computing and Parallel Processing
- Human-Computer Interaction (HCI)
- Image and Video Processing
- Information Retrieval
- Low-Power Design
- Machine Learning
- Memory Systems
- Micro-Architecture and Multicore Processors
- Natural Language Processing (NLP)
- NoC, SoC, and Interconnection Networks
- Programming Languages and Compilers
- Reconfigurable Computing
- Security, Privacy and Cryptography
- Smart Buildings (Cyber Physical Systems)
- Speech and Audio Processing
- Storage, SSD, NVMS, and I/O systems
- Systems and Networking

Career Opportunities

Graduates of the department are capable of identifying and analyzing

the present day computer systems around the world, so that they can come up with strategies to better deploy, maintain, troubleshoot, upgrade, and improve the efficiency of systems of this kind. They are equipped with the necessary knowledge and tools to propose innovative methods to improve the existing solutions for new challenges. The graduates of the department are highly employable, and perhaps more importantly, have co-founded some of the most successful startups of the country.