FACULTY OF COMPUTING AND ENGINEERING SCIENCES

MS Computer Science

SZABIST offers MSCS degree in three specialization including: Core Computer Science, Software Engineering (SE) and Networks and Security (N&S) in order to cater to the market needs. Students have to complete 3 focused courses in any specific domain.

The program is of 2-year duration and is offered in the evening. It requires 33 credit hours to complete. Although the institutional administration emphasize and encourage students to undertake research, they can take two courses in lieu of research in specific domains. If student opts for course work only, he/she is required to complete 11 courses of 3 credit hours each. Else, the student is required to complete 9 courses (27 credit hours) and two Independent Research Studies (6 credit hours) OR one Thesis (6 credit hours).

The maximum time limit to complete the MS degree is 4 years.

Master of Science in Computer Science (In Core Computer Science)

First Year

First Semester

CSC 5105	Research Methodology
CSC 5101	Advanced Algorithms Analysis
CSC 5102	Theory of Computation

Second Semester

CSC 5201	Advanced Operating Systems
CSC 5202	Advanced Computer Architecture
CSC 5xxx	Elective-I (from CS Stream)

Second Year

Third Semester

CSC 5xxx	Thesis/Independent Research Study-I OR Course Work (from CS-Stream)
CSC 5xxx	Elective-II (from CS-Stream)
CSC 5xxx	Elective-III (from CS-Stream)

Fourth Semester

CSC 5xxx	Thesis/Independent Research Study-II OR Course Work (from CS-Stream)
CSC 5xxx	Elective-IV (from CS-Stream)

Master of Science in Computer Science (With Specialization in Software Engineering)

First Year

First Semester

CSC 5105	Research Methodology
CSC 5101	Advanced Algorithms Analysis
CSC 5102	Theory of Computation

Second Semester

CSC 5201	Advanced Operating Systems
CSC 5202	Advanced Computer Architecture
SEC 5xxx	Elective-I (from SE Stream)

Second Year

Third Semester

CSC/SEC 5xxx	Thesis/Independent Research Study I OR Course Work (from CS Stream or from SE-Stream)
SEC 5xxx	Elective-II (from SE-Stream)
SEC 5xxx	Elective-III (from SE-Stream)

Fourth Semester

CSC/SEC 5xxx	Thesis/Independent Research Study II OR Course Work (from CS Stream or from SE-Stream)
SEC 5xxx	Elective-IV (from SE-Stream)

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

Master of Science in Computer Science (With Specialization in Networks & Security)

First Year

First Semester

CSC 5105	Research Methodology
CSC 5101	Advanced Algorithms Analysis
CSC 5102	Theory of Computation

Second Semester

CSC 5201	Advanced Operating Systems
CSC 5202	Advanced Computer Architecture
NSC 5xxx	Elective-I (from N&S Stream)

Second Year

Third Semester

CSC/NSC 5xxx	Thesis/Independent Research Study I OR Course Work (from CS Stream or from N&S-Stream)
NSC 5xxx	Elective-II (from N&S-Stream)
NSC 5xxx	Elective-III (from N&S-Stream)

Fourth Semester

CSC/NSC 5xxx	Thesis/Independent Research Study II OR Course Work (from CS Stream or from N&S-Stream
NSC 5xxx	Elective-IV (from N&S-Stream)

CS-Stream

CSC 5164	Real-Time Systems
CSC 5162	Digital Image Processing
CSC 5161	Machine Learning
CSC 5163	Data Mining
CSC 5166	Operation Research
CSC 5167	Deep Learning
CSC 5264	Expert Systems
CSC 5267	Reverse Engineering
CSC 5266	Digital Forensics and Malware Analysis
CSC 5263	Advanced Resource Sharing Architecture
CSC 5262	Computer Vision
CSC 5268	Robotics
CSC 5261	Advanced Database Design
CSC 5265	Distributed Computing
CSC 5269	Systems and Network Programming
CSC 5168	Big Data Analytics
CSC 5271	Natural Language Processing

SE-Stream

SEC 5163	Software Requirement Engineering
SEC 5161	Software System Architecture
SEC 5164	Software System Quality
SEC 5162	Advanced Software Engineering
SEC 5261	Software Analysis and Testing
SEC 5263	Web Engineering
SEC 5262	Software Project Management

N&S-Stream

NSC 5161	Advanced Computer Networks
NSC 5163	Network Security
NSC 5164	Applied Cryptography
NSC 5162	Information Security
NSC 5165	Cyber Security
NSC 5261	Wireless Sensor Networks
NSC 5264	Telecom Policies and Regulations
NSC 5263	Mobile Ad-hoc Networks
NSC 5262	Advanced Data Communications
NSC 5265	Advanced Routing and Switching
NSC 5166	Advanced Ethical Hacking

Pre-Requisites:

- For any advanced course, pre-requisite course must have been taken before.
- For each track, the following courses must have been done prior to admission.

MS (CS) (In Core Computer Science)

Programming Fundamentals
Data Structures
Operating Systems
Finite Automata Theory and Formal Languages

MS (CS) with SE-Specialization

Programming Fundamentals
Data Structures
Operating Systems
Software Engineering

MS (CS) with N&S-Specialization

Programming Fundamentals
Data Structures
Operating Systems
Data Communication and Computer Networks

Full time academic load is three courses. All students are required to register for full load in the first semester.