

Computer Science & Engineering Department, School of Engineering

UG Prospectus

Department of Computer Science & Engineering, School of Engineering at Shiv Nadar University offers B.Tech programs in, Computer Science & Engineering. The B.Tech programs at SNU prepare students with a broad foundation in fundamental principles of Mathematics, Science, and Engineering, and the ability to apply this knowledge to the design, analysis, and implementation of real-life complex systems.

The flexibility of SNU's curriculum allows students to customize their programs to meet their own interests. Students combine core math, science, and engineering with electives in the arts, humanities, social sciences, and business.

Students build on this foundation throughout their program of study by engaging in experiential learning in order to gain a hands-on experience in applying classroom concepts in the real world. A final year project provides the students the opportunity to work in multi-disciplinary teams to pursue an engineering idea from conception to design. Strong partnerships with industry and funded research provide great opportunities for undergraduate student research and internships, and other experiential learning programs provide opportunities for students to gain relevant real world experience during their program of study. SNU engineering graduates are trained to understand the broad social, economic, and ethical implications of their work, and to be cognizant of their professional responsibilities. The innovative curriculum offers exceptional preparation for an engineering career, as well as for many other professions.

Structure of UG program

Total number of Credits: 179

No. of Years: Four

B.Tech in computer Science & Engineering

S. No.	Category	Credits
1.	Core Common Curriculum (CCC)	24
2.	University Wide Elective (UWE)	18
3.	Basic Sciences (BS)	28
4.	Engineering Sciences (ES)	22
5.	Major Core	55
6.	Major Elective	12
7.	Project	20
Total Credits		179

For details of CCC, UWE refer UG Handbook

Basic Sciences**28 Credits**

S. No.	Course	L:T:P	Credits
1	Physics-1	3-1-0	4
2	Applied Chemistry	3-1-1	5
3	Maths-1	3-1-0	4
4	Bio Science	2-0-1	3
5	Maths-2	3-1-0	4
6	Physics-2	3-1-1	5
7	Maths-3	3-0-0	3
	Total Credits		28

Engineering Sciences**22 Credits**

S. No.	Course	L:T:P	Credits
1	Problem Solving through Programming	3-0-1	4
2	Introduction to Electrical Engineering	3-1-1	5
3	Engineering Mechanics	3-1-0	4
4	Manufacturing Processes	1-0-2	3
5	Engineering Graphics	1-0-1	2
6	Material Science and Engineering	3-0-1	4
	Total Credits		22

Project**20 Credits**

S. No.		L:T:P	Credits
1	Project	0-0- 20	20

First year common to all Engineering majors

First Semester

S. No.	Course Title	L:T:P	Credits
1	CCC 1		3
2	Maths-1	3-1-0	4
3	Physics-1	3-1-0	4
4	Applied Chemistry	3-1-1	5
5	Engineering Mechanics*	3-1-0	4
6	Problem Solving through Programming*	3-0-1	4
Semester Credits			24

Second Semester

S. No.	Course Title	L:T: P	Credits
1	CCC 2		3
2	Maths-2	3-1-0	4
3	Physics-2	3-1-1	5
4	Bioscience	2-0-1	3
5	Engineering Graphics*	1-0-1	2
6	Introduction to Electrical Engineering*	3-1-1	5
Semester Credits			22

* Courses will be offered in both the semesters a student has to take as per availability and complete the credit requirements.

B.Tech in CSE**Third Semester**

S. No.	Course Code	Course Title	L:T: P	Credits
1		CCC 3		3
2		CCC 4		3
3		Maths-3	3-0-0	3
4		Material Science and Engineering	3-0-1	4
5		Manufacturing Processes	1-0-2	3
6	EED 201	Signals and Systems	3-1-0	4
7		Data Structures	3-0-1	4
Semester Credits				24

Fourth Semester

S. No.	Course Code	Course Title	L:T: P	Credits
1		CCC 5		3
2	EED 202	Digital Electronics	3-1-1	5
3		Programming Languages	3:0:1	4
4		Introduction to Database Systems	3:0:1	4
5		Operating Systems	3:0:1	4
6		Discrete Mathematical Structures	3:1:0	4
Semester Credits				24

Fifth Semester

S. No.	Course Code	Course Title	L:T: P	Credits
1		CCC 6		3
2		Software Engineering	3:0:0	3
3		Analysis and Design of Algorithms	3:0:1	4
4		Theory of Computation	3:0:0	3
5		Major Elective-1	3-0-0	3
6		UWE-1	3-0-0	3
Semester Credits				23

Sixth Semester

S. No.	Course Code	Course Title	L:T: P	Credits
1		CCC 7		3
2		Computer Architecture	3:0:1	4
3		Internet and Web Technology	3:0:1	4
4		Computer Networks	3:0:1	4
5		Major Elective-2	3-0-0	3
6		UWE-2	3-0-0	3
Semester Credits				22

Industrial training of 4-6 weeks after Sixth semester (Mandatory Noncredit course)

Seventh Semester

S. No.	Course Title	L:T: P	Credits
1	CCC 8		3
2	Major Elective-3	3-0-0	3
3	Major Elective-4	3-0-0	3
4	UWE-3	3-0-0	3
5	UWE-4	3-0-0	3
6	UWE-5	3-0-0	3
7	UWE-6	3-1-0	3
Semester Credits			21

Eighth Semester

S. No.	Course Title	L:T: P	Credits
1	Project	0-0-20	20
Semester Credits			20

Tentative list of Major electives

If a student takes all the courses from one of the tracks as Major Electives then he/she gets a specialization in that area

Major Elective¹			
Sl. No.	Course	L:T:P	Credits
1.	Software Architecture	3:0:0	3
2.	Software Testing	3:0:0	3
3.	Software Project Management	3:0:0	3
4.	Software Reliability	3:0:0	3
5.	Compiler Design	3:0:0	3
6.	Computer Graphics	3:0:0	3
7.	Network Security and Management	3:0:0	3
8.	Mobile Communications	3:0:0	3
9.	Distributed Systems	3:0:0	3
10.	Parallel Computing	3:0:0	3
11.	Soft Computing	3:0:0	3
12.	Data Mining and Data Warehousing	3:0:0	3
13.	Machine Learning	3:0:0	3
14.	Artificial Intelligence	3:0:0	3
15.	Robotics	3:0:0	3
16.	Digital Image Processing	3:0:0	3
17.	Simulation and Modeling	3:0:0	3
18.	Programming in Java	3:0:0	3
19.	Digital Hardware Design	3:0:0	3
20.	Embedded System Design	3:0:0	3

¹ Offered Electives are subject to change