DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

Dayananda Sagar University

School of Engineering

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt., Bengaluru – 562 112

Department of
Computer Science & Technology

B.Tech. PROGRAMME

SCHEME AND SYLLABUS

MINOR & HONOURS DEGREE

Academic Year 2024-25

Definitions / Descriptions

Definition of Credit:	
1 Hour Lecture (L) Per Week	01 Credit
1 Hour Tutorial (T) Per Week	0.5 Credit
1 Hour Practical (P) Per Week	0.5 Credit
1 Hour Project (J) Per Week	0.5 Credit

Course code and Definition:	
BSC	Basic Science Courses
ESC	Engineering Science Courses
HSMC	Humanities and Social Sciences including Management Courses
IPCC	Integrated Professional Core Course
PCC	Professional Core Courses
PEC	Professional Elective Courses
OEC	Open Elective Courses
SEC	Skill Enhancement Courses
UHV	Universal Human Value Course
PROJ	Project Work
INT	Internship

B. Tech with Minor Degree in CST

B Tech students from non-CST department can get Minor in CST that runs in parallel to the BTech degree. It allows a student to get basic competencies in computer science & technology thus expanding their horizons for a career that requires multidisciplinary skills.

To obtain a Minor degree, the student should earn 18 additional credits after successfully completing 3rd Sem to 8th Semester. A student will receive BTech with Minor in CST degree on successful completion of BTech courses offered in Computer Science & Technology.

Programme objectives:

The objective of B. Tech with minor degree is

a) To diversify their academic background and develop a broader skill set.

b) It fosters personal growth and expands students' horizons.

c) To provide a complementary skill set that makes a student more well-rounded and versatile in the job market.

SCHEME - B. Tech with Minor in CST

- New courses to be chosen from the following list which the student has not previously taken as course to earn 18 credits.

	SCHEME												
S.N	Course Type	Course Name	Semester	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	PCC	Design Thinking & Ideation	III/IV	CST	2	0	0	2	2	60	40	100	3
2	PCC	Innovative Businesses & Breakthrough Technologies	III/IV	CST	2	0	0	2	2	60	40	100	**3**
3	PCC	Small E-Business Launch	V	CST	2	0	0	0	2	60	40	100	3
4	PCC	Idea Generation and Validation	V	CST	2	0	2	2	2	60	40	100	4
5	PCC	Devsecop's	V	CST	3	0	0	2	2	60	40	100	4
6	PCC	Introduction to IPR & Registration	VI	CST	2	0	2	2	2	60	40	100	4
7	PCC	Product Design & Development	VI	CST	2	0	2	2	2	60	40	100	4
8	PCC	Lean Startup Methodology	VI	CST	2	0	2	2	2	60	40	100	4
9	PCC	Product Analytics	VII	CST	2	0	0	2	2	60	40	100	3
10	PCC	Technology Strategy	VII	CST	2	0	0	2	2	60	40	100	3

B. Tech CST with Honours Degree in CST

To obtain B. Tech CST Honours Degree, an additional 18 credits are required which demonstrates ability of Self Learning and/or research/ Entrepreneurship. The courses should be selected from the list of courses approved by the CST department. The self-learning component can be completed through SWAYAM /NPTEL /any other approved MOOC (massive open online course) platform. The courses should be selected from the list of courses approved by the CST department.

A student has to undertake these courses from V to VIII semester over and above the normal prescribed courses comprising of 160 credits. Students will receive B. Tech with Honours degree on successful completion of these courses.

Programme objectives:

The objective of B. Tech with Honours degree is

a) To foster a spirit of innovation, problem-solving, and creative thinking in engineering students.

b) To promote a higher level of proficiency and commitment to their profession and prepare students for successful careers in the engineering industry, as employers frequently value the abilities and knowledge of graduates with such distinctions.

c) To promote the self-learning capability among students.

d) To promote high quality research by students.

e) To become skilled engineers, innovators, and problem solvers who can contribute significantly to society and industry.

SCHEME - B. Tech with Honours

S. N	Course Type	Course Name	Semester	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in	CIE Marks	SEE Marks	Total Marks	
					L	T	P	J					
1	IPCC	Modern Big Data Analysis with SQL Specialization	V	CSE	3	0	0	0	3	60	40	100	3
2	IPCC	Advanced Data Visualization with R	V	CSE	3	0	0	0	3	60	40	100	3
3	IPCC	Advanced Django: Mastering Django and Django Rest Framework Specialization	VI	CSE	3	0	0	0	3	60	40	100	3
4	IPCC	.NET FullStack Developer Specialization	VI	CSE	3	0	0	0	3	60	40	100	3
5	IPCC	AI and Cloud Computing: Implementation Strategies for Business	VI	CSE	3	0	0	0	3	60	40	100	3
6	IPCC	Application Development using Microservices and Serverless	VI	CSE	3	0	0	0	3	60	40	100	3
7	IPCC	SAP Customer Engagement and Discovery	VII	CSE	3	0	0	0	3	60	40	100	3
8	PCC	Small Business: Growth and Management	VII	CST	3	0	0	0	3	60	40	100	3
9	PCC	Innovation Strategies for Electric Mobility: The StreetScooter Case	VII	CST	3	0	**0**	0	3	60	40	100	3
10	PCC	Meta Spark Creator AR Certification Prep Specialization	VIII	CSE	3	0	0	0	3	60	40	100	3
11	IPCC	Innovation and emerging technology: Be disruptive	VIII	CST	3	0	0	0	3	60	40	100	3
12	IPCC	IOS Development for Creative Entrepreneurs Specialization	VIII	CST	3	0	0	0	3	60	40	100	3

General Instructions:

- **Open Elective Courses:** At least two courses must be provided from each department and the courses shall be general course on emerging areas with broad coverage of syllabus so that student shall chose without any difficulty.
- **Honors Degree:** An Honours degree typically refers to a higher level of academic achievement in the major area. That is, certificate in his/her OWN major for Research orientation. The Credit requirement: **178 credits** (Major worth 160 credits + Honors 18 credits)
- **Minor Degree:** Minor is a secondary concentration of courses that often complements the honors. Minor in any OTHER branch for Improving Employability.
    - Minor is an option rather than a requirement for B. Tech students. They may opt for one of the Engineering or Non-engineering discipline as Minor, earning additional credits of 18. However, students are permitted to choose only one Minor either from engineering or non-engineering discipline.
    - This opportunity is ideal for students who took a Major out of necessity but would still like to pursue their passion in another discipline or to enrich/equip them for a specific profession where greater job opportunities exist. Another advantage of opting for a Major with a Minor is to earn standing credits for pursuing a Master's degree abroad or within India too.
    - Only students who satisfy a set of minimum eligibility criteria set forth by the university and meet certain pre-requisites, will be permitted to opt for a Minor.
    - Credit requirement: **178 credits** (Major worth 160 credits + Minor 18 credits)
    - Degree nomenclature: The degree will contain the Major / Major with Specialization. The Minor pursued by the student will be provided in the transcript along with details on courses completed and associated credits earned.
    - For e.g., For a student who pursued Computer Science and Engineering with a Minor in Industrial Psychology, the degree will read "B. Tech in Computer Science and Engineering", Transcripts of B. Tech will reflect the Minor courses and the Minor certificate in Industrial Psychology will be issued separately.