

Study & Evaluation Scheme

of

Bachelor of Science (Honours)-Computer Science

[Applicable w. e. f. Academic Session – 2019-20]
[As per CBCS guidelines given by UGC]

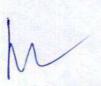




TEERTHANKER MAHAVEER UNIVERSITY

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Syllabus as per CBCS (2019-20)





Syllabus of B. Sc. (H)-Computer Science - College of Computing Sciences &IT, TMU Moradabad.



Basic Structure: Distribution of Courses							
S.No.	Type of Course	Credits					
1		15 Theory Courses of 4 Credit Hrs. each and (Total Credit Hrs. 15X4)=60 Credit Hours (60 Credits)					
	Core Course (CC)	01 Theory Courses of 3 Credit Hrs. each and (Total Credit Hrs. 1X3)=3 Credit Hours (3 Credits)					
		10 Practical Courses of 4 Credit Hrs. each (Total Credit Hrs. 10X4)=40 Credit Hours (20 Credits)					
2	Ability-Enhancement Compulsory Course (AEC)	06 Courses of 4 Credit Hrs. each (Total Credit Hrs. 6X4)= 24 Credit Hours (19 Credits)	19				
3	Skill-Enhancement Elective Course (SEC) O4 Courses of 4 Credit Hrs. each (Total Credit Hrs. 4X4)= Credit Hours (12 Credits)						
4	Open Elective Course (OEC)	02 Courses of 3 Credit Hrs. each (Total Credit Hrs. 2X3)= 06 Credit Hours (06 Credits)					
5	Generic Elective Course (GEC)	04 Courses of 4 Credit Hrs. each (Total Credit Hrs. 4X4)= 16 Credit Hours (14 Credits)					
6	Program/Discipline Specific Elective Course (DSC)	04 Courses of 4 Credit Hrs. each (Total Credit Hrs. 4X4)= 16 Credit Hours (12 Credits)					
7	Value Added Course (VAC)	4 Courses of 2 Credit Hrs. each (Total Credit Hrs. 4X2)= 08 Credit Hours (0 Credit)					
		2 Course of 3 Credit Hrs. each (Total Credit Hrs. 2X3)= 06 Credit Hours (0 Credit)	0				
8	Project and Summer Training	1 Course of 6 Credit Hrs. each (Total Credit Hrs. 1X6)= 06 Credit Hours (03 Credits)					
	Report	Report 1 Course of 0 Credit Hrs. each (Total Credit Hrs. 1X0)= 0 Credit Hours (02 Credit)					
		Total Credits	151				

Contact hours include work related to Lecture, Tutorial and Practical (LTP), where the institution has flexibility to decide course wise requirements.

B. Choice Based Credit System (CBCS)

Choice Based Credit System (CBCS) is a versatile and flexible option for each student to achieve his target number of credits as specified by the UGC and adopted by our University.

The following is the course module designed for the Bachelor of Science (Honours) Computer Science program:

Core Course (CC): Core courses of Bachelor of Science (Honours) Computer Science program will provide a holistic approach to computer science education, giving students an overview of the field of knowledge, a basis to build and specialize upon. These core courses are the strong foundations to establish the knowledge of computer science and provide broad and multi-disciplined knowledge that can be studied further in depth during the elective phases.

The core courses will provide more practical-based knowledge, case-based lessons and collaborative learning models. It will train the students to develop their ability of remembering, understanding, applying, analyzing, evaluating and creating the things.

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A wide range of core courses provides the knowledge of various domains of computer science including coding business logic in various programming languages, computer hardware, computer software, networking, database management system, information technology, mathematics, statistics, internet of things, artificial intelligence, cloud computing and cyber security.

The integrated foundation is important for students because it will not only allow them to build upon existing skills, but they can also explore career options in a range of industries, and expand their understanding of various fields of computer science. We offer core courses in all semesters during the Bachelor of Science (Honours) Computer Science program. There will be 4 credits for each theory core course and 2 credits for each practical core course offered.

Ability Enhancement Course (AEC): The Ability Enhancement Course (AEC) is a course designed to develop the ability of students in communication (especially English) and other related courses where they might find it difficult to communicate at a higher level in their prospective job at a later stage due to lack of practice and exposure in the language, etc. Students are motivated to learn the theories, fundamentals and tools of communication which can help them develop and sustain in the corporate environment and culture. We offer one AEC of 4 credits in semester I and five AECs of 3 credits each in Semester I, II, III and IV of the program.

Skill Enhancement Course (SEC): The Skill Enhancement Course (SEC) is a course designed to develop the field specific skills like aptitude, reasoning, business logic understanding, building, and implementing in an enterprise. The mobile and desktop applications and websites may be created using these skills. We offer two SECs of 4 credits each and two SECs of 2 credits each in semester V and VI.

Generic Elective Course (GEC): Generic Elective Course is an interdisciplinary additional subject that is compulsory in semester III, IV and VI of the program. The score of Generic Elective Course is counted towards overall aggregate marks under Choice Based Credit System (CBCS). We offer three GECs of 4 credits each and one GEC of 2 credits in semester III, IV and VI.

Open Elective Course (OEC): Open Elective Course is an interdisciplinary additional subject that is compulsory in semester V and VI of the program. The score of Open Elective Course is counted towards overall aggregate marks under Choice Based Credit System (CBCS). We offer two OECs of 3 credits each in semester V and VI.

Value Added Course (VAC): A Value Added Course is a non-credit course which is basically meant to enhance general ability of students in areas like soft skills, quantitative aptitude and reasoning ability required for the overall development of a student and at the same time essential for industry/corporate demands and requirements. The student possessing these skills will definitely develop insight to perform well during the recruitment process of any premier organization and will have the desired confidence to face the interview. Moreover, these skills are also essential in day-to-day life of the corporate world. The aim is to nurture every student for making effective communication, developing aptitude and a general reasoning ability for a better performance, as desired in corporate world. There shall be one course each in Semester I & II and two courses each in Semester III & IV and will carry no credit, however, it will be compulsory for every student to pass these courses with minimum 45% marks to be eligible for the certificate. These marks will not be included in the calculation of CGPI. Students have to be specifically registered in the specific course of the respective semesters.

Discipline Specific Elective Course (DSC): The Discipline Specific Elective Course is chosen to make students specialist or having specialized knowledge of a specific domain like computer application, programming and networking, etc. It will be covered in two semesters (IV & VI) of second year and third year of the program relevant to chosen disciplines of core courses of the program. We offer two DSCs of 4 credits each and two DSCs of 2 credits each in semester IV and VI.

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B.Sc. (Honours) CS: Semester V

S. No.	Categor y	Course Code	Course Name	Periods			Credit	Evaluation Scheme		
				L	T	P		Internal	External	Total
1	CC XX	CSC515	Dot Net Framework with C#	3	1	0	4	40	60	100
2	CC XXI	CSC516	Theory of Computation	3	1	0	4	40	60	100
3	CC XXII	CSC517	Python Programming & Introduction to Data Science	3	1	0	4	40	60	100
4	SEC I	Select one out of the list Skill Enhancement Course I		3	1	0	4	40	60	100
5	GEC III	Select one out of the list Generic Elective III		3	1:	0	4	40	60	100
6	SEC II	Select one out of the list Skill Enhancement Course II		0	0	4	2	50	50	100
7	CC XXIII	CSC560	Python Programming & Introduction to Data Science Lab	0	0	4	2	50	50	100
8	CC XXIV	CSC 561	Dot Net Framework with C#	0	0	4	2	50	50	100
9	OEC I	Open Elective I		3	0	0	- 3	40	60	100
		Total			5	12	31*	440*	560*	1000*

^{*} including Industrial Training (to be undertaken at the end of IV semester, listed in IV semester evaluation scheme)

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B.Sc. (Honours) CS: Semester VI

S. No.	Category	Course Course Name		Period	s	Credit	Evaluation Scheme			
				L	T	P		Internal	External	Total
1.	SEC III	Select one out of the list Skill Enhancement Course III		3	1	0	4	40	60	100
2	CC XXV	CSC 618	Machine Learning using Python	3	1	0	4	40	60	100
3	GEC IV	Select one out of the list Generic Elective IV		3	1	0	4	40	60	100
4	DSC III	Select one out of the list Discipline Specific Elective Course III		3	1	0	4	40	60	100
5	Project II	CSC662	Project LAB	0	0	6*	3	50	50	100
6	SEC IV	Select one out of the list Skill Enhancement Course IV		0	0	4	2	50	50	100
7	DSC IV	Select one out of the following list Discipline Specific Elective Course IV		0	0	4	2	50	50	100
8	CC XXVI	CSC661	Machine Learning using Python LAB	0	0	4	2	50	50	100
9	OEC II	Open Elective II		3	0	0	3	40	60	100
		Total		15	4	18	28	400	500	900

^{* 2} hours will be supervisor interaction and 4 hours will be lab hours



