



SCHOOL OF COMPUTING SCIENCE AND ENGINEERING

CURRICULUM 1.0

B.Tech. (Computer Science and Engineering)

Specialization in Cyber Security and Digital Forensics

(2018- 19) Admitted Students

Category	Core Credits	Elective Credits	Total Credits
Natural Science	28	6	34
Engineering and Technology	97	21	118
Humanities and Management	13	9	22
Open Electives	0	6	6
Total Credits			180

VIT Bhopal University - B. Tech. Computer Science and Engineering Specialization in Cybersecurity and Digital Forensics (4 years - 180 Credits)

Code	Natural Sciences	Type	34 Cr.	Code	Engineering and Technology	Type	118 Cr.	Code	Humanities and Management	Type	22 Cr.	Open Electives	Type	6 Cr.
	Core Courses		28 Cr.		Core Courses		97 Cr.		Core Courses		13 Cr.			
PHY1001	Engineering Physics	LTP	4	CSE1001	Introduction to problem solving and programming	LTP	4	ENG1002	Communication for Technical Professionals	LT	3	Courses Worth 6 Credits		6
CHY1003	Forensic chemistry	LT	3	EEE1001	Electric Circuits and Systems	LTP	4	ENG2002	Legal Writing & reporting	LT	2	Coursera		1/2/3/4
MAT1001	Calculus and Laplace Transforms	LT	4	CSE2001	Object oriented programming with C++	LTP	4	HUM1008	Swachh Bharat	PJ	2			
MAT2001	Differential and Difference Equations	LT	3	ECE2002	Digital logic design	LTP	4	HUM1007	Ethics and Values	LT	2			
MAT3002	Applied Linear Algebra	LT	3	CSD4001	Software Vulnerability Testing	LTP	4	STS1001	Soft skills I	LT	1			
MAT2009	Applied Cryptography	LT	4	CSD3001	Data Structures and Analysis of Algorithms	LP	3	STS2001	Soft skills II	LT	1			
MAT2002	Discrete Mathematics and Graph theory	LT	4	CSE2003	Computer architecture and organization	LT	4	EXC1001	Extracurricular Activity	PJ	2			
CHY1002	Environmental Science	LT	3	CSE2004	Theory of computation and compiler design	LT	4							
	Elective Courses (2 Courses to choose from the below list of course for Natural Science)		6 Cr.	CSE3001	Database management systems	LTP	4		Humanities and Management Elective Courses		9 Cr.			
BIO3021	Forensic Biology	LT	3	CSD1001	Principles of Digital Forensics	LT	3		HUM and MGT Elective I	LT	3			
PHY2004	Forensic Physics	LT	3	CSE4001	Internet and web programming	LTP	4		HUM and MGT Elective II	LT	3			
MAT2003	Applied Numerical Methods	LT	3	CSE3003	Operating systems	LTP	4		HUM and MGT Elective III	LT	3			
MAT2004	Operations Research	LT	3	ECE3004	Microprocessors and Microcontrollers	LTP	4		Annexure I – List of courses for Humanities and Management					
MAT3003	Probability, Statistics and Reliability	LT	4	CSD4002	Ethical Hacking	LTP	4							
BIOxxxx	Environmental Sustainability	LT	3	DSN2096	Engineering design	LT	2							

				CSD3002	Secure Software Engineering	LTP	4												
				DSN2098	Project Exhibition – I	PJ	1												
				DSN2099	Project Exhibition – II	PJ	1												
				DSN3099	Engineering Project in Community Service	PJ	2												
				CSE3006	Computer Networks	LTP	4												
				CSD4003	Network and System Security	LP	3												
				CSD4004	Cyber Clinic	P	2												
				CSD2097	Internship	PJ	2												
				CSD4098	Comprehensive Exam	PJ	2												
				CSD4099	Capstone Project	PJ	20												
					Elective Courses		21 Cr.												

Security and Forensics – Electives			
Course code	Course title	Type	Credit
CSD2001	Mobile Device Forensics	LP	3
CSD3004	Cyber Threat Analysis 4	LP	3
CSD3005	Data Privacy 6	LP	3
CSD3006	Android Security	LP	3
CSD3007	Block chains and Crypto currencies 5	LT	3
CSD3008	Machine Learning Forensics	LT	3
CSD4005	Network Forensics	LP	3
CSD4006	File System Forensics	LP	3
CSD4007	Cloud Security 7	LT	3
CSD4008	Cybersecurity Framework	LT	3
CSD4009	Enterprise Cybersecurity	LT	3
CSD4010	Embedded Systems and Security	LP	3
CSD4011	IoT Security	LT	3
CSD4012	Web Security 3	LP	3
CSD4013	Forensic Audio and Video Analysis	LP	3
NASxxxx	NASSCOM 2	LTP	4

HUM and MGT Electives - Electives			
Course code	Course title	Type	Credit
HUM2001	Cyber psychology	LT	3
HUM1002	Emotional Intelligence	LT	3
HUM2002	Forensic Psychology	LT	3
CSD3003	Cyber Crimes and Cyber laws	LT	3
MGT2007	Forensics Accounting and Fraud audit	LT	3
MGT2008	Disaster Recovery and Business Continuity Management	LT	3
HUM2003	Foundations of privacy and security	LT	3
PLA1001	Programming for Computing Engineers	LT	4
MGT1001	Principles of Management	LT	3
MGT1012	Engineering Economics	LT	3
ONLxxxx	VITOL Courses		1/2/3/4

Open - Electives			
Course code	Course title	Type	Credit
PLA1003	Logic and Problem Solving for Engineers	LT	2

Semester Course Arrangement – B Tech (Computer Science and Engineering) Specialization in Cybersecurity and Digital Forensics

Semester 1				Semester 2				Semester 3				Semester 4			
Course Code	Course Title	Type	Cr.	Course Code	Course Title	Type	Cr.	Course Code	Course Title	Type	Cr.	Course Code	Course Title	Type	Cr.
ENG1001	Communication for Technical Professionals	LT	3	ENG2002	Legal Writing & reporting	LT	2	CSD1001	Principles of Digital Forensics	LT	3	MAT3002	Applied Linear Algebra	LT	3
PHY1001	Engineering Physics	LTP	4	MAT2009	Applied Cryptography	LT	4	CSE2003	Computer Architecture and Organization	LT	4	CSE3001	Database Management Systems	LTP	4
CHY1003	Forensic Chemistry	LT	3	ECE2002	Digital Logic Design	LTP	4	CSE2004	Theory of Computation and Compiler Design	LT	4	CSE3006	Computer Networks	LTP	4
CSE1001	Introduction to Problem Solving and Programming	LTP	4	CSE2001	Object Oriented Programming with C++	LTP	4	CSD3001	Data Structures and Analysis of Algorithms	LP	3	CSE3003	Operating Systems	LTP	4
MAT1001	Calculus and Laplace Transforms	LT	4	MAT2002	Discrete Mathematics and Graph Theory	LT	4	MAT2001	Differential and Difference Equations	LT	3		NS Elective-I	LT	3
EEE1001	Electric Circuits and Systems	LTP	4	CHY1002	Environmental Science	LT	3		Program Elective-I	LP/LT	3		Program Elective-II	LP/LT	3
HUM1007	Ethics and Values	LT	2	HUM1008	Swachh Bharat	PJ	2	DSN2098	Project Exhibition – I	PJ	1	DSN2099	Project Exhibition – II	PJ	1
								DSN2096	Engineering Design	LT	2	EXC1001	Extra-Curricular Activity	--	2
Total credits			24	Total credits			23	Total credits			23	Total credits			24
Semester 5				Semester 6				Semester 7				Semester 8			
Course Code	Course Title	Type	Cr.	Course Code	Course Title	Type	Cr.	Course Code	Course Title	Type	Cr.	Course Code	Course Title	Type	Cr.
ECE3004	Microprocessors and Microcontrollers	LTP	4	CSD4002	Ethical Hacking	LTP	4		Program Elective-V	LP/LT	3	CSD4099	Capstone Project	PJ	20
CSD3002	Secure Software Engineering	LTP	4	PLA1003	Open Elective – I (LPSE)		2		Program Elective-VI	LP/LT	3				
CSD4003	Network and System Security	LP	3		Program Elective-III	LP/LT	3		Hum & Mgt Elective-III	LT	3				
CSE4001	Internet and Web Programming	LTP	4		Program Elective-IV	LP/LT	3		Program Elective -VII	LP/LT	3				
PLA1001	Hum & Mgt Elective – I (PCE)	LT	4	CSD4001	Software Vulnerability Testing	LTP	4		Open Elective-II		3				
STS1001	Soft Skills-I	P	1	STS2001	Soft Skills-II	P	1	CSD2097	Internship	---	2				
DSN3099	Engineering project in Community Service	PJ	0	CSD3099	Engineering Project in Community Service	PJ	2	CSD4098	Comprehensive Exam	---	2				
	NS Elective-II	LT	3		Hum & Mgt Elect II	PT	3	CSD4004	Cyber Clinic	P	2				
Total credits			23	Total credits			22	Total credits			21	Total credits			20