



GALGOTIAS UNIVERSITY



School of Skill Sciences & Entrepreneurship

Program

Bachelor of Technology in Cyber Security

Curriculum

First Semester B.Tech. Cyber Security							
S. No.	Course Code	Course Title	Credit Structure				Total Credits
			L	T	P	S	
1		Mathematics for Cyber Security	1	1	1	1	4
2		Secure System Programming & OOPS using C and C++	1	1	1	1	4
3		Secure Data Structures & Algorithms for Cyber Security	1	1	1	1	4
4		Introduction to IT, Web Technologies & Cyber Security Fundamentals	1	1	0	1	3
5		Fundamentals of Entrepreneurship	1	0	0	1	2
6		Environment and Sustainability Studies	1	0	0	1	2
7		G-PULSE-I	0	0	0	1	1
8		GIG Internship	0	0	0	1	1
CREDITS							21
Second Semester B.Tech. Cyber Security							
1		Computer Architecture for Cyber Security	1	1	1	1	4
2		Advance Operating Systems - Security & Hardening	1	0	1	1	3
3		Python for Security	1	1	1	1	4
4		Hardware Security & Cyber Security Essentials	1	0	1	1	3
5		Entrepreneurship and Innovation	1	0	0	1	2
6		G-PULSE-II	0	0	0	1	1
7		GIG Internship	0	0	0	1	1
8		Internship-I	0	0	0	8	8
CREDITS							26
Third Semester B.Tech. Cyber Security							
1		Computer Network Security & Defense	1	1	1	1	4
2		Ethical Hacking & VAPT	1	1	1	1	4
3		Endpoint Security & Threat Hunting	1	1	0	1	3
4		DBMS Security & Forensics	1	1	1	1	4
5		Entrepreneurial Strategic approach	0	0	0	2	2
6		Indian Knowledge System	1	0	0	1	2
7		G-PULSE-III	0	0	0	1	1
8		GIG Internship	0	0	0	1	1
CREDITS							21
Fourth Semester B.Tech. Cyber Security							
1		IOT, OT(ICS) & Physical Security Systems	1	1	1	1	4
2		Digital Forensics & Incident Response	1	1	1	1	4
3		Cloud Computing Fundamentals & Traffic Analysis	1	0	1	1	3
4		Cyber Crime Psychology, Investigation & Forensics	1	0	1	1	3
5		Entrepreneurship and Family Business	0	0	0	2	2
6		G-PULSE-IV	0	0	0	1	1
7		GIG Internship	0	0	0	1	1
8		Internship-II	0	0	0	8	8
CREDITS							26
Fifth Semester B.Tech. Cyber Security							
1		Advance Cryptography & Secure Communication Technologies	1	1	1	1	4
2		OSINT & Digital Investigations	1	1	1	1	4
3		Malware Analysis, Mitigation & Reverse Engineering	1	1	1	1	4
4		Domain Elective - I	1	1	0	1	3
5		Open Elective - I	1	1	0	1	3
6		Start Up Operations, Marketing and Growth	0	0	0	2	2
7		G-PULSE-V	0	0	0	1	1
8		GIG Internship	0	0	0	1	1
CREDITS							22

Sixth Semester B.Tech. Cyber Security								
1		Identity Security & Zero Trust Operations	1	1	1	1	4	
2		Offensive Security & Red Teaming	1	1	1	1	4	
3		AI & ML for Cyber Defense	1	0	1	1	3	
4		Domain Elective - II	1	0	1	1	3	
5		Open Elective - II	1	1	0	1	3	
6		G-PULSE-VI	0	0	0	1	1	
7		GIG Internship	0	0	0	1	1	
8		Internship-III	0	0	0	8	8	
CREDITS								27
Seventh Semester B.Tech. Cyber Security								
1		APT Attribution & Counter - Operations	1	1	1	1	4	
2		Domain Elective – III	1	1	1	1	4	
3		Open Elective - III	1	0	1	1	3	
4		Capstone - Innovative Cyber Based Project	0	0	2	6	8	
5		G-PULSE-VII	0	0	0	1	1	
6		GIG Internship	0	0	0	1	1	
CREDITS								21
Eighth Semester B.Tech. Cyber Security								
1		Internship-IV	0	0	0	20	20	
CREDITS								22

Total Credits Semester Wise = 21 + 26 + 21 + 26 + 22 + 27 + 21 + 20 = 184 Credits

Domain & Open Electives:

Domain Elective Subjects List	
Domain Elective – I (BTCY 504)	- Cloud Security & DevSecOps - Network Defense & Security Operations - Secure & Responsible AI - Quantum Security
Domain Elective – II (BTCY 604)	- Advance Cyber Defense Operation - SIEM, SOAR & IDPS - Memory Forensics, API Security & Anti – Forensics - Application Security & Secure Coding - Post Quantum Security
Domain Elective – III (BTCY 702)	- Automated Adversary Emulation and Breach Simulation Engineering - Kernel Exploitation & Rootkit Engineering - Cloud & Container Security - Block Chain Security
Open Elective Subjects List	
Open Elective – I (BTCY 505)	- Cyber Threat Intelligence, Management & Analysis - Cyber Risk Quantification & Business Resilience

	• Mobile & Wireless Security • Web 3 Security
Open Elective – II (BTCY 605)	• Cyber Warfare Operations & Strategic Defense • Cyber GRC, Law & Compliance • SOC & Detection Engineering • Autonomous Systems Security
Open Elective – III (BTCY 703)	• Security Compliance and Audit Methodology • Cyber Deception & Threat Intelligence Platform Engineering • Cyber Research Methodology & Innovation • Space Cyber Security

Recommended Certifications:

Recommended Certifications*	
Semester	Aligned Certification
1	CompTIA ITF+
2	Security+
3	Network+
4	CEH
5	eJPT / PNPT
6	CHFI / CySA+
7	OSCP Awareness
8	Cloud Security / CISSP (Associate)