ADAMAS UNIVERSITY

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UG Program: B.Tech (Cyber Security and Forensics)

COURSE STRUCTURE

FIRST YEAR

(Common for all streams)

SEMESTER I							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	MTH11501	Engineering Mathematics I	4	0	0	4	4
2	EVS11112	Environmental Science	3	0	0	3	3
3	PHY13201	Applied Science	2	0	2	4	
4	CSE11001	Introduction to Programming	2	0	0	2	2
5	GEE11001	Electrical and Electronics Technology	2	0	0	2	
6	CSE12002	Programming Lab	0	0	4	4	2
7	GEE12002	Electrical and Electronics Technology Lab	0	0	4	4	
8	ENG11053	English Communication	2	0	0	2	2
9	CSE11082	Principles and Applications of AI	2	0	0	2	
10	BIT11003	Life Sciences	2	0	0	2	2
11	DGS11002	Design Thinking & Prototyping	3	0	0	3	3
12	MEE11002	Engineering Mechanics	3	0	0	3	
13	CEE12001	Engineering Drawing and CAD	0	0	4	4	2
14	MEE12001	Engineering Workshop	0	0	4	4	
Total			**15/16**	**0**	**8/10**	**24/25**	**20**

SEMESTER II							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	MTH11502	Engineering Mathematics II	4	0	0	4	4
2	EVS11112	Environmental Science	3	0	0	3	3
3	PHY13201	Applied Science	2	0	2	3	
4	CSE11001	Introduction to Programming	2	0	0	2	2
5	GEE11001	Electrical and Electronics Technology	2	0	0	2	
6	CSE12002	Programming Lab	0	0	4	2	2
7	GEE12002	Electrical and Electronics Technology Lab	0	0	4	2	
8	ENG11053	English Communication	2	0	0	2	2
9	CSE11082	Principle and Applications of AI	2	0	0	2	
10	EIC11001	Venture Ideation	2	0	0	2	2
11	CLL11101	Soft Skills and Aptitude I	0	0	2	2	1
12	DGS11002	Design Thinking & Prototyping	3	0	0	3	3
13	MEE11002	Engineering Mechanics	3	0	0	3	

14	CEE12001	Engineering Drawing and CAD	0	0	4	2	2
15	MEE12001	Engineering Workshop	0	0	4	2	
Total			**15/ 16**	**0**	**10/ 12**	**27/ 26**	**21**

 # Introduction To Programming / Electrical and Electronics Technology are optional papers
1st Year Credits = 41

SECOND YEAR

SEMESTER III							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	SDS11510	Engineering Mathematics – III-C	3	1	0	4	4
2	CSE11108	**Database Management System**	3	0	0	3	3
3	CSE11103	**Professional Core – I** Principles of Programming Language	3	0	0	3	3
4	CSE11104	**Professional Core – II** Data Structures and Algorithms	3	0	0	3	3
5	CSE11105	**Professional Core – III** Switching Circuits and Logic Design	3	0	0	3	3
-6	CSE12106	**Professional Core Lab - I** Principles of Programming Language Lab	0	0	2	2	1
7	CSE12107	**Professional Core Lab - II** Data Structures and Algorithms Lab	0	0	2	2	1
8	CSE12113	Database Management System Lab	0	0	2	2	1
9	IDP14001	Interdisciplinary Project	0	0	5	5	3
10	SOC14100	Community Service #	0	0	0	0	1
11	CLL11102	Soft Skills and Aptitude II	0	0	2	2	1
Total			**15**	**1**	**13**	**29**	**24**

#Community Service will be taken up during the summer break after 2nd semester, and will be evaluated in the 3rd semester.

SEMESTER IV							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	MTH11534	**Professional Core** Discrete Structures and Logic	3	0	0	3	3
2	CSE11109	Object Oriented Programming	3	0	0	3	3
3	CSE11110	Design and Analysis of Algorithms	3	0	0	3	3
4	CSE11111	Formal Language and Automata	3	0	0	3	3
5	CSE11112	Introduction to Artificial Intelligence	3	0	0	3	3
6	PSG11021	Human Values and Professional Ethics	2	0	0	2	2
7	MTH12531	Numerical Techniques Lab	0	0	2	2	1
8	CSE12114	Object Oriented Programming Lab	0	0	2	2	1
9	CSE12166	Design and Analysis of Algorithms Lab	0	0	2	2	1
10	CSE14170	**Mini Project-I**	0	0	3	3	2
11	CLL11103	Soft Skills and Aptitude III	0	0	2	2	1
12	CSE11184	**Specialization Theory – I (Cryptography)**	3	0	0	3	3
13	CSE12185	**Specialization Lab – I (Cryptography Lab)**	0	0	2	2	1
Total			**20**	**0**	**13**	**33**	**27**

2nd Year Credits : 51

THIRD YEAR

SEMESTER V							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	CSE11115	Computer Networks	3	0	0	3	3
2	CSE11116	Computer Organization and Architecture	3	0	0	3	3
3	CSE11117	Software Engineering	3	0	0	3	3
4	CSE11167	Competitive Programming-I	3	0	0	3	3
		Professional Elective - I					
5	CSE13118	Introduction to Python (hybrid 2-0-2)	3	0	0	3	3
	CSE11119	Optimization and Game Theory					
	CSE11120	Introduction to Data Science					
	CSE11121	Distributed Systems and Cloud					
	CSE11122	Introduction to Cyber Security					
6	CSE13202	Unstructured Database (2-0-1)Hybrid	3	0	0	3	3
	CSE11124	Pattern Recognition and Soft Computing					
	CSE11125	Data Mining and Warehousing					
	CSE11126	Cloud Security					
	CSE11127	Cyber Law and Governance					
7	CSE12128	Computer Networks Lab	0	0	2	2	1
8	CSE12129	Computer Organization and Architecture Lab	0	0	2	2	1
9	CSE12168	Software Engineering Lab	0	0	2	2	1
10	CSE12169	Competitive Programming Lab	0	0	2	2	1
11	CSE14171	Mini Project-II	0	0	2	2	1
12	CLL11104	Soft Skills and Aptitude III	0	0	2	2	1
13	CSE11186	Specialization Theory – II (Information Security Audit and Monitoring)	3	0	0	3	3
Total			**21**	**0**	**12**	33	**27**

SEMESTER VI							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	CSE11150	**Professional Core – XIV** Operating Systems	3	0	0	3	3
2	CSE11206	**Professional Core – XII** Introduction to Machine Learning	3	0	0	3	3
3		**Professional Elective - II**	3	0	0	3	3
	CSE11025	High Performance Computer Architecture					
	CSE11123	Full Stack Software Development					
	CSE11027	Computational Geometry					
4		**Open Elective - I**	3	0	0	3	3
	ECE11028	Internet of Things					
	ECE11030	Low Power VLSI					
	EEE11104	Renewable Energy Engineering					
	CEE11029	Disaster Management					
	MEE11037	Robotics					
	MEE11046	Automobile Engineering					
	EEE11101	Introduction to Electric Vehicle					
5	CSE12156	**Professional Core Lab – X** Operating System Lab	0	0	3	3	2
6	CSE12207	**Professional Core Lab – XII** Introduction to Machine Learning Lab	0	0	3	3	2
7	CSE14144	**Mini Project III**	0	0	5	5	3
8	CLL11105	Soft Skills and Aptitude V	0	0	2	2	1
9		**Professional Elective Lab - II**	0	0	3	3	2
	CSE12031	High Performance Computer Architecture Lab					
	CSE12224	Full Stack Software Development Lab					
	CSE12033	Computational Geometry Lab					
10	CSE11187	**Specialization Theory – III (Penetration Testing)**	3	0	0	3	3
11	CSE12188	**Specialization Lab – III (Penetration Testing Lab)**	0	0	2	2	1
Total			**15**	**0**	18	32	26

3rd Year Credits : 53

FOURTH YEAR

SEMESTER VII							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	MGT11402	Industrial Management	3	0	0	3	3
2	XXXXXXXX	**Open Elective-III**	3	0	0	3	3
3		**Professional Elective - III**	3	0	0	3	3
	CSE11035	Image Processing					
	CSE11036	Cloud Computing					
	CSE11038	Computer Graphics					
	CSE11037	Information Retrieval					
4		**Professional Elective - IV**	3	0	0	3	3
	CSE11081	Fundamentals of Quantum Computing					
	CSE11040	Cryptography & Cyber Security					
	CSE11042	5G Wireless Communication Network					
5		**Open Elective - II**	3	0	0	3	3
	MEE11060	Computer-Aided Simulation & Analysis					
	ECE11049	Microcontrollers and Interfacing					
	BIT11074	Bioinformatics					
6		**Professional Elective Lab - III**	0	0	2	2	1
	CSE12044	Image Processing Lab					
	CSE12045	Cloud Computing Lab					
	CSE12047	Computer Graphics Lab					
	CSE12046	Information Retrieval Lab					
7	CSE14049	Summer Internship #	0	0	0	0	3
8	CSE14050	Minor Project	0	0	7	7	4
9	CLL11106	Soft Skills and Aptitude VI	0	0	2	2	1
10	CSE11189	Specialization Theory – IV (Ethical Hacking)	3	0	0	3	3
11	CSE12190	Specialization Lab – IV (Ethical Hacking Lab)	0	0	2	2	1
Semester VII Total			**18**	**0**	**14**	**32**	**28**

#Summer Internship will be taken up during the summer break after 6th semester, and will be evaluated in the 7th semester.

SEMESTER VIII							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1	CSE14051	Industry Work experience/SIRE*/Major Project	0	0	12	12	6
2	CSE11191	Specialization Theory – V (Cyber Forensics)	3	0	0	3	3
3	CSE15174	Specialization Viva Voce	0	0	0	0	2
4	CSE15061	Comprehensive Viva Voce	0	0	0	0	2
Semester VIII Total			**3**	**0**	**12**	**15**	**13**

***SIRE: Scientific Investigation and Research Experience4th Year Credits: 41**

CREDIT DISTRIBUTION (SEMESTER-WISE)

SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI	SEM VII	SEM VIII	TOTAL
20	**21**	**24**	**27**	**27**	**26**	**28**	**13**	**186**

CREDIT DISTRIBUTION(YEAR-WISE)

YEAR I	YEAR II	YEAR III	YEAR IV	TOTAL
41	**51**	**53**	**41**	**186**