ADAMAS UNIVERSITY
SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
UG Program: B.Tech (Data Analytics)

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	3	1	0	4	4
2	PHY11201	Applied Science	2	0	0	2	2
3	CSE11001	Introduction to Programming#	2	0	0	2	2
4	GEE11001	Electrical and Electronics Technology#	2	0	0	2	2
5	ENG11053	English Communication	1	0	2	3	2
6	GEE11012	Disruptive Technology Innovations	1	0	2	3	
7	BIT11003	Life Sciences	2	0	0	2	2
8	DGS11001	Design Thinking	1	0	2	3	2
9	PHY12202	Applied Science Lab	0	0	4	4	2
10	CSE12002	Programming Lab#	0	0	4	4	2
11	GEE12002	Electrical and Electronics Technology Lab#	0	0	2	2	2
12	CEE12001/	Engineering Drawing and CAD	0	0	4	4	2
13	MEE12001	Engineering Workshop	0	0	4	4	
		Total	17	1	11	29	20

SEMESTER II							
S.No.	Course Code	Course Title	L	T	P	H	C
1	MTH11502	Engineering Mathematics– II	3	1	0	4	4
2	MEE11002	Engineering Mechanics	2	1	0	3	3
3	EVS11112	Environmental Science	2	0	0	2	2
4	GEE11001	Electrical and Electronics Technology	2	0	0	2	
5	CSE11001	Introduction to Programming	2	0	0	2	2
6	GEE11012	Disruptive Technology Innovations	1	0	2	3	
7	ENG11053	English Communication	1	0	2	3	2
8	EIC11001	Venture Ideation	2	0	0	2	2
9	GEE12002	Electrical and Electronics Technology Lab	0	0	4	4	
10	CSE12002	Programming Lab	0	0	4	4	2
11	CEE12001	Engineering Drawing and CAD	0	0	4	4	
12	MEE12001	Engineering Workshop	0	0	4	4	2
		Total	**17**	**1**	**9**	**27**	**19**

 # Introduction To Programming / Electrical and Electronics Technology are optional papers
1st Year Credits = 39

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	MTH11534	**Professional Core** Discrete Structures and Logic	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	2
8	MTH12531	Numerical Techniques Lab	0	0	2	2	2
9	IDP14001	Interdisciplinary Project	0	0	5	5	3
10	SOC14100	Community Service #	0	0	0	0	1
		Total	**15**	**1**	**11**	**27**	**25**

#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	CSE11108	Database Management Systems	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	CSE12113	Database Management Systems 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	TBD	**Mini Project-I**	0	0	3	3	2
11	CSE11193	**Specialization Theory I -** Data Modelling and Visualization	3	0	0	3	3
12	CSE12194	**Specialization Lab – I** Data Modelling and Visualization Lab	0	0	2	2	1
		Total	**20**	**0**	**10**	**30**	**26**

2nd Year Credits : 51

THIRD YEAR

S.No.	Course Code	Course Title	L	T	P	H	C
		SEMESTER V					
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	TBD	Competitive Programming-I	3	0	0	3	3
5		**Professional Elective - I**	3	0	0	3	3
	CSE11118	Introduction to Python					
	CSE11119	Optimization and Game Theory					
	CSE11120	Introduction to Data Science					
	CSE11121	Distributed Systems and Cloud					
	CSE11122	Introduction to Cyber Security					
6		**Professional Elective - II**	3	0	0	3	3
	CSE11123	Full Stack Software Development					
	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	TBD	Mini Project-II	0	0	2	2	1
11	CSE11195	**Specialization Theory – II** Mining Massive Datasets	3	0	0	3	3
		Total	**18**	**0**	**10**	**28**	**26**

S.No.	Course Code	Course Title	L	T	P	H	C
		SEMESTER VI					
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
		High Performance Computer Architecture					
	CSE11202	Unstructured Database					
	CSE11027	Computational Geometry					
4		**Open Elective - I**	2	0	0	2	2
	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	CSE15144	**Mini Project III**	0	0	5	5	3
8		**Professional Elective Lab - II**	0	0	3	3	2
	CSE12031	High Performance Computer Architecture Lab					
	CSE12203	Unstructured Database Lab					
	CSE12033	Computational Geometry Lab					
9	CSE11196	**Specialization Theory – III** Data Analytics and Reporting	3	0	0	3	3
10	CSE12197	**Specialization Lab – II** Data Analytics and Reporting Lab	0	0	2	2	1
		Total	**11**	**0**	14	25	24

3rd Year Credits : 50

FOURTH YEAR

S.No.	Course Code	Course Title	L	T	P	H	C
		SEMESTER VII					
1	MGT11402	Industrial Management	3	0	0	3	3
2	CSE11131	Web Technology	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					
	CSE11039	Artificial Neural Network and Deep Learning					
4		**Professional Elective - IV**	3	0	0	3	3
	CSE11041	Internet of Things (IoT)					
	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	CSE12143	Web Technology Lab	0	0	2	2	2
7		**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					
	CSE12048	Artificial Neural Network and Deep Learning Lab					
8	CSE14049	Summer Internship #	0	0	0	0	2
9	CSE14050	Minor Project	0	0	6	6	3
10	CSE11198	**Specialization Theory – IV** Social Media and Text Analytics	3	0	0	3	3
11	CSE12199	**Specialization Lab- III** Social Media and Text Analytics Lab	0	0	2	2	1
		Semester VII Total	15	0	10	25	27

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

S.No.	Course Code	Course Title	L	T	P	H	C
		SEMESTER VIII					
1	CSE14051	Industry Work experience/SIRE*/Major Project	0	0	12	12	6
2	CSE15174	Specialization Viva Voce	0	0	0	0	2
3	CSE11200	**Specialization Theory – V** Machine Learning for Big Data	3	0	0	3	3
4	CSE15061	Comprehensive Viva Voce	0	0	0	0	2
		Semester VIII Total	0	0	12	12	13

*SIRE: Scientific Investigation and Research Experience

4th Year Credits: 40

CREDIT DISTRIBUTION (SEMESTER-WISE)

SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI	SEM VII	SEM VIII	TOTAL
20	**19**	**25**	**26**	**26**	**24**	**27**	**13**	**180**

CREDIT DISTRIBUTION(YEAR-WISE)

YEAR I	YEAR II	YEAR III	YEAR IV	TOTAL
39	**51**	**50**	**40**	**180**