

Computer Science and Engineering (2016)**Semester 1**

	Code	Course	L	T	P	Credits
1	MA 101	Mathematics I	4	2	0	5
2	CB 101	Chemistry	4	2	2	6
3	EE 101	Introduction to Electrical Engineering	2	1	2	3.5
4	CS 101	Introduction to Computer Science	2	0	2	3
5	SE 101	Introduction to Society & Technology	1	1	0	1.5
6	HS 101	English & Humanities I	1	2	0	2
7	HS 102	French Language & Culture I	0	2	0	0
						21
			14	10	6	
Total contact hours			30			

Semester 2

	Code	Course	L	T	P	Credits
1	MA 102	Mathematics II	4	2	0	5
2	PH 101	Physics I	4	2	2	6
3	EE 102	Electronics	2	1	2	3.5
4	ME 101	Introduction to Engineering Design	2	0	2	3
5	SE 102	Media Project	1	1	0	1.5
6	HS 103	English & Humanities II	1	2	0	2
7	HS 104	French Language & Culture II	0	2	0	0
						21
			14	10	6	
Total contact hours			30			

Semester 3						
	Code	Course	L	T	P	Credits
1	CS 210	Probability & Queuing Models	3	1	0	3
2	CS 211	Discrete Structure	3	1	0	3
3	CS 212	Object Oriented Paradigm	3	1	0	3
4	CS 213	Computer Graphics	3	1	0	3
5	CS 214	Microprocessor and Interfacing	3	1	0	3
6	CS 215	Digital Electronics & Logic Design	3	1	0	3
7	CS 216	Object Oriented Paradigm Lab	0	0	3	1
8	CS 217	Computer Graphics Lab	0	0	3	1
9	CS 218	Microprocessor and Interfacing Lab	0	0	3	1
10	CS 219	Digital Electronics & Logic Design Lab	0	0	3	1
11	HS 206	French Language & Culture III	0	2	0	0
						22
			18	8	12	
		Total contact hours	38			
Semester 4						
	Code	Course	L	T	P	Credits
1	CS 220	Computer Organization	3	1	0	3
2	CS 221	Operating System	3	1	0	3
3	CS 222	Data Structure	3	1	0	3
4	CS 223	System Software	3	1	0	3
5	CS 224	Theory of Computation	3	1	0	3
6	CS 225	Basic Environmental Science and Engineering	3	1	0	3
7	CS 226	Computer Organization Lab	0	0	3	1
8	CS 227	Operating System Lab	0	0	3	1
9	CS 228	Data structure Lab	0	0	3	2
10	CS-229	Design Thinking	1	0	3	2
11	HS 208	French Language & Culture IV	0	2	0	0
						24
			19	8	12	
		Total contact hours	39			

Semester 5						
	Code	Course	L	T	P	Credits
1	MA 305	Mathematics – V	3	1	0	4
2	ES 312	Introduction to Materials Sciences	2	0	2	3
3	CS 306	Principles of Programming Languages	2	0	0	2
4	CS 307	Design and Analysis of Algorithms	3	0	2	4
5	CS 308	Database Management Systems	3	0	2	4
6	ES 302	Signals & Systems	2	1	2	4
7	SE 303	Introduction to Enterprise & Economy	2	1	0	3
8	HS 310	French Language & Culture – V	0	2	0	0
						24
			16	5	8	
		Total contact hours	29			
Semester 6						
	Code	Course	L	T	P	Credits
1	CS 310	Computer Networks	3	0	2	4
2	CS 311	Web Programming	2	0	2	3
3	CS 312	Software Engineering	2	0	2	3
4	CS 313	Machine Learning	2	0	2	3
5	PR 301	Third year project	0	0	6	3
6	HS-E1	HSS + Management Elective-I	2	0	0	2
7	E1	Elective – I	3	0	0	3
8	HS 312	French Language & Culture - VI	0	2	0	0
						21
			12	3	14	
		Total contact hours	29			

Semester 7						
	Code	Course	L	T	P	Credits
1	CS 415	Distributed Systems	2	0	2	3
2	CS 416	Compiler Design	3	0	0	3
3	CS 417	Cryptography and Network Security	3	0	2	4
4	HS-E2	HSS + Mgmt. - Elective – II	2	0	0	2
5	E2	Elective – II	3	0	0	3
6	E3	Elective – III	3	0	0	3
7	PR 402	Year-4 Project	0	1	4	3
8	HS 414	French Language & Culture –VII	0	2	0	0
9	HS 401	Professional Ethics	0	1	0	1
						22
		Total contact hours				
Semester 8						
	Code	Course	L	T	P	Credits
1	E4	Elective – IV	3	0	0	3
2	E5	Elective – V	3	0	0	3
3	PR 403	Year-4 Project	0	5	8	9
4	HS 416	French Language & Culture – VIII	0	2	0	0
						15
			8	7	8	
		Total contact hours		23		

Total credits 170

List of Electives for Semesters 6, 7 and 8:

S.No.	Code	Course	L	T	P	Credits
1	CS 452	Advanced Data Analytics	3	0	0	3
2	CS 453	Mobile Communication and Computing	3	0	0	3
3	CS 454	VLSI Design Using Verilog	3	0	0	3
4	CS 456	Social Computing	3	0	0	3
5	CS 457	Deep Learning	3	0	0	3
6	CS 458	Information Retrieval and Natural Language Processing	3	0	0	3
7	CS 461	High Performance Computing	3	0	0	3
8	CS 462	Cryptography and Information Security	3	0	0	3
9	CS 463	Performance Evaluation of Computer Networks	3	0	0	3
10	CS 464	Wireless Sensor Networks	3	0	0	3
11	EE 451	Information Theory and Coding	3	0	0	3
12	EE 471	Digital Image Processing	3	0	0	3
13	EE 472	Computer Vision	3	0	0	3
14	EE 484	Advanced Microprocessors	3	0	0	3
15	EE 485	IoT System Architecture and Design	3	0	0	3
16	EE 486	Sensors and Instrumentation	3	0	0	3
17	EE 487	High Performance Embedded Systems	3	0	0	3
18	ME 452	Introduction to Operations Research	3	0	0	3
19	ME 467	Introduction to Robotics	3	0	0	3
20	ME 469	Computational Fluid Dynamics	3	0	0	3
21	ME 470	Robotics: Dynamics and Control	3	0	0	3
22	MA 450	Numerical Linear Algebra	3	0	0	3

23	MA 451	Meshfree Methods	3	0	0	3
24	MA 452	Boundary Element Method and Boundary Integral Equations	3	0	0	3
25	MA 453	PDE Based Image Processing	3	0	0	3
26	MA 454	Topology and Operator Theory	3	0	0	3
27	MA 455	Infinite dimensional Control Theory	3	0	0	3
28	MA 456	Bayesian Statistics	3	0	0	3
29	MA 457	Financial Mathematics	3	0	0	3
30	MA 458	Nonlinear Conservation Laws and Applications	3	0	0	3
31	CE 473	Introduction to Structural Health Monitoring	3	0	0	3

List of HS Electives: Semesters 6 & 7

S.No.	Code	Course	L	T	P	Credits
1	HS 500	Selections from World Literature	2	0	0	2
2	HS 501	Business Communication	2	0	0	2
3	HS 502	Visual Story Telling	2	0	0	2
4	HS 503	Introduction to Culture Studies	2	0	0	2
5	HS 504	Literature and Visual Arts	2	0	0	2
6	HS 505	Cinema and Philosophy	2	0	0	2
7	HS 506	The Humanities for a Critical Understanding of the World	2	0	0	2
8	HS 507	Academic Writing	2	0	0	2
9	HS 508	Urban Studies: Reading the City	2	0	0	2
10	HS 509	Contemporary Shakespeare: Readings and Adaptations	2	0	0	2
11	HS 510	Philosophical Arguments	2	0	0	2