

B.E. (Computer Engineering) 2017 –Course Scheme (ALL YEARS) after Modifications as suggested in HEADS/UG Coordinators meeting with DOAA on February 16, 2017 (20+X) Model

First Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UCB008	APPLIED CHEMISTRY	3	1	2	4.5
2.	UTA017	COMPUTER PROGRAMMING	3	0	2	4.0
3.	UEE001	ELECTRICAL ENGINEERING	3	1	2	4.5
4.	UEN002	ENERGY AND ENVIRONMENT	3	0	0	3.0
5.	UMA003	MATHEMATICS-I	3	1	0	3.5
6.	UES009	MECHANICS	2	1	2 *	2.5
			17	4	6	22.0

MECHANICS (2*): 2HOURS LAB ONCE IN SEMESTER

Second Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1	UPH004	APPLIED PHYSICS	3	1	2	4.5
2.	UTA018	OBJECT ORIENTED PROGRAMMING	3	0	2	4.0
3.	UEC303	ELECTRONIC ENGINEERING	3	1	2	4.5
4.	UTA015	ENGINEERING DRAWING	2	4	0	4.0
5.	UHU003	PROFESSIONAL COMMUNICATION	2	0	2	3.0
6.	UMA004	MATHEMATICS-II	3	1	0	3.5
			16	7	8	23.5

Third Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UTA013	ENGINEERING DESIGN PROJECT-I (6 SELF EFFORT HOURS)	1	0	2	5.0
2.	UES012	ENGINEERING MATERIALS	3	1	2	4.5
3.	UMA007	NUMERICAL ANALYSIS	3	1	2	4.5
4.	UCS520	COMPUTER NETWORKS	3	0	2	4.0
5.	UCS406	DATA STRUCTURES & ALGORITHMS (4 SELF EFFORT HOURS)	3	0	2	6.0
6.	UCS407	INVENTIONS & INNOVATIONS IN COMPUTING	2	0	0	2.0
7.	UCS303	OPERATING SYSTEMS	3	0	2	4.0
			18	2	12	30.0

Fourth Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UTA014	ENGINEERING DESIGN PROJECT-II (6 SELF EFFORT HOURS)	1	0	4	6.0
2.	UTA002	MANUFACTURING PROCESSES	2	0	3	3.5
3.	UMA031	OPTIMIZATION TECHNIQUES	3	1	0	3.5
4.		PROBABILITY AND STATISTICS	3	1	2	4.5
5.		MEASUREMENT SCIENCE AND TECHNIQUES	3	1	2	4.5
6.	UCS310	DATABASE MANAGEMENT SYSTEMS	3	0	2	4.0
7.	UCS405	DISCRETE MATHEMATICAL STRUCTURES	3	1	0	3.5
			18	4	13	29.5

Fifth Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UCS616	ADVANCED DATA STRUCTURES AND ALGORITHMS	3	0	2	4.0
2.	UCS521	ARTIFICIAL INTELLIGENCE	3	1	0	3.5
3.	UCS507	COMPUTER ARCHITECTURE AND ORGANIZATION	3	0	2	4.0
4.		ELECTIVE-I	3	0	2	4.0
5.	UCS525	PROFESSIONAL PRACTICES [#]	0	1	2	1.5
6.	UCS503	SOFTWARE ENGINEERING	3	0	2	4.0
7.	UCS701	THEORY OF COMPUTATION	3	1	0	3.5
8.		GENERIC ELECTIVE	3	0	0	3.0
			21	3	10	27.5

[#]The course would consist of talks by working professionals from industry, government, academia & research organizations.

Sixth Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UCS794	CAPSTONE PROJECT* (STARTS) (6 SELF EFFORT HOURS)	0	0	2	-
2.		ELECTIVE-II	3	0	2	4.0
3.		ELECTIVE-III	3	0	2	4.0
4.	UCS614	EMBEDDED SYSTEMS DESIGN	3	0	2	4.0
5.	UCS615	IMAGE PROCESSING	3	0	2	4.0
6.	UTA012	INNOVATION AND ENTREPRENEURSHIP (5 SELF EFFORT HOURS)	1	0	2	4.5
7.	UCS617	MICROPROCESSOR-BASED SYSTEMS DESIGN	3	0	2	4.0
			16	0	14	24.5

* Design / Fabrication / Implementation work under the guidance of a faculty member. Prior to registration, a detailed plan of work should be submitted by the student to the Course Coordinator for approval.

Seventh Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UCS794	CAPSTONE PROJECT (14 SELF EFFORT HOURS)	0	0	2	12.0
2.	UCS802	COMPILER CONSTRUCTION	3	0	2	4.0
3.		ELECTIVE-IV	3	0	2	4.0
4.	UHU005	HUMANITIES FOR ENGINEERS	2	0	2	3.0
5.	UCS781	INDEPENDENT STUDY	0	2	0	1.0
			8	2	8	24.0

Eight Semester						
S. No.	Course Number	Course Title	L	T	P	Cr
1.	UCS895	PROJECT SEMESTER				20.0
		OR				
2.	UCS897	START-UP SEMESTER				
		OR				
3.	USC896	CAPSTONE PROJECT-II (20 SELF EFFORT HOURS)	0	0	4	12.0
4.	UCS806	ETHICAL HACKING	3	0	2	4.0
5.	UCS801	SOFTWARE PROJECT MANAGEMENT	3	0	2	4.0

			6	0	8	20
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LIST OF ELECTIVES

Based on choice of Elective Focus: High Performance Computing, Computer Animation and Gaming, Machine Learning and Data Analytics, Information and Cyber Security, Software Engineering

ELECTIVE-I

S.No.	CODE	TITLE	L	T	P	Cr
1	UCS608	PARALLEL AND DISTRIBUTED COMPUTING	3	0	2	4.0
2.	UCS522	COMPUTER VISION	3	0	2	4.0
3.	UML501	MACHINE LEARNING	3	0	2	4.0
4.	UCS523	COMPUTER & NETWORK SECURITY	3	0	2	4.0
5.	UCS524	ENGINEERING SOFTWARE AS A SERVICE	3	0	2	4.0

Elective-II

S.No.	CODE	TITLE	L	T	P	Cr
1	UCS631	GPU COMPUTING	3	0	2	4.0
2.	UCS632	3D MODELLING AND ANIMATION	3	0	2	4.0
3.	UCS633	DATA ANALYTICS & VISUALIZATION	3	0	2	4.0
4.	UCS634	SECURE CODING	3	0	2	4.0
5.	UCS644	SOFTWARE METRICS AND QUALITY MANAGEMENT	3	0	2	4.0

ELECTIVE-III

S.N O.	CODE	TITLE	L	T	P	CR
1	UCS641	CLOUD COMPUTING	3	0	2	4.0
2.	UCS642	AUGMENTED AND VIRTUAL REALITY	3	0	2	4.0
3.	UML602	NATURAL LANGUAGE PROCESSING	3	0	2	4.0
4.	UCS643	CYBER FORENSICS	3	0	2	4.0
5.	USE601	SOFTWARE VERIFICATION AND VALIDATION	3	0	2	4.0

ELECTIVE-IV

S.N O.	CODE	TITLE	L	T	P	CR
1	UCS741	SIMULATION & MODELLING	3	0	2	4.0

2.	UCG731	GAME DESIGN & DEVELOPMENT	3	0	2	4.0
3.	UCS742	DEEP LEARNING	3	0	2	4.0
4.	UCS743	ADVANCED COMPUTER NETWORKS	3	0	2	4.0
5.	UCS709	ADVANCED TOPICS IN SOFTWARE ENGINEERING	3	0	2	4.0

GENERIC ELECTIVE

SR.N O.	CODE	TITLE	L	T	P	CR
1	UHU006	INTRODUCTORY COURSE IN FRENCH	3	0	0	3.0
2.	UCS001	INTRODUCTION TO CYBER SECURITY	3	0	0	3.0
3.	UHU007	EMPLOYABILITY DEVELOPMENT SKILLS	2	2	0	3.0
4.	UEN004	TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT	3	0	0	3.0
5.	UHU008	INTRODUCTION TO CORPORATE FINANCE	3	0	0	3.0
6.	UHU009	INTRODUCTION TO COGNITIVE SCIENCE	3	0	0	3.0
7.	UPH063	NANO SCIENCE AND NANO-MATERIALS	3	0	0	3.0
8	UMA066	GRAPH THEORY AND APPLICATIONS	3	0	0	3.0