



K L University

(Koneru Lakshmaiah Education Foundation)

Estd. u/s 3 of UGC Act 1956

Green Fields, Vaddeswaram, (via) K.C. Works P.O. - 522 502, Guntur District, A.P.

Phones: 08645-246948, 246615 ' FAX: 08645-247249, 0866-2577902

Constituent College KLCE Accredited by NAAC with CGPA 3.76/4.00

Approved by A.I.C.T.E ± Accredited by N.B.A.± ISO 9001-2000 Certified

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

S.No	Course Code	Course Title	Offered in Even/Odd Sem.	L-T-P	Credits	Pre-requisite	Compulsory/Option
HUMANITIES AND SOCIAL SCIENCES (HS) - CREDITS – 10 (except for Bio Tech), 8 (for Bio Tech only)							
1.	13-HS-101	English	Even & Odd	2-0-2	3	Nil*	Compulsory
2.	13-HS-102	Language and Reasoning Skills	Even & Odd	2-0-2	3	Nil*	Compulsory
3.	11-BS-105	Ecology & Environment	Even & Odd	2-0-0	2	Nil*	Compulsory(Except for Bio Technology)
4.	13-HS-104	Human Values	Even & Odd	2-0-0	2	Nil*	Compulsory
BASIC SCIENCES (BS) - CREDITS – 22 (except for Bio Tech), 24 (only for Bio Tech)							
1.	13-BS - 101	Linear Algebra and multivariate calculus	Even & Odd	3-0-2	4	Nil*	Compulsory
2.	13-BS - 102	Differential Equations	Even & Odd	3-1-0	4	Nil*	Compulsory
3.	13-BS-103	Engineering Physics	Even & Odd	3-0-2	4	Nil*	Compulsory
4.	11-BS - 104	Engineering Chemistry	Even & Odd	3-0-2	4	Nil*	Compulsory
5.	13BS104	Basic Mathematics	Odd	3-0-0	3	Nil*	BT(Bi. P. C students only)
6.	13BS107	Organic Chemistry	Even and Odd	2-0-0	2	Nil*	BT only
7.	13BS108	Fundamentals of Biology	Odd	3-0-0	3	Nil*	BT(M.P.C students only)
8.	13-BS-201	Mathematical Methods	Even & Odd	3-0-0	3	Nil*	Compulsory (Except for Bio Tech)
9.	13BS202	Complex variables and discrete mathematics	Even	3-0-0	3	Nil*	EEE,ME,ECE only
10.	13BS203	Complex variables and finite Differential methods	Even	3-0-0	3	Nil*	Compulsory CE only
11.	13BS204	Probability and Statistics	Even	3-0-0	3	Nil*	BT only
12.	13-BS-206	Discrete Mathematics	Even & Odd	3-0-0	3	Nil*	Compulsory for CSE
ENGINEERING SCIENCES (ES) – CREDITS – 38							
1.	13-ES-	Engineering Materials	Even &	3-	3	Nil*	Compulsory

	103		Odd	0-0			
2.	13-ES-102	Measurements	Even & Odd	3-0-2	4	Nil*	Compulsory
3.	11-ES - 104	Engineering Graphics with CAD	Even & Odd	0-0-4	2	Nil*	Compulsory
4.	13-ES - 105	Workshop Practice	Even & Odd	0-0-4	2	Nil*	Compulsory
5.	13-ES-101	Problem Solving through Programming	Even & Odd	3-0-2	4	Nil*	Compulsory
6.	13-ES - 106	Engineering Mechanics	Even & Odd	3-0-2	4	Nil*	Compulsory
7.	13-ES - 201	Thermodynamics	Even & Odd	3-0-0	3	Nil*	Compulsory
8.	13-ES - 202	Object Oriented Programming	Even & Odd	3-0-2	4	13-ES-101	Compulsory
9.	13-ES - 203	Network Theory	Even & Odd	3-0-2	4	Nil*	Compulsory
10.	13-ES - 204	Data Structures	Even & Odd	3-0-2	4	13-ES-101	Compulsory
11.	13-ES - 205	Signal Processing	Even & Odd	3-0-2	4	Nil*	Compulsory

PROFESSIONAL CORE* - CREDITS – 60							
1.	13-CS-201	Digital Logic Design & Computer Organization	Odd	3-0-2	4	Nil*	Compulsory
2.	13-CS-202	Human Computer Interaction	Odd	3-0-2	4	13ES101	Compulsory
3.	13-CS-203	Operating Systems	Even	3-0-2	4	Nil*	Compulsory
4.	13-CS-204	Database Management System	Even	3-0-2	4	13ES204	Compulsory
5.	13-CS-205	Computer Networks	Even	3-0-2	4	Nil*	Compulsory
6.	11-EC-311	Microprocessor & Microcontrollers	Odd	3-0-2	4	13CS201	Compulsory
7.	11-EM-301	Internet Programming	Odd	3-0-2	4	13ES202	Compulsory
8.	13-CS-301	Software Engineering	Odd	3-0-2	4	13ES202	Compulsory
9.	13-CS-302	Design and Analysis of Algorithms	Odd	3-0-2	4	13ES204	Compulsory
10.	13-CS-303	Information Assurance and Security	Odd	3-0-2	4	13CS205	Compulsory
11.	13-CS-304	Artificial Intelligence	Even	3-0-2	4	13ES204	Compulsory
12.	13-CS-305	Distributed Computing	Even	3-0-2	4	13CS205	Compulsory
13.	13-CS-306	Automata Theory and Formal Languages	Even	3-0-2	4	13BS206	Compulsory
14.	13-CS-401	Compiler Design	Odd	3-0-2	4	13 CS 306	Compulsory
15.	13-CS-402	Simulation and Modeling	Odd	3-0-2	4	13 BS 206	Compulsory
<p>*All these courses will consist of either a Project based Lab / Project Outcome through course work adapting Case Study / Capstone Model.</p> <p>These Courses will have a definite Pre-Requisite, which must be framed from either Basic Sciences (BS) / Engineering Sciences (ES) or from within these Courses.</p>							
PROFESSIONAL ELECTIVE STREAMS - CREDITS -15 (Any Five)							
(These courses will have definite Pre-Requisites from within Professional Core Courses)							
DATA ENGINEERING STREAM							
1.	13-CS-331	Data warehousing and Mining	Even	3-0-0	3	13 CS 204	Any Five (To get a specialization choose any Four from the same stream)
2.	13-CS-332	Advanced Database Management System	Even	3-0-0	3		
3.	13-CS-333	Database Security	Odd	3-0-0	3		
4.	13-CS-431	Distributed Databases	Odd	3-0-0	3		
5.	13-CS-432	Big data Analytics	Odd	3-0-0	3		
COMPUTER NETWORKS STREAM							
1.	13-CS-334	TCP/IP Protocol Suite	Even	3-0-0	3	13 CS 205	

2.	13-CS-335	Network Programming	Even	3-0-0	3	13 CS 205
3.	13-CS-336	Routing Algorithms	Odd	3-0-0	3	
4.	13-CS-433	High speed Optical Communication Networks	Odd	3-0-0	3	
5.	13-CS-434	Wireless Communications and Networking	Odd	3-0-0	3	
SOFTWARE ENGINEERING STREAM						
1.	13-CS-337	Object Oriented Analysis and Design	Even	3-0-0	3	13 CS 301
2.	13-CS-338	Requirement Engineering	Even	3-0-0	3	
3.	13-CS-339	Software Testing & Quality Assurance	Odd	3-0-0	3	
4.	13-CS-435	Software Reliability	Odd	3-0-0	3	
5.	13-CS-436	Software Project Management	Odd	3-0-0	3	
SECURITY STREAM						
1.	13-CS-340	Secure Programming	Even	3-0-0	3	13CS205
2.	13-CS-341	Crypt Analysis	Even	3-0-0	3	
3.	13-CS-342	Elliptic curve Cryptography	Odd	3-0-0	3	
4.	13-CS-437	Cyber Security	Odd	3-0-0	3	
5.	13-CS-438	Trust Worthy Computing	Odd	3-0-0	3	
PARALLEL & DISTRIBUTED COMPUTING STREAM						
1.	13-CS-343	Advanced Computer Architecture	Even	3-0-0	3	13CS201 / 13EM201
2.	13-CS-344	Parallel Computing	Even	3-0-0	3	13CS201
3.	13-CS-345	Grid Computing	Odd	3-0-0	3	
4.	13-CS-439	Cloud Computing	Odd	3-0-0	3	
5.	13-CS-440	High Performance Computing	Odd	3-0-0	3	
GRAPHICS & MULTIMEDIA STREAM						
1.	13-CS-346	2D/3D Graphics	Even	3-0-0	3	13CS202
2.	13-CS-347	Digital Image Processing	Even	3-0-0	3	
3.	13-CS-348	Animation	Odd	3-0-0	3	

Any Five
(To get a
specialization
choose any
Four from the
same stream)

4.	13-CS-441	Video and Audio Streaming	Odd	3-0-0	3	
5.	13-CS-442	Multimedia Technologies	Odd	3-0-0	3	
INTELLIGENT COMPUTING STREAM						
1.	13-CS-349	Soft Computing	Even	3-0-0	3	13CS304
2.	13-CS-350	Machine Learning	Even	3-0-0	3	
3.	13-CS-351	Natural Language Processing	Odd	3-0-0	3	
4.	13-CS-443	Multi Agent Systems	Odd	3-0-0	3	
5.	13-CS-444	Computer Vision	Odd	3-0-0	3	
EMBEDDED SYSTEMS STREAM						
1.	11-EM-330	Real Time Operating Systems	Even	3-0-0	3	13 CS 203
2.	13-EM-332	PCB Design	Even	3-0-0	3	Nil*
3.	11-EM-334	Micro controllers Interfacing & System Design	Odd	3-0-0	3	11 EC 311
4.	11-EM-430	Advanced Embedded Processor Architectures	Odd	3-0-0	3	
5.	11-EM-432	Hardware Software Co - Design	Odd	3-0-0	3	
WEB TECHNOLOGIES STREAM						
1.	13-EM-331	Web Programming	Even	3-0-0	3	11EM301
2.	13-EM-333	Visual Programming	Even	3-0-0	3	
3.	13-EM-335	Web Middleware and Web Services	Odd	3-0-0	3	
4.	13-EM-431	Enterprise Programming	Odd	3-0-0	3	
5.	13-EM-433	Semantic Web	Odd	3-0-0	3	

MANAGEMENT ELECTIVE, Credits: 3							
1.	11- HS- 201	Emotional Intelligence	Even & Odd	3-0-0	3		Any ONE
2.	11- HS -202	Paradigm in Management	Even & Odd	3-0-0	3		
3.	11- HS -203	Indian Economy	Even & Odd	3-0-0	3		
4.	11 –HS-205	Professional Ethics & Values	Even & Odd	3-0-0	3		
5.	11-HS -206	Behavioral Sciences	Even & Odd	3-0-0	3		
6.	11 HS-208	Managing Personal Finances	Even & Odd	3-0-0	3		
7.	11-HS-209	Basics of Marketing for Engineers	Even & Odd	3-0-0	3		
8.	11-HS-210	Self Management	Even & Odd	3-0-0	3		
9.	11-HS-211	Organization Management	Even & Odd	3-0-0	3		
10.	13-HS-212 11hs212	Resource Safety & Quality Management	Even & Odd	3-0-0	3		
11.	13-HS-213 11OE414	Disaster Management	Even & Odd	3-0-0	3		
AUDITED COURSES							
1.	13-AC-201	Energy & Society	Even & Odd		NIL	NIL	Compulsory
2.	13-AC-202	Employability Skills	Even & Odd		NIL	NIL	Compulsory
3.	13-AC-301	Advanced Employability Skills	Even & Odd				Compulsory
4.	13-AC-203	Sports / Games / Yoga	Even & Odd		NIL	NIL	Compulsory
5.	13-AC-204	NCC /NSS /NSO/CEA	Even & Odd		NIL	NIL	Compulsory
6.	13-AC-302	Quantitative Aptitude and Reasoning	Even & Odd		NIL	NIL	Compulsory
NON-CREDIT COURSES:							
1.	13-NC-201	Certificate Course-1	Even & Odd	0-0-2	NIL	NIL	Compulsory
2.	13-NC-202	Certificate Course -2	Even & Odd	0-0-2	NIL	NIL	Compulsory
TERM PAPER							
1.	13- TP-401	Term Paper	Even	0-0-4	2		Compulsory
2	13-MP401	Miniproject	Odd	0-0-6	3		Compulsory
PROJECT OR PRACTICE SCHOOL							
1.	13PW401	Final year Project	Even or Odd	0-0-18	9	NIL	Any one
2.	13PS401	Practice School	Even or Odd			NIL	
OPEN ELECTIVE - CREDITS – 9 (Any Three) (These Courses have to be taken only from across the Department, These Courses cannot be opted from the same discipline, any such special case needs the approval of respective B.O.S. Chairman)L-T-P Structure for such courses will be 3-0-0 and							

Credits for each such course will be 3.							
OPEN ELECTIVES OFFERED BY CSE							
1	13OE429	Fundamentals of IT	Even or Odd	3-0- 0	3	NIL	
2	12OE445	Fundamentals of DBMS	Even or Odd	3-0- 0	3	NIL	
3	13OE430	Self Development	Even or Odd	3-0- 0	3	NIL	