

KONGU ENGINEERING COLLEGE
(Autonomous)
PERUNDURAI ERODE – 638 060

MINUTES OF 14TH ACADEMIC COUNCIL MEETING

DATE & TIME : 13.03.2021, 10.30 a.m.

VENUE : CONFERENCE HALL

KONGU ENGINEERING COLLEGE (Through Online and Onsite mode)

Google meet ID : <https://meet.google.com/edk-gdgv-muy>

The 14th Academic Council Meeting of Kongu Engineering College was conducted on 13.03.2021 at 10.30 am through online and onsite mode. Dr. G. Murugesan, Member Secretary of Academic Council, welcomed the members and Dr. V. Balusamy, Principal and the Chairman of Academic Council presented the following agenda items for the approval.

S.No.	Item No.	Agenda/Resolution
1.	2021.14.01	<p>Agenda:</p> <p>To consider and approve introduction of new BE/BTech Degree Programme with the curriculum as given in Annexure-I from the academic year 2021-22 onwards subject to the approval of AICTE and Anna University.</p> <ul style="list-style-type: none">• BE/BTech Computer Science and Design <p>Resolution:</p> <p>Resolved to approve the introduction of new BE/BTech Degree Programme mentioned above with the curriculum as given in Annexure-I from the academic year 2021-22 onwards subject to the approval from AICTE and Anna University.</p>
2.	2021.14.02	<p>Other general points suggested by the members:</p> <p>1. Courses such as Quantum Computing, Software Design and Introduction to Optical Engineering may be provided as Open Elective courses for all BE/BTech programmes.</p>

Finally the meeting was concluded with vote of thanks by Dr. G. Murugesan, Member Secretary of Academic Council.


13/3/2021
Member Secretary


13-3-21
Chairman



Annexure-I

KONGU ENGINEERING COLLEGE

(Autonomous Institution Affiliated to Anna University, Chennai)

PERUNDURAI ERODE – 638 060

TAMILNADU INDIA



Estd : 1984

CURRICULUM FOR THE PROPOSED COURSE

BACHELOR OF ENGINEERING/TECHNOLOGY DEGREE IN

COMPUTER SCIENCE AND DESIGN



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Kongu Engineering College, Perundurai, Erode – 638060, Tamilnadu, India.

KONGU ENGINEERING COLLEGE, PERUNDURAI, ERODE – 638 060

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CURRICULUM

Name of the Programme : B.E./B.Tech
Name of the Course : Computer Science and Design

Total credits for BE/BTech Computer Science and Design : 169 Credits

CURRICULUM BREAKDOWN STRUCTURE FOR CSD									
Category	Semester wise Credits								Total number of credits
	I	II	III	IV	V	VI	VII	VIII	
HS	3	4	3				3		13
BS	11	11	4	4					30
ES	4	4	4						12
PC	CS	4	4	12	17				37
	Design			3	12	12			27
PE (CS/ Design)					3	3	9	3	18
OE					4	4	3	3	14
EC					2	4	6	6	18
MC									
Semesterwise Total	22	23	23	24	21	23	21	12	169

HS - Humanities and Social Sciences, BS - Basic Sciences, ES - Engineering Sciences, PC - Program Core, PE - Program Electives, OE-Open Electives, EC-Project(s)/Internships/Professional Skills Training/Industrial Training/Entrepreneurships/Start Ups, MC - Mandatory Courses, OT-Others.

Program Core Courses - Design						
S.No.	Courses	L	T	P	C	Semester
1.	Introduction to Human Computer Interaction	3	0	0	3	IV
2.	Visual Design and Communication	3	0	0	3	V
3.	Design of Interactive Systems	3	0	0	3	V
4.	Prototyping Interactive Systems	3	0	0	3	V
5.	Visual Design and Communication Laboratory	0	0	2	1	V
6.	Design of Interactive Systems Laboratory	0	0	2	1	V
7.	Prototyping Interactive Systems Laboratory	0	0	2	1	V
8.	Design Processes and Perspectives	3	0	0	3	VI
9.	Compiler Design	3	0	0	3	VI
10.	Computer Graphics and Fractals	3	0	0	3	VI
11.	Design Processes and Perspectives Laboratory	0	0	2	1	VI
12.	Compiler Design Laboratory	0	0	2	1	VI
13.	Computer Graphics and Fractals Laboratory	0	0	2	1	VI
	Total Credits				27	

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CURRICULUM

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CURRICULUM

SEMESTER – I									
Sl. No	Course Title	Hours/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
1.1	English Language Skills	3	0	0	3	50	50	100	HS
1.2	Matrices and Differential Equations	3	1*	2*	4	50	50	100	BS
1.3	Applied Physics	3	0	0	3	50	50	100	BS
1.4	Applied Chemistry	3	0	0	3	50	50	100	BS
1.5	Problem Solving and Programming	3	0	0	3	50	50	100	PC
1.6	Basics of Electronics and Electrical Engineering	3	0	2	4	50	50	100	ES
Practical / Employability Enhancement									
1.7	Problem Solving and Programming Laboratory	0	0	2	1	50	50	100	PC
1.8	Physical Sciences Laboratory I	0	0	2	1	50	50	100	BS
Mandatory Non Credit									
1.9	Induction Training Program #	---	---	---	0	50	50	100	MC
Total Credits to be earned					22				

Induction Training Program (including, Indian Constitution and Essence of Indian Knowledge Tradition, etc..) to be conducted at the beginning of the semester for 3 weeks.

* Alternate weeks

SEMESTER – II									
Sl. No	Course Title	Hours/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
2.1	Advanced Communication Skills	3	0	0	3	50	50	100	HS
2.2	Multivariable Calculus and Complex Analysis	3	1*	2*	4	50	50	100	BS
2.3	Physics for Communication and Computer Science Engineering	3	0	0	3	50	50	100	BS
2.4	Chemistry of Electronic Materials	3	0	0	3	50	50	100	BS
2.5	Programming and Linear Data Structures	3	0	2	4	50	50	100	PC
2.6	Engineering Drawing & Visualization	2	0	2	3	50	50	100	ES
Practical / Employability Enhancement									
2.7	Engineering Practices Laboratory	0	0	2	1	50	50	100	ES
2.8	Physical Sciences Laboratory II	0	0	2	1	50	50	100	BS
2.9	Yoga and Values for Holistic Development	-	-	-	1	100	0	100	HS
Total Credits to be earned					23				

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CURRICULUM

SEMESTER – III									
Sl. No	Course Title	/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
3.1	Discrete Mathematics	3	1	0	4	50	50	100	BS
3.2	Data Structures	3	0	0	3	50	50	100	PC
3.3	Computer Organization	3	1	0	4	50	50	100	PC
3.4	Object Oriented Programming	3	0	0	3	50	50	100	PC
3.5	Digital Circuits and Design	3	0	2	4	50	50	100	ES
Practical / Employability Enhancement									
3.6	Data Structures Laboratory	0	0	2	1	100	0	100	PC
3.7	Object Oriented Programming Laboratory	0	0	2	1	100	0	100	PC
3.8	English Communication Laboratory	0	0	2	1	50	50	100	HS
3.9	Universal Human Values	2	0	0	2	100	0	100	HS
Total Credits to be earned					23				

SEMESTER – IV									
Sl. No	Course Title	/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
4.1	Probability and Statistics	3	1	0	4	50	50	100	BS
4.2	Database Management Systems	3	1	0	4	50	50	100	PC
4.3	Design and Analysis of Algorithms	3	1	0	4	50	50	100	PC
4.4	Python Programming and Frameworks	3	0	0	3	50	50	100	PC
4.5	Operating Systems	3	1	0	4	50	50	100	PC
4.6	Introduction to Human Computer Interaction	3	0	0	3	50	50	100	PC
Practical / Employability Enhancement									
4.7	Database Management Systems Laboratory	0	0	2	1	100	0	100	PC
4.8	Python Programming Laboratory	0	0	2	1	100	0	100	PC
4.9	Introduction to Biological and Ecological Systems	2	0	0	0	100	0	100	MC
Total Credits to be earned					24				

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CURRICULUM

SEMESTER – V									
Sl. No	Course Title	/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
5.1	Visual Design and Communication	3	0	0	3	50	50	100	PC
5.2	Design of Interactive Systems	3	0	0	3	50	50	100	PC
5.3	Prototyping Interactive Systems	3	0	0	3	50	50	100	PC
5.4	Professional Elective I	3	0	0	3	50	50	100	PE
5.5	Open Elective I	3	1/0	0/2	4	50	50	100	OE
Practical / Employability Enhancement									
5.6	Visual Design and Communication Laboratory	0	0	2	1	100	0	100	PC
5.7	Design of Interactive Systems Laboratory	0	0	2	1	100	0	100	PC
5.8	Prototyping Interactive Systems Laboratory	0	0	2	1	100	0	100	PC
5.9	Professional Skills Training I /Industrial Training I/ Startups* \$	--	--	--	2	100	0	100	EC
Total Credits to be earned					21				

\$ Professional Skills Training / Industrial Training for a total period of about 80 hr during the period of 4thsem end summer holidays and 5th sem.

*A candidate can earn 2 credits through start ups in place of Professional Skills Training 1/ Industrial training 1 in 5thsem.

SEMESTER – VI									
Sl. No	Course Title	/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
6.1	Design Processes and Perspectives	3	0	0	3	50	50	100	PC
6.2	Compiler Design	3	0	0	3	50	50	100	PC
6.3	Computer Graphics and Fractals	3	0	0	3	50	50	100	PC
6.4	Open Elective II	3	1/0	0/2	4	50	50	100	OE
6.5	Professional Elective II	3	0	0	3	50	50	100	PE
Practical / Employability Enhancement									
6.6	Design Processes Laboratory	0	0	2	1	100	0	100	PC
6.7	Compiler Design Laboratory	0	0	2	1	100	0	100	PC
6.8	Computer Graphics and Fractals Laboratory	0	0	2	1	100	0	100	PC
6.9	Professional Skills Training II / Industrial Training II @	---	---	---	2	100	0	100	EC
6.10	Project Work I Phase I #	0	0	4	2	100	0	100	EC
Total Credits to be earned					23				

#Project Work 1 Phase I (6thsem) shall be continued further as Project Work 1 Phase II (7thsem). @ Professional Skills Training / Industrial Training for a total period of about 80 hr during 5thsem end summer holidays and 6thsem.

*A candidate can earn 2 credits through start ups in place of Professional Skills Training 2/ Industrial training 2 in 6thsem

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CURRICULUM

SEMESTER – VII									
Sl. No	Course Title	/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
7.1	Engineering Economics and Management	3	0	0	3	50	50	100	HS
7.2	Open Elective III	3	0	0	3	50	50	100	OE
7.3	Professional Elective III	3	0	0	3	50	50	100	PE
7.4	Professional Elective IV	3	0	0	3	50	50	100	PE
7.5	Professional Elective V	3	0	0	3	50	50	100	PE
Practical / Employability Enhancement									
7.6	Comprehensive Test / Viva	---	---	---	2	100	0	100	EC
7.7	Project Work 1 Phase II	0	0	12	4	50	50	100	EC
Total Credits to be earned					21				

\$ Project Work 1 Phase II (7thsem) shall be continuation of Project Work 1 Phase I (6thsem). Courses in Sl. Nos. 7.1, 7.2 and 7.3 shall be completed in the first half of the semester. Courses in Sl. Nos. 7.4 and 7.5 shall be handled in the second half of the semester. One or both of these two courses can also be completed in 5thsemester (fast track). Intern students can study these two courses through NPTEL/MOOC portals also.

SEMESTER – VIII									
Sl. No	Course Title	/ Week			Credit	Maximum Marks			Category
		L	T	P		CA	ESE	Total	
Theory/Theory with Practical									
8.1	Open Elective IV	3	0	0	3	50	50	100	OE
8.2	Professional Elective VI	3	0	0	3	50	50	100	PE
Practical / Employability Enhancement									
8.3	Internship/Project Work II #	--	--	18	6	100	100	200	EC
Total Credits to be earned					12				

Internship / Project work for a total period of about 240 hrs. One or both of the courses in Sl. Nos. 8.1 and 8.2 can also be completed in 6thsemester (fast track). Intern students can study these two courses through NPTEL/MOOC portals also.

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LIST OF PREOFESSIONAL ELECTIVES							
Sl.No.	Course Code	Course Name	L	T	P	C	Sem
ELECTIVE I							
1.		Virtual Reality	3	0	0	3	V
2.		Digital Image Processing/Image Analysis	3	0	0	3	V
3.		Aesthetics and Art	3	0	0	3	V
4.		Advanced Java Programming	3	0	0	3	V
5.		Usability Studies and Evaluation	3	0	0	3	V
6.		Theory of Computataion	3	0	0	3	V
ELECTIVE II							
7.		Spatial Computing	3	0	0	3	VI
8.		Mobile Computing	3	0	0	3	VI
9.		Game Design and Development	3	0	0	3	VI
10.		Animation and Graphics	3	0	0	3	VI
11.		Artificial Intelligence	3	0	0	3	VI
12.		Research Methods in Social Science and Design	3	0	0	3	VI
ELECTIVE III							
13.		Information Retrieval	3	0	0	3	VII
14.		Computer Vision	3	0	0	3	VII
15.		Special Effects	3	0	0	3	VII
16.		Photography	3	0	0	3	VII
17.		Machine Learning	3	0	0	3	VII
ELECTIVE IV							
18.		GPU Computing	3	0	0	3	VII
19.		Multimedia Technologies	3	0	0	3	VII
20.		Non-linear Editing	3	0	0	3	VII
21.		Digital Audio Design and Synthesis	3	0	0	3	VII
22.		Nature Inspired Computing	3	0	0	3	VII
ELECTIVE V							
23.		Cloud computing	3	0	0	3	VII
24.		Software Engineering	3	0	0	3	VII
25.		User Interface Software and Technology	3	0	0	3	VII
26.		Web Design	3	0	0	3	VII
27.		Deep Learning	3	0	0	3	VII
28.		Data Visualization	3	0	0	3	VII
ELECTIVE VI							
29.		Augmented Reality	3	0	0	3	VIII
30.		Introduction to 3D design	3	0	0	3	VIII
31.		Creative Thinking	3	0	0	3	VIII
32.		User Experience Research and Design	3	0	0	3	VIII
33.		Wearable Computing	3	0	0	3	VIII

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LIST OF OPEN ELECTIVES

Sl.No.	Course Code	Course Name	L	T	P	C
1		Visualization using R Programming	3	0	2	4
2		Design Thinking	3	1	0	4
3		Mobile UI Prototyping	3	1	0	4
4		Introduction to Mobile Game Design	3	0	0	3
5		Chaos Theory	3	0	0	3
6		Computational Science for Engineers	3	1	0	4

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