

# **K L University**

## **Department of Electronics and Communication Engineering**

### **Academic Year 2013-2014**

#### **Mapping of ECE Department Mission Statement with SOs, PSOs and PEOs**

#### **Program Outcomes**

##### **Mission statement of K L University:**

##### **Vision:**

To be a globally renowned university.

##### **Mission**

To impart quality higher education and to undertake research and extension with emphasis on application and innovation that cater to the emerging societal needs through all-round development of students of all sections enabling them to be globally competitive and socially responsible citizens with intrinsic values.

#### **Vision and Mission statement of ECE department**

##### **VISION**

- To evolve into a globally recognized department in the frontier areas of Electronics & Communication Engineering (ECE).

##### **MISSION**

**M1-** To produce graduates having professional excellence.

**M2-** To carry out quality research having social & industrial relevance.

**M3-** To provide technical support to budding entrepreneurs and existing Industries.

## **PROGRAM EDUCATIONAL OBJECTIVES (PEOS)**

- **PEO1:** Practice engineering in a broad range of industrial, societal and real world applications.
- **PEO2:** Pursue advanced education, research and development, and other creative and innovative efforts in science, engineering, and technology, as well as other professional careers.
- **PEO3:** Conduct themselves in a responsible, professional, and ethical manner.
- **PEO4:** Participate as leaders in their fields of expertise and in activities that support service and economic development throughout the world.

### **Student Outcomes**

a	Ability to apply knowledge of mathematics, science, and engineering
b	Ability to design and conduct experiments, as well as to analyze and interpret data
c	Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d	Ability to function on multidisciplinary teams
e	Ability to identify, formulate, and solve engineering problems
f	Understanding of professional and ethical responsibility
g	Ability to communicate effectively
h	Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i	Recognition of the need for, and an ability to engage in life-long learning
j	Knowledge of contemporary issues
k	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

	M1	M2	M3
PEO1	✓	✓	✓
PEO2	✓	✓	✓
PEO3	✓		✓
PEO4	✓	✓	✓

Mapping of PEOs with Pos

	PEO1	PEO2	PEO3	PEO4
a	✓	✓		
b	✓	✓		
c	✓	✓		
d	✓	✓		✓
e	✓	✓		
f			✓	✓
g	✓	✓		✓
h		✓	✓	✓
i	✓		✓	✓
j	✓			✓
k	✓	✓		

Mapping of COs with SOs

CO Vs SO Attainment 2013

Department		Electronics and Communication Engineering	SO	a	b	c	d	e	f	g	h	i	j	k	Added/Retained/Modified	Course Rationale	
Sl No	Course Code	Course Title	CO#														
1	11ES104	Engineering Graphics With CAD	Draft orthographic Projections, Isometric views, projection of planes, Manually and prepare Models in workshop by using drawings.	1										1	Modified	Students acquire the skills to draft and modeling of physical designs using CAD.	
			Draft orthographic projections, isometric views, projection of planes using AutoCAD. Draft projection of solids Manually and by using AutoCAD and prepare Models in workshop by using different workshop trades	1													1
			Draft Development of surfaces of solid and sections of solid Manually	1													1
			Practicing house wiring through Auto Cad	1													2
			Develop 2D & 3D components using Auto Cad Software	1													2
2	13BS102	Differential Equations	Formulate physical laws and relations mathematically in the form of first order differential equations	1											Added	Students develop the skill to apply various basic mathematics for practical electronics and communication applications.	
			Higher order differential equations and identify a method for solving and interpreting the results.	1													
			Provide solutions for Fourier series of periodic/non-periodic phenomenon in models involving differential equations.	1													
			Model the given phenomena as a partial differential equations of first and second orders	1													
			Solve the partial differential equations by analytical and finite difference methods														
3	13ES101	Problem Solving Through Programming	Understanding the basic scalar types, input/output functions operators, and expressions					2							Modified	Students understand the basic concepts and develop skill to implement by programming	
			Understanding statements and control flow charts	1				1									
			Understanding the functions, arrays, pointers.	1				1									
			Understanding and applying structures, characters, strings, and storage classes.	1				2									
4	13ES102	Measurements	Understand and apply the fundamentals of a measurement system, characteristics, and metrology using simulation and experimentation tools.					1						Modified	Course develops the understanding in		







17	13ES204	Data Structures	Understanding the algorithm analysis and stacks and queues	1				1					Added	Students understand the concepts and apply the skill to practical applications
			understanding trees and hashing	1			1							
			Understanding priority queues and sorting.	1			1							
			Understanding the graph algorithms	1			1							
18	13ES203	Network Theory	Understand the VI characteristics of electrical elements, solution of complex problems of DC circuits using transformations, nodal, mesh analysis and theorems.	1								1	Modified	Students understand the electrical characteristics of various circuits and develop the skill for practical applications
			Understand the fundamentals and interconnection relations of 3 – phase circuits.	1							1			
			Analyze the series and parallel resonance and magnetic circuits.	2							2			
			Analyze the transient analysis of DC / AC circuits, two port networks and solve complex networks using topology.	3							2			
19	13BS201	MATHEMATICAL METHODS	Understanding numerical methods	1							1		Added	Course develop the skill in various numerical methods and transformations
			Understanding Fourier series and transforms	1						1				
			Understanding Z transforms	1						1				
			Understanding probability and distributions	1						1				
20	13ES202	OBJECT ORIENTED PROGRAMMING	The student will be able to understand basic Concepts of OOP, fundamentals of java and apply the concepts of classes and objects through Java Language.	2				2					Added	Students understand the concepts of OOP and develop to apply for practical implementation
			The student will be able to apply constructors, Overloading, parameter passing, and access control in Java programming.	2				2						
			The student will be able to apply Inheritance, Packages, Interfaces.	2				2						
21	13EC203	Basics of Digital Systems	Understand the representation of data using different codes and the principles of Boolean algebra to manipulate and minimize logic expressions	1				1					Modified	Students acquire the basic understanding of digital circuits suitable for core jobs.
			Analyze the functioning of different combinational logic circuits built with logic gates and the design procedure for developing circuits like adders, decoders, code converters, etc.					2						
			Analyze the behavior of flip-flops and the operation of sequential circuits using flip-flops					2						
			Apply the design approach for creating sequential circuits like counters, shift registers, etc., and the concept of ASM charts in describing the digital systems					2						



22	13EC207	Analog Communications	Understand the basic principles of linear modulation and demodulation techniques						1							Modified	Student can able to understand the various modes of higher communication systems.
			Explore analog and pulse modulation and demodulation techniques.						2								
			Elucidate the basic principles of angle modulation and demodulation techniques						2								
			Analyze the basic analog transmitters and receivers in the presence of noise						2								
23	13EC205	Analog Electronic Circuits	Design different types of feed-back amplifiers and provide general solution for real time problems						3						Added	Students acquire the basic understanding of digital circuits suitable for core jobs.	
			Design different types of Oscillators and provide general solution for real time problems, and Design active filters using OPAMPs						3								
			Design other non-linear applications of OPAMPs such as precision rectifier, zero crossing detector, etc..., Design the applications of 555timer						3								
			Analyze different types of Power amplifiers						2								
24	13EC202	Electromagnetic Fields Theory	Apply the principles of vector calculus to estimate the static Electric field due to different sources.						1						Modified	Student can able to analyze EM propagation through various medium, which is require for the understanding of specialized courses.	
			Obtain the boundary conditions on <b>E</b> field and understand the concepts of magnetic field to calculate the static <b>H</b> field due to different sources.						2								
			Develop the boundary conditions on <b>H</b> field and extend the concepts of static fields to obtain the governing laws of electromagnetic field.						2								
			Perceive the propagation of uniform plane wave and its characteristics in different media, and interpret the characteristics of the guided waves to understand the modes of propagation in rectangular Wave-guide.						2								
25	13BS202	Complex Variables & Discrete Mathematics	Understanding complex variables	1									1		Added	Course develop the skill in various functions and graph theory	
			Understanding special functions	1									1				
			Understanding differential equations	1									1				
			Understanding graph theory	1									1				
26	13ES201	Thermodynamics	Understand the fundamentals of thermodynamic systems and processes	2					2						Added	Course develop the skill to apply law of thermodynamics in practical circuits.	
			Apply laws of the thermodynamics and principle of entropy to engineering devices.	2					2								
			Analyze various air standard cycles and their performance.	2					2								
			Evaluate the performance of fuels and combustion to various engines.	2					2								
27	13EC313		Understand basic radiating process and their parameters.	1					1					Modified			

















