NEW HORIZON
COLLEGE OF ENGINEERING

Department of Electrical and Electronics Engineering

Batch: 2020-2024



Scheme: 2020
Credits: 175

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CREDITS: 175

VISION

To evolve into a centre of excellence in Electrical and Electronics Engineering for bringing out contemporary engineers, innovators, researchers and entrepreneurs for serving nation and society.

MISSION

- To provide suitable forums to enhance the teaching-learning, research and development activities.
- Framing and continuously updating the curriculum to bridge the gap between industry and academia in the contemporary world and serve society.
- To inculcate awareness and responsibility towards the environment and ethical values.

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PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1	To provide good learning environment to develop entrepreneurship capabilities in various areas of Electrical and Electronics Engineering with enhanced efficiency, productivity, cost effectiveness and technological empowerment of human resource.
PEO2	To inculcate research capabilities in the areas of Electrical and Electronics Engineering to identify, comprehend and solve problems and adopt themselves to rapidly evolving technology.
PEO3	To create high standards of moral and ethical values among the graduates to transform them as responsible citizens of the nation.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1	Graduateswill be able to solve real life problems of power system and power Electronics using MiPower, PSPICE and MATLAB software tools and hardware.
PSO 2	Graduates will be able to Develop & support systems based on Renewable and sustainable Energy sources.

PEOs TO MISSION STATEMENT MAPPING

Mission Statements	PEO1	PEO2	PEO3
PEO1: To provide good learning environment to develop entrepreneurship capabilities in various areas of Electrical and Electronics Engineering with enhanced efficiency, productivity, cost effectiveness and technological empowerment of human resource.	3	3	1
PEO2: To inculcate research capabilities in the areas of Electrical and Electronics Engineering to identify, comprehend and solve problems and adopt themselves to rapidly evolving technology	2	3	2
PEO3: To create high standards of moral and ethical values among the graduates to transform them as responsible citizens of the nation.	1	2	3

Correlation: 3- High, 2-Medium, 1-Low

PROGRAM OUTCOMES (POs) WITH GRADUATE ATTRIBUTES

S.No	Graduate Attributes	Program Outcomes (POs)
1	Engineering Knowledge	PO1: Able to understand the fundamentals of mathematics, science, Electrical and Electronics Engineering and apply them to the solution of complex engineering problems.
2	Problem Analysis	PO2: Ability to identify, formulate and analyze real time problems in Electrical and Electronics Engineering.
3	Design and Development of Solutions	PO3: Design solutions for complex engineering problems, that meet the specified needs and to interpret the data.
4	Investigation of Problem	PO4: Use research based knowledge and research methods to provide valid solutions for complex problems in Electrical and Electronics Engineering.
5	Modern Tool usage	PO5: Apply appropriate tools techniques for modeling, analyzing and solving Electrical and Electronics Engineering devices & systems.
6	Engineer and society	PO6: To give basic knowledge of social, economic, safety and cultural issues relevant to professional engineering.
7	Environment and sustainability	PO7: To impart knowledge related to the design and development of modern systems which are environmentally sensitive and to understand the importance of sustainable development.
8	Ethics	PO8: Apply ethical principles and professional responsibilities in engineering practice.
9	Individual & team work	PO9: Ability to visualize and function as an individual and as a member in a team of a multi-disciplinary environment.
10	Communication	PO10: Ability to communicate effectively complex engineering ideas to the engineering community & the society at large.
11	Lifelong learning	PO11: To impart education to learn and to engage in independent and life – long learning in the technological change.
12	Project management and finance	PO12: Ability to handle administrative responsibilities, manage projects & handle finance related issues in a multi-disciplinary environment.

MAPPING OF POs TO PEOs

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEO1	3	3	3	-	-	-	-	-	-	-	-	-
PEO2	-	-	-	-	-	-	-	-	-	-	-	-
PEO3	-	-	3	3	-	-	-	-	-	-	3	-

Correlation: 3- High, 2-Medium, 1-Low

CREDIT SCHEME FOR I SEMESTER B.E

FIRST SEMESTER- PHYSICS CYCLE											
Sl. No	Course Code	Course	BoS	Credit Distribution			Overall Credits	Contact Hours	Marks		
				L	T	P			SEE	CIE	Total
1	19MAT11	Applied Mathematics -I	BS	2	1	0	3	4	50	50	100
2	19PHY12	Engineering Physics	BS	3	0	0	3	3	50	50	100
3	19MEE13	Elements of Mechanical Engineering	ME	3	0	0	3	3	50	50	100
4	19CIV14	Elements of Civil Engineering	CV	3	0	0	3	3	50	50	100
5	19EEE15	Basic Electrical Engineering	EE	3	0	0	3	3	50	50	100
6	19PHL16	Engineering Physics Lab	BS	0	0	2	2	4	25	25	50
7	19EEL17	Basic Electrical Engineering Lab	EE	0	0	2	2	4	25	25	50
8	19HSS171	Essential English	HSS	Mandatory Course			0	2	25	25	50
Total							19	26	325	325	650

CREDIT SCHEME FOR II SEMESTER BE

SECOND SEMESTER- CHEMISTRY CYCLE											
Sl. No	Course Code	Course	BoS	Credit Distribution			Overall Credits	Contact Hours	Marks		
				L	T	P			CIE	SEE	Total
1	19MAT21	Applied Mathematics-II	BS	2	1	0	3	4	50	50	100
2	19CHE22	Engineering Chemistry	BS	3	0	0	3	3	50	50	100
3	19CSE23	Introduction to Programming with C	CSE	3	0	0	3	3	50	50	100
4	19MEE24	Computer Aided Engineering Drawing	ME	1	0	2	3	5	50	50	100
5	19ECE25	Basic Electronics	ECE	3	0	0	3	3	50	50	100
6	19CHL27	Engineering Chemistry Lab	BS	0	0	2	2	4	25	25	50
7	19CSL28	Programming with C Lab	CSE	0	0	2	2	4	25	25	50
8	19HSS271	Professional Communication	HSS	2	0	0	2	2	25	25	50
9	19HSS272	Constitution of India and Professional Ethics	HSS	Mandatory Course			0	2	25	25	50
Total							21	30	350	350	700

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Scheme of Third Semester B.E Program

Sl. No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours per Week	Marks		
				L	T	P	S			CIE	SEE	Total
1	20EEE31A	Applied Mathematics-III	BS	2	1	0	0	3	4	50	50	100
2	20HSS321A	Economics for Engineers	HSS	2	0	0	0	2	2	25	25	50
3	20HSS324/ 20HSS325	Aadalitha /Samkrithika Kannada/ Vyavaharika/Balake Kannada	HSS	1	0	0	0	1	2	25	25	50
4	19EEE33	Electronic Devices and Circuits	EEE	3	1	0	0	4	5	50	50	100
5	19EEE34	Digital System Design	EEE	3	1	0	0	4	5	50	50	100
6	19EEE35	Electric Circuit Theory	EEE	3	1	0	0	4	5	50	50	100
7	19EEL36	Analog and Digital Electronics Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
8	19EEL37	Electric Circuit Theory Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
9	19EEL38	Mini Project I	EEE	0	0	2	0	2	4	25	25	50
10	*20DMAT31A	*Basic Applied Mathematics-I	BS	0	0	0	0	0	2	25	25	50
11	*19HSS171	*Essential English	HSS	0	0	0	0	0	2	25	25	50
		TOTAL						**23**	**33/37***	**325/ 375***	**325/ 375***	**650/ 750***

***Applicable to lateral entry students only**

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Scheme of Fourth Semester B.E Program

Sl. No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours per Week	Marks		
				L	T	P	S			CIE	SEE	Total
1	20EEE41A	Applied Mathematics-IV	BS	2	1	0	0	3	4	50	50	100
2	20HSS422A	Life Skills for Engineers	HSS	3	0	0	0	3	3	50	50	100
3	20HSS423A	Environmental Science and Awareness	HSS	0	0	0	0	0	3	25	25	50
4	19EEE43	Electromagnetic Theory	EEE	3	0	0	0	3	3	50	50	100
5	19EEE44	Microcontroller and Embedded Systems	EEE	3	0	0	0	3	3	50	50	100
6	19EEE45	DC Machines and Transformers	EEE	3	0	0	0	3	3	50	50	100
7	19EEE46	Linear Integrated Circuits	EEE	3	0	0	0	3	3	50	50	100
8	19EEL47	Microcontroller and Embedded Systems Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
9	19EEL48	DC Machines and Transformers Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
10	19EEL49	Mini Project II	EEE	0	0	2	0	2	4	25	25	50
11	*20DMAT41A	*Basic Applied Mathematics-II	BS	0	0	0	0	0	2	25	25	50
12	*19HSS272	*Constitution of India and Professional Ethics	HSS	0	0	0	0	0	2	25	25	50
		TOTAL						**23**	32/36*	400/ 450*	400/ 450*	800/ 900*

***Applicable to lateral entry students only**

New Horizon College of Engineering
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Scheme of Fifth Semester B.E Program

Sl. No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours per Week	Marks		
				L	T	P	S			CIE	SEE	Total
1	20EEE51	Transmission and Distribution	EEE	3	0	0	0	3	3	50	50	100
2	20EEE52	Control Systems	EEE	3	0	0	0	3	3	50	50	100
3	20EEE53	Synchronous and Induction Machines	EEE	3	0	0	0	3	3	50	50	100
4	20EEE54	Signals and Systems	EEE	3	0	0	0	3	3	50	50	100
5	20EEE55	Industrial Automation	EEE	3	0	0	0	3	3	50	50	100
6	20EEE56X/ 20EEE56XA	Professional Elective I	EEE	3	0	0	0	3	3	50	50	100
7	20EEL57	Control Systems Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
8	20EEL58	Synchronous and Induction Machines Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
9	20EEL59B	Mini Project III	EEE	0	0	2	0	2	4	25	25	50
		TOTAL						**23**	**28**	**375**	**375**	**750**

Professional Elective I	
Course Code	**Course**
20EEE561A	Object Oriented programming using C++ and JAVA
20EEE562	Modern Communication Systems
20EEE563	Advanced Micro Controller and Applications
20EEE564	MEMS and Applications

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Scheme of Sixth Semester B.E Program

S. No	Course Code	Course	BOS	Credit Distribution				Overall Credits	Contact Hours per Week	Marks		
				L	T	P	S			CIE	SEE	Total
1	20EEE61	Power System Analysis	EEE	3	0	0	0	3	3	50	50	100
2	20EEE62	Power Electronics	EEE	3	0	0	0	3	3	50	50	100
3	20EEE63	Power System Protection	EEE	3	0	0	0	3	3	50	50	100
4	20EEE64X/20EEE64XA	Professional Elective II	EEE	3	0	0	0	3	3	50	50	100
5	20EEE65X/ 20EEE65XA	Professional Elective III	EEE	3	0	0	0	3	3	50	50	100
6	20NHOP6XX	Open Elective-I	EEE	3	0	0	0	3	3	50	50	100
7	20EEL66	Power System Analysis Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
8	20EEL67	Power Electronics Laboratory	EEE	0	0	1.5	0	1.5	3	25	25	50
9	20EEL68B	Mini Project IV	EEE	0	0	2	0	2	4	25	25	50
		TOTAL						**23**	**28**	**375**	**375**	**750**

Professional Elective II		**Professional Elective III**	
Course Code	**Course**	**Course Code**	**Course**
20EEE641A	Data structure and algorithms using python	20EEE651	Operation Research
20EEE642	Fiber Optic and Laser Instrumentation	20EEE652A	CMOS VLSI Design
20EEE643	Robotics and Automation	20EEE653	Advanced Industrial and Building Automation
20EEE644	Virtual Instrumentation	20EEE654	Advanced Control Systems

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Scheme of Seventh Semester B.E Program

Sl. No	Course Code	Course	Credit Distribution				Overall Credits	Contact Hours per Week	Marks		
			L	T	P	S			CIE	SEE	Total
1	20EEE71A	Special Electrical Machines	3	0	0	0	3	3	50	50	100
2	20EEE72A	Relay and High voltage Engineering	3	0	0	0	3	3	50	50	100
3	20EEE73A	Electrical Drives and vehicles	3	0	0	0	3	3	50	50	100
4	20EEE74XA	Professional Elective IV	3	0	0	0	3	3	50	50	100
5	20EEE75XA	Professional Elective V	3	0	0	0	3	3	50	50	100
6	20NHOP7XX	Open Elective- II	3	0	0	0	3	3	50	50	100
7	20EEL76A	Relay and High voltage Engineering laboratory	0	0	1.5	0	1.5	3	25	25	50
8	20EEL77A	Simulation tools for Electrical Engineering laboratory	0	0	1.5	0	1.5	3	25	25	50
9	20EEE78A	Project Phase I	0	0	2	0	2	4	50	50	100
TOTAL							**23**	**28**	**400**	**400**	**800**

Professional Elective IV		**Professional Elective V**	
Course Code	**Course**	**Course Code**	**Course**
20EEE741A	Digital Signal Processing	20EEE751A	Utilization of Electrical Energy
20EEE742A	FACTS and HVDC transmission	20EEE752A	Power System Operation and Control
20EEE743A	Testing and Commissioning	20EEE753A	Professional Ethics
20EEE744A	Energy Auditing and Demand Side Management	20EEE754A	Neural network and Fuzzy logic in Electrical Engineering

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Scheme of Eighth Semester B.E Program

Sl. No	Course Code	Course	Credit Distribution				Overall Credits	Contact Hours per Week	Marks		
			L	T	P	S			CIE	SEE	Total
1	20EEE81XA	Professional Elective VI	3	0	0	0	3	3	50	50	100
2	20EEE82XA	Professional Elective VII	3	0	0	0	3	3	50	50	100
3	20EEE83A	Internship	0	0	4	0	4	8	50	50	100
4	20EEE84A	Project Phase II	0	0	10	0	10	20	50	50	100
TOTAL							**20**	**34**	**200**	**200**	**400**

Professional Elective VII			Professional Elective VII	
Sl No	**Course Code**	**Course**	**Course Code**	**Course**
1	20EEE811A	Estimation and Costing of electrical systems	20EEE821A	Photo Voltaic Systems and Applications
2	20EEE812A	Smart Grid Technologies	20EEE822A	Simulation of Power Electronics
3	20EEE813A	Power Quality	20EEE823A	Biomedical Instrumentation
4	20EEE814A	Integration of distributed generation	20EEE824A	Applications of IOT in Electrical Engineering

www.newhorizonindia.edu

Ring Road, Bellandur Post, Near Marathahalli
Bengaluru, Karnataka 560103, India