

# Course Structure for PhD

## Department of Electronics Engineering

### First Semester (Monsoon)

Sl. No.	Designation	Course Code	Subject Name	L-T-P	Credit
1	DC-1	ECC581	Research Methodology	3-0-0	9
2.	DC-2*	ECC580	Mathematical and Simulation Techniques	3-0-0	9
3.	DC-3*	ECC540	Advanced Engineering Electromagnetics	3-0-0	9
4.	DC-4*	ECC562	Digital IC Design	3-0-0	9
5.	DC-5 <sup>#</sup>	HSI500	Research and Technical Communication	3-0-0	S/X

DC-1\* is Research Methodology and DC-2\* is Numerical Methods

\* The core papers will be compulsory for all students of the Department. If the courses are common for PG and Ph.D., then it will be as DC-3\* and DC-4\*.

DC-5<sup>#</sup> is for HSS only with 3-0-0 (Credit 9).

### Second Semester (Winter)

Sl. No.	Designation	Course Code	Subject Name	L-T-P	Credit
1	DE-1	ECD 5xx	Any one course from Table 1A	3-0-0	9
2.	DE-2	ECD 5xx	Any one course from Table 1B	3-0-0	9
3.	DE-3/OE-1	ECD 5xx /ECO 5xx	Any one course either from Table 1C or 2A	3-0-0	9
4.	DE-4/OE-2	ECD 5xx	Any one course from Table 2B	3-0-0	9
<b>Any four/two DE out of Table 1, Any two OE out of Table 2.</b>					

\*\* Students with B.Tech degree or M.Tech in non-relevant field require two additional DC courses.

<b>Table 1A</b> (DE-1)					
Sr. No.	Course Code	Subject Name	L-T-P	Credit	
1.	ECD500	Advanced Signal Processing	3-0-0	9	
2.	ECD501	Convex Optimization Techniques	3-0-0	9	
3.	ECD523	Nonlinear Fiber Optics	3-0-0	9	
4.	ECD529	Ultra-fast Technology	3-0-0	9	
5.	ECD530	Wireless Optical Communication	3-0-0	9	
6.	ECD540	Advanced Antenna Theory	3-0-0	9	
7.	ECD544	Radar Engineering	3-0-0	9	
8.	ECD560	Advanced CMOS Devices and Technology	3-0-0	9	
9.	ECD566	Advanced Solid State Devices	3-0-0	9	
10.	ECD568	Nanoelectronics	3-0-0	9	

# Course Structure for PhD

## Department of Electronics Engineering

<b>Table 1B</b> (DE-2)				
<b>Sr. No.</b>	<b>Course Code</b>	<b>Subject Name</b>	<b>L-T-P</b>	<b>Credit</b>
1.	ECD503	Wireless Communication Systems	3-0-0	9
2.	ECD520	Advanced Operating Systems	3-0-0	9
3.	ECD522	Nanophotonics	3-0-0	9
4.	ECD526	Optical Fiber and Optoelectronic Sensors	3-0-0	9
5.	ECD528	Silicon Photonics	3-0-0	9
6.	ECD531	Photonics Modeling and Design	3-0-0	9
7.	ECD541	Computational Electromagnetics	3-0-0	9
8.	ECD542	Electromagnetic Interference & Compatibility	3-0-0	9
9.	ECD545	RF and Microwave MEMS	3-0-0	9
10.	ECD561	ASIC Design	3-0-0	9
11.	ECD562	Current Mode Analog Circuits	3-0-0	9
12.	ECD565	VLSI Technology	3-0-0	9

<b>Table 1C</b> (DE-3)				
<b>Sr. No.</b>	<b>Course Code</b>	<b>Subject Name</b>	<b>L-T-P</b>	<b>Credit</b>
1.	ECD502	Estimation and Detection Theory	3-0-0	9
2.	ECD521	Microwave Photonics	3-0-0	9
3.	ECD524	Numerical Techniques in Electromagnetics	3-0-0	9
4.	ECD525	Optical and Quantum Computation	3-0-0	9
5.	ECD527	Optical Signal Processing	3-0-0	9
6.	ECD543	Microwave Communication System	3-0-0	9
7.	ECD546	Smart Antennas	3-0-0	9
8.	ECD563	Low Power VLSI	3-0-0	9
9.	ECD564	On-Chip Interconnects	3-0-0	9
10.	ECD567	Mixed Signal VLSI Design	3-0-0	9

<b>Table 2A</b> (OE-1)				
<b>Sr. No.</b>	<b>Course Code</b>	<b>Subject Name</b>	<b>L-T-P</b>	<b>Credit</b>
1.	ECO500	Wireless Sensor Networks	3-0-0	9
2.	ECO501	Internet of Things	3-0-0	9
3.	ECO540	MIC and MMIC	3-0-0	9
4.	ECO542	Advanced Microwave Measurement & Instrument	3-0-0	9
5.	ECO560	Test and Verification of VLSI Circuits	3-0-0	9

# Course Structure for PhD

## Department of Electronics Engineering

Table 2B (OE-2)				
Sr. No.	Course Code	Subject Name	L-T-P	Credit
1.	ECO520	Optical Networks	3-0-0	9
2.	ECO521	Design and Analysis of Algorithms	3-0-0	9
3.	ECO541	Microwave Devices and Networks	3-0-0	9
4.	ECO543	Microwave Remote Sensing	3-0-0	9
5.	ECO561	Embedded System Design	3-0-0	9

### Third Semester (Monsoon)

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

### Fourth Semester (Winter)

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

### Fifth Semester (Monsoon)

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

### Sixth Semester (Winter)

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

### Seventh Semester (Monsoon)

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

### Eighth Semester (Winter)

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

**Course Structure for PhD**  
**Department of Electronics Engineering**

**Ninth Semester (Monsoon)**

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

**Tenth Semester (Winter)**

Sl. No.	Course Code	Subject Name	L-T-P	Credit
1	ECC599	Thesis Unit	0-0-0 (S/X)	36

