



Estd.2009

# Dr. Sudhir Chandra Sur Degree Engineering College

540, Dum Dum Road, Surer math, (Near Dum Dum Jn. Station),

Kolkata – 700074; Phone: +91 33 25603889,

Website: [www.dsec.ac.in](http://www.dsec.ac.in), Email: [info@dsec.ac.in](mailto:info@dsec.ac.in)

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JIS GROUP

Educational Initiatives

## COURSE CONTENT for B.Tech (Electronics & Communication Engineering) [ECE]

(Affiliated to MAKAUT Approved by AICTE)

### Revised Syllabus of B.Tech ECE (Effective from Academic Session 2018-2019)

1st Semester							
A. Theory							
Sl. NO.	Course Code	Topic	Contacts Periods/Week				Credits
			Lecture	Tutorial	Practical	Total	
1	BS-CH101	Chemistry-IB	3	1	0	4	4
2	BS-M102	Mathematics –IB	3	1	0	4	4
3	ES-EE101	Basic Electrical Engineering	3	1	0	4	4
<b>TOTAL THEORY</b>						<b>12</b>	<b>12</b>
B. Practical							
4	BS-CH191	Chemistry-I Laboratory	0	0	3	3	1.5
5	ES-EE191	Basic Electrical Engineering Laboratory	0	0	2	2	1
6	ES-ME191	Engineering Graphics & Design(Gr-B)	1	0	4	5	3
<b>TOTAL PRACTICAL</b>						<b>10</b>	<b>5.5</b>
<b>Total of Semester</b>						<b>22</b>	<b>17.5</b>
2nd Semester							
A. Theory							
1	BS-PH201	Physics-I	3	1	0	4	4
2	BS-M202	Mathematics –IIB	3	1	0	4	4
3	ES-CS201	Programming for Problem Solving	3	0	0	3	3
4	HM-HU201	English	2	0	0	2	2
<b>TOTAL THEORY</b>						<b>13</b>	<b>13</b>
B. Practical							
5	BS-PH291	Physics-I Laboratory (Gr-B)	0	0	3	3	1.5
6	ES-CS291	Programming for Problem Solving	0	0	4	4	2
7	ES-ME292	Workshop/Manufacturing Practices(Gr-B)	1	0	4	4	3
8	HM-HU291	Language Laboratory	0	0	2	2	1
<b>TOTAL PRACTICAL</b>						<b>13</b>	<b>7.5</b>
<b>Total of Semester</b>						<b>27</b>	<b>20.5</b>
3rd Semester							
A. Theory							
1	EC301	Electronic Devices	3	0	0	3	3
2	EC302	Digital System Design	3	0	0	3	3
3	EC303	Signals and System	3	0	0	3	3
4	EC304	Network Theory	3	0	0	3	3
5	ES-CS301	Data Structure & Algorithms	3	0	0	3	3
6	BS-M301	Probability & Statistics(BS)	3	0	0	3	3



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<b>TOTAL THEORY</b>						<b>18</b>	<b>18</b>
<b>B. Practical</b>							
7	EC391	Electronic Devices Lab.	0	0	2	2	1
8	EC392	Digital System Design Lab.	0	0	2	2	1
9	ES-CS391	ES-CS391 Data Structure Lab(ES)	0	0	2	2	1
<b>TOTAL PRACTICAL</b>						<b>6</b>	<b>3</b>
<b>Total of Semester</b>						<b>24</b>	<b>21</b>
<b>C. Non Credit Course</b>							
10	MC381	Environmental Science	0	0	2	2	0
<b>4th Semester</b>							
<b>A. Theory</b>							
1	EC401	Analog Communication	3	0	0	3	3
2	EC402	Analog Electronic Circuits	3	0	0	3	3
3	EC403	Microprocessor & Microcontrollers	3	0	0	3	3
4	ES-CS401	Design and Analysis of Algorithm(ES)	3	0	0	3	3
5	BS-M401	Numerical Methods(BS)	2	0	0	2	2
6	BS-B401	Biology for Engineers	2	1	0	3	3
<b>TOTAL THEORY</b>						<b>17</b>	<b>17</b>
<b>B. Practical</b>							
7	EC491	Analog Communication Lab	0	0	2	2	1
8	EC492	Analog Electronic Circuits Lab.	0	0	2	2	1
9	EC493	Microprocessor & Microcontrollers Lab	0	0	2	2	1
10	BS-M(CS)491	Numerical Methods Lab	0	0	2	2	1
11	HS-HU481	Soft Skill Development Lab	0	0	2	2	1
<b>TOTAL PRACTICAL</b>						<b>10</b>	<b>5</b>
<b>Total of Semester</b>						<b>27</b>	<b>22</b>
<b>5th Semester</b>							
<b>A. Theory</b>							
1	EC501	Electromagnetic Waves	3	0	0	3	3
2	EC502	Computer Architecture	3	0	0	3	3
3	EC503	Digital Communication & Stochastic Process	3	1	0	4	3.5
4	EC504	Digital Signal Processing	3	0	0	3	3
5	PE-EC505	Program Elective I	3	0	0	3	3
6	OE-EC506 A/B/C/D	Open Elective I	3	0	0	3	3
7	MC-HU501	Effective Technical Communication	3	0	0	3	0
<b>Total Theory</b>						<b>22</b>	<b>18.5</b>
<b>B. Practical</b>							
8	EC591	Electromagnetic Wave Lab	0	0	2	2	1



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9	EC592	Digital Communication Lab.	0	0	2	2	1
10	EC593	Digital Signal Processing Lab.	0	0	2	2	1
<b>Total Practical</b>						<b>6</b>	<b>3</b>
<b>Total of Semester</b>						<b>28</b>	<b>21.5</b>

6th Semester								
A. Theory								
1	EC601	Control System & Instrumentation	3	0	0	3	3	
2	EC602	Computer Network	3	0	0	3	3	
3	PE-EC603	Program Elective II	3	0	0	3	3	
4	OE-EC604	Open Elective II	3	0	0	3	3	
5	HS-HU601	Economics for Engineers	3	0	0	3	3	
<b>Total Theory</b>						<b>15</b>	<b>15</b>	
B. Practical								
6	EC691	Computer Network Lab.	0	0	2	2	1	
7	EC692	Control System and Instrumentation Lab.	0	0	2	2	1	
8	EC681	Mini Project/ Electronic Design Workshop	0	0	4	4	2	
<b>Total Practical</b>						<b>8</b>	<b>4</b>	
<b>Total of Semester</b>						<b>23</b>	<b>19</b>	
9	MC681	Universal Human Values	2	0	0	2	0	
7th Semester								
A. Theory								
1	PE-EC701	Program Elective -3	3	0	0	3	3	
2	PE-EC702	Program Elective -4	3	0	0	3	3	
3	PE-EC703	Program Elective -5	3	0	0	3	3	
4	OE-EC704	Open Elective - 3	3	0	0	3	3	
5	HS-HU701	Principles of Management	2	0	0	2	2	
<b>Total Theory</b>						<b>16</b>	<b>14</b>	
B. Practical								
6	EC781	Industrial Training	During Semester Break(6th & 7th )					1
7	EC782	Project Stage – I	0	0	8	8	4	
<b>Total Practical</b>						<b>8</b>	<b>5</b>	
<b>Total of Semester</b>						<b>24</b>	<b>19</b>	
8th Semester								
A. Theory								
1	PE-EC801	Program Elective – 6	3	0	0	3	3	



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2	PE-EC802	Program Elective - 7	3	0	0	3	3
3	OE-EC803	Open Elective - 4	3	0	0	3	3
4	OE-EC804	Open Elective - 5	3	0	0	3	3
<b>Total Theory</b>						<b>12</b>	<b>12</b>
<b>B. Practical</b>							
5	EC881	Project Stage – II	0	0	15	15	7.5
6	EC891	Grand Viva	1.5				
<b>Total Practical</b>						<b>15</b>	<b>9</b>
<b>Total of Semester</b>						<b>27</b>	<b>21</b>
<b>Professional Electives</b>							
1	PE-EC505A	Nano Electronics	3	0	0	3	V
2	PE-EC505B	Speech and Audio Processing	3	0	0	3	
3	PE-EC505C	Power Electronics	3	0	0	3	
4	PE-EC505D	Scientific Computing	3	0	0	3	
5	PE-EC603A	Introduction to MEMS	3	0	0	3	VI
6	PE-EC603B	Bio-Medical Electronics	3	0	0	3	
7	PE-EC603C	CMOS VLSI Design	3	0	0	3	
8	PE-EC603D	Information Theory and Coding	3	0	0	3	
9	PE-EC701A	Microwave Theory and Techniques	3	0	0	3	VII
10	PE-EC701B	Satellite Communication	3	0	0	3	
11	PE-EC701C	Mobile Communication and Networks	3	0	0	3	
12	PE-EC702A	Adaptive Signal Processing	3	0	0	3	
13	PE-EC702B	Digital Image and Video Processing	3	0	0	3	
14	PE-EC702C	Neural Network and Fuzzy Logic Control	3	0	0	3	
15	PE-EC703A	Embedded System	3	0	0	3	
16	PE-EC703B	Wireless Sensor Networks	3	0	0	3	VIII
17	PE-EC703C	Wavelet Transforms	3	0	0	3	
18	PE-EC801A	Antennas and Propagation	3	0	0	3	
19	PE-EC801B	Fibre Optic Communication	3	0	0	3	
20	PE-EC801C	Error Correcting Codes	3	0	0	3	
21	PE-EC802A	Mixed Signal Design	3	0	0	3	
22	PE-EC802B	Industrial Automation and Control	3	0	0	3	
23	PE-EC802C	VLSI Design Automation	3	0	0	3	