**Bachelor of Technology in Electronics and Communication Engineering- (2020-21)**

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| **Sem** | **Semester Course Code, Course Name**  **(L-T-P) Credits** | | | | | | | **GP** | **CS** | **Hrs.**  **Per week** | | | **Contact Hrs** | **Credits** |
| **L** | **T** | **P** |
| 1 | MAL151  Engg Maths-I  (3-0-2)4 | CSL106  FOCP-I  (2-0-4)4 | CHL150  Engg Chemistry  (2-0-2)3 | CLL101  Effective  Communication-I  (2-1-0)2.5 | MEP110  Engineering Graphics &  Drawing  (1-0-4)3 | ECL110  Basic of Electrical &  Electronics  Engineering  (2-0-2)3 |  | ECR107  GP  1 Credits | ECS 101 CS1 #1  (35-Hrs)  S/NS Course | 12 | 1 | 14 | 405 | 19.5+1=20.5 |
| 2 | MAL152  Engg Maths-II  (3-0-2)4 | CSL108  FOCP-II  (2-0-4)4 | PHY150  Engineering  Physics  (3-0-2)4 | CLL102  Effective  Communication-II  (2-1-0)2.5 | MEL150  Basic of Mechanical & Civil Engg.  (2-0-2)3 | CSL110  Problem Solving  and Design  Thinking  (2-0-2)3 |  | ECR108  GP  1 Credits | ECS 102 CS1 #2 (35-Hrs)  1 Credit | 14 | 1 | 12 | 405 | 20.5+2=22.5 |
| **Summer**  ECT101 In House Summer Internship including 7 days community service | | | | | | | |  |  |  | | |  | 1+1=2 |
| 3 | ECL251  Analog Electronics & Integrated circuits (3-0-2)4 | ECL253  Fields, waves and Antennas  (3-0-2)4 | ECL255  DE & CA  (3-0-2)4 | CSL225  Programming for data science  (2-0-4)4 | SML300  Entrepreneurship  (3-0-0)3 | SML\*\*\* Liberal arts  (3-0-0)3 |  | ECR207  GP  1 Credits | ECS 201 CS2 #1 (35-Hrs)  S/NS Course | 17 |  | 10 | 405 | 22+1=23 |
| 4 | ECL256  Embedded System Design  (3-0-2)4 | ECL252  Micro Controllers & Sensors (3-0-2)4 | ECL254  Analog and Digital Communications (3-0-2)4 | ECL258  Signal processing  (3-0-2)4 | Program Elective-1  (2-0-4)4 |  |  | ECR208GP  1 Credits | ECS 202 CS2 #2 (35-Hrs)  1 Credit | 14 |  | 12 | 390 | 20+2=22 |
| **Summer**  ECT201 Industrial Training/Swachha Bharat internship including 7 days community service | | | | | | | |  |  |  | | |  | 02 |
| 5 | CSL236  Introduction to  AI & ML / CSL242 AI for Games (3-0-2)4 | ECL 270 Control systems and power electronics  (3-0-2)4 | Program Elective-2  (2-0-4)4 | Program Elective-3  (2-0-4)4 | Open  Elective – 1\*  (MOOC)  (3-0-0)3 | CLL120 HVPE  (2-0-0-)2 | ECV201 Skill Development  1 Credit | ECR307  GP  1 Credits | ECS 301 CS3 #1  (35-Hrs)  S/NS Course | 15 |  | 12 | 405 | 22+1=23 |
| 6 | ECL302  Data comm and networks  (3-0-2) 4 | Program Elective-4  (2-0-4)4 | Program Elective-5  (2-0-4)4 | Program Elective-6  (2-0-4)4 | Open  Elective-2  (3-0-0)3 | CLP300  Campus to Corporate  (1-0-0)1 | ECC301  Seminar  1 Credit | CSR308  GP  1 Credits | ECS 302 CS3 #2  (35-Hrs)  1 Credit | 13 |  | 14 | 405 | 21+2=23 |
| **Summer** ECT301 Industrial Trainingincluding 7 days community service | | | | | | | |  |  |  | | |  | 03 |
| 7 | Program Elective-  7  (2-0-4)4 | Program Elective-  8  (2-0-4)4 | ECD401  Project # 1  4 Credits | Open  Elective – 3\*  (MOOC)  (3-0-0)3 | CHL100  EVS  (3-0-0)3 | Foreign Language  (3-0-0)3 |  |  | ECS 401 CS4 #1  (70-Hrs)  S/NS | 13 |  | 8 | 315 | 21 |
| 8 | Open  Elective – 4\*  (MOOC)  (3-0-0)3 | Open  Elective – 5\*  (MOOC)  (3-0-0)3 | ECD402  Project # 2 /Internship  6 Credits | SEG 400  Self-Study Course GATE Audit |  |  |  |  | ECS 402 CS4 #2  (70-Hrs)  2 Credits | 6 |  |  | 90 | 12+2=14 |
|  | **Total** | | | | | | |  |  | 104 | 2 | 82 |  | **164+6+6=**  **176** |

**Program Electives for each track**

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| Tracks | IOT | Embedded System & VLSI Design |
| Program Elective-1 | CSL253  Web frameworks | ECL261  Linux & Scripting |
| Program Elective-2 | ECL451  Image Processing and Computer Vision I | ECL262  Digital CMOS VLSI Design & Layout |
| Program Elective-3 | CSL234  Data Engineering | ECL361  Data Structures & OOPs |
| Program Elective-4 | ECL316  Wireless & Mobile Communication | ECL264  RTL Design & Synthesis |
| Program Elective-5 | CSL361  Security in IoT | ECL365  Analog CMOS VLSI Design & Layouts |
| Program Elective-6 | CSL362 Big Data | ECL362  Real Time Operating Systems |
| Program Elective-7 | CSL364  Cloud & Fog Computing | ECL364  Verification Methodologies & Bus Architectures |
| Program Elective-8 | ECL352  Design for IoT | ECL366  VLSI Physical Design |