

**Indian Institute of Information Technology Allahabad**  
**Department of Electronics and Communication Engineering**

**M.Tech-PhD Dual Degree ECE Program with Specialization in  
Communication and Signal Processing**

**(With effect from July 2026 batch)**

**NEP-2020- New Education Policy- 2020**

L-T-P (hr)

Lecture-L: 1 Credit = 1 hr/ week

Tutorial-T: 1 Credit = 1 hr/week

Practical-P: 1 Credit = 2 hr/week

Self Study: 1 Credit = 1 hr/week

1. Degree: M.Tech ECE
2. Duration: The total duration of the program will be 2 years.

**Type of Courses**

|                                                            |
|------------------------------------------------------------|
| Programme Core Course (PCC)                                |
| Programme Elective Course (PEC)                            |
| Open/School Elective (OE/SE) other than particular program |
| Multidisciplinary Minor (MDM)                              |
| Ability Enhancement Course (AEC-01)                        |
| Indian Language (AEC-02)                                   |
| Entrepreneurship/Economics/ Management Courses             |
| Indian Knowledge System (IKS)                              |
| Value Education Course (VEC)                               |
| Internship                                                 |
| Dissertation/Thesis                                        |
| Community Engagement Activity (CEA)/Field Project          |
| Co-curricular & Extracurricular Activities (CCA)           |

# Indian Institute of Information Technology Allahabad

## Department of Electronics and Communication Engineering

### M.Tech-PhD Dual Degree (Communication & Signal Processing)

| Semester 1   |                                             |        |      |            | Total Credit: 21    |
|--------------|---------------------------------------------|--------|------|------------|---------------------|
| Sl. No.      | Course Name                                 | Code   | Type | Credit     | Hours               |
|              |                                             |        |      |            | L-T-P-S             |
| 1            | Advanced Digital Communication              | EC507  | PCC  | 4          | 3-0-2-0             |
| 2            | Statistical Signal Analysis                 | EC508  | PCC  | 4          | 3-0-2-0             |
| 3            | Radiating Systems                           | EC509  | PCC  | 4          | 3-0-2-0             |
| 4            | Introduction to Machine Learning            | EC5010 | PCC  | 4          | 3-0-2-0             |
| 5            | Tools and Techniques for Research Practices | EC505  | ELC  | 3          | 0-1-4-0             |
| 6            | Research Methodology & IPR                  | EC506  | ELC  | 2          | 2-0-0-0             |
| <b>Total</b> |                                             |        |      | <b>21*</b> | <b>14-1-12-0</b>    |
|              |                                             |        |      |            | <b>27 Hrs./Week</b> |

| Semester 2   |                                       |                                  |            |           | Total Credit: 18    |
|--------------|---------------------------------------|----------------------------------|------------|-----------|---------------------|
| Sl. No.      | Course Name                           | Code                             | Type       | Credit    | Hours               |
|              |                                       |                                  |            |           | L-T-P-S             |
| 1            | Principles of Wireless Communications | EC513                            | PCC        | 4         | 3-0-2-0             |
| 2            | Recent Advances in Machine Learning   | EC514                            | PCC        | 4         | 3-0-2-0             |
| 3            | Elective - 1                          | ECXXX                            | PEC        | 3         | 3-0-0-0             |
| 4            | Dissertation-I                        | EC550                            | ELC        | 3         | 0-0-6-0             |
| 5            | HSMC                                  |                                  | HSMC (VEC) | 1         | 1-0-0-0             |
| 6            | Independent Study#                    | ECE551*<br>(*Title of the study) | ELC        | 3         | 0-0-0-3             |
| <b>Total</b> |                                       |                                  |            | <b>18</b> | <b>10-0-10-3</b>    |
|              |                                       |                                  |            |           | <b>23 Hrs./Week</b> |

**Exit:** After successful completion of one year (first two semesters), students may get a **PG Diploma**. They need to earn an additional 6 credits in the summer before exit.

Dual M.Tech-Ph.D: After the end of the Second Semester, the M.Tech-PhD student moves into the PhD part of the Degree and will be henceforth governed by the PhD ordinance.

# Area Specific Depth of research domain advised by the Supervisor.