

## Indian Institute of Technology Palakkad Curriculum

**Program** : Master of Technology  
**Stream** : Water Resources Engineering  
**Year** : 2025 Onwards



IIT PALAKKAD

The credit requirement of the program is as follows:

### Credit requirements:

| Category of the course             | Credits   |
|------------------------------------|-----------|
| Program Core (PMC)                 | 18        |
| Program Electives (PME)            | 6         |
| Project Based Courses              | 24        |
| Open Electives (OE)/ HSS Electives | 6         |
| Communication Skills               | 1         |
| Technical Writing                  | 1         |
| <b>Total</b>                       | <b>56</b> |

The list of PMC's with their credits is below:

| Sl No. | Course Code | Course Name                                    |
|--------|-------------|--|
| 1.     | CE5XXX      | Surface Water Hydrology                        |
| 2.     | CE5XXX      | Applied Hydraulic Engineering                  |
| 3.     | CE5XXX      | Water Resources Planning and Management        |
| 4.     | CE5XXX      | Groundwater Hydrology                          |
| 5.     | CE5XXX      | Hydraulics and Water Resources Engineering Lab |
| 6.     | CE5XXX      | Hydro-informatics Lab                          |
| 7.     | CE5XXXX     | Summer Internship / Mini Project               |

To guide the students towards arriving at a feasible ordering of courses, a course plan is proposed below. It is not mandatory to follow this plan. Multiple variations of this plan may be possible. However, students need to ensure that the credit requirements as mentioned in the table above are met. While this system allows flexibility for students to take courses in an order different from that mentioned below, the constraint that prerequisites for each course have to be cleared in advance to be able to take it, necessitates a judicious choice to complete the program within the expected time frame.

### Semester I

| No. | Course code | Course Title                                   | L | T | P | C         | Category |
|-----|-------------|--|---|---|---|-----------|----------|
| 1   | CE5XXX      | Surface Water Hydrology                        | 3 | 0 | 0 | 3         | PMC      |
| 2   | CE5XXX      | Applied Hydraulic Engineering                  | 4 | 0 | 0 | 4         | PMC      |
| 3   | CE5XXX      | Elective                                       | 3 | 0 | 0 | 3         | PME/OE   |
| 4   | CE5XXX      | Elective                                       | 3 | 0 | 0 | 3         | PME/OE   |
| 5   | CE5XXX      | Hydraulics and Water Resources Engineering Lab | 0 | 0 | 3 | 2         | PMC      |
| 6   | GN5005      | Communication Skill                            | 1 | 0 | 0 | 1         |          |
| 7   | GN5002      | Technical Writing                              | 1 | 0 | 0 | 1         |          |
|     |             | Semester Total                                 |   |   |   | <b>17</b> |          |

### Semester II

| No. | Course code | Course Title                            | L | T | P | C         | Category |
|-----|-------------|---|---|---|---|-----------|----------|
| 1   | CE5XXX      | Water Resources Planning and Management | 4 | 0 | 0 | 4         | PMC      |
| 2   | CE5XXX      | Groundwater Hydrology                   | 3 | 0 | 0 | 3         | PMC      |
| 3   | CE5XXX      | Elective                                | 3 | 0 | 0 | 3         | PME/OE   |
| 4   | CE5XXX      | Elective                                | 3 | 0 | 0 | 3         | PME/OE   |
| 5   | CEXXXX      | Hydro-informatics Lab                   | 0 | 0 | 3 | 2         | PMC      |
|     |             | Semester Total                          |   |   |   | <b>15</b> |          |

### Semester III

| No. | Course code | Course Title                     | L | T | P  | C         | Category |
|-----|-------------|----------------------------------|---|---|----|-----------|----------|
| 1   | CE5XXXX     | Summer Internship / Mini Project | 0 | 0 | 0  | 0         | PMC      |
| 2   | CE5XXXX     | Project- Phase I                 | 0 | 0 | 30 | 12        | Project  |
|     |             | Semester Total                   |   |   |    | <b>12</b> |          |

### Semester IV

| No. | Course code | Course Title      | L | T | P  | C         | Category |
|-----|-------------|-------------------|---|---|----|-----------|----------|
| 1   | CEXXXX      | Project – Phase 2 | 0 | 0 | 30 | 12        | Project  |
|     |             | Semester Total    |   |   |    | <b>12</b> |          |

A list of approved PME's can be found at (provide a link if available):

| <b>SI No.</b> | <b>Course Name</b>                                  |
|---------------|---|
| 1             | Introduction to GIS and Remote Sensing              |
| 2             | Simulation Modelling in Water Resources Engineering |
| 3             | Optimization in Civil Engineering                   |
| 4             | Computational Hydraulics                            |
| 5             | Analysis and Design of Water Distribution Network   |
| 6             | Environmental Impact Assessment                     |
| 7             | Fate and Transport of Contaminants                  |
| 8             | Integrated Watershed Management                     |
| 9             | Irrigation Engineering                              |
| 10            | Non-Point Source Pollution of Water Resources       |
| 11            | River Engineering                                   |
| 12            | Stochastic Hydrology                                |
| 13            | Transport of Water and Wastewater                   |
| 14            | Urban Hydrology & Hydraulics                        |
| 15            | Water Management                                    |
| 16            | Water Quality Analysis and Modelling                |