

**List of Competencies for On-the-Job Training (OJT)****Work-Study Diploma in Electrical Engineering**

Applicants applying for this course must be free from colour appreciation deficiency.

A score of 100% from the Colour Blindness Test is mandatory for course admission.

Note: LOC is subject to changes due to curriculum review/ development

| <b>S/N</b>                                     | <b>List of Competencies (Standard)</b>      | <b>Company to indicate '✓' for OJT competencies it can provide</b> |
|--|---|--|
| 1  | Install electrical circuits                 |  |
| 2  | Troubleshoot electrical faults              |  |
| 3  | Install sensors and actuators               |  |
| 4  | Install programmable logic controller       |  |
| 5  | Perform electrical design                   |  |
| 6  | Perform electrical installation             |  |
| 7  | Maintain electrical installation            |  |
| 8  | Produce electrical layout                   |  |
| 9  | Produce single-line diagram                 |  |
| 10   | Inspect electrical quantities               |  |
| 11   | Manage electrical loading                   |  |
| 12   | Maintain power electronics                  |  |
| 13   | Maintain energy storage system              |  |
| 14   | Design motor and control system             |  |
| 15   | Install motor and control system            |  |
| 16   | Maintain motor and control system           |  |
| 17   | Design electrical distribution system       |  |
| 18   | Install electrical distribution system      |  |
| 19   | Maintain electrical distribution system     |  |
| 20   | Analyze power distribution                  |  |
| 21   | Manage power quality                        |  |
| 22   | Design solar photovoltaic system            |  |
| 23   | Install solar photovoltaic system           |  |
| 24   | Maintain solar photovoltaic system          |  |
| 25   | Maintain electric vehicle charger           |  |
|  | <b>Sub-total of Competencies (Standard)</b> |  |
| <b>List of Competencies (Company-specific)</b> |   |  |
| 1  |   |  |

| S/N | List of Competencies (Standard)                     | Company to indicate '✓' for OJT competencies it can provide |
|-----|---|---|
| 2   |   |   |
| 3   |   |   |
| 4   |   |   |
| 5   |   |   |
| 6   |   |   |
| 7   |   |   |
|     | <b>Sub-total of Competencies (Company-specific)</b> |   |

**Note:**

- a) Company must be able to provide OJT for at least **75%** of the List of Competencies (Standard).
- b) If company is unable to meet the 75%, please propose alternate **course-related** competencies which are unique to company operations. Alternate competencies are capped at 25%.  
[i.e. 50% of the list of competencies (standard) + 25% alternate competencies (Company-specific)].
- c) All alternate competencies (Company-specific) must be reviewed and endorsed by ITE.
- d) Trainees must receive OJT and be assessed for **All** competencies selected in this List.

Total no. of competencies selected by company for OJT

Total no. of competencies listed (*standard & company specific*)

Percentage of selected competencies

**Completed By:**

\_\_\_\_\_

**Name**

\_\_\_\_\_

**Company**

# MODULE SYNOPSIS – WSDip in Electrical Engineering

## **Course Objective**

This course equips trainees with the skills, knowledge and professional attributes to design, install, maintain, repair, inspect, test, operate and supervise electrical installations and systems in accordance with engineering specifications as well as codes of practice and regulations.

## **Modules Synopsis**

|   |
|---|
| <b>Electrotechnology</b>  |
| On completion of the module, trainees should be able to analyse, connect, test and troubleshoot DC, AC and electromagnetic circuits.  |
| <b>Industrial Control Automation</b>  |
| On completion of the module, trainees should be able to design and install programmable logic control system.   |
| <b>Electrical Design &amp; Installation</b>   |
| On completion of the module, trainees should be able to design, install, test and maintain electrical installations in compliance with the relevant codes of practice and statutory regulations.  |
| <b>Electrical Drafting</b>  |
| On completion of the module, trainees should be able to produce electrical layout drawing and single-line diagram.  |
| <b>Circuit Analysis</b>   |
| On completion of the module, trainees should be able to determine electrical quantities as well as apply concepts and theorems in circuit analysis for three-phase systems and manage electrical loading.                                   |
| <b>Power Electronics</b>  |
| On completion of the module, trainees should be able to maintain power electronics and energy storage systems.  |
| <b>Electrical Motor &amp; Control System</b>  |
| On completion of the module, trainees should be able to design, install and maintain electrical motor and control systems.  |
| <b>Power Distribution System</b>  |
| On completion of the module, trainees should be able to analyse power distribution and mitigate power quality issues. On completion of the module, trainees should be able to analyse power distribution and mitigate power quality issues. |
| <b>Power System Analysis</b>  |
| On completion of the module, trainees should be able to analyse power distribution and mitigate power quality issues.   |
| <b>Solar Photovoltaic System &amp; Electric Vehicle Charger</b>   |
| On completion of the module, trainees should be able to design, install and maintain solar photovoltaic system as well as maintain electric vehicle charging infrastructures.   |
| <b>Company Project</b>  |
| On completion of the module, trainees should have applied their acquired competencies in an authentic project that would value-add to the company.  |
| <b>On-the-Job Training</b>  |

## MODULE SYNOPSIS – WSDip in Electrical Engineering

On completion of the module, trainees should be able to apply the skills and knowledge acquired at ITE College and workplace to take on the full job scope, including supervisory function, where appropriate, at the company.

# TRAINING PATTERN SCHEDULE

## WSDip in Electrical Engineering

Day Release - Trainees attend 1 to 2 days of lessons per week at ITE, with the remaining work-week spent at the workplace for On-the-Job Training.

|                                      |                          |                                      |                              |                                      |   |                                     |                                |                                       |
|--------------------------------------|--------------------------|--------------------------------------|------------------------------|--------------------------------------|---|-------------------------------------|--------------------------------|---------------------------------------|
| <b>April'26 Intake</b>               | <b>April – June 2026</b> | ITE<br>Vacation<br>(June)<br>4 weeks | <b>July – September 2026</b> | ITE<br>Vacation<br>(Sept)<br>2 weeks | <b>October – December 2026</b>  | ITE<br>Vacation<br>(Dec)<br>4 weeks | <b>January – March 2027</b>    | ITE<br>Vacation<br>(March)<br>2 weeks |
| 1 <sup>st</sup> Year Off-JT<br>@ ITE | 1 day/week               |                                      | 1 day/week                   |                                      | 1 day/week  |                                     | 1 day/week                     |                                       |
| <b>April'26 Intake</b>               | <b>April – June 2027</b> | ITE<br>Vacation<br>(June)<br>4 weeks | <b>July – September 2027</b> | ITE<br>Vacation<br>(Sept)<br>2 weeks | <b>October – December 2027</b>  | ITE<br>Vacation<br>(Dec)<br>4 weeks | <b>October – December 2028</b> | ITE<br>Vacation<br>(March)<br>2 weeks |
| 2 <sup>nd</sup> Year Off-JT<br>@ ITE | 1 day/week               |                                      | 1 day/week                   |                                      | 1 day/week  |                                     | 1 day/week                     |                                       |
| <b>April'26 Intake</b>               | <b>April – June 2028</b> | ITE<br>Vacation<br>(June)<br>4 weeks | <b>July – September 2028</b> | ITE<br>Vacation<br>(Sept)<br>2 weeks | <b>WSDip Programme 2026</b><br>Start: 1 April 2026<br>End: 30 September 2028<br>Duration: 2.5 years<br>⚠ Final results release may be later than programme end date |                                     |                                |                                       |
| 3 <sup>rd</sup> Year Off-JT<br>@ ITE | 1 day/week               |                                      | 1 day/week                   |                                      |   |                                     |                                |                                       |