**KONGUNADU COLLEGE OF ENGINEERING AND TECHNOLOGY**
**(AUTONOMOUS)**
**DEPARTMENT OF MECHANICAL ENGINEERING**

## CENTRE OF EXCELLENCE DETAILS

**Laboratory Name : Centre for Product Design and Development**
Laboratory Incharge : Mr.G.Selvakumar
Technical Assistant : Mr.M.Ajith

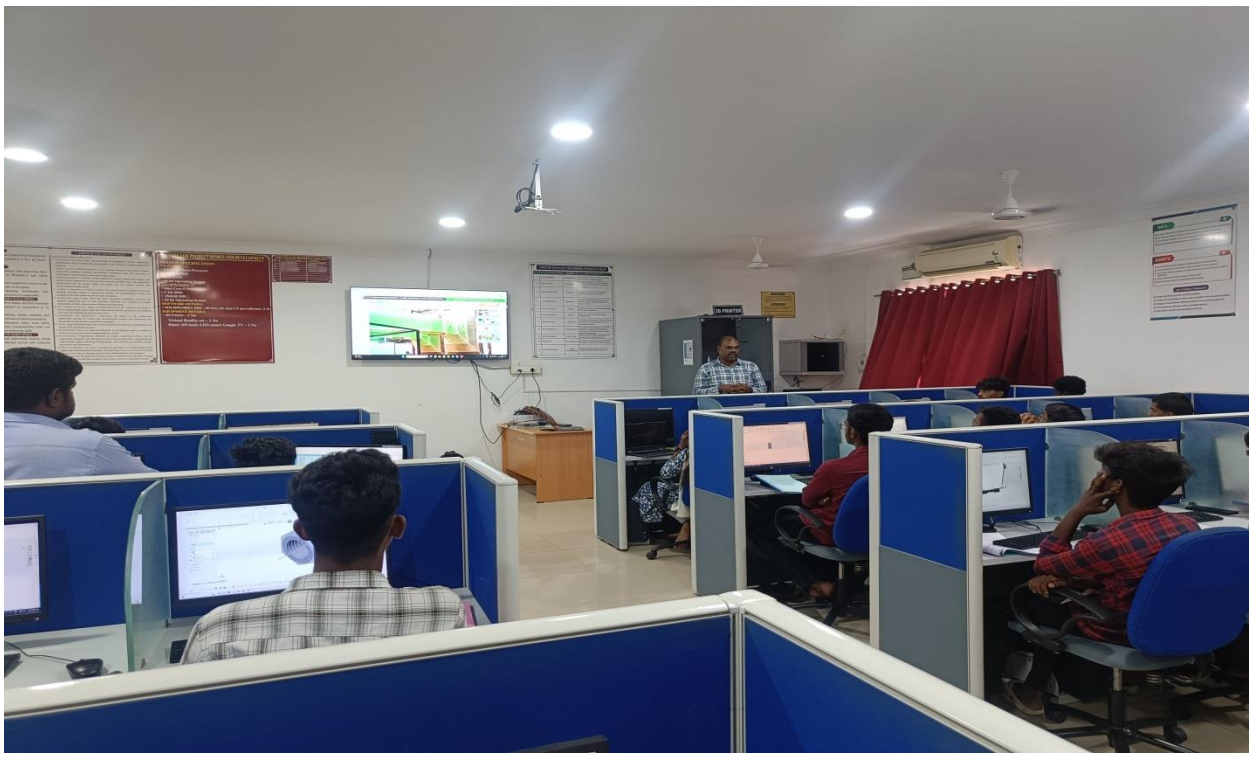

**Figure: Centre for Product Design and Development**

**Area of the laboratory: 73.1 Sq.m.**

**Objectives:**

- Students will be able to enhance skill in SOLIDWORKS software for creating product models, design sketches, and detailed technical drawings.
- Identify the product and develop into model using SOLIDWORKS software.
- Develop innovative ideas and translate them into viable product concepts through additive manufacturing.
- Provide exposure to students with real-world industry environments and projects during the internship and consultancy works.
- Cultivate skills in project management within multidisciplinary teams, and handling real-world design constraints.

**Description:**

- Centre for Product Design and Development has been established in the department during the academic year 2021-2022 with a mission of bringing Industry and Institution together by providing technical services.
- The Centre for Product Design and Development is equipped with modeling software for developing industrial product models. Additionally, it offers students hands-on training in creating manufacturing drawings.
- The Centre fosters student expertise in industrial product development and providesopportunities for project development.
- The CPDD offers students valuable opportunities to connect with industry professionals and prepares them for internships. It also provides SOLIDWORKS training, allowing students to earn international certification through the center, while offering a platform to transform their ideas into tangible products.
- CPDD is associated with TRYCAE Industrial Engineering Private Limited, Trichy, providing consultancy work to the students and faculty members. CPDD promotes research and development activities in the areas of modelling, testing and additive manufacturing and it gives placement assistance to the students.

**Configuration details**:

- **Equipmentand Software details:**

| Sr. No. | Name of the Equipment | Quantity |
|---|---|---|
| 1 | Server-HCL – Intel Core Xeon Processor 1500 GB HDD 8GB RAM 64 Bit Operating System | 1 |
| 2 | HP V22 V Monitor, HP Pro Twr 280 G9 PCI i712700 16GB/1TBPC, HP DP to HDMI 1.4 Adapter | 35 |
| 3 | Licensed software: Solid Works Education Edition 2025-28 | 60 Users |
| 4 | Creality CR-10 Max 3D Printer | 1 |
| 5 | Virtual Reality set | 1 |
| 6 | 3D vista VT pro software | 1 |
| 7 | Haier 165 cm (65 inch) Ultra HD (4K) LED smart Google TV | 1 |

- UPS capacity: 10 KVA.

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## CENTRE FOR PRODUCT DESIGN AND DEVELOPMENT

## Objectives:

- Students will be able to enhance skill in SOLIDWORKS software for creating product models, design sketches, and detailed technical drawings.
- Identify the product and develop into model using SOLIDWORKS software.
- Develop innovative ideas and translate them into viable product concepts through additive manufacturing.
- Provide exposure to students with real-world industry environments and projects during the internship and consultancy works.
- Cultivate skills in project management within multidisciplinary teams, and handling real-world design constraints.

## Outcome:

- Demonstrate proficiency in using SOLIDWORKS software for developing product models, design sketches, and detailed technical drawings.
- Identify real-world products and transform them into functional 3D models using SOLIDWORKS.
- Generate innovative ideas and convert them into viable product prototypes through the application of additive manufacturing techniques.
- Gain practical exposure by participating in internships and consultancy projects, aligning their learning with industry standards and requirements.
- Develop competencies in managing projects within multidisciplinary teams, addressing real-world constraints, and meeting design and performance goals.

| DESCRIPTION | PO(1..12) & PSO(1..2) MAPPING |
|---|---|
| Demonstrate proficiency in using SOLIDWORKS software for developing product models, design sketches, and detailed technical drawings. | PO1, P02,P03,PO5, PSO1 |
| Identify real-world products and transform them into functional 3D models using SOLIDWORKS. | PO2, PO3, PO5, PSO1 |
| Generate innovative ideas and convert them into viable product prototypes through the application of additive manufacturing techniques. | PO3, PO4, PO5, PO12, PSO2 |
| Gain practical exposure by participating in internships and consultancy projects, aligning their learning with industry standards and requirements. | P01,P02,P04,PO9,PSO1 |
| Develop competencies in managing projects within multidisciplinary teams, addressing real-world constraints, and meeting design and performance goals | P01,PO9, PS01,PSO2 |