

# **Parala Maharaja Engineering College, Berhampur, Sitalapalli, Odisha, 761003**



**Summer Internship-2025**

**On**

**“Solid Works & Digital  
Manufacturing”**

**Organized By**

**Department of Mechanical  
Engineering**

***16<sup>th</sup> June - 15<sup>th</sup> July 2025***

**Faculty Coordinator**

**Mr. Jayanarayan Mahakud  
Dr. Kanchan Kumari**

## **About PMEC**

Parala Maharaja Engineering College (P.M.E.C), Berhampur came into existence in the year 2009 on 26th April, as a constituent Government Engineering College of Biju Patnaik University of Technology (BPUT), Odisha, India with an area of nearly 80 acres. Now this college acts as a Government Autonomous college affiliated to BPUT, Odisha from the year 2021. It has 8 B.Tech programmes and 5 M.Tech programmes with 10 departments. It is also acting as Nodal Centre of Research under BPUT to conduct Ph.D. programmes.

## **About ME**

The under graduate program of Mechanical Engineering department was introduced in 2009, the year of inception of PMEC. The Department of Mechanical Engineering at PMEC focuses on delivering quality education and preparing students for real-world challenges. With the sincere effort of its well qualified faculties, the department has set up state of the art laboratories like Testing Lab(Material testing), Fluid Mechanics and Hydraulic Machine (FMHM) Lab, Heat Transfer & Refrigeration and Air Conditioning (HT & RAC) Lab, Advanced (Tribology) Lab, Non-destructive Testing(NDT) lab, Metrology Lab and a Computational Lab with hands-on training in Solid Works.

## **About the Internship**

The internship program is designed to provide practical knowledge in 3D modelling using tools like Solid Works and CNC-based digital manufacturing. It bridges the gap between design and machining by offering hands-on training in CAD modelling, toolpath generation, and G-code simulation. By the end of the program, participants will be able to design mechanical components, understand CNC operations, and apply digital manufacturing techniques to solve real-world engineering problems.

## **Eligibility Criteria**

- Students pursuing/completed Degree/Diploma in Mechanical/ Automobile/ Production Engineering or ITI are eligible to participate.

## **Registration & Selection Process**

- The interested & eligible participants must register in the prescribed online Google form.
- The number of seats is limited and the selection list will be based on First-cum-First Serve (FCFS) basis.
- Certificate of internship will be provided based on satisfactory attendance and performance

## Important Dates

- Deadline for submission of online registration form: **15-06-2025 (On-spot registration is available for vacant seats on 16-06-2025)**
- Internship start date: **16-06-2025**
- Internship end date: **15-07-2025**

## Registration Fee

- For all participants: **Rs. 1000/-**. To submit the registration fee the code & the bank details given below.
- Candidates are requested to bring the payment slip at the time enrolment.



Account Name	MES PMEC (Mechanical Engineering Society)
Account Number	79982140000045
Bank Name	Canara Bank
Branch	Sitalapalli, PMEC Campus
IFSC Code	CNRB0017998

## Accommodation

- Accommodation can be provided on request basis at in-campus hostel with a payment of **Rs. 600/-**. (Excluding food charges).

## Course Plan

### Week 1:

- Introduction to SolidWorks environment
- Sketching tools: lines, arcs, dimensions, and constraints
- Create basic mechanical 2D parts using SolidWorks
- Overview of CNC machines and G-code fundamentals
- Hands-on: Design simple part + basic toolpath concept
- Progress check & Feedback

### Week 2:

- 3D features: Extrude, Revolve, Cut, and Fillet
- Advanced features: Loft, Sweep, Shell, Draft
- Generating toolpaths, post-processing for CNC
- Setup for CNC: defining coordinate systems, tools, and materials
- Hands-on: From 3D model to G-code generation.
- Progress check & Feedback

### Week 3:

- Creating assemblies: mates, interference detection & other commands
- Detailing of the designed part
- CNC operations: facing, contouring, pocketing, drilling
- Toolpath simulation and optimization
- Progress check & Feedback

### Week 4:

- Evaluation and Certificates Distribution



Link & QR Code for online registration form:

<https://forms.gle/fAVD2gxFktHvSez68>

### For any queries, contact :

Mr. Jayanarayan Mahakud  
Assistant Professor, ME  
Mob. No-8249375163  
Dr. Kanchan Kumari  
Assistant Professor, ME  
Mob. No- 6372194363





Estd. 2009  
A Government Engineering College  
E-mail: pmecbam@gmail.com  
Website: www.pmec.ac.in

# PARALA MAHARAJA ENGINEERING COLLEGE

(An Autonomous college affiliated to Biju Patnaik University of Technology, Odisha, Rourkela)

## DEPARTMENT OF MECHANICAL ENGINEERING

SITALAPALLI, BERHAMPUR, DIST.: -GANJAM, PIN – 761003

\*\*\*\*\*

PMEC/ME/ 46

Date:- 12/06/2025

### NOTICE

It is hereby informed that, Mechanical Engineering Department is offering a Summer Internship on “**Solid Works & Digital Manufacturing**”, hence interested students can enrol themselves in the internship by submitting the registration form. The registration link is given below.

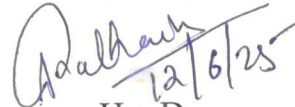
Link for online registration form:

<https://forms.gle/NQDXi7pQDkGaMsEH7>



The department is planning for hands-on training on Solid works and Machine tools like, CNC turning, Lathe tool dynamometer, automotive engine lab etc. The detailed course structure is attached here with for reference. Take this opportunity to gain hands-on practice and gain practical knowledge about engineering applications.

The students are advised to report at **10:00 AM** on **16-06-2025** for the enrolment of internship program.

  
12/6/25  
H.O.D  
Mechanical Engineering  
PMEC, Berhampur  
H.O.D. (Mech.)  
P.M.E.C., Berhampur

# **Course Structure for Solid works**

## **1. Introduction 2D drawing**

- a. Creating sketches
- b. Selecting & Editing of Geometry, Features, Models
- c. Creating Sketcher Geometry & Using Sketcher Tools
- d. Using Sketches & Datum Features

## **2. Basic Solid part modelling**

- a. Creating Extrudes, Revolves, and Ribs
- b. Creating Holes, Shells, Draft & Patterns
- c. Creating Rounds, Chamfers & Using Layers

## **3. Advance Solid Part Modelling**

- a. Advanced Selection, Creating Sweeps and Blends
- b. Sweeps with Variable Sections
- c. Helical Sweeps & Swept Blends
- d. Relations, Parameters & Family Tables
- e. Measuring and Inspecting Models.

## **4. Assembly design:**

- a. Creating assembly with top-down approach and bottom- up approach
- b. Assembling with Constraints, Exploding, Replacing Components,
- c. Cross- Sections in Assemblies

## **5. Drafting workbench:**

- a. Introduction, creating new drawings and drawing views,
- b. Adding model details and tolerance information to drawings.
- c. Adding notes, symbols, tables, balloons and layers in drawings.

## **Course Structure for CNC Turning**

1. Introduction to Conventional Lathe and CNC.
2. NC system and Coordinate system.
3. Lathe tool dynamometer.
4. Explanation about G- Code & M- Code.
5. Block format programming with drawing.
6. Programming Practice.
7. Simulation in Software.
8. Hands on in CNC turning job.