



**Sreepathy Institute of Management & Technology.**

**Vavannor, Koottanad, Kerala 679533**

**Ph: 04662370200,04662370300**



**SKILL DEVELOPMENT PROGRAM**

**Training program on CNC machining**

**(Supported by ISTE)**

## **ABOUT COLLEGE**

Sreepathy Institute of Management And Technology promoted by Sreepathy trust is an Engineering College with an intention of providing quality technical education. At Sreepathy institute we strive for excellence with the help of a highly qualified and experienced faculty, ably supported by a professional management team, competent support staff, and world class infrastructure which is among the best to be found in institutions of learning. The institute is Located at Vavanoor in Palakkad district, on the Palakkad – Guruvayur highway.

## **SREEPATHY CNC TURNING CENTRE**

Sreepathy CNC Turning Centre installed a CNC turning machine-Stallion 100S purchased from HMT Machine Tools Ltd, Kalamassery. The salient features of the machine are as follows.

- Facility for cross and longitudinal chip conveyer.
- Single piece monolithic cast iron bed base structure for the highest rigidity and damping.
- 450 Slant bed for easy chip flow and better heat dissipation.
- 8-Station servo tool turret.
- Programmable tailstock with built-in rotating center
- Short main spindle - ensures rigidity.
- Optional C-axis and driven tool turret.
- Direct coupled servomotors
- Highly efficient main drive with less than 20% idle power at maximum speed, thus reducing cost.
- Hardened and ground integral guide ways.
- Separate lost lubrication oil collection to prevent mixing of lubrication oil with coolant.

## **DETAILS OF PROPOSAL**

In view of the fact that there is wanted ads for CNC operators and Calicut university have introduced CNC in the B Tech mechanical engineering syllabus, considering its importance , we hope that there is placement opportunities as CNC operator

The details of the prescribed training program on CNC machining are as follows:

### ***For whom:***

ITI/ polytechnic/ engineering college staffs

### ***Venue:***

Sreepathy CNC Turning Centre, Sreepathy Institute of Management and Technology ,  
Vavanoor , Kottanad Palakkad District 679533.

## **TRAINING CONTENTS OVERVIEW**

Basics of CNC - 1 week course on CNC machining includes:

- General understanding of the machine and Evolution to CNC Introduction to the different CNC Systems/ Controllers Available
- Introduction to CNC Programs (G-Codes and M-codes)
- CNC Introduction - The Key Concepts of Computer Numerical Control
- Motion Control - The most delegate part of CNC M/C's
- How Axis Motion is commanded—Understanding Coordinate Systems
- Introduction to the motion of the machine i.e. Absolute Versus Incremental Motion
- Assigning Program Zero
- Hands on with the CNC programs for different variant machines
- Decimal point programming
- Other programmable functions
- Core knowledge of the different CNC machine
- Basic Machining Practice - The Key To Success With ANY CNC Machine

- Different Machine Components with their technical specification
- What are Axes? Understanding the directions of motion using several axes
- The Reference Point For Each Axis
- Programmable functions
- Different type of the basic Motion i.e. Rapid Motion, Straight Line Motion, Circular Motion
- Understanding Interpolation
- Example Program Showing Three Types Of Motion
- The Forms of Compensation
- What Are Offsets?
- Types of compensation
- How to Program Cutter Radius Compensation
- Dimensional tool offsets
- Introduction to CAM System
- Other Types Of Compensation
- Editing and Program Formatting process
- Introduction to the different methods of CNC programming
- Define the machining operations
- Program Storage and Retrieval?
- The Machine from an Operator's Viewpoint
- The Modes of Machine Operation
- Verifying CNC Programs Safely
- Safety Priorities & Typical Mistakes
- Procedures for Program Verification

- The machine lock dry run
- Making good parts
- Programs for practice
- Industrial visit

**Gender**

As it is an automatic system, Both male and female students can attend the program

**Registration fees**

*Rs 5000/Participant*

**Duration of the Course**

2015 Nov 23 to 27 5 days monday to friday.

**Time**

9 am to 4 pm.

**Certificate:**

After duly completing the course and clearing the test the certificate will be provided on behalf of **ISTE** /Sreepathy Institute of Management & Technology

## CNC ORIENTATION CLASS COURSE PLAN

DAY	TIMINGS			
	9:30AM-10:30AM	11:00AM-12:00PM	1:00PM-2:00PM	2:00PM-3:30PM
MONDAY	INTRODUCTION- HISTORY & RELEVANCE OF CNC (T)	CNC – MACHINE SPECIFICATIONS AND MACHINE STALLION 100S OPERATION FAMILIARISATIO N (T)	CNC – MACHINE SPECIFICATIONS AND MACHINE STALLION 100S OPERATION FAMILIARISATIO N (T)	MACHINE STALLION 100S DEMONSTRATIO N (P/CNC)
TUESDAY	WHAT IS CNC COORDINATE SYSTEM (T)	G CODES AND M CODES (T)	INTRODUCTION TO PROGRAMMING AND SINUTRAIN (T)	SAMPLE PROGRAM ON SINUTRAIN (T)
WEDNESDAY	PROGRAMMING FAMILARISATION ON SINUTRAIN SOFTWARE (T)	PROGRAMMING FAMILARISATIO N ON SINUTRAIN SOFTWARE (T)	SIMULATION EXERCISES ON SINUTRAIN(P)	
THURSDAY	PRACTICAL SESSIONS ON FACING AND PLAIN TURNING, STEP TURNING , TAPER TURNING , THREADING AND GROOVING OPERATIONS (P/CNC)(4 PERSONS/BATCH) AND CREATING PROGRAM USING BUILT-IN CYCLES ON SINUTRAIN (9PERSONS PER BATCH)			
FRIDAY	HANDS ON TRAINING ON THE ABOVE OPERATIONS (P/CNC)			

P- SIMUALTION ON SINUTRAIN SOFTWARE

P/CNC – CNC PRACTICAL TRAINING

T –THEORY