1. **Programming course for G-code – PRG-CNC**

   Application = Turning  
   Duration = 5 days  
   Cost = R 10 000-00  
   Location = Tshwane University of Technology in Soshanguve, South Africa

**Description:**

G-codes, cycles and M-codes will be the focus of the course material. Good general mathematical principles will be required from the student. A short test program is completed at the end of the course.

**Course content:**

- General Technology  
- General Geometry  
- Simple motion commands  
- Mathematical fundamentals  
- Origins and zero offsets  
- Program Structure  
- Face turning and simple contours  
- External turning  
- Sub programs  
- Roughing cycles  
- Grooving cycle  
- Recess for threading  
- Threading cycle  
- Deep hole drilling  
- Internal turning  
- Repetition, Jumps  
- Offset, Scale  
- Face machining  
- Contour calculator  
- Operating 840D
2. Programming course for G-code – PRG-CNC
Application = Milling
Duration = 5 days
Cost = R 10 000-00
Location = Tshwane University of Technology in Soshanguve, South Africa

Description:

G-codes, cycles and M-codes will be the focus of the course material. Good general mathematical principles will be required from the student. A short test program is completed at the end of the course.

Course content:

- Technology Basics
- Geometry Basics
- Simple Contour elements
- Mathematical Principles
- Zero offset and reference points
- Program structure
- Contour milling
- Programming of Subroutines - Milling
- Jumps - Repeats - Milling
- Circular and square pockets
- Mirror - Offsets - Rotation - Scale - Milling
- Working with Cycles
- Milling Cycles
- Drilling Cycles - Milling
- Operation_840D
3. **Advanced Programming course - ADV-PRG-CNC**

* Pre-requisite = Programming course

Application = Milling / Turning
Duration = 5 days
Cost = R 10 000-00
Location = Tshwane University of Technology in Soshanguve, South Africa

**Description:**

Advanced G-codes, macro’s and subroutines will be the focus of the course material. Good general mathematical principles will be required from the student. A short test program is completed at the end of the course.

**Course content:**

- Contour milling
- Programming of Subroutines - Milling
- Jumps - Repeats - Milling
- Circular and square pockets
- Mirror - Offsets - Rotation - Scale - Milling
- Working with Cycles
- Milling Cycles
- Drilling Cycles - Milling
4. **Operators and Setters course - OP-ST-CNC**

Application = Milling /Turning machines  
Duration = 3 days theory and 2 days at machine  
Cost = R 13 000-00  
Location = Tshwane University of Technology in Soshanguve, South Africa

Description:

The course is designed around operators and setters of CNC machines. It aims to explain what is needed to get your CNC machine ready to execute a job.

Course content:

- Clamping
- Tooling
- Offsets
Siemens CNC Training portfolio

5. **SHOPMILL programming - SHOPM-CNC**

Application = Milling machines
Duration = 3 days
Cost = R 6 000-00
Location = Tshwane University of Technology in Soshanguve South Africa

The course will show you how to program effectively in SHOPMILL.

Course content:
- Basics
- Creating program
- Editor
- Various
- Simulation
- NC Execute
6. SHOPTURN programming - SHOPT-CNC

Application = Turning machines
Duration = 3 days
Cost = R 6 000-00
Location = Tshwane University of Technology in Soshanguve, South Africa

The course will show you how to program effectively in SHOPTURN.

Course content:

- Basics
- Creating program
- Editor
- Various
- Simulation
- NC Execute