

### 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



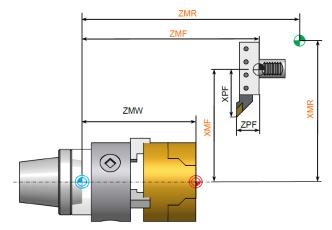
### Description:



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.



- 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

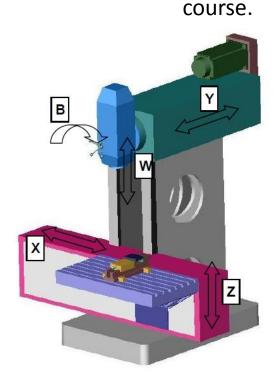
Cost = R 10 000-00

Location = Tshwane University of Technology in Soshanguve, South Africa





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



- 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

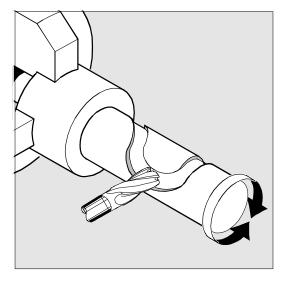
Cost = R 10 000-00

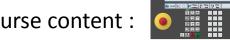
Location = Tshwane University of Technology in Soshanguve, South Africa

### 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.





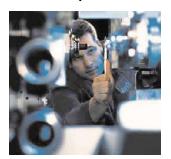
- Contour milling
- Programming of Subroutines Milling
- Jumps Repeats Milling
- Circular and square pockets
- Mirror Offsets Rotation Scale Milling
- Working with Cycles
- Milling Cycles
- Drilling Cycles Milling



### 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.



- Clamping
- Tooling
- Offsets



### 5. SHOPMILL programming - SHOPM-CNC

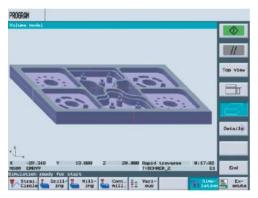
Application = Milling machines

Duration = 3 days

Cost = R 6 000-00

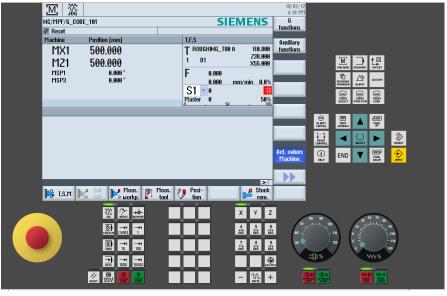
Location = Tshwane University of Technology in

Soshanguve South Africa



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

#### Course content: **™** | ₩ Position [mm] T ROUGHING\_T88 A MX1 500.000 R0.800



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



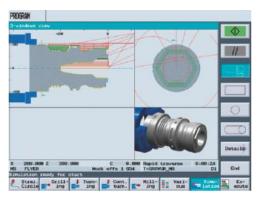
### 6. SHOPTURN programming - SHOPT-CNC

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.

## 

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