

# ME 213L Manufacturing processes Lab

Vishal Neeli

January 18, 2021

## 1 Machine codes

Syntax	Function
G54 G90 G91	workpiece coordinate system absolute coordinate system moving coordinate system(attached to tool)
G00 $Xx_f Zz_f$ G01 $Xx_f Zz_f Ff$ G28 $Uu Vv$	The tool goes from current position to $x_f$ and $z_f$ tool moves from current position to $x_f$ and $z_f$ at feed rate f. Moves to home ( <i>addition req</i> )
M03 $Ss$ M04 $Ss$ M05 M06 $Tt$ M30	Spindle rotates clockwise at s rpm Spindle rotates anticlockwise at s rpm Spindle stops Tool changes to tool t Program ends

## 2 Lab 1

- Machining parameters:
  - Feed rate : Rate at which tool is removing the workpiece.(mm/rev)
  - Depth of cut
  - Rotational speed
- Facing : It is the reduction of length of workpiece (along z) - Use tool 5
- Turning : Reducing the diameter - use tool 5
- Grooving : Make a cavity into the workpiece - use tool 98