

# CNC Programming II.

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Linear Interpolation  
&  
HAAS Mini-Mill

# Linear Interpolation

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- G00, G01, G02 & G03
  - G00; Rapid positioning
  - G01; Linear interpolation
  - G02; Circular interpolation (CW)
  - G03; Circular interpolation (CCW)
- For all
  - Need value(s) of X, Y and/or Z
- G01, G02, G03: Need F-value
- G02 & G03 need...
  - $0^\circ < \mathbf{R} \leq 180^\circ \leq -\mathbf{R} < 360^\circ$ 
    - or
  - **I**, **J** if  $\leq 360^\circ$

# M-Codes

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- M03, M04, M05, M06, M08, M09 & M30
  - M03; Spindle on (CW)
  - M04; Spindle on (CCW)
  - M05; Spindle stop
  - M06; Tool change
  - M08; Coolant on
  - M09; Coolant off
  - M30; Program end and rewind

# HAAS Mini-Mill Control Panel



# This Thursday...

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- Quiz on G & M Code
  - Memorize the G & M code introduced in lecture
  - Start-up Block
  - Start and end of program
  - Interpret a short program
- Linear Interpolation Exercise