MAC 121 Numerical Control I

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Office Hours: by appointment

Methods of Instruction: Lecture/Lab

Course Description: MAC 121 is an introduction to CNC lathes that focuses on numerical control techniques in metal forming and machine processes. It includes theory and practice in lathe machine computer numerical control program writing, setup and operation.

Learning Outcomes:

- Understand and utilize the polar and Cartesian coordinate sytems.
- Understand and utilize "G" and "M" codes to manually write programs for work-pieces such as:
    - Straight turning
    - Rough and finish turning of tapers and/or curves.
    - Facing
    - Threading
    - Multiple cuts (do-loops)
    - Multiple operations (sub-routines)
- Understand and perform work-piece setups.
- Understand and perform tool offsets and setups.
- Understand and program tool changes

Prerequisite/Corequisite: School Principal Approval and/or Division Approval

Course Textbook(s): No textbook required (subject to change)

Grading/Evaluation Procedures:

Grading Scale:	Coursework:
A= 89.6 – 100.0	Employability 30%
B= 79.6 – 89.5	Drawing interpretation 10%
C= 69.6 – 79.5	CNC Programming 30%
D= 59.6 – 69.5	CNC Labs 15%
F= 0 – 59.5	Final Exam 15%