AMCA – Advanced Machine Tool

AMCA 2110 - CNC Fundamentals
3.000 Credits 6.000 Contact Hours
Prerequisites: MCHT 1011; MCHT 1012
Provides a comprehensive introduction to computer numerical controlled (CNC) machining processes. Topics include safety, Computer Numerical Control of machinery, setup and operation of CNC machinery, introduction to programming of CNC machinery, introduction to CAD/CAM.

AMCA 2130 - CNC Mill Manual Programming
5.000 Credits 7.000 Contact Hours
Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) milling machines. Topics include safety, calculation for programming, program codes and structure, program run and editing of programs.

AMCA 2150 - CNC Lathe Manual Programming
5.000 Credits 7.000 Contact Hours
Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) Lathes. Topics include safety, calculations for programming, program codes and structure, program run and editing of programs.

AMCA 2170 - CNC Practical Applications
3.000 Credits 6.000 Contact Hours
Prerequisites: AMCA 2110; AMCA 2130; AMCA 2150
Provides additional instruction in part holding and fixture design. Students will also gain additional experience in print-to-part development of CNC programming. Topics include safety, fixture design and manufacturing, and CNC part manufacturing.

AMCA 2190 - CAD/CAM Programming
4.000 Credits 6.000 Contact Hours
Emphasizes the development of skills in computer aided design (CAD) and computer aided manufacturing (CAM). The student will design and program parts to be machined on computer numerical controlled machines. Topics include hardware and software, drawing manipulations, tool path generation, program posting, and program downloading.