MCHT - Machine Tool Technology

MCHT 1011 - Introduction to Machine Tool
4.000 Credits 6.000 Contact Hours
Introduces the fundamental concepts and procedures necessary for the safe and efficient use of basic machine tools. Topics include machine shop safety, terminology, use of hand and bench tools, analysis of measurements, part layout, horizontal and vertical band saw setup and operation, drill press setup and operation, and quality control.

MCHT 1012 - Blueprint for Machine Tool
3.000 Credits 3.000 Contact Hours
Introduces the fundamental concepts necessary to develop blueprint reading competencies, interpret drawings, and produce sketches for machine tool applications. Topics include interpretation of blueprints, sketching, sectioning, geometric dimensioning and tolerancing, and assembly drawings.

MCHT 1013 - Machine Tool Math
3.000 Credits 5.000 Contact Hours
Prerequisites: MATH 1012
Develops mathematical competencies as applied to machine tool technology. Emphasis is placed on the use of machining formulas by incorporating algebraic, geometric, and trigonometric functions. Topics include machining algebra and geometry, applied geometry, and applied trigonometry.

MCHT 1020 – Heat Treatment and Surface Grinding
3.000 Credits 5.000 Contact Hours
Prerequisites: Regular Status
Provides instruction in the setup, operations, maintenance, and assembly operations of surface grinders. Introduces the properties of various metals, production methods, and identification of ferrous and non-ferrous metals. Topics include heat treatment safety, metallurgy principles, heat treatment of metals, surface grinders, surface grinder maintenance, surface grinder setup, surface grinder operations, and safety.

MCHT 1030 - Applied Measurement
3.000 Credits 3.000 Contact Hours
Designed to develop skills necessary for the use and analysis of measurement for Machine Tool Technology and other industrial purposes. Topics include the use of non-precision measuring instruments, use of precision measuring instruments, use of comparison gauges, and analysis of measurements.

MCHT 1119 - Lathe Operations I
3.000 Credits 7.000 Contact Hours
Provides opportunities for students to develop skill in the setup and operation of metal cutting lathes. Topics include safety, lathes parts and controls, lathe tooling and tool bit grinding, lathe calculations, lathe setup and operations.

MCHT 1120 - Mill Operations I
3.000 Credits 7.000 Contact Hours
Provides instruction in the setup and use of the milling machine. Topics include safety, milling machines, milling machine setup, and milling machine operations.

MCHT 1219 - Lathe Operations II
3.000 Credits 7.000 Contact Hours
Provides further instruction for students to develop skill in the use of lathes. Topics include lathes, lathe setup, lathe operations, and safety.

MCHT 1220 - Mill Operations II
3.000 Credits 7.000 Contact Hours
Provides further instruction for students to develop skills in the use of milling machines. Topics include safety, advanced milling calculation, advanced milling machine setup and operations.